

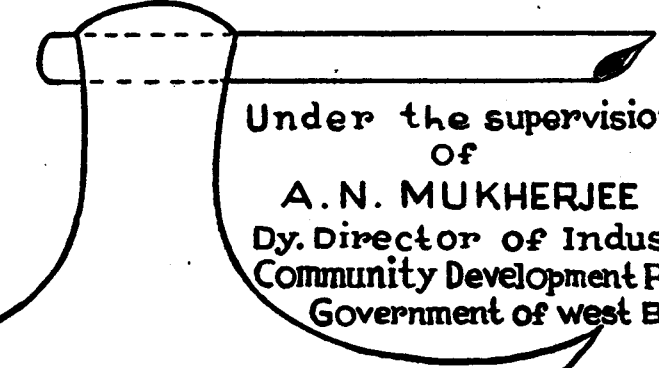


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PART VII A (XII)

HANDICRAFTS SURVEY MONOGRAPH
ON
CUTLERY OF JHALDA
DIST. PURULIA

Report
By

K. B. PAL
Officer-In-Charge,
Government Industrial & Commercial Museum
Directorate of Industries,
Government of West Bengal



Under the supervision
of

A. N. MUKHERJEE
Dy. Director of Industries
Community Development Project
Government of West Bengal

HANDICRAFTS
SURVEY
MONOGRAPH
ON

CUTLERY OF JHALDA

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WEST BENGAL & SIKKIM
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HANDICRAFTS SURVEY MONOGRAPH ON CUTLERY OF JHALDA

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K. B. PAL

*Officer-in-Charge, Government
Industrial & Commercial Museum,
Directorate of Industries, West Bengal*

Under the supervision of

A. N. MUKHERJEE

*Deputy Director of Industries,
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Government of West Bengal*

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**FIELD INVESTIGATION
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5. Foreman, Cutlery Tuition-
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New Delhi.

**INVESTIGATION NOTES
ON THE STRUCTURE
OF THE INDUSTRY,
SINCE INCORPORATED
IN THE REPORT
OF SRI K. B. PAL AND
SUPERVISION**

A. N. Mukherjee,
Deputy Director of Industries,
(Community Development
Projects), West Bengal.

FOREWORD

THIS Report on the Cutlery Industry at Jhalda in the Purulia District of West Bengal by Sri A. N. Mukherjee and Sri K. B. Pal is the result of much fruitful collaboration between the Directorate of Industries, West Bengal, the Superintendent of Census Operations, West Bengal, and the Social Studies Section of the Office of the Registrar General, India. Although the study was suggested by the undersigned to the Superintendent of Census Operations, and the Director of Industries, West Bengal, as long ago as 1961, the investigation took real shape in 1963, when the Director of Industries of West Bengal was good enough to send Sri A. N. Mukherjee and his colleagues for a short spell of time to the Registrar General's Office to work out the frame of the survey and the detailed questionnaire. The facilities so kindly accorded by the Director of Industries, West Bengal, to Sri Mukherjee and his associates, and the assistance that the Census Commission has been able to render this project since 1963 have contributed to this very able study by Sri Mukherjee. The Social Studies Section of the Registrar General, India, has helped in scrutinizing and editing the Report. The Census Commission looks forward to similar opportunities of collaboration with State Governments.

New Delhi,
October, 1965

ASOK MITRA
Registrar General, India

Preface

AT THE INSTANCE of the Registrar General, India, a study of the Cutlery Industry of Jhalda (Purulia) was undertaken by this Directorate with special reference to the Techno-economic and Techno-social aspects of the industry.

2. We selected six crafts for the purpose of the study including one of Cutlery at Jhalda, District Purulia. The Schedules were prepared by Sri A. N. Mukherjee, Dy. Director of Industries, which were found to be in order by the Registrar General. Dr. B. K. Roy Burman, Officer on Special Duty, Handicrafts and Social Studies, sent us subsequently further schedules.

3. Sri K. B. Pal, Officer-in-Charge, Government Industrial and Commercial Museum, was placed in charge of investigation work at Jhalda. He has written the main Report in terms of the Schedules, in which the specific observations on the technique and economy are restricted to a representative sample of the cutlery units there. Of course, indications have been made of the growth of carpentry tools' units since the second World War and the factors affecting the work and life of the artisans. On the spot, he was assisted by Sri B. N. Dutta, Superintendent, Model Blacksmithy Workshop, Ahmedpur (Birbhum) and Sri S. Dutta of Statistical Cell of this Directorate. In Sri Pal's report, a number of maps, figures and sketches have been incorporated showing the area, the products, the tools and the process of manufacture.

4. At various stages of the work, besides the other officers of this Directorate, we received assistance and co-operation from the Additional Deputy Commissioner (Purulia), Divisional Forest Officer (Purulia), Joint Registrar of Co-operative Societies, Senior Geologist (Purulia) and the Construction Board Directorate, for which we are indeed grateful to them. My grateful thanks are also due to Sri Sibal Karmakar (62), master-craftsman of Jhalda and all the other artisans who assisted us in the work.

5. The work has been supervised by Sri A. N. Mukherjee, Dy. Director of Industries (C.D.P.).

6. Of the studies of the selected crafts of this State, the one on Jhalda Cutlery Craftsmen is the first in the series. While we are conscious of its shortcomings, the study may reveal how the traditional skill despite its distinctiveness, has taken different forms in course of time involving different castes, and how important is the economic organisation in the work of the craftsmen and the growth of the industry.

7. We are grateful to the Registrar General, India and Dr. B. K. Roy Burman, Officer on Special Duty, whose sincere suggestions and instructions have always been inspiring and useful to the Surveying Officers.

N. K. BISWAS,
*Director of Industries,
West Bengal*

October 24, 1964

Acknowledgement

My sincere and grateful thanks are due to the following persons for their kind help, advice and co-operation at various stages of field survey and reporting :

- 1. Shri T. D. Karmaakar, Purulia.
- 2. „ Chandi Charan Haldar, Chairman, Jhalda Municipality.
- 3. „ Amar Nath Singh Deo, Zamindar of Jhalda.
- 4. „ M. C. Mukherjee, Publicity Officer, Regional Office, Jute Development, Government of India.
- 5. „ P. R. Mukherjee, Senior Scienuific Assistant (Documentation), Birla Industrial and Technological Museum, Calcutta.
- 6. „ Sukumar Sinha, W.B.C.S., Officer on Special Duty, Census Office, West Bengal and all assisting Officers in his Office.
- 7. Artists and Designers of the Directorate of Industries, particularly :
 - Shri Phani Bhusan Banerji,
 - „ Gour Netai Chowdhury,
 - „ Asis Pradhan.
- 8. Shri A. Singh, Photographer, Office of the Registrar General, India.
- 9. All the cutlery Craftsmen of Jhalda.

Government Industrial &
Commercial Museum, Directorate
of Industries, West Bengal.

K. B. PAL

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Handicrafts Survey Monograph

On

CUTLERY OF JHALDA

Period of Survey
May--September, 1964

K. B. Pal
Officer-in-Charge,
Government Industrial
&
Commercial Museum,
West Bengal

INTRODUCTION 1

1.1 Jhalda is a small municipal town on the Purulia-Ranchi Road, about 45 Km. west of Purulia town, the headquarter of Purulia district in the western region of West Bengal. Before its transfer to West Bengal in 1956, the town formed a part of Bihar's Manbhum district. A picturesque little spot, it is almost walled up by two ranges of hills—one, the Hazaribagh range, running east-west and the other, a part of the Ajodhya range, running south-east to north-west. There is a good number of forests around. The town has now about 10,000 inhabitants, belonging to as many as 30 castes of the Hindu community, the largest number comprising *Karmakars* (iron-smith), *Poddars* (goldsmith), *Brahmins*, *Kandos* (they are mainly engaged in pressed-rice or *chira-making*), *Ghasis* (lac factory workers and coolies) and *Doms*. Besides, there are a few Muslim and Christian families.

1.2 The term 'soldering' is translated as 'Jhalai' in Bengali. In the remote past, Jhalda was a hamlet, inhabited mainly by Karmakars (traditional ironsmith), whose foremost occupation was forgoing and soldering. The name 'Jhalda' might have derived from the Bengali

'Jhalai'. This was not, however, corroborated by the municipal Chairman who is of the opinion that, although 'Jhal' could have originated from 'daha' or tank, 'Jhal' the first part of the name, was derived from Santal word 'Jhilim'. But the existence of the word 'Jhilim' in the Santhal language not being traceable, the meaning of the term could not be exactly gathered. There is, however, a term 'Jiling' in Mundari, which means 'long'. On the other hand, 'Jhili' is a Santhal word meaning a trench used under a fire place for cooking for a number of people. In that case, it is difficult to see any sensible connection between the name 'Jhalda' and 'long' or 'trench'.

1.3 In the past, the main road of the village reportedly ran along Poddarpara, but at present the centre of the town is the Purulia—Ranchi Road.

1.4 Jhalda cutlery has long been famous for its qualities and craftsmanship. Even to-day the cutlery products of Jhalda enjoy certain consumer preference among all classes of people particularly of the area.

2 AREA OF THE CRAFTSMEN

2.1 The Jhalda P.S. is covered by two Development Blocks—Jhalda I and Jhalda II. The municipal town falls within Jhalda I. The major concentration of the traditional iron craftsmen (Karmakars) is in Poddarpara. Some 45 families cluster in this locality. Ten more craftsman families are spread over in other parts of the town. Among the cutlery craftsmen there are some who do not belong to the Karmakar or Lohar Community. They come from the Poddar and Kando communities. Outside the Jhalda town, there are a few more Karmakar families in Jhalda P.S., particularly in Tulin and Illo mauzas in Jhalda I Block and in Begunkodar mauza of Jhalda II Block. In fact there is not one village in Jhalda P.S. where there is no 'Kamar-Sal' or smithy to supply the local people their *Boti* (vegetable cutter), *Janti* (betel-nut cracker), etc., and agricultural implements. All the cutlery units in Jhalda town are, however, located within a mile from the Block Headquarters and connected by metalled road.

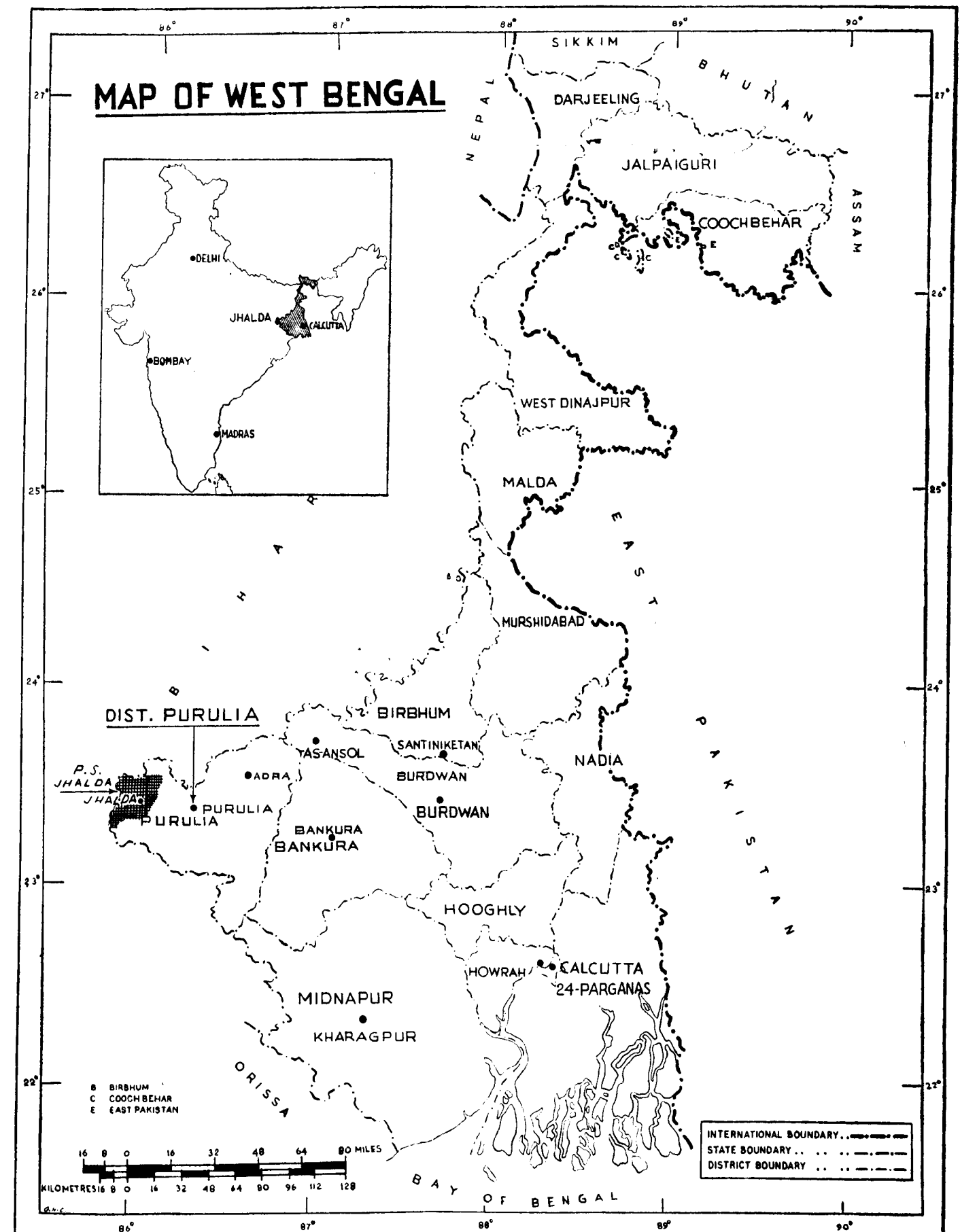
2.2 In the municipal area there are also some 120 gold-smith and silver-smith families, mainly concentrated in the *Poddarpara* (Paddar quarters), *Sonarpara* (gold-smith quarters), and *Dompara* (Dom quarters). Of these 19 families are certified gold-smiths and silver-smiths.

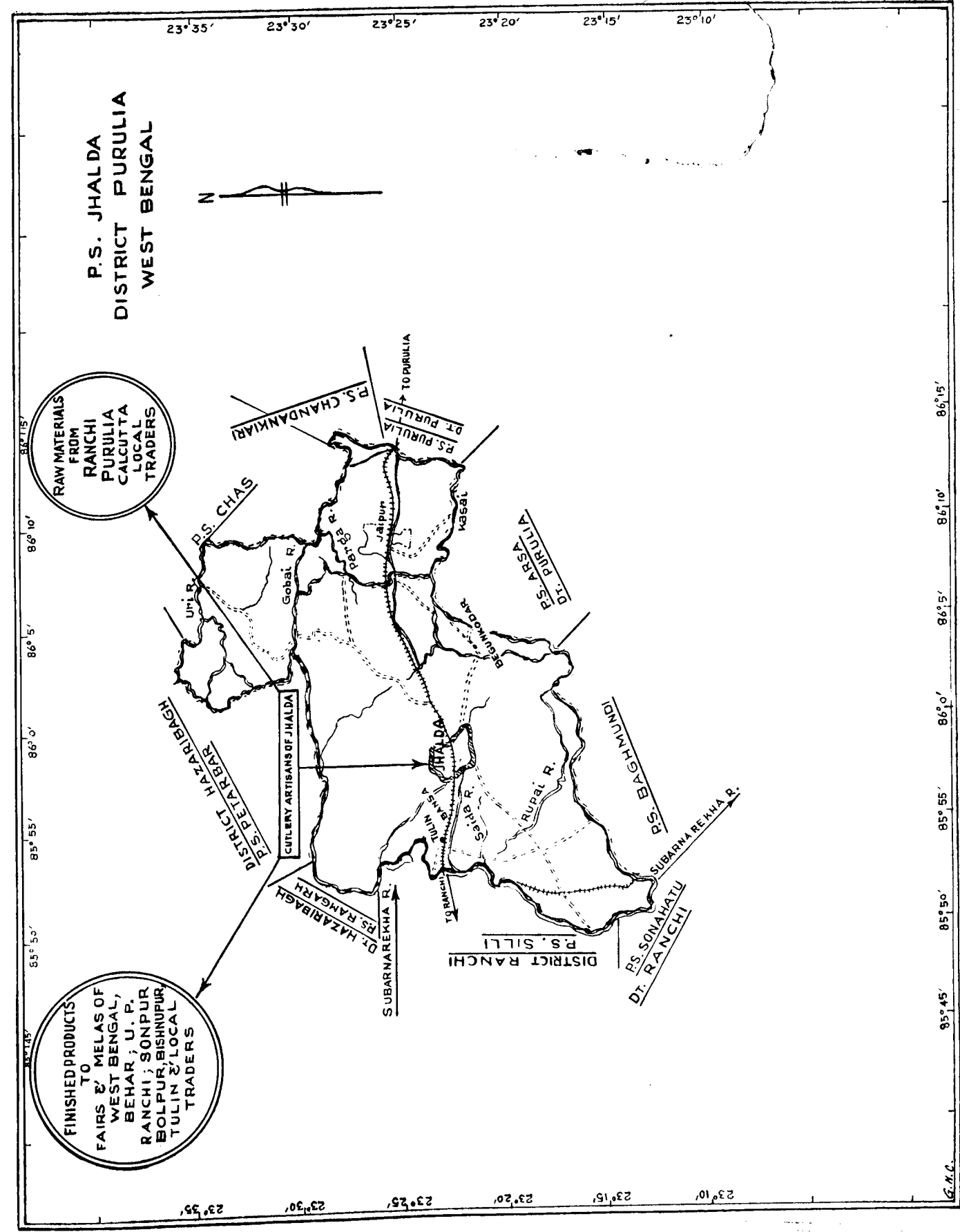
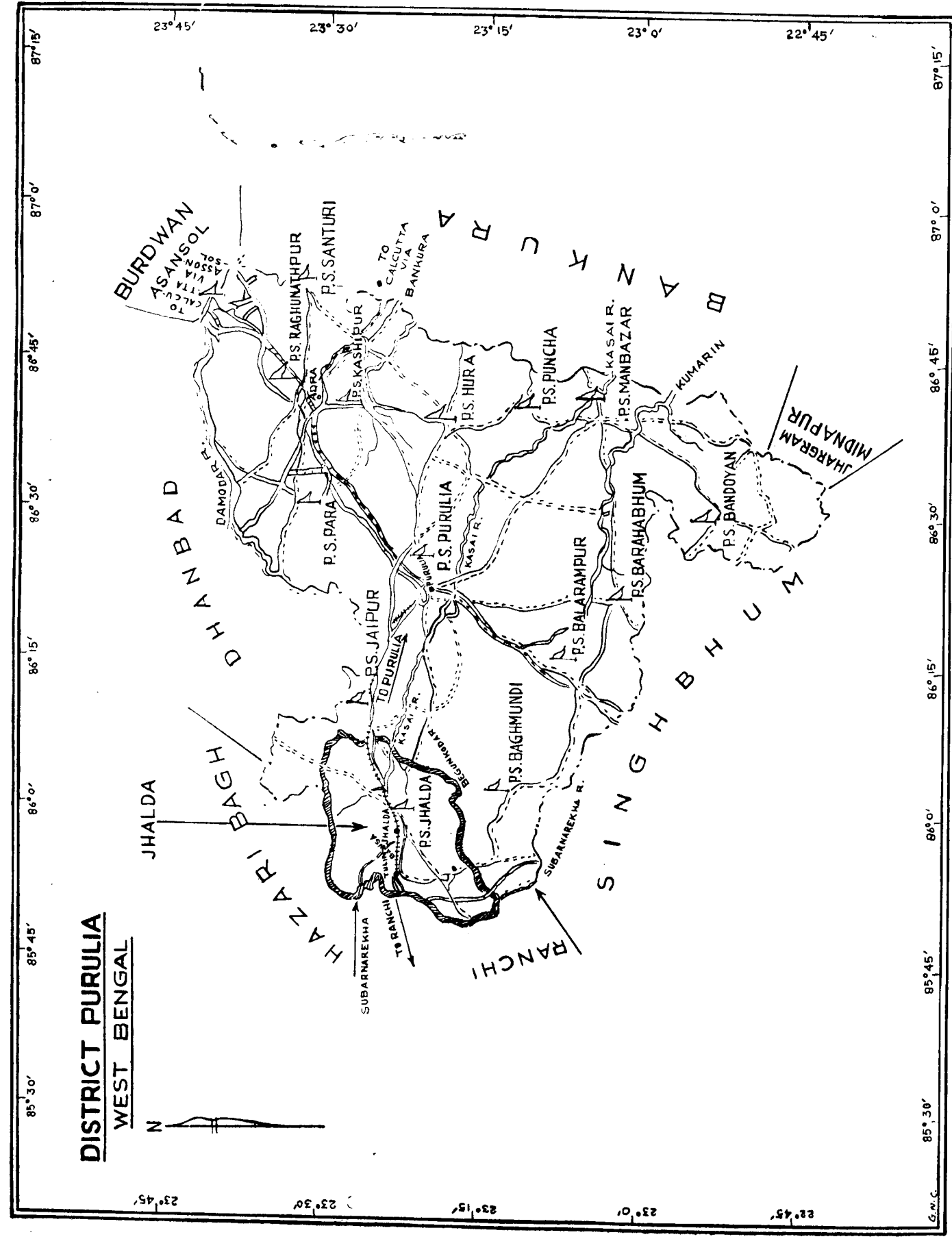
2.3 From the nature of the settlement it would appear that there was a tendency in the past for people, belonging to the same community, caste and profession, to live in one group in a particular locality. But no sharp line of demarcation community-wise is discernible now except in Poddarpara, and the composition of the settlement to-day is mainly heterogeneous (Photo Plate Nos. 14774, 14775, 14776 and 14777). Nevertheless, the old names of the localities—Domkuli, Ghasikuli, Chatanikuli, Kumarkuli, etc., persist. Although evidence is scanty, there may be an element of truth in the statements of the elders that the town proper grew centering the Karmakars, who once formed the majority of its population.

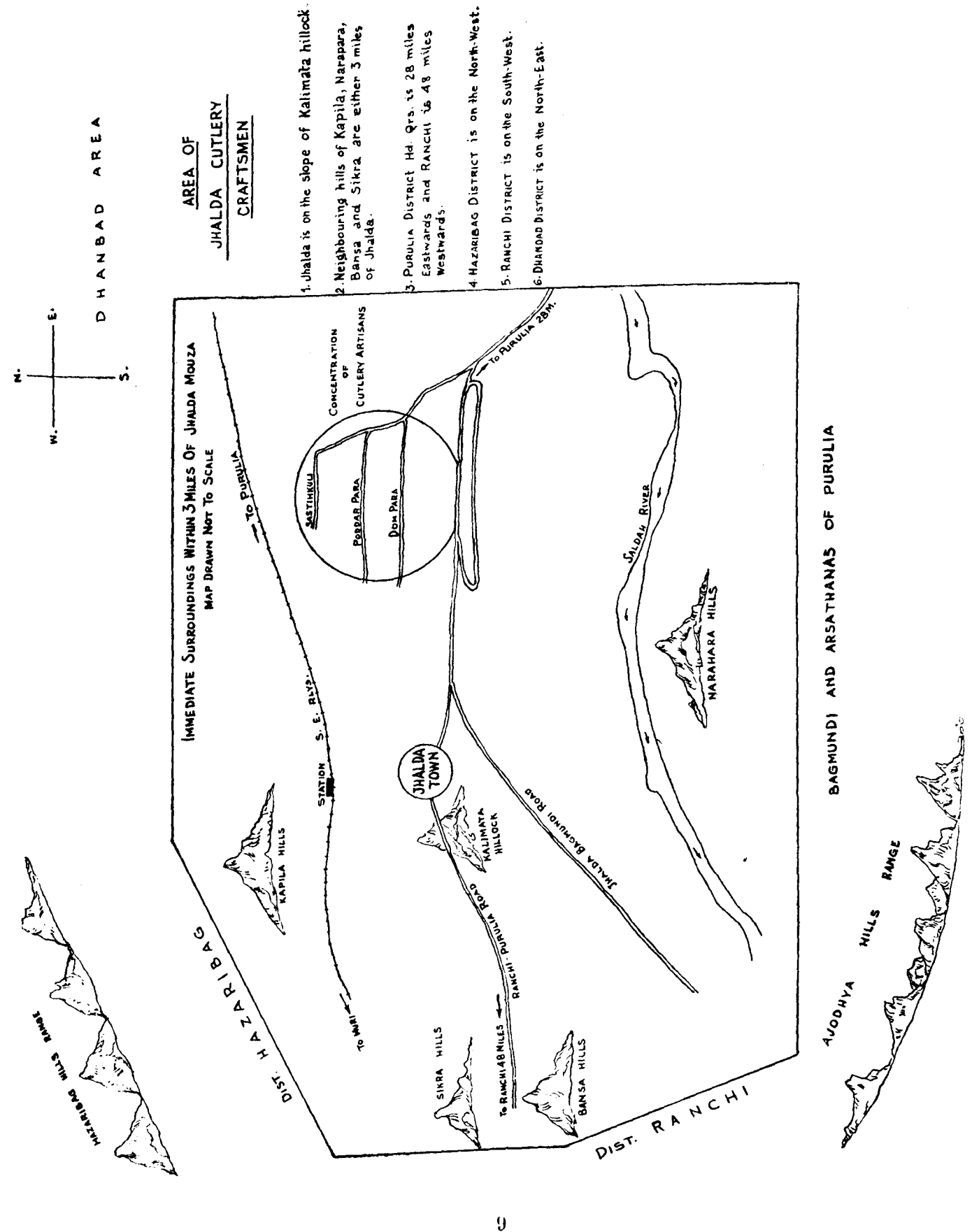
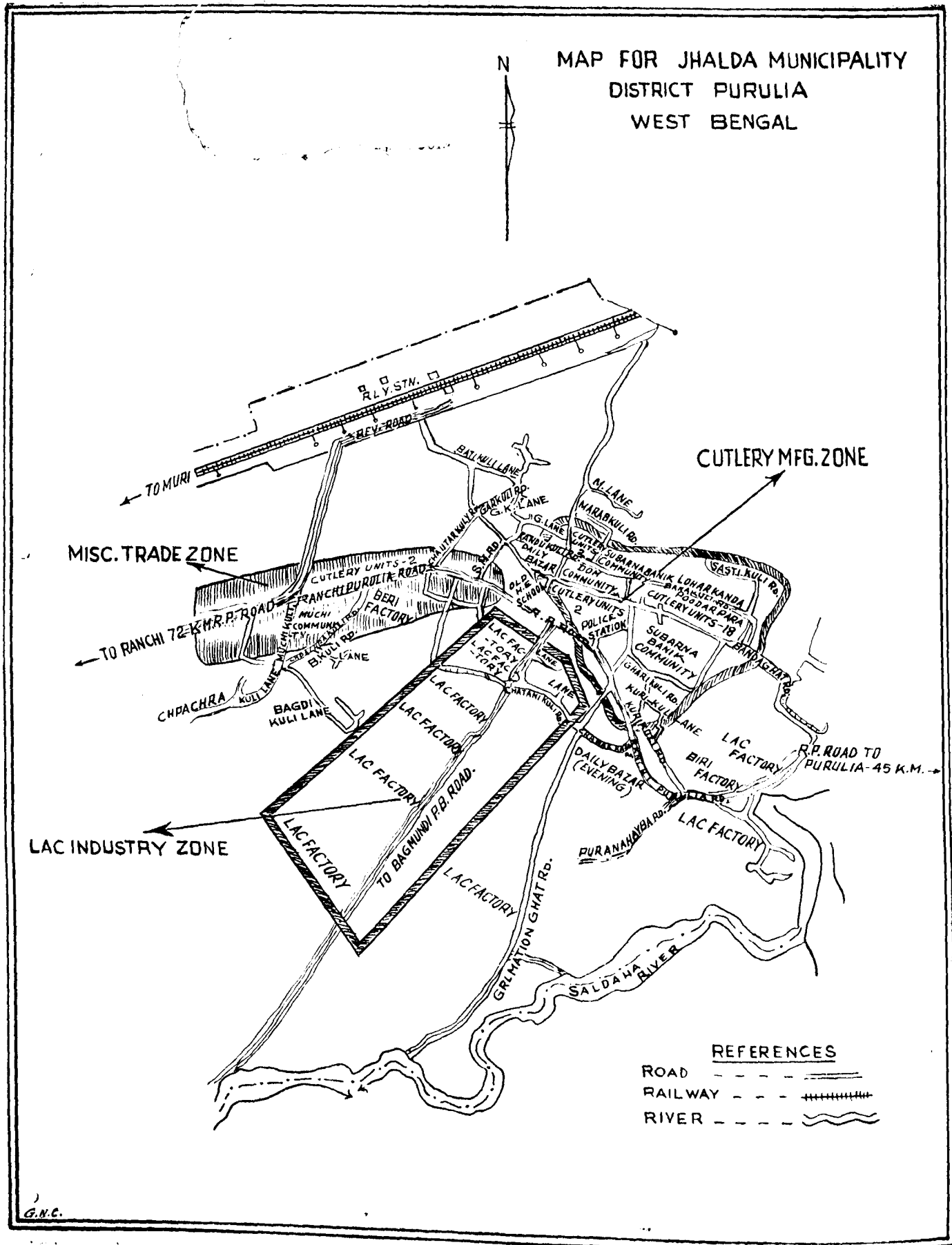
2.4 As has already been stated, Jhalda town lies 45 Km. west of Purulia, the headquarter of Purulia District. It is on the Purulia-Ranchi Road and is, therefore, accessible by public bus both from Purulia and Ranchi, which lies 72 Km. to the west. Purulia-Ranchi Road passes through the heart of the town. Jhalda and Ranchi are also connected by railway via Muri. Jhalda Railway Station is situated on the north-western border of the town. The distance from Jhalda via Purulia and Adra to Calcutta by the S.E. Railway is 368 Km. The town has an area of about 4 Sq. Km. Block I, of which it is a part, has at present 232 Km. of roads, of which 35 Km. are all-weather roads. A number of rivers, namely Subarna Rekha, Rupai, Saldaha, Tankkata, Kalmadih, Safai, Karior, Tansai and Dacai, pass through the area comprising Block I but none is navigable. Jhalda town has a daily bazar and also a weekly *hat*. The *hat* in Tulin, about 8 Km. from the town, assembles once a week.

2.5 The soil of the area belongs to lateritic (morrum), red loamy (intermediate between clay and sand) and gravelly (mixed with gravels) types. In general, the topography of the soil is very undulated. Due to soil erosion, the uplands are mostly barren.

2.6 According to the 1961 Census, 9,718 people forming 1,627 families live in the area, of which 195 families with 1,828 members are craftsmen of all types. Besides cutlery and carpentry-tool making, the other major occupation is 'biri' making. It is the biggest cottage industry of the town and its surrounding villages, employing about 5,000 people either whole time or part-time in 21 organised *biri*-units. Quite a large number of people, about 800, belonging to different communities work in the 12 local lac factories as skilled or unskilled labour. The factories are mainly owned by Marwaris and Punjabis.









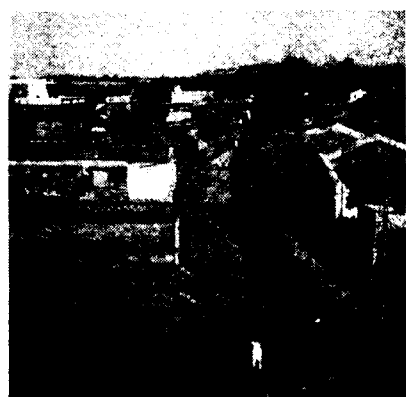
Sl. No. 1 (Photo plate 14774)
A view of the Loharpara which is the north-east portion of Jhalda town. At a distance are seen the paddy fields.

(Para 2.3)



Sl. No. 2 (Photo plate 14775)
Another view of Jhalda area.

(Para 2.3)



Sl. No. 3 (Photo plate 14776)
A view of the Loharpara Road of Jhalda town, on both sides of which are residences belonging to different castes and occupations.

(Para 2.3)



Sl. No. 4 (Photo plate 14777)
Another view of Loharpara of Jhalda area.

(Para 2.3)



Sl. No. 5 (Photo plate 14754)

A view of typical smithy of Jhalda. The position of helpers, craftsman himself, blower, furnace and other tools are shown.

(Para 3.6.3)



Sl. No. 6 (Photo plate 14773)
ical furance used for forging prevalent in Jhalda area.

(Para 3.6.4)

3.1 Origin of the Karmakars of Jhalda

3.1.1. The Karmakar community was in the past known by the name of 'lohar mistry'. According to the elders and other knowledgeable persons of the locality, the Karmakars had migrated from Gaya, Patna, Monghyr and other places of Bihar and settled at Jhalda about 300—400 years ago. It is on record that Patna and Monghyr, where there is still a large concentration of Lohars, once specialised in making different kinds of weapons. This, as also the fact that the Lohars of Jhalda and those of Patna, Monghyr and other places of Bihar inter-marry, gives credence to the migration story. The Karmakars of Jhalda are Hindus.

3.1.2. The zamindars of Jhalda and of the adjoining villages, namely, Begunkodar, Hesla, Garjampur and Torag, patronised the Lohars in various ways. In those days the main weapons used to fight enemies and wild beasts of the area—then a part of Chota Nagpur region which was full of forests and mountains inhabited by wild beasts and ferocious tribal people—were swords and sword-sticks (*guppi*). Evidently, the zamindars were up against heavy odds to establish themselves in the area. The Lohars of Jhalda used to make for the zamindars very fine and hard swords out of the steel made by them on cottage industry basis. They were also patronised by the local people for whom they made domestic and agricultural implements. A speciality of Lohar craftsmanship was a kind of sword that could be supple enough to be worn round the loin as belts and yet be very effective for the purpose for which it was primarily meant.

3.2 Growth of the Industry

3.2.1. Long before the manufacture of steel on modern lines by the TISCO at Jamshedpur, about 110 Km. from Jhalda, the Karmakars used to collect iron-ore from the Bansa Pahar, about 4 Km. from Jhalda town, and smelted it with wood charcoal in small crucibles on a cottage industry basis and got high-class iron directly. The chemical analysis of a black sandy material collected from a dry stream flowing from the Bansa Pahar reveals that it contains 47.4 per cent of iron. The villagers locate a spot near the Bansa Pahar, where, according to them, iron was smelted in the past. Iron-ore-like material collected from the spot gives on chemical analysis an

iron-content of 48.3 per cent in it (*vide* Appendix E). The exact technique of smelting followed in the Jhalda area could not be ascertained, but it can be presumed that the ores might have a high iron-content at the time.

3.2.2. As early as 1907, E. R. Watson of the Indian Education Service in his "A Monograph on Iron & Steel Work in the Province of Bengal" (1907) wrote: "Besides this Barakar Pig, the only iron produced in the province is an insignificant quantity produced in the small native furnaces of baked clay in Orissa, Chota Nagpur and the Santhal Parganas."

3.2.3. The same Monograph has it that iron was smelted in Chota Nagpur during the second half of the nineteenth century. In "A Manual of the Geology of India, Vol. III, Economic Geology," V. Ball, the author, describes the furnace and the processes followed by the Agariahs of Palamau Sub-Division in the Lohardaga district of Chota Nagpur. Watson had the opportunity of watching (on the 18th April, 1907) the process carried out by the Kols in the jungle at a short distance from Dumka in the Santhal Parganas (*vide* fig. 18). He describes the furnace and the process in his Monograph.

3.2.4. "... although, as already stated," E. R. Watson adds in his Monograph, "a few Kols in Chota Nagpur are employed in smelting, the chief workers in this industry in this division are the *Agariahs* and the *Lohariahs*... The *Agariahs* smelt only the crude iron, and this is passed on to the *Lohariahs* to be refined and made ready for the blacksmith's use."

3.2.5. "But in Chota Nagpur some Lohars still smelt iron themselves" according to A. Mitra's "The Tribes and Castes of West Bengal" (1953). Another interesting statement occurring in this book is that, 'iron-smelting, preparation of steel and manufacture of iron implements were entrusted to Karmakars in the past.' It would thus appear that the claim of Jhalda Lohars that their forefathers used to smelt iron themselves is not without foundation.

3.2.6. The Lohars also made guns. The bullets shot from their guns (locally called *gaitha*), used for shooting tigers, elephants, etc., could pierce iron-sheets quarter-inch thick.

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3.2.7. Shri Chandi Charan Halder, the present chairman of the Jhalda Municipality, volunteered the following anecdote :

It was around 1930 that one Charu Ch. Mukerjee was the Deputy Commissioner of the Manbhum district. An experienced hunter, he owned a fine and costly imported gun. Accidentally the gun broke one day and was brought to Narayan Chandra Karmakar, a reputed Jhalda craftsman, who repaired it so beautifully that Mukherjee thought as though he had got back his original weapon intact. As the story goes, Narayan Chandra was amply rewarded for his masterly repair job. Narayan's contemporary, Mitran Chandra Karmakar, was also a master craftsman.

3.2.8. The following extract is from the Bengal District Gazetteers, Manbhum, written by H. Coupland, I.C.S. and published in 1911 by Bengal Secretariat Book Depot :

3.2.8(a). "The ordinary iron utensils required for domestic use are made locally throughout the district; the ordinary village blacksmith works in a very primitive method and the produce of his hearth and anvil has no pretensions to being fine work; the raw material is usually supplied by his customers and he makes it upto order to the best of his ability. In Purulia, Jhalda, Tanasi and one or two other places, however, there are more skilled workers, and the two former places have a considerable reputation for the manufacture of agricultural implements, cutlery and fire-arms.

3.2.8(b). The reputation of Jhalda for guns hardly compares with that of Monghyr and the outturn is now very limited, two or three per annum only; the industry was, however, at one time a flourishing one, and the gun-makers of both Jhalda and Tanasi were suspected in 1857 of supplying matchlocks and other weapons to the discontented Sonthals and others who gave trouble in the neighbourhood of Jaipur and Gola. The manufacturers have not, however, lost their skill and can effect passable repairs of weapons of European manufacture and also turn out weapons which are a fair imitation, so far as appearance goes, of the cheaper products of Birmingham. Their methods differ in no material respect from those followed by the gun-makers of Monghyr which are described in detail by Mr. E.R. Watson in his Monograph on Iron & Steel Work

in Bengal (1907). Sword-sticks (*gupti*) are also manufactured in considerable numbers, as well as similar walking sticks of various patterns without the concealed weapon. The bulk of the outturn of the smithies consists, however, of ordinary household and agricultural implements of somewhat superior workmanship to those produced by the regular blacksmith of the smaller villages. The technical schools at Jhalda and Tanasi, referred to elsewhere are in connection with the superior blacksmiths' shops, and boys mainly of the regular blacksmith or Lohar castes are taught the various stages in the working up of the rough material into ploughshares, *kodalis*, axes and the smaller cutting instruments in ordinary use. According to Mr. J. G. Cumming, the workers at Jhalda are capable of doing much better work than he found them doing, and only require an extended market for their manufactures. It is doubtful, however, whether without a capitalist behind them there is much possibility of their obtaining this."

3.2.9. At the time of the settlement in the area, the Karmakars were few in number and many of them agriculturists. As the number of families increased, they had to look for new avenues of employment and since the arable land was limited, more and more people were attracted towards ironsmithy. By then their fame as craftsmen had already spread. The fact that no licence was required to manufacture guns and swords quickened the growth of the smithy trade and the Santhal Revolution of 1855-57 was a welcome stimulus. According to Coupland's report, the Santhals were supplied with swords and guns of Jhalda manufacture.

3.2.10. The following information is collected from Shri T. D. Karmakar, B.Sc., (Patna), B. Met. (Sheffield), a well known person of Jhalda, now a resident of Purulia town :

Early in the current century, the Swadeshi Movement in this country with its frequent outbursts of terrorism marked an important stage in the growth and development of the Jhalda smithy industry. Jhalda guns were freely circulating in different parts of Eastern India wherever terrorists were active, and the nerve centre of this illegal distribution trade was Orissa. Soon, as was to be expected, some of these arms fell into the hands of the British who traced and identified their source of manufacture, with the result that a blanket ban was imposed on gun-making at Jhalda. The whole community of the

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Karmakars was instead given a new licence for making 1,200 hunting knives annually. This was too small a job to occupy so many artisans. The result was widespread unemployment and misery. Although cutlery as a sideline was all the time being produced, it could not, in the absence of an adequate market, take the place of guns and swords either in the volume of production or in value. To stave off starvation, the community had to think out new lines of production and this much needed diversification was introduced in 1928. Carpentry tools had a wide demand and so chisel was a significant addition to the Jhalda range of products. Pruning knife was another. Jhalda chisels virtually boomed and the success in this line encouraged the introduction of auger, another carpentry tool, in demand all over India. The community had a thriving time during World War II due to huge defence demand for chisels, augers and also knives.

3.2.11. At the present time, however, the cutlery-making industry at Jhalda is one of diminishing importance since the general trend is towards the manufacture of augers and chisels. Not many know that much of what passes for Purulia augers and chisels is forged at Jhalda. The usual practice is to pass on the forged material to Purulia where it is polished and finished.

3.3 Tradition of Swords and Daggers

3.3.1. The manufacture of swords and daggers can be explained (a) historically by the co-existence of five Rajas at Kasipur, Jhalda, Jaipur, Hesla and Bagunkodar in the same district of Purulia, necessitating the maintenance of force in each place, (b) by physical features of the area evident in surrounding hills and forests, reminding the people always to have self-defence weapons and (c) on technical grounds, by the distinctive skill of the Lohars and the occurrence of iron ore in local hills helping indigenous iron-smelting.

3.3.2. The Rajas held separately revenue-paying Estate and were independent of each other [as confirmed by the Additional Deputy Commissioner, Purulia]. All the above estates vested to the State under the Bihar Land Reforms Act, 1950, excepting that the charges of the Estate of Jhalda and Hesla could not be as yet taken due to the High Court Injunction. Thus, when the State will have direct contacts with the people, the

historical importance of the Rajas is lost. And the one sword of the Raja of Jhalda, seen by Extension Officer, Industries on 9.9.64, which is 24" long with sharpness on both edges and can be bent to take a semi-circular form, is now a personal possession only and not the symbol of local law and order. The sword, said to be with the Raj-family for about 200 years, has not yet taken any rust. In the north-west corner of the Jhalda town, there is the residence of the Raja covering an area of 7 acres and is surrounded by a ditch stretching over 10 acres. The ditch is 6' deep and 25 yards wide. Now, the adjoining paddy lands and tanks are covering up the ditch.

3.4 Forests and Defence-Weapons

According to the Divisional Forest Officer, Purulia, there were no reserve forests in Jhalda area. In the beginning of the century, the forest-area might have been more, but with the Chota Nagpur Land Tenancy Act and the rights incorporated thereunder, the present area is only 168 Sq. Km. It is true that not all the lands were under forests. But the topography of the area, being part of the Chota Nagpur and Manbhum of Bihar, would explain that the poverty of the people was mostly due to the low productivity of soil; a considerable portion of the land was 'tar' (waste, rocky and barren) and 'baid' (of low yield) and the rest was only 'kanali' and 'bahal' (productive). Before deforestations, the productions were mainly seeds of grass (*kurti*, *kulti*, *kodo*), oilseeds (*sarguja*) and maize. Now paddy, pulses and vegetables constitute the major portion of the yield. The undulated character of soil, lack of better communications (all-weather/fair weather mileage being 22/122 respectively of Jhalda Block area and all the local rivers namely, Subarnarekha, Rupai, Tanasi, Saldaha, Saharjuri, Kansabati, Dacai, Kalmadih and others being non-navigable) and the dispersed localities with *sal*, *kul*, *palas* and *kusum* trees around them still account for the commercial demand for sword-sticks and hunters by village people. This demand is not restricted to the Jhalda area only. Through the middlemen, these articles reach similarly rocky and morrum areas of Midnapur, Burdwan, Jharia, Dhanbad, Khatras, Rourkella, Arah, Monghyr, Chapra, Gaya and Ranchi. During the winter months, about half-a-dozen *paikars* (middlemen traders) are seen moving round the artisan's cottage in Jhalda almost every day. But there are the lean months of business in summer and rains; hardly there is one or two traders these days. Hence the problem with the cutlery artisans with whom

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the primary occupation of living is the manufacture of these articles is one primarily of the idle days.

3.5 Hills helped Indigenous Technology

Passing along the 120 Km. Purulia—Jhalda—Ranchi Road, the Hazaribagh Range hills and the Ajodhya Range hills in the north-west and south-east of Jhalda P.S. still invite our attention. Within 4-7 Km. of Jhalda town, there are the hills, Bansa, Sikra, Kapila and Narahara as well as the hillock Kalipahar on whose slope, is the town itself. The days when the Lohars used to smelt local iron-ore are gone; however, crude it may be, this technology produced not only swords, but guns too. And no wonder, some of the cutlery articles made out of the present day open-market raw materials will reveal smithy cracks.

3.6 Number and Nature of Units

3.6.1. There exist in Jhalda as many as 50 smithies, out of which 24 (list is given in Appendix A) are engaged in making cutlery articles and the rest in carpentry tools such as auger, chisel and others. Two units in the area only forge blades for hunter and *gupti* while two others do only polishing. Cutlery articles are also produced in four smithies of the village Bagunkodar in Block II, 10 Km. from Jhalda town. Two establishments in Jhalda town—*The Jhalda Karmakar Co-operative Society* and the Eastern Cutlery & Tools Mfg. (P) Ltd.—are important cutlery dealers. *The former owns no workshop*, whereas the latter manufactures both cutlery and carpentry tools in a small workshop of its own. But from the stock of saleable goods in the latter's showroom, it appears that the unit has to depend on other smithies for most of the products. The financial position of the Co-operative Society, it is gathered, is not sound. In the Society's showroom on the main road are displayed cutlery as well as carpentry tools, collected for sale from its member units. Out of 24 cutlery units of the town 7 are owned by the Poddars, 2 by the Kandos and the rest by the Karmakars. Seven representative units of the town have been studied for this report.

3.6.2. Most of the cutlery units are very small employing one and, in some cases, two to five helpers on daily wage basis and the artisan himself is the owner of the establishment. The owner

artisan's household consists of five dependents on the average. Women and children are not engaged in the workshop. Sometimes, boys work as helper on a small remuneration.

3.6.3. All the workshops are housed in small sheds with country-tiled roof, unplastered brick-built or earthen walls, 30-60 cm. high plinth and broken and uneven *kucha* floor (photo plate No. 14754). Besides, the main door, most of the workshops have no window. The floor has an area of 14 Sq. m. on an average. Instead of walls, some workshops are provided with open fronts which are closed at night by movable, grill-type shutter made of bamboo strips or wooden framed tin sheet, serving improvised door (*jhanp*).

3.6.4. The craftsman takes his seat in a particular place in his workshop. The anvil is in front of him, the hand blower on his left/right. A typical furnace used for forging, prevalent in the area is shown in photo plate No. 14773. Other important and necessary tools likely to be required constantly are near at hand. In some, a rack for keeping day's finished and semi-finished articles is fixed on the wall. The craftsman's residence which, in most cases, is attached to the workshop, is often used for storing finished articles, raw materials, etc. After the day's work is finished the tools are stored in wooden boxes kept in a corner of the workshop. The helper, if the craftsman employs one, sits face to face with him at a distance of about 1.5 m. The helper's job consists in hammering, blowing, hand grinding and polishing, turning the polishing wheel, etc.

3.6.5. In the cutlery units the artisans work only in the sitting position and according to them, they are accustomed to work in such fashion without feeling any discomfort.

3.6.6. From a study of the smithies in the area under review it may be concluded that the working condition of the artisans is not satisfactory from the hygienic point of view. Open passage in the workshop for letting out smoke, generated during working hours, is scanty; also air and light in the shed are not sufficient. In spite of the electrification of the town, the cutlery units have not installed electricity, probably due to shortage of funds. The artisans do not normally work, after dusk. But when pressure of work demands, they work in the evening under country lamp not without inconvenience.

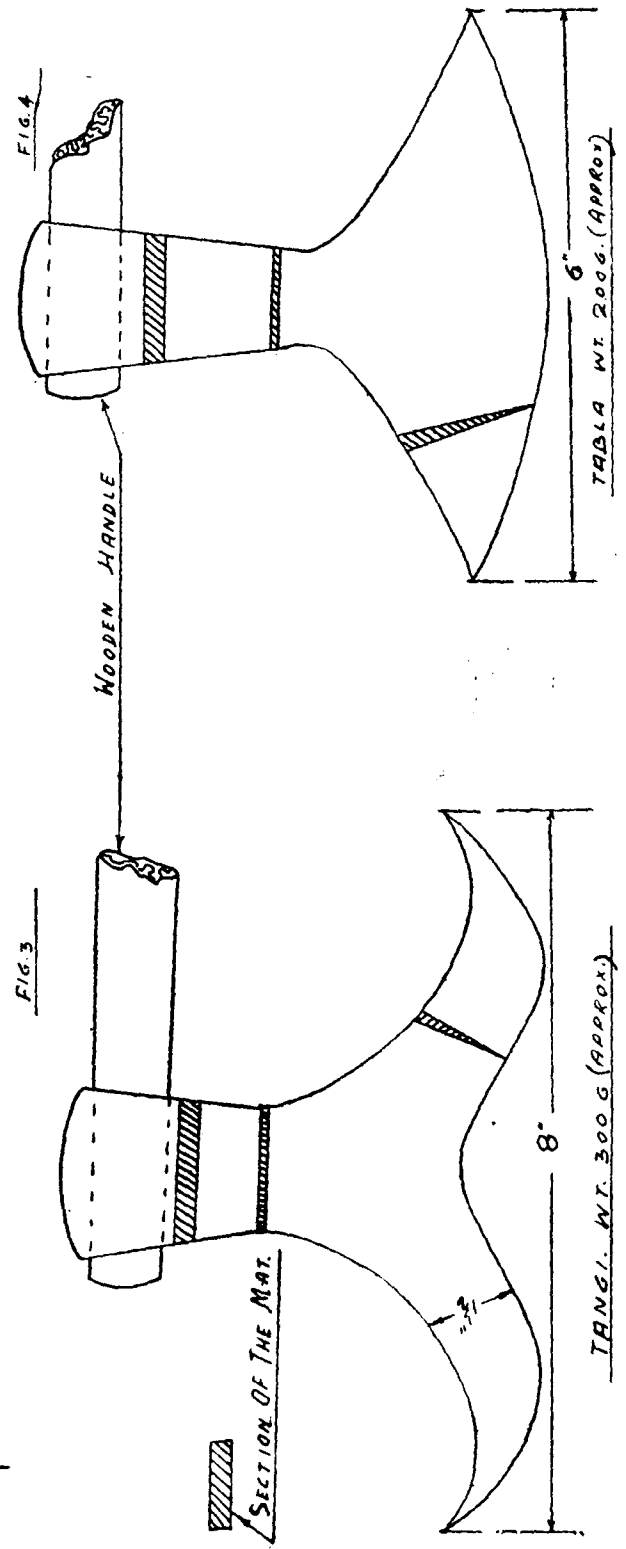
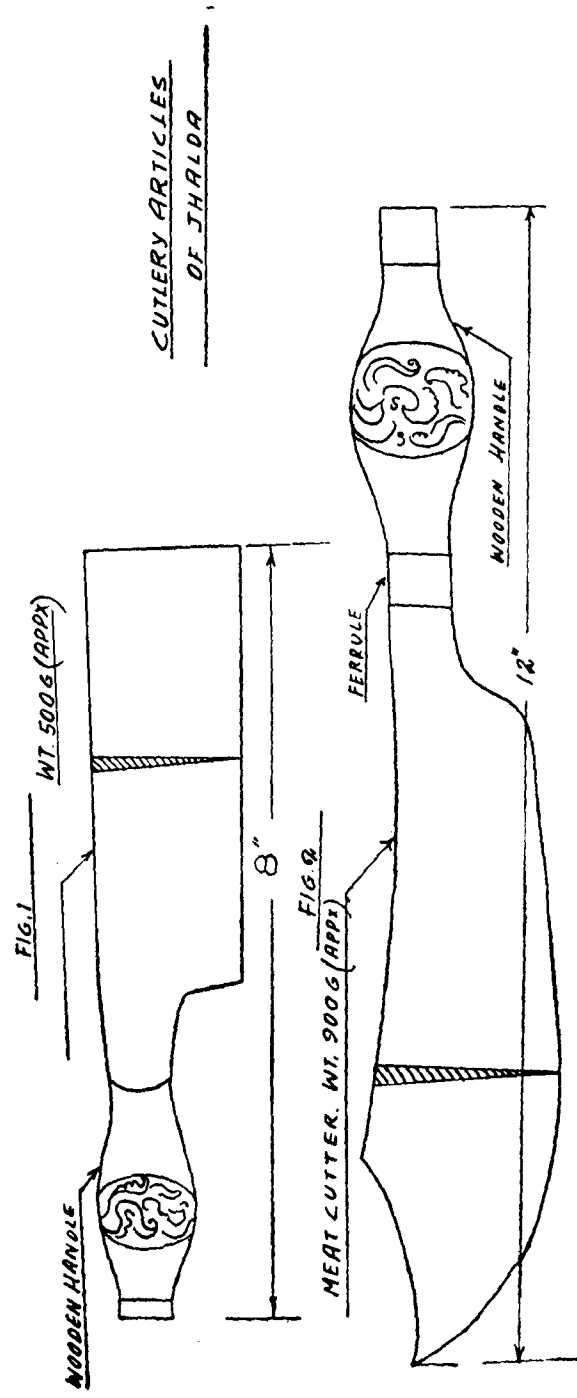
TRADITION OF THE CRAFTSMEN

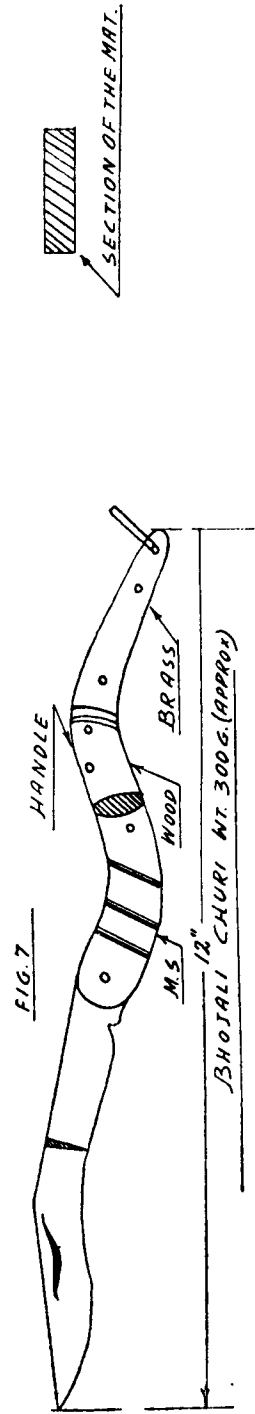
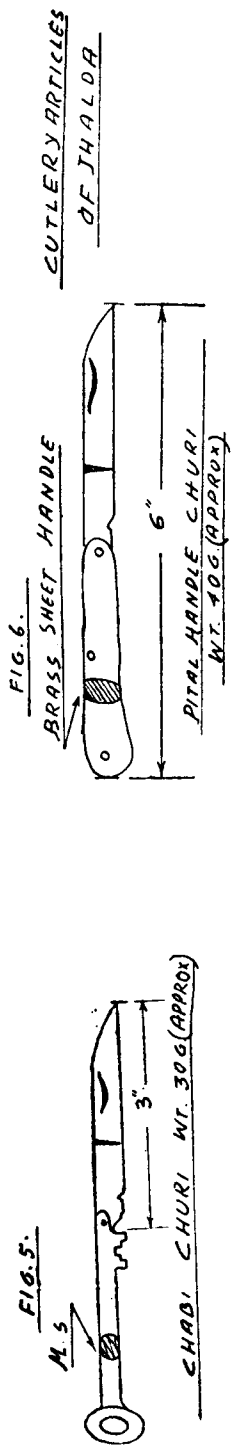
3.6.7. Possibly due to such working condition, the health of most of the artisan seems to be not very sound. A Karmakar who is engaged in cutlery production "lacks the brawny arms and massive chest of a typical blacksmith, is light of build and pale of complexion, his face bearing traces of organic weakness."

3.7 Items of Manufacture

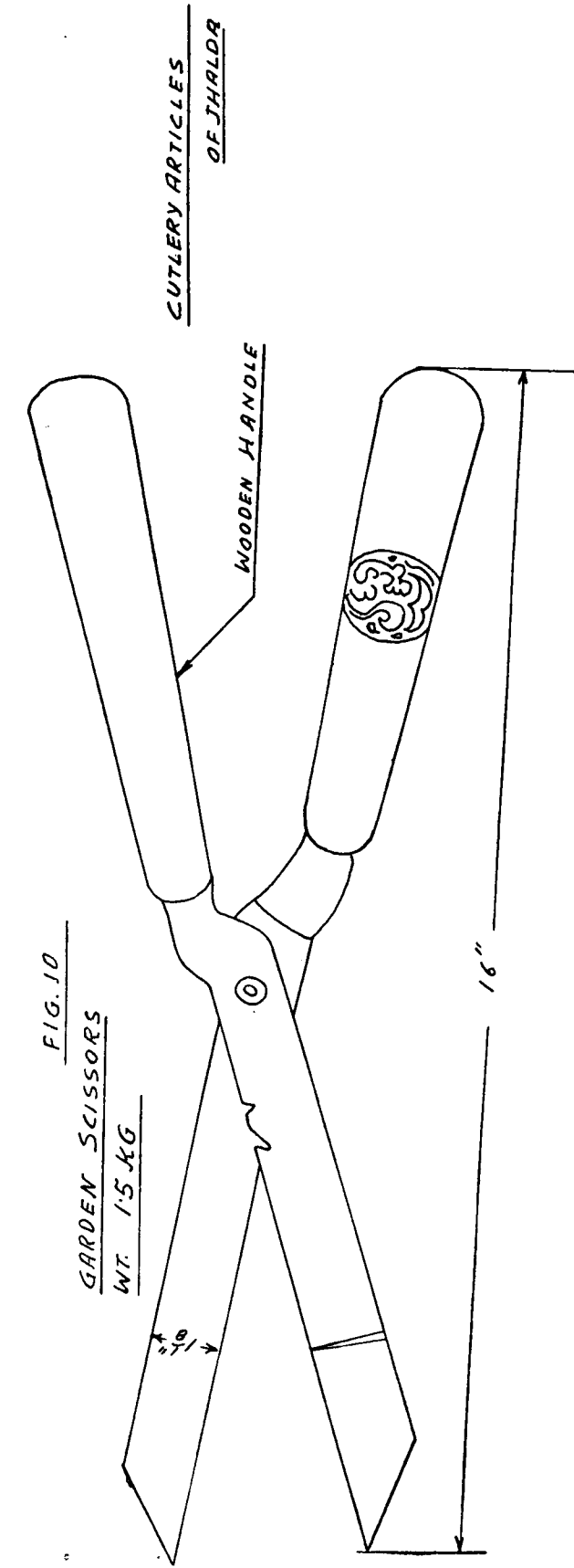
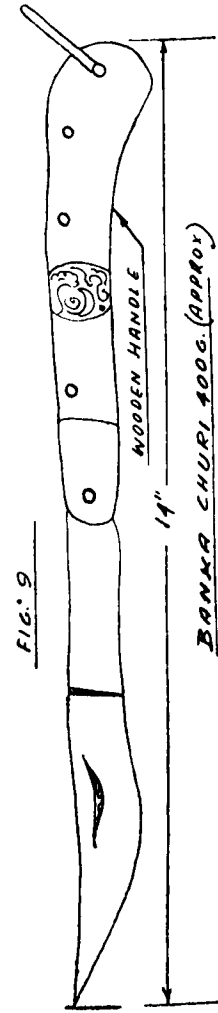
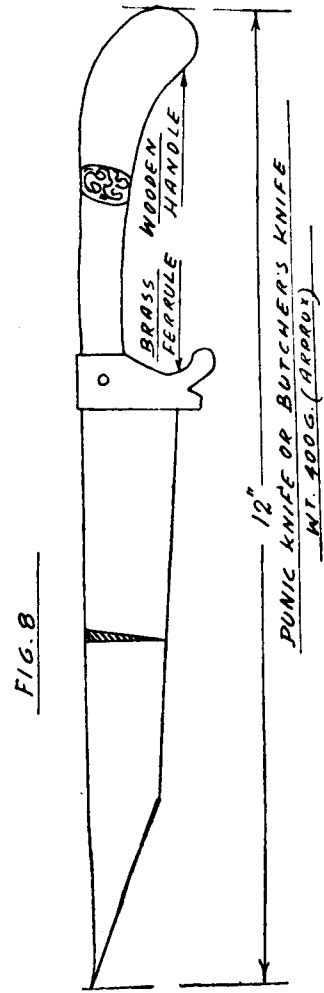
Knives, betel-nut crackers, vegetable cutters, ordinary cutters, hunters and sword sticks (*gupti*) of various size, shape and quality are the most important products of the cutlery units. A walking stick with a narrow sword concealed

in it, is locally called a *gupti*. Hunters have also concealed weapon within, but these are smaller in size. Besides, they manufacture scissors, daggers, *kripans*, coconut crusher, axe, tungi and others. The articles are shown in figs. 1 to 17. No razor is found to be made by these units, although some of the craftsmen claim that they can make very fine razors, if ordered to do so. A list of cutlery articles manufactured at Jhalda may be found in Appendix B. All the items are manufactured on a cottage industry basis in a primitive way. In fact, there appears little deviation from the technique adopted by the Karmakars fifty years back, as written by Coupland.



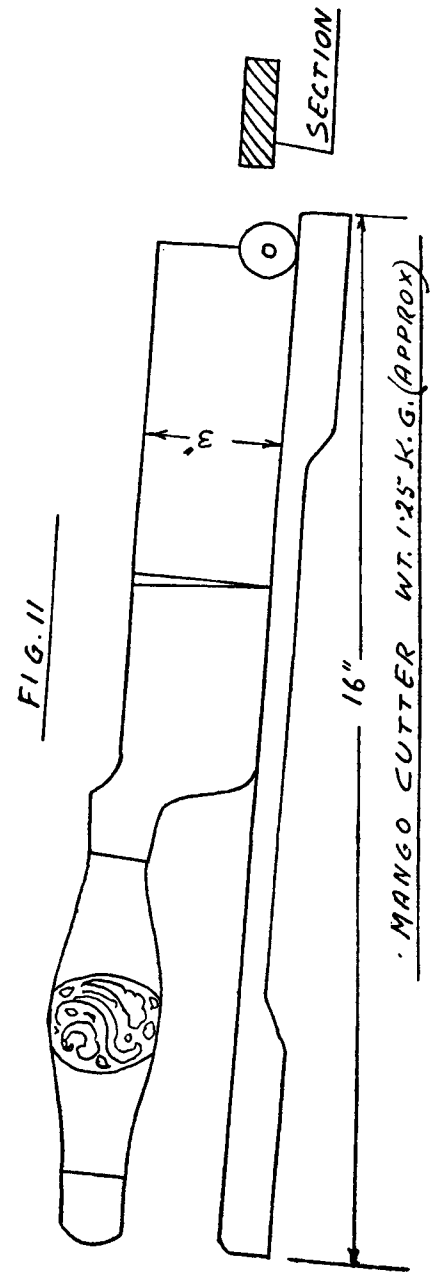


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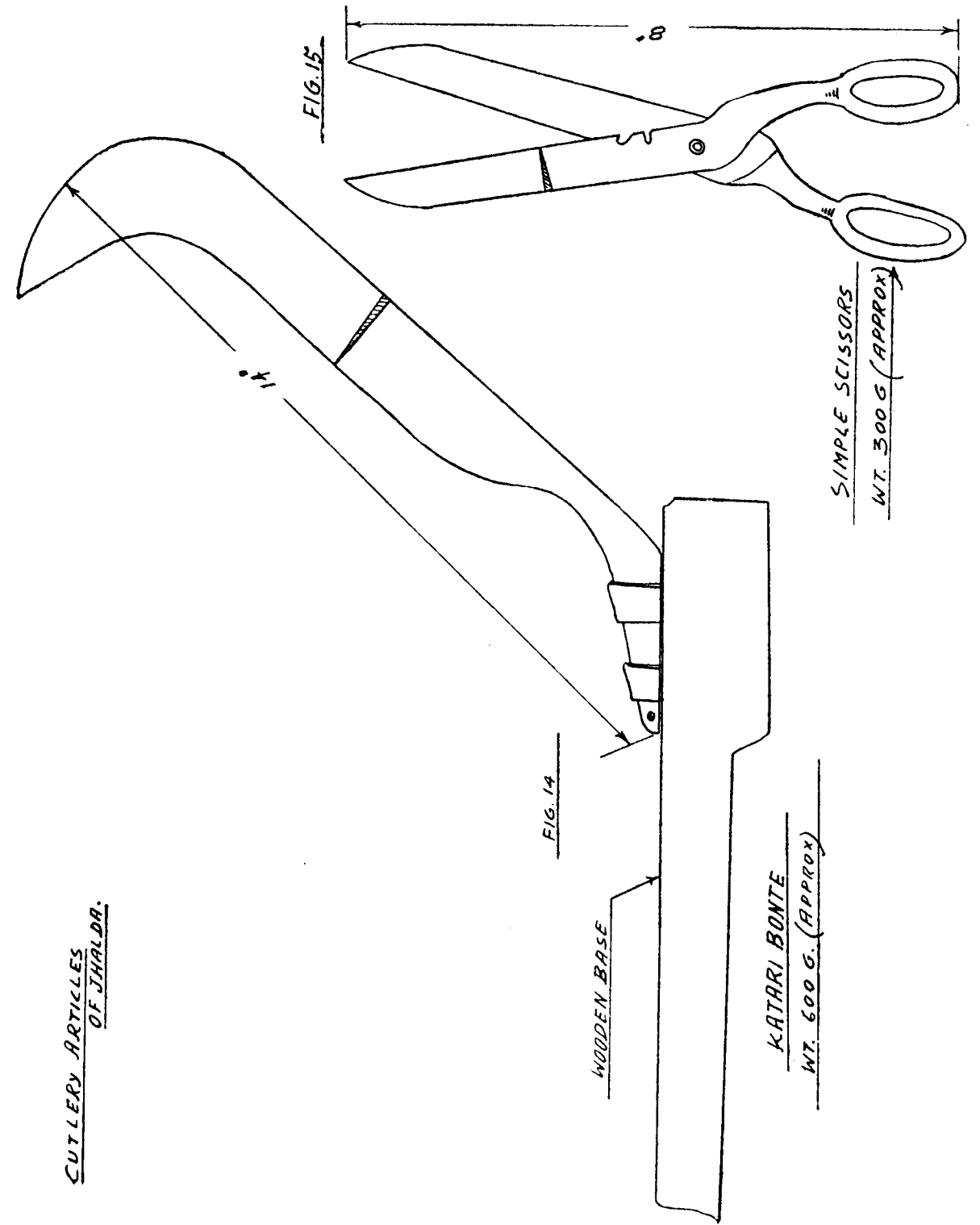
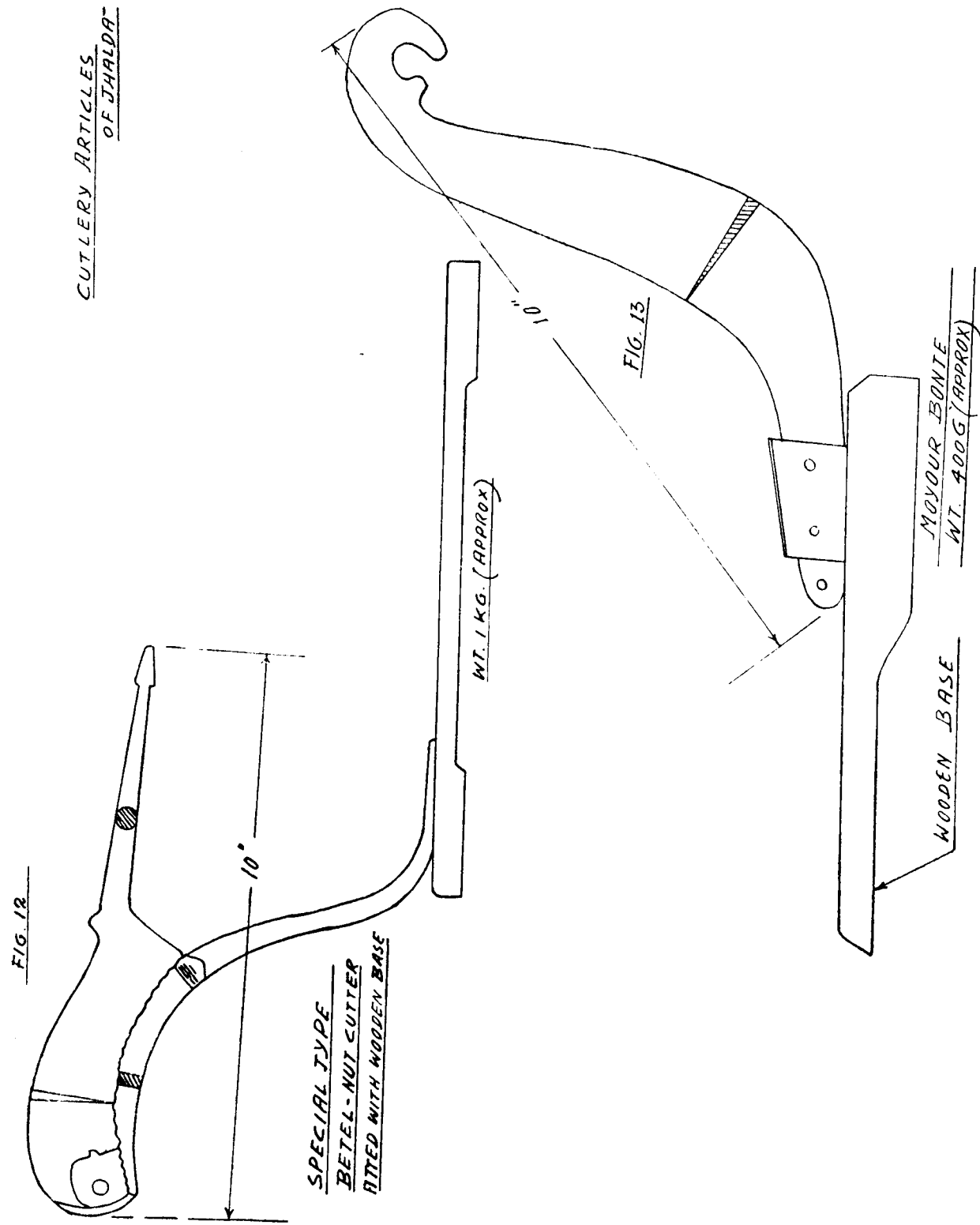


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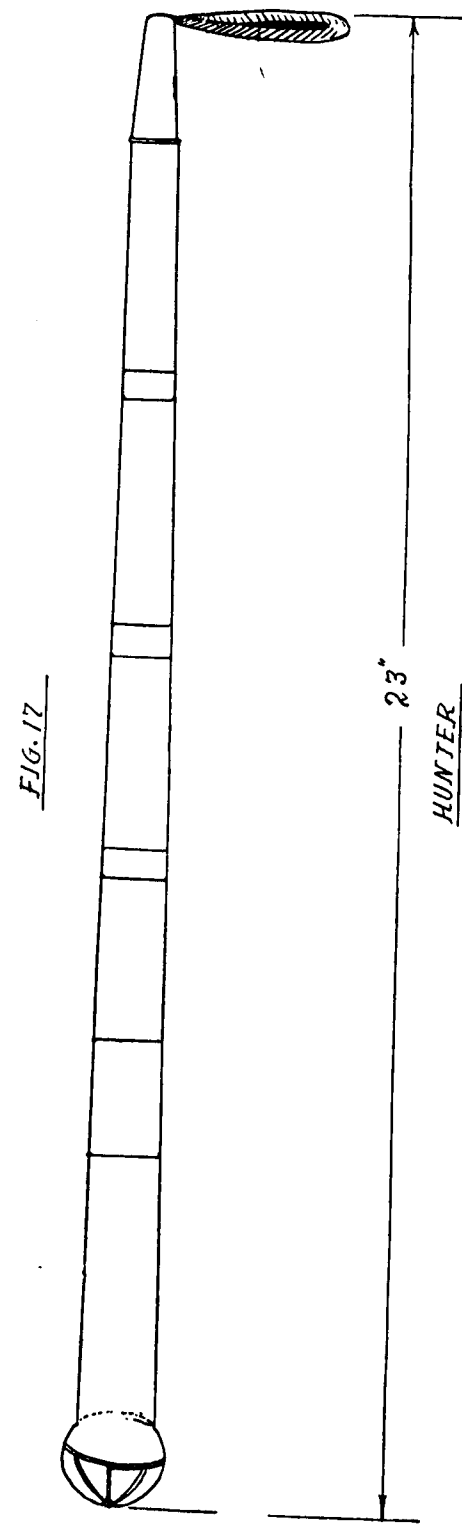
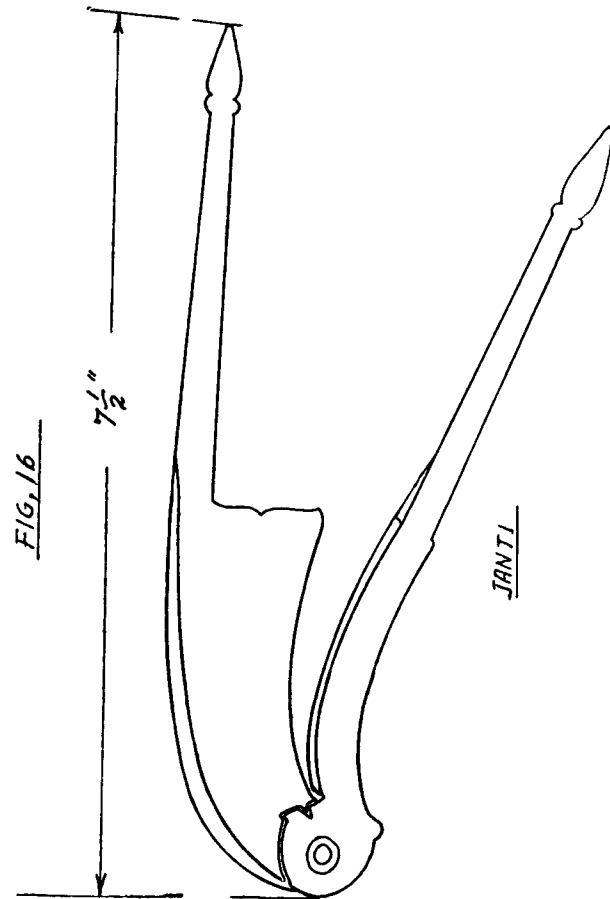


Fig. 18
 Iron-smelting in the Santhal Parganas
 (from Iron & Steel Work in the Province
 of Bengal—Watson)

4.1 Tools used

4.1.1. The tools used by the cutlery artisans of Jhalda are mostly very simple, although some of the tools used are very common with a blacksmithy elsewhere. A list of important tools is given at Appendix D. The salient feature of the tools is that these are mostly made by the artisans themselves. The tools are shown in sketches 2 to 34.

4.1.2. The names with price of the tools used by a sample unit is given in the table below, from which an idea may also be formed as to the nature of the tools used:

TABLE I
THE NAMES WITH PRICE OF THE TOOLS
USED BY A SAMPLE UNIT

Tools with Local Names	No. possessed by the unit	Price per piece (Rs.)	Total price (Rs.)
1. Rail line piece	2	4.00	8.00
2. Anvil (Nehai)	1	25.00	25.00
3. Hammer (Haturi) (small)	2	0.75	1.50
Hammer (Huiera) (big)	2	2.00	4.00
4. Tongs (Sarasi)	4	0.50	2.00
5. File	2	12.00	24.00
6. Round file (Bagdal) (big)	2	12.00	24.00
7. Saw (Karat or Tensa) (small)	2	1.50	3.00
8. Flat file (Katra) (small)	2	0.50	1.00
9. Scissors (Kanchi)	1	2.00	2.00
10. Chisel (Rantha)	1	2.00	2.00
11. Khap Khurni	2	0.50	1.00
12. Axe (Basla) (small)	1	1.25	1.25
13. Borer (Bhromor)	1	2.00	2.00
Borer (small)	2	1.00	2.00
14. Katret (file like tool)	2	1.50	3.00
15. Tak (Round rod of steel with tapering end)	1	2.00	2.00
16. Chalna (for polishing bamboo, horn, etc.)	2	0.37	0.75
17. File (Tin Pahal) (Triangular)	1	3.00	3.00
18. Cold Chisel (Cheni)	2	0.25	0.50
19. Suma (for fixing)	1	0.25	0.25
20. Handblower (Bhati or Hapar)	1	45.00	45.00

No unit is found to possess weighing or measuring instruments.

4.1.3. It is interesting to note that the cutlery artisans depend mostly on their own skill, individual judgement and innovated tools. Some special type of tools will bear evidence in this direction.

4.1.4. A tool, locally named *Chengi* (vide sketch 34) is used by the craftsmen for giving a definite twist to any article (e.g. auger), when required. The total number of twists required to be given to the product, turns per inch, etc., are simply controlled without the aid of any other tool by the craftsman himself. A special type of borer (sketch 5) is frequently used to cut out washers from thin brass sheet. *Chalna*, *Maskala* etc., are also some special tools worth mentioning in this connection.

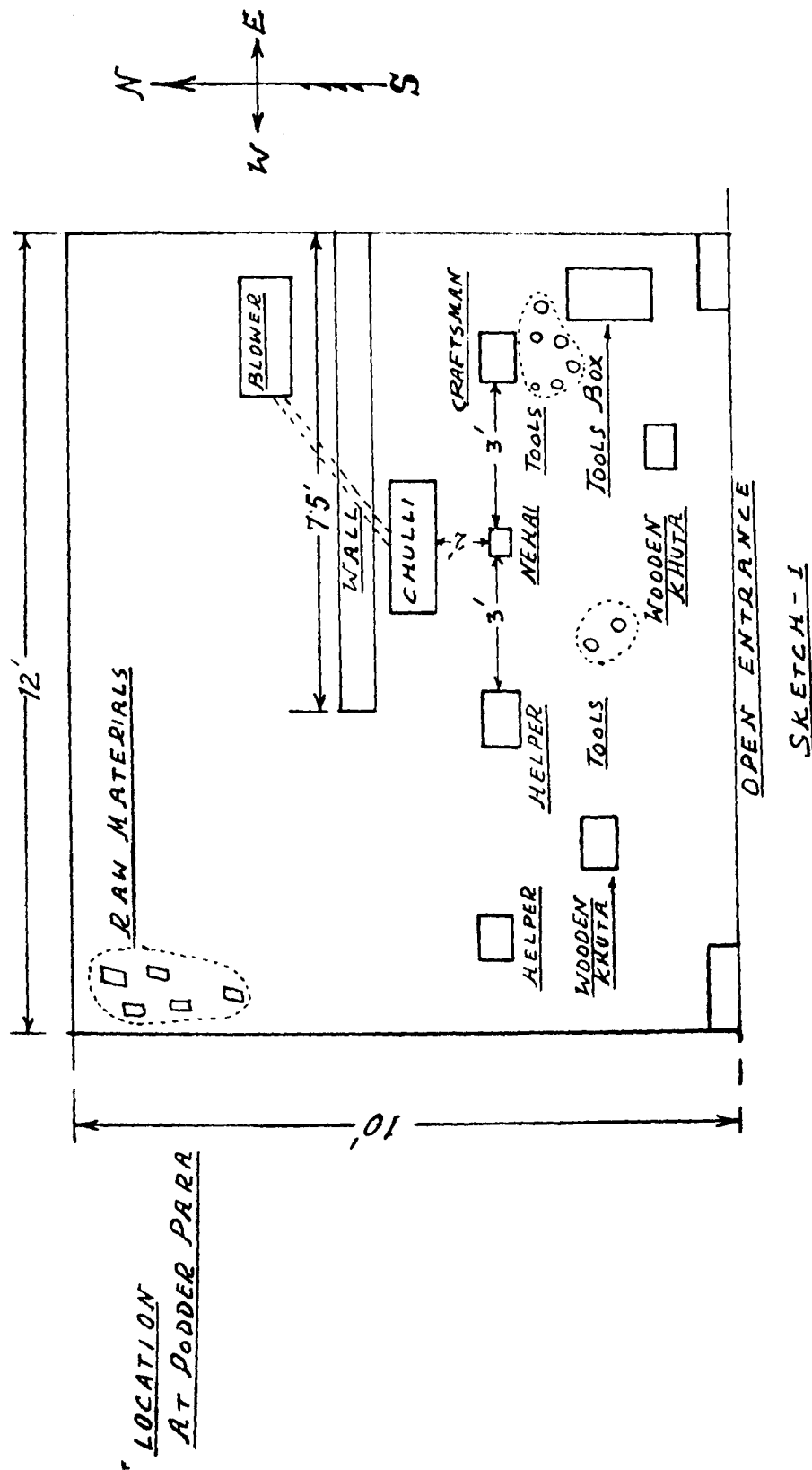
4.1.5. The artisans themselves generally repair their tools instead of buying new ones. In this process they use crude methods and often consume more work-hours than would have been necessary by the use of a refined technique and proper tools.

4.1.6. All the units studied in this connection do not necessarily possess all the items of tools given above, particularly the special types. But they all have a set of common tools, e.g., hammer, tongs, anvil, blower, etc., for normal work. Whenever need arises for a particular job which requires the use of special tools, a unit borrows these from others.

4.1.7. A complete set of tools and equipments to produce an article ready for the market, i.e., from forging to finishing, is not possessed by most of the units. For example, although all the units have hand-grinding and polishing arrangement, only five out of twenty four units are equipped with mechanical and other implements for the purpose. The units which do not possess mechanical grinding and polishing arrangements have to depend on the polishing units. One important feature of mention with the polishing units is that a skilled polisher, if he so desire, may hire the machine on nominal charge to grind and polish his own articles.

4.2 Raw Materials

The main raw materials required for the manufacture of cutlery are steel and iron scrap, brass



SUBJECT: PLAN VIEW OF THE WORKSHOP OF SRI KARLO KANDU
JOB + BETEL NUTCUTTER

TECHNIQUE OF MANUFACTURE

sheets and scrap, coal, bamboo poles and lac, besides small quantity of horn, leather, iron and brass wires, wood, etc. (*vide* Appendix C). The test reports of iron, steel and brass are given in Appendix E.

4.3 Training of the Artisans

No arrangement exists for the organised training of artisans in the technique of manufacture. While assisting his father, uncle or brother in the workshop, a Karmakar boy learns the techniques and, in due course, takes his due place in it; or he may start his own workshop. The trade is hereditary. It is not so with the Kandos and Poddars. They learn the trade as they work as helpers in the smithies of Karmakars. Later, they set up their own workshop and manufacture one or two cutlery items. While different varieties of cutlery may be made in the Karmakars' smithies the units owned by the Kandos and Poddars, specialise in one or two items only. They cannot manufacture other items even if they are asked to. It is noted that most of the smithies of Kandos and Poddars sprang up during the life time of their present owners.

4.4 Technique

4.4.1. The manufacture of a particular cutlery article may consist of the following four main operations:

- 1 Forging
- 2 Grinding and Filing
- 3 Heat treatment
- 4 Finishing

4.4.2. Raw materials such as iron, or steel to be used for a particular item are cut into definite shape and the cut pieces are then forged into required articles. Grinding consists normally of two stages—rough grinding and filing, and final grinding. Rough grinding is done before heat treatment which comprises heating the articles in the furnace to a certain temperature depending on the nature of raw material, and quenching in lubricating oil. Some grinding allowance is left on the articles and the grinding wheels are provided with 46 grains. Final grinding operation is done after heat treatment.

4.4.3. Finishing process consists of polishing, cleaning, labelling and packing. Polishing is done by bobs coated with emery powder with the help of glue. In the final polishing commercial wax is sometimes used with glue. The articles then become fit for labelling and packing.

4.4.4. Few of the cutlery units follow strictly the above processes for the manufacture of the articles. For cheap articles, all the processes mentioned above may not be required. Forging, and hand grinding and filing are sometimes deemed sufficient. The artisans have even today more faith on their own skill and craftsmanship than on mechanical device.

4.5 Distinctiveness of Jhalda cutlery

4.5.1. The following procedure, followed by the cutlery artisans of Jhalda shows the distinctiveness of their technique and the products:

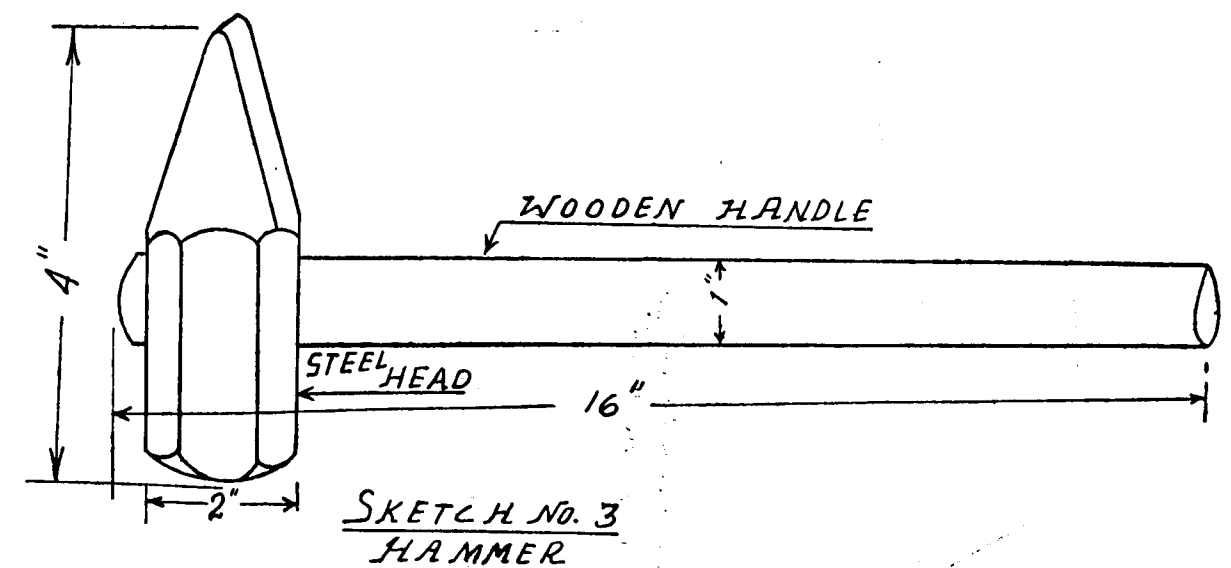
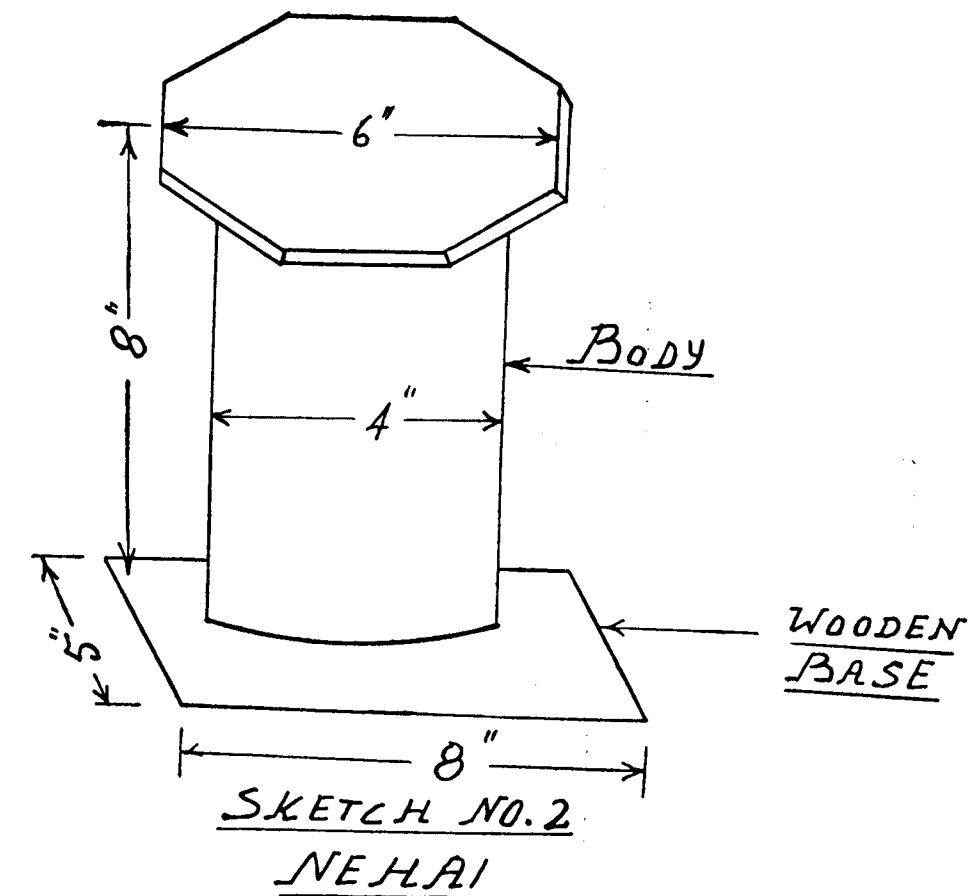
The blade of a knife, betel-nut cracker or a *guppi* is first cut out from the raw material by means of a cold chisel (locally called *cheni*) into the desired shape by drawing lines. Then the artisan puts the cut pieces into the furnace, heats those to the *forging temperature* (approx. 800°C.) and then, taking out the pieces one by one with the help of tongs and by hammering on the anvil (locally called *nehai*) he gives the pieces the desired size and shape. For this purpose, a particular piece may be heated and hammered several times. Forging being complete now, the artisan then cleans the forged articles. These are then ready for grinding and polishing.

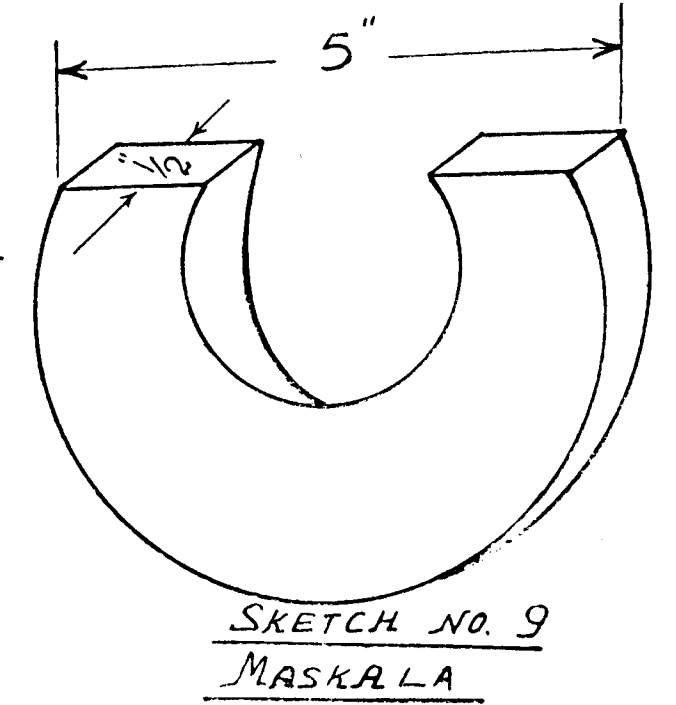
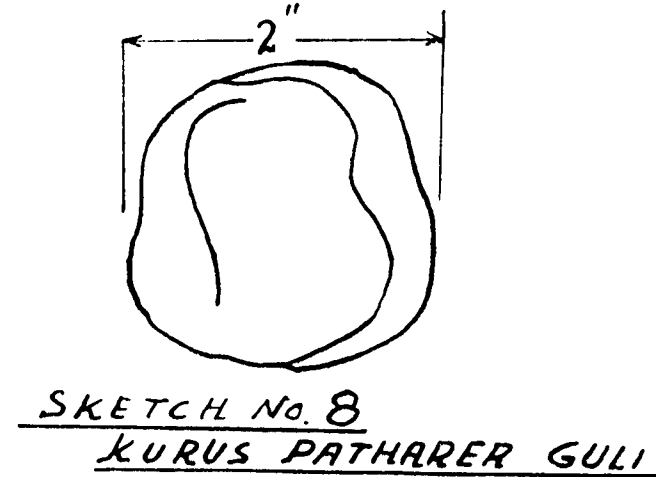
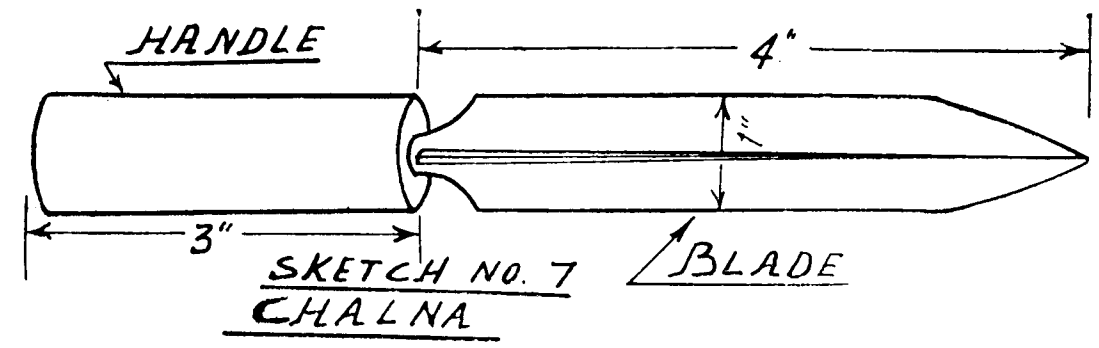
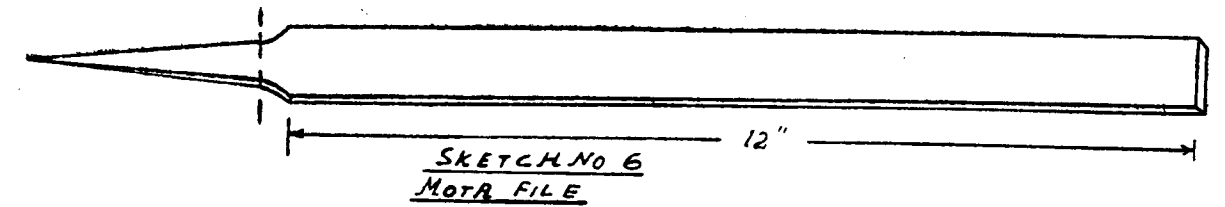
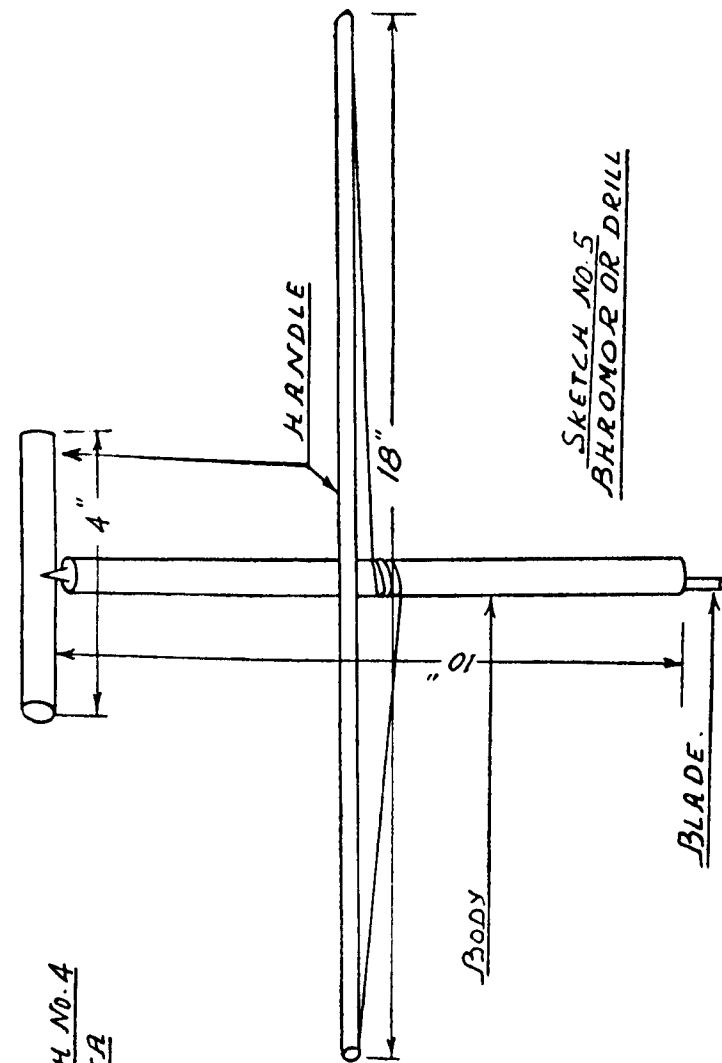
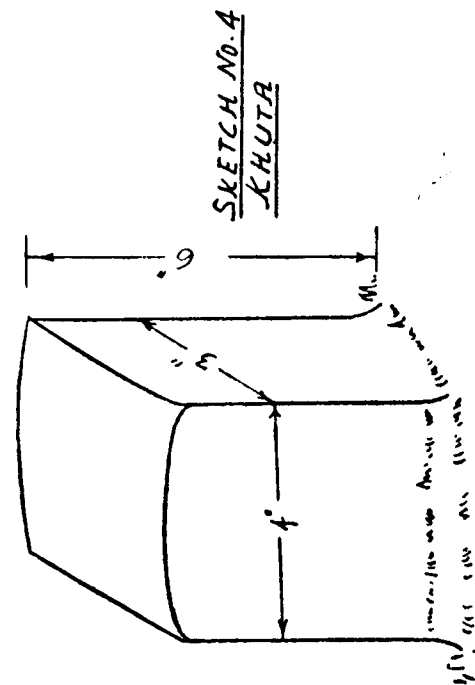
4.5.2. For grinding and polishing the forged articles three systems are prevalent in the area: (1) some artisans follow the traditional methods which require the use of indigenous tools, (2) some units use grinding and polishing wheels and (3) some others get their blades ground and polished in separate polishing units. The important factors which determine the choice of the method by the artisans are mainly economic and technical. The artisans who cannot afford to buy grinding and polishing wheels follow the traditional system. On the other hand, want of technical know-how compels some other craftsmen to get their blades ground and polished in separate smithies.

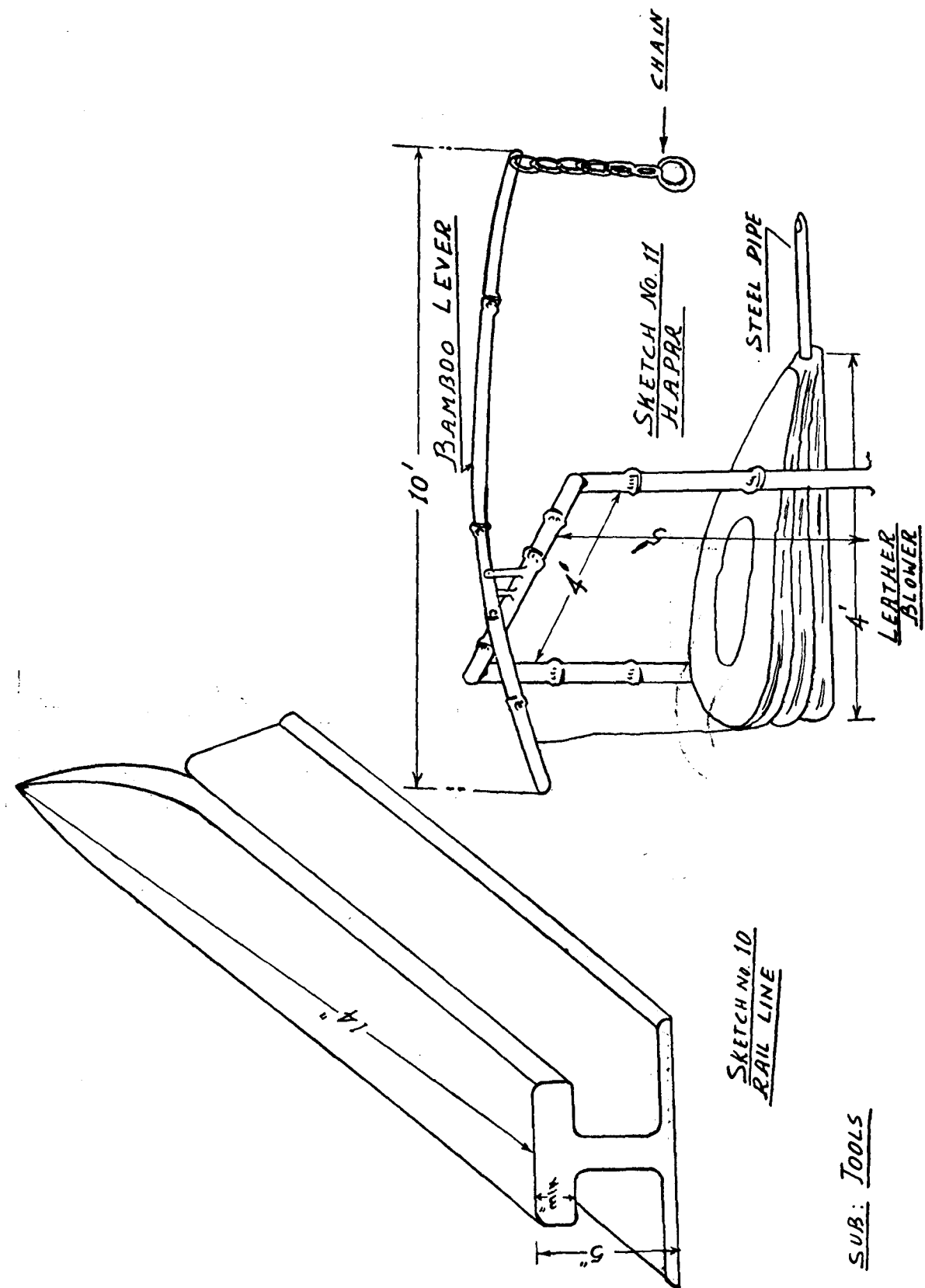
4.5.3. For traditional methods, the following tools are used:

- 1 File
- 2 Chalna
- 3 Kurush Patharer Guli
- 4 Maskala

4.5.4. Ordinary flat files are used for rubbing off the forged blades. This gives the body of the articles, particularly the cutting edges, some smoothing effect. The articles are then given







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a mustard oil coating and rubbed off with a tool locally called *Chalna* (sketch 7). This is a high carbon steel-made flat blade rounded at the edges, and is about 10 cm. long and 2.5 cm. wide, fitted with a wooden or bamboo handle. This is locally made out of old English file. The tool in its manipulative position, is held with fingers of both hands and is rubbed forcibly on the blade to be ground. This operation which gives the blades a good degree of grinding and polish takes about five minutes.

4.5.5. The articles are again given a mustard oil coating and polished with another locally available instrument, called *Kurush Patharer Guli* (sketch 8). *Kurush Pathar* is a naturally occurring brown coloured stone found in Mirzapur District of U.P., and in some other places wherefrom it is collected and sold at the rate of Rs. 7.50 per kg. to the artisans who sometimes give definite shape to it and fit it with a wooden or bamboo handle for convenience of use. This kind of stone is often used by the barbars to sharpen their razor blade. The artisan holds the stone-piece in his right hand and applies it to the articles. Rubbing for two minutes with *Kurush Patharer Guli* gives the articles a fair sharpness and polish.

4.5.6. Final polishing is done by another instrument, called *Maskala* (sketch 9). It is an instrument made of a steel plate bent in the form of a semi-circle, the outer edge of which is rounded. The artisans make this also from old English file. The articles are rubbed off with *Maskala* to get a fine polish and glaze and a good degree of sharpness. Finally an oil coating is given to the articles which are then ready for sale.

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4.5.7. The use of file, *Chalna* and *Maskala* is replaced by grinding and polishing wheels by some units. The grinding wheels are made by mixing a kind of sand found on the bed of the river Izri in the village Sialjuri, near Pundru in the Dhanbad District of Bihar with one-fourth of its weight of lac, and the mixture heated for 1½ hours. The hot mixture is then put on a circular iron die and is allowed to cool. The grinding wheel thus made is fixed vertically to a wooden rod passing horizontally through its centre. The rod is fixed horizontally between two small wooden beams fixed on the floor of the workshop. The power for revolving the grinding wheel is derived from another wheel about 120 cm. in diameter, (photo plate No. 14779), fixed at a distance of about 3.7 M. A belt passes over the rim of the driving wheel and the rod of the grinding wheel. The

driving wheel is operated by manual labour. The artisan takes his seat near the grinding wheel. He takes a blade in his both hands and applies it to the revolving wheel. He often examines the sharpness of the blade with his fingers. After grinding, the blades are given a good polish either by polishing wheels or by hand-rubbing with *Maskala*. The edges of the polishing wheels which are made of compressed cloth, are pasted with emery powder. This polisher in fact replaces the use of *Maskala*.

4.5.8. Some units do only grinding and polishing. The method followed is more or less the same as above. The artisans who have no polishing arrangement of their own get their articles ground and polished in these units on payment of usual charge which varies from Rs. 1.50 for a dozen of hunter blades to Rs. 3.75 for a dozen of *gupti*.

4.5.9. After grinding and polishing operations are done, the handle made of horn, wood or bamboo, is fixed to the blade. Sometimes, however, handle is fitted before polishing of the blades. The handle is polished by filing and rubbing. Slight polishing of the handle after it is fixed to the blade is given with the help of the polishing wheel.

4.5.10. Dies for stamping are not seen to be used by the artisans. If anything is to be engraved on the articles, this is done by means of a fine and hard chisel and a small hammer. The word 'steel' is often found engraved on a blade made of iron.

4.5.11. The forged blades, if these are made of steel, are first ground and then given a heat-treatment which consists of two operations, namely, hardening and tempering. Hardening temperature is reached at in the furnace when the articles are red hot. For quenching, water instead of lubricating oil is used by the artisans. Tempering is done by re-heating the hardened articles to about 300° C. when the articles become peacock blue in the furnace and allowing them to cool freely in air. The experience, care and skill of the artisans are the essential qualities for controlling the temperature for hardening and tempering without the aid of any instrument. After heat-treatment, the blades are finally sharpened and polished. Some articles, particularly the costly ones, e.g., the costly betel-nut cracker, are given a peacock coloured glaze. This is done by dipping the articles in hot charcoal ash and closely watching the colour every two seconds

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by removing those from hot ash. In about 8 to 10 minutes the desired effect is visible on the articles.

4.5.12. None of the cutlery units is found to use power, either from oil or electricity. On the other hand, artisans who could accumulate some money try to give up cutlery production for carpentry tool manufacture, which, according to them, is more paying. In fact, some of the carpentry-tool-manufacturing-units in the locality have already installed oil engine in their workshop and are producing standard quality augers, chisels and others.

4.5.13. Regarding the technique of manufacture of the cutlery articles, there appears no recent change of tradition. The technique followed, say 50 years back, is still followed; of course, slight change might have occurred here and there. Since from the remote past, the technique is handed over from father to son there seems to have little scope for learning better method of manufacture unless compelled by circumstances or by indomitable internal urge. It is astonishing to note that none of the cutlery units use even vice (photo plate No. 14772). When asked why such a simple and advantageous tool is not being utilised, a craftsman replies that they do not require it, as they are accustomed to work without vice and feel little inconvenience. Moreover, the typical characteristic of our village folk—aversion to any change, may it be good, is very active in the minds of the craftsmen here too, although the desire for the betterment of their living and pecuniary conditions is very strong in their mind.

4.6 Details of Manufacture

The technique of manufacture, practised by the cutlery artisans of Jhalda is described in details in case of some important articles:

4.6.1. Betel-nut Cracker

4.6.1.a. The plan view of a typical workshop in Jhalda area, where betel-nut cracker is made is shown in the sketch 1. The tools and implements required by the craftsman for making a betel-nut cracker are: (1) anvil (*nehai*), (2) hammer (*haturi*), (3) *khuta* (a wooden block fixed to the ground), (4) drill (*bhromor*), (5) file (used for cutting metals), (6) *Chalna* (a blade made of hard steel with a wooden handle — this is used for grinding), (7) *kurus patharer guli* (a stone piece for polishing), (8) *Maskala* (a semi-circular steel blade with rounded edge, used for polishing), (9) a rail piece

(sometimes one end of the piece is given the shape of an anvil), (10) blower (*hapar*), (11) punch (*topna*), (12) cold chisel (*cheni*), (13) tongs (*sarasi*) and (14) snip (*katuri*) (vide sketches of tools).

4.6.1.b. A betel-nut cracker has two parts — the upper part is locally called *path* and the lower part is called *thori*. An expert craftsman can make as many as 30 betel-nut crackers of 3" size in a day of 8 working hours with two helpers. For work in connection with different parts of the betel-nut cracker the time of the day is divided roughly as follows:

6 a.m. to 6-30 a.m.—Cutting and sizing the material.

6-30 a.m. to 8-30 a.m.—The upper part, i.e., *path* is forged.

9 a.m. to 12 a.m.—The lower part, i.e., *thori* is forged.

3 p.m. to 5 p.m.—Cleaning, filing, matching, colouring, stamping, sharpening, etc.

5 p.m. to 5-30 p.m.—Assembling both *path* and *thori*, packing, etc.

4.6.1.c. The artisans use mild steel for making betel-nut cracker of cheap quality. They purchase mild steel in the form shown in sketches 35, 36 and 37. Then lines are drawn as per dotted lines shown in sketch 38. The materials are cut into pieces (sketch 39) which are again marked with lines and a portion is removed (sketch 40) (photo plate No. 14755). One edge of the pieces thus obtained is bifurcated with the help of a chisel and a piece of umbrella stick (steel) is put into the bifurcation (photo plate No. 14760). By hammering, the bifurcation is closed in such a way that the steel portion may not slip (sketch 41). The weight of the *path* is about 55 gms. The piece is then heated in the furnace for forging (photo plate Nos. 14756 and 14782). When the forging temperature is reached, indicated by the yellowish colour of the article and a few sparks, the piece is removed from the furnace and put to the anvil and hammered (photo plate No. 14757). The umbrella stick portion and the cut piece are thus joined together leaving a portion of the edge made of hard steel (sketch 42). During all the stages, the helpers help the artisan by hammering, blowing, etc. (photo plate Nos. 14766 and 14780).

4.6.1.d. The handle portion is next drawn out by heating and hammering (sketch 43). Then

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again heating and hammering follow and the curved portion is formed (sketch 44). The last stage of heating and hammering makes the *path* complete with size and shape (sketch 45, photo plate Nos. 14761, 14762, 14763 and 14764).

4.6.1.e. The artisan next forges the lower part, i.e., *thori*. The mild steel used for the purpose is cut into triangular piece (sketch 46), weighing 65 gms. each (photo plate No. 14759). Heating and hammering follow (photo plate No. 14758) and the article passes through different stages as shown in sketches 47 and 48. The final shape is obtained in the next stage of forging shown in sketch 49.

4.6.1.f. Now forging of both the parts being complete, the artisan cleans the surface of both the parts by removing dirt, grease, etc. The parts are then made into proper shape by hammering here and there on the anvil in the cold state so that the parts may fit each other. At this stage also the helpers help in the job by filing and polishing the parts (photo plate Nos. 14779, 14781, 14770 and 14771). In the mean time the artisan makes the pins for rivetting and washer for fixing the parts together. The hole in both the parts are punched (photo plate No. 14765). The final shape of the parts after this operation is shown in sketch 50.

4.6.1.g. The upper part is now ground and polished. Then the final assembly takes place. The craftsman puts the pins and washers in the holes already made and then it is rivetted (photo plate No. 14769) to form a hinge. Light hammering here and there makes the betel-nut cracker complete (sketch 51 and photo plate No. 14768). It is then given an oil coating with mustard oil or grease and packed. This is ready for sale.

4.6.1.h. Sometimes, however, the stamps or dies are engraved on the body of the article (photo plate No. 14767).

4.6.2. Hunter

4.6.2.a. The blades of hunter and *gupti* are forged by craftsmen who are engaged in forging work of different types of articles only. The making of handle and body for keeping the blade and other fitting work are done by different artisans. They buy blades from the forging units and after fitting, get the blades ground, sharpened and polished by the units which undertake only grinding and polishing work.

4.6.2.b. Besides the common tools like blower, anvil, hammer, triangular file, wooden *khuti*, a small rail piece, etc., the craftsman also use the following tools for the work:

(I) *Khuti* : This is a wooden block nearly 90 cm. high, having a rectangular hole. This is fixed to the ground. The piece of bamboo which requires straightening, for making the body of the hunter or *gupti*, is drawn through the hole when the piece is hot. This is shown in sketch 17.

(II) *Tennon Saw* : This special type of saw can cut smaller length perfectly (sketch 18).

(III) *Wood file (Bagjore)* : This is a kind of file used for removing wood (sketch 19) in larger quantity for smoothing and planing a wood surface.

(IV) *Wood Rafter (Kathreth)* : This is made of steel and is used for polishing and diminishing the diameter of a wooden surface (sketch 20).

(V) *Basuli* : This is made of steel fitted with wooden handle and is used for chipping wood (sketch 21).

(VI) *Shan Bhanga* : It is a broken piece of grinding wheel and is used for primary polishing a metal surface.

(VII) *Tak* : It is a steel rod with slight tapering at one end. It is used for making ferrule or any other cylindrical job (sketch 26).

(VIII) *Katra* : This is a kind of saw made of steel having a number of fine teeth. This is used for cutting narrow grooves (sketch 30).

(IX) *Planer* : A simple type of planer made of steel. The wooden body of a hunter is made almost smooth with it (sketch 25).

4.6.2.c. Some more tools like ordinary saw, rough file, smooth file, etc., are used by the artisans.

4.6.2.d. An artisan with two helpers can complete a dozen of 18-inch hunters in a day.

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The daily routine for the different stages of production is roughly as follows :

6 a.m. to 9 a.m.—Bamboo sizing, straightening, boring, and making ferrules of different sizes.

9-30 a.m. to 12-30 p.m.—Fitting the heated blades into the bamboo rod and sizing the body and handle with *basuli*.

3 p.m. to 5.00 p.m.—Planing, filing, making of round-head of ferrule, polishing and colouring.

4.6.2.e. For forging blades for hunter, the scrap spring steel is first cut into pieces according to requirement as shown in sketch 52. The pieces are then heated in the furnace; after forging temperature is reached these are taken out one by one and put to *nehai* and given the desired shape by hammering. The pieces are again heated and hammered. A third heating and hammering follow when the blades are completely forged. Sketches 53, 54, 55 and 56 show the shape of a blade when it is passed through different stages of forging. Next a narrow strip with a slight depth, called *sikhia*, is marked on the body of the blade (sketch 67). The blade is then hammered in the cold state for removing unwanted parts and for giving proper shape and size to it (sketch 68).

4.6.2.f. The forging of blade now being completed, a piece of bamboo for making the body of the blade is taken as per measurement and cut into two parts (sketches 57, 58 and 59). The pieces are heated over the furnace and made straight by putting into the rectangular hole of the *khuti* (sketches 60 and 61). Then a lengthwise hole is bored in the bamboo piece with the help of a small steel borer. The hunter blade after being heated is pushed into the hole already slightly enlarged by a large borer. (sketches 62, 63 and 64). A bamboo piece of slightly bigger diameter than the piece used for the body is taken and bored as before (sketch No. 66). The handle end of the blade is now fitted into the bamboo handle (sketch 65). The body and the handle are then chipped, planed and filed and locking ferrule fitted with (sketches 69 and 70). The blades are then ground and polished. The next operation consists in fitting four ferrules to the hunter and a leather loop, colouring and finishing.

The paint for colouring and designing is made from lac. When this operation is complete, a thin coating of lacquer is given to the handle and body of the hunter (sketch 71).

4.6.3. Key-shaped knife

4.6.3.a. Let us examine the case of manufacture of a special type of knife known as Key-knife, locally named "*Chabi Churi*" (fig. 5). This knife has two parts—blade made of spring steel and the handle made of mild steel.

1st Stage : A piece of spring steel for making the blade is cut out according to size. It is a matter of only 2 minutes.

2nd Stage : The material is then put into the smith's hearth for forging temperature. It is taken out and forged on anvil until the required shape is reached at within 6 to 8 minutes.

3rd Stage : After a rough grinding, the material is sometimes given the heat treatment. It takes only 3 minutes to complete this operation.

4th Stage : A piece of mild steel is cut out in the shape of a key in two parts. The half-round is now formed on the sheet by simply hammering it on a setting by a cross piece hammer. It is completed within 6 to 8 minutes.

5th Stage : At this stage the spring to be fitted to the knife is made by cutting out a small piece from a spring steel sheet. The operation takes only 2 minutes.

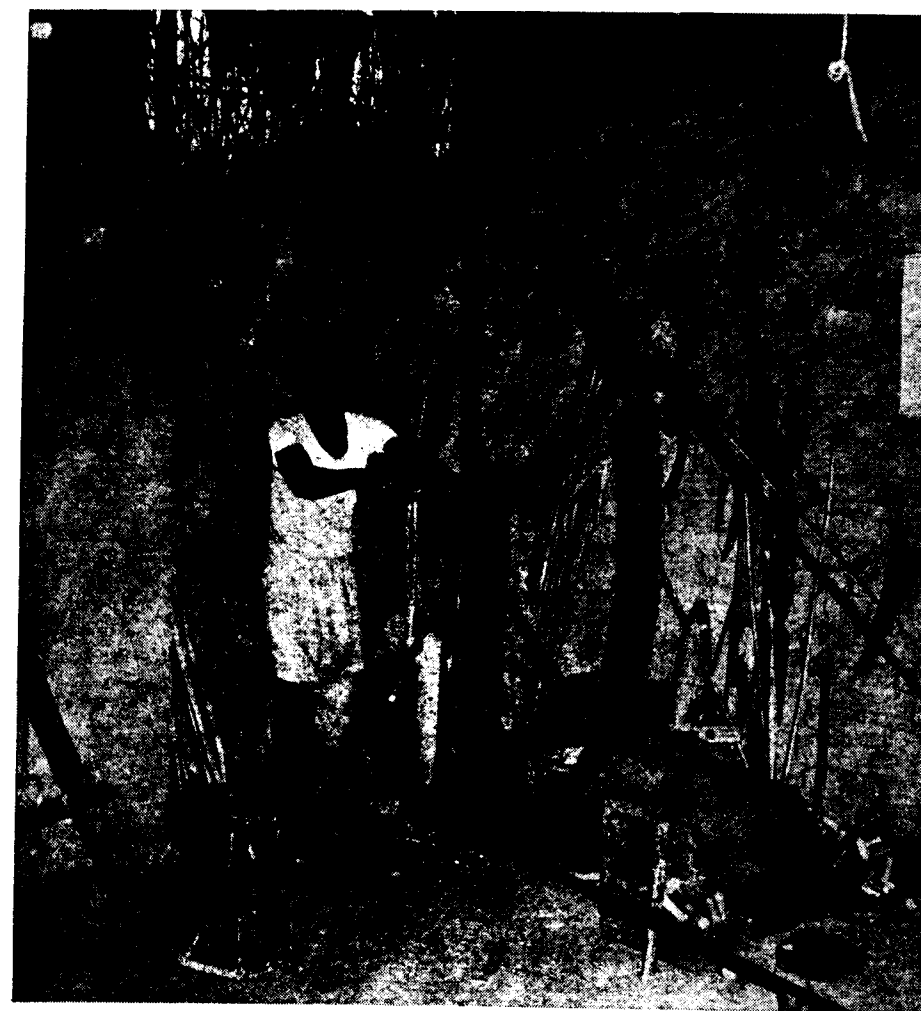
6th Stage : The assembly of the blade, spring and two half parts of mild steel key-shaped handle is done. It is the longest operation taking about 15 minutes.

7th Stage : At this stage final grinding, sharpening and polishing of the article are done. The material is now ready for packing.

4.6.3.b. The production per man per day of 8 working hours is 8 to 10 pieces of such knives.

4.6.4. Knife with brass handle

The different stages of manufacture of an ordinary knife with brass handle are shown in sketches 72 to 85.



Sl. No. 7 (Photo plate 14779)

Hand operated wheel of about 120 cm. diameter like one shown here is used for revolving the grinding and polishing wheel.

(Para 4. 5. 7 & 4. 6. 1f)



Sl. No. 8 (Photo plate 14772)

Filing a snip in order to sharpen it. The position of the artisan's hands and feet is to be noticed.
(Para 4. 5. 13)



Sl. No. 9 (Photo plate 14755)

Cutting steel sheets for making *path* (upper part of a betel-nut cracker).

(Para 4. 6. 1c)



Sl. No. 10 (Photo plate 14760)

Making bifurcation on the edge of a *path* for introducing a portion of umbrella-stick (steel).

(Para 4. 6. 1c)



Sl. No. 11 (Photo plate 14756)

Forging the *path* (upper part of a betel-nut cracker)

(Para 4. 6. 1c)



Sl. No. 12 (Photo plate 14782)

While forging operation is done the position of the artisan, tools, water-can for quencing, etc., are shown here.

(Para 4. 6. 1c)



Sl. No. 13 (Photo plate 14757)

Hammering the *path* (upper part of a betel-nut cracker).

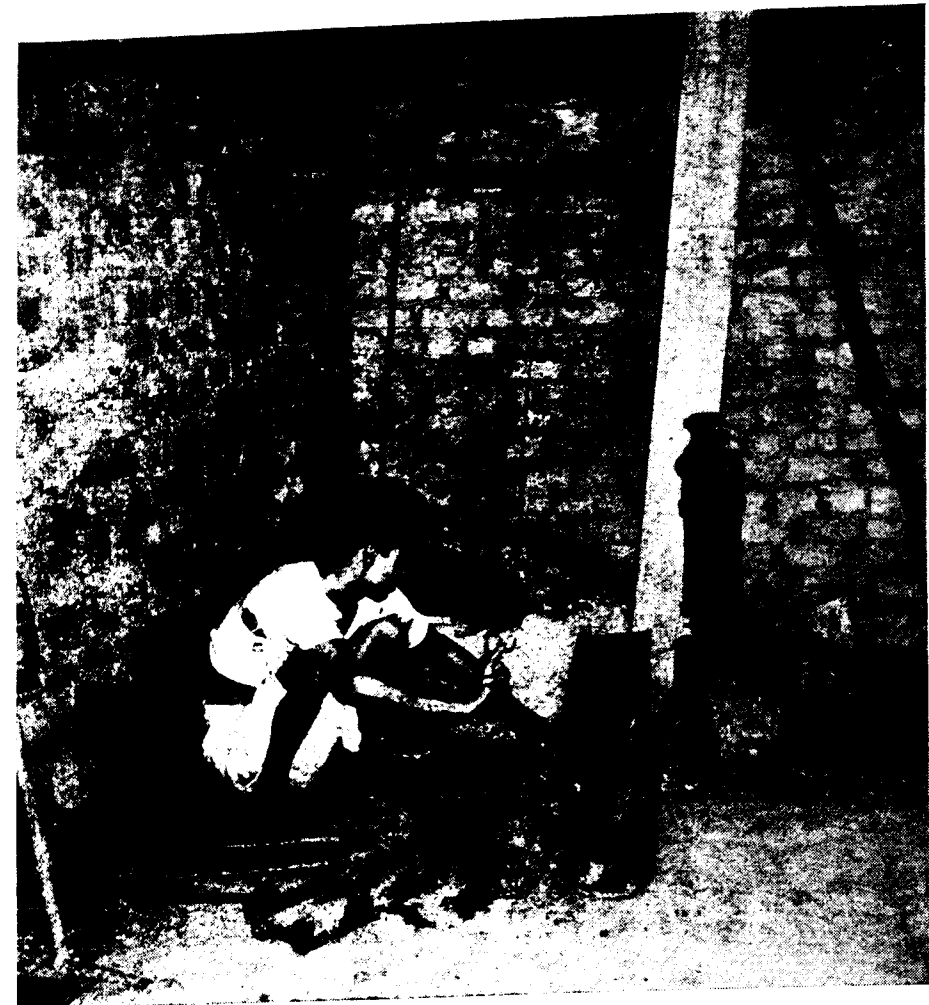
(Para. 4. 6. 1c)



Sl. No. 14 (Photo plate 14766)

Position of craftsman's hands, helper's hammer, tools, etc., are shown, while cutting a piece with a chisel. Hands and sometimes feet play an important role here.

(Para 4. 6. 1c)



Sl. No. 15 (Photo plate 14780)

An artisan at work in forging operation without a helper.

(Para 4. 6. 1c)



Sl. No. 16 (Photo plate 14761)

Hammering a steel piece for giving it the shape of a *path* (upper part of a betel-nut cracker).

(Para 4. 6. 1d)



Sl. No. 17 (Photo plate 14762)

Making out the handle portion of a *path* (upper part of a betel-nut cracker).

(Para 4. 6. 1d)



Sl. No. 18 (Photo plate 14763)
Giving final shape to a *path*.

(Para 4. 6. 1d)



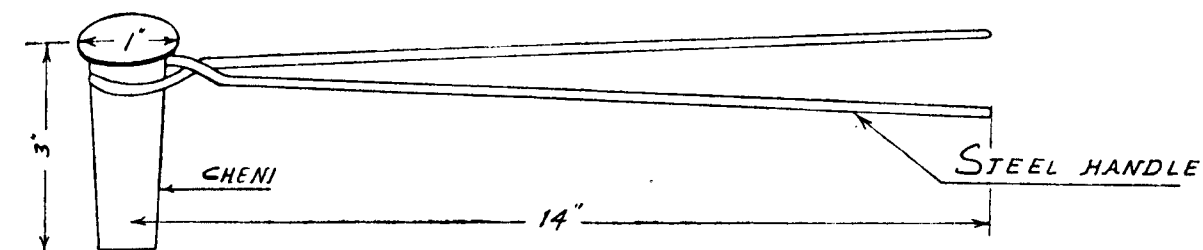
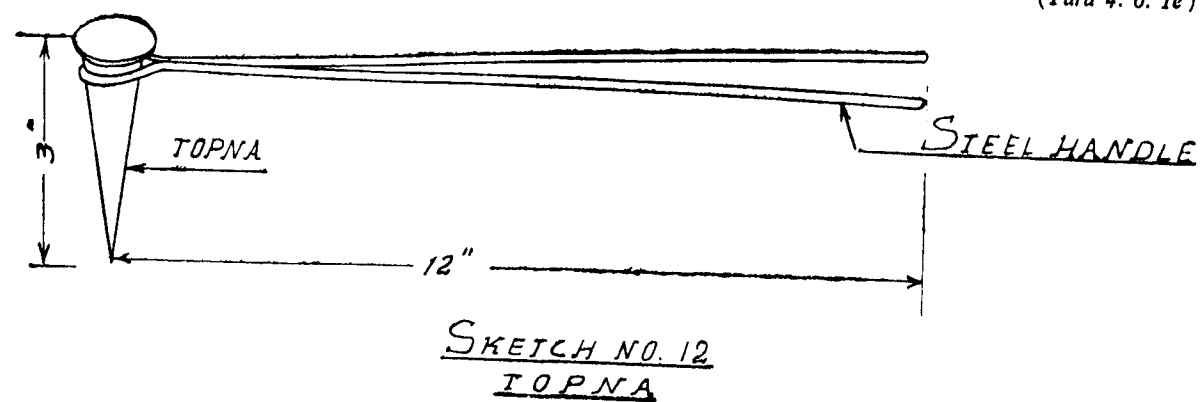
Sl. No. 19 (Photo plate 14764)
Giving final shape to a *path*.

(Para 4. 6. 1d)

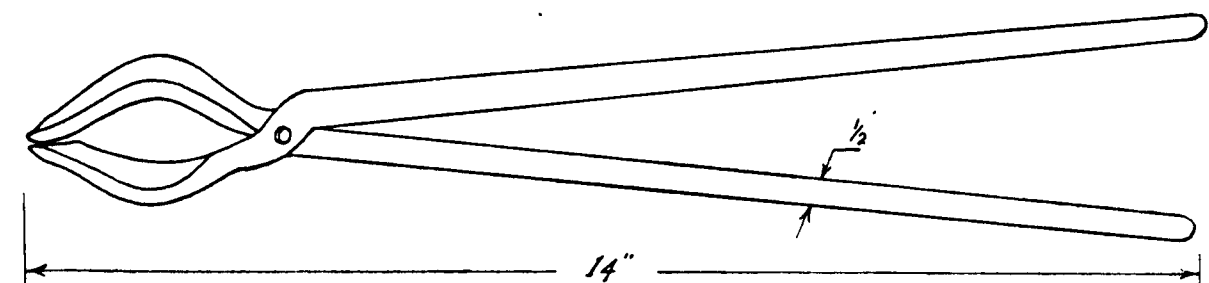


Sl. No. 20 (Photo plate 14759)
Cutting the steel sheet for *thori* (lower part of a betel-nut cracker).

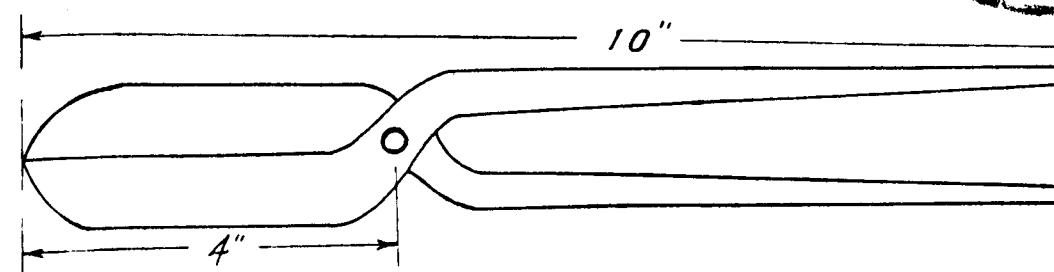
(Para 4. 6. 1e)



SKETCH NO. 13
CHENI



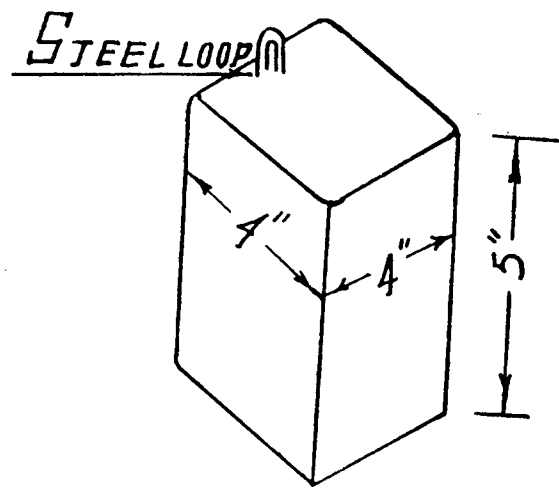
SKETCH NO. 14
SARASI



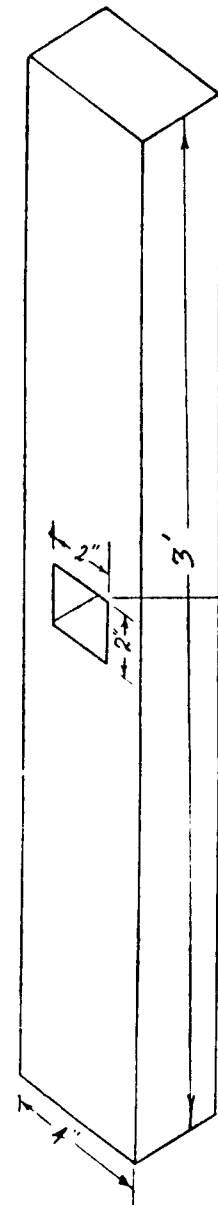
SKETCH NO. 15
KATURI

JOB:- BETEL NUT CUTTER

SKETCH NO. 16



WOODEN KHUTA

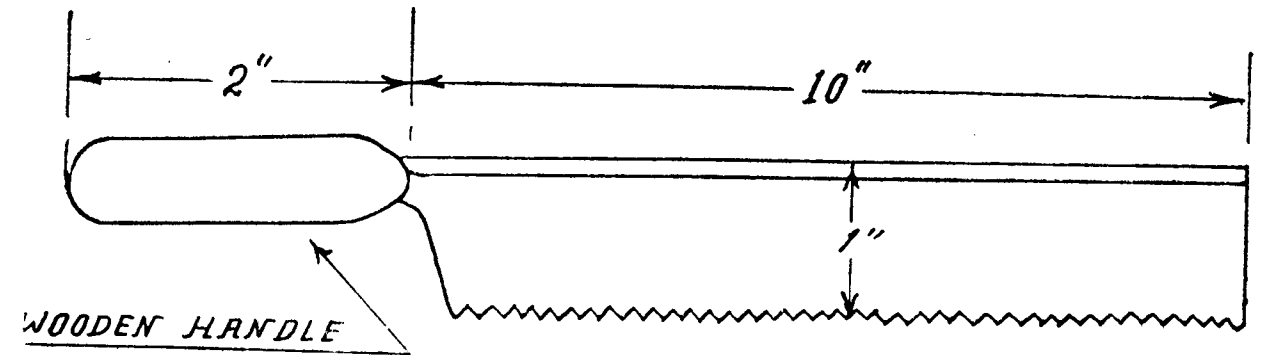


SKETCH NO. 17

RECTANGULAR HOLE

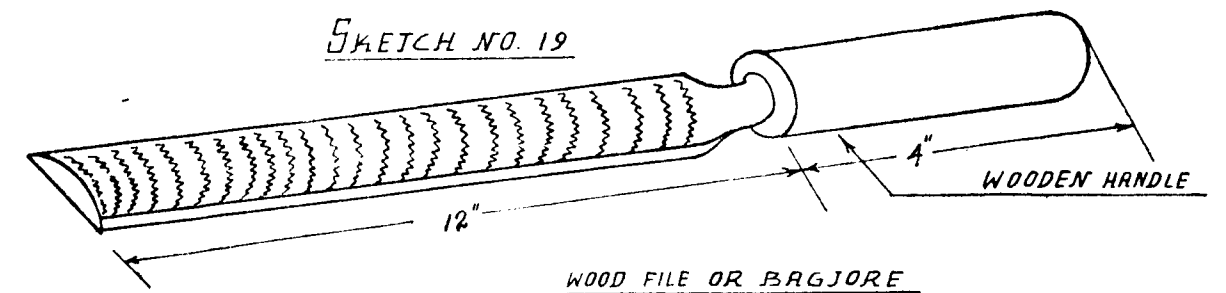
KHUTI OR WOODEN
STRUCTURE

SKETCH NO. 18



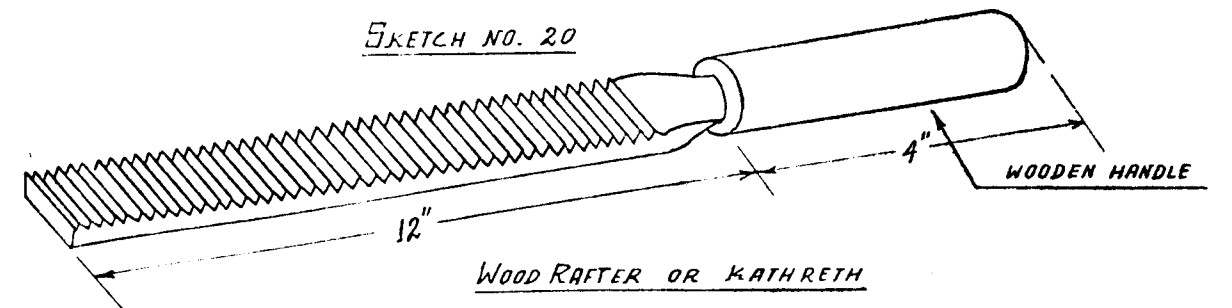
TENNON SAW OR TEN SAW

SKETCH NO. 19

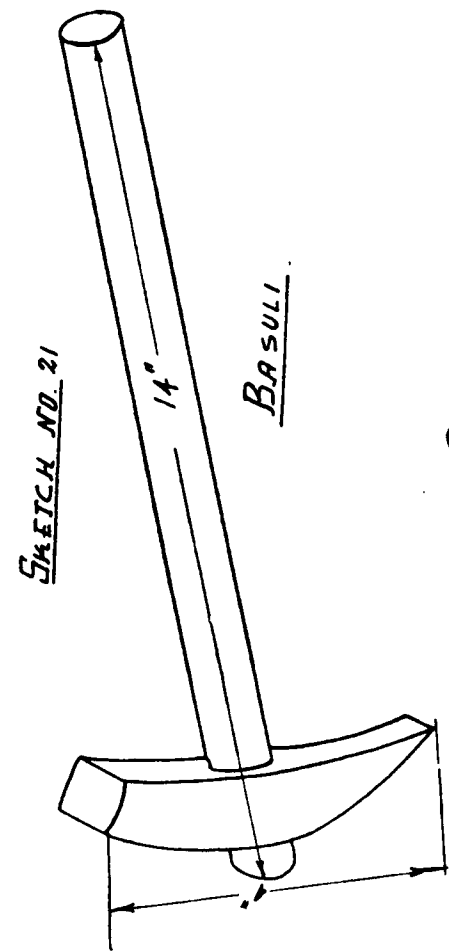


WOOD FILE OR BAGJORE

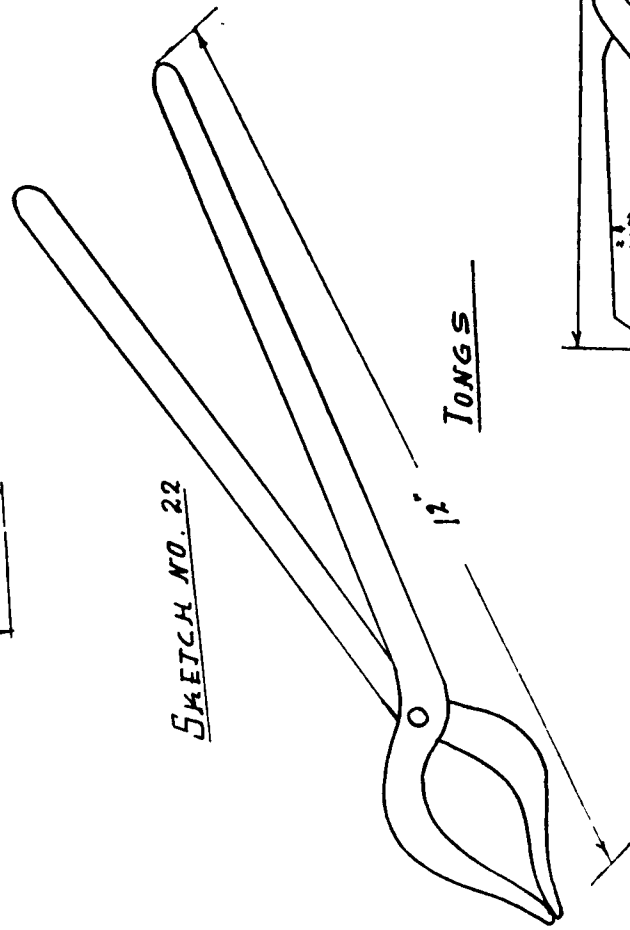
SKETCH NO. 20



WOOD RAFTER OR KATHRETH

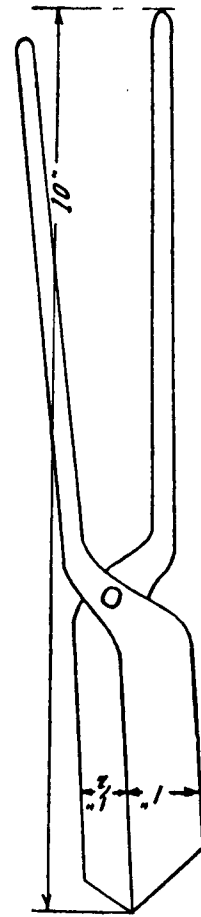


SKETCH NO. 22

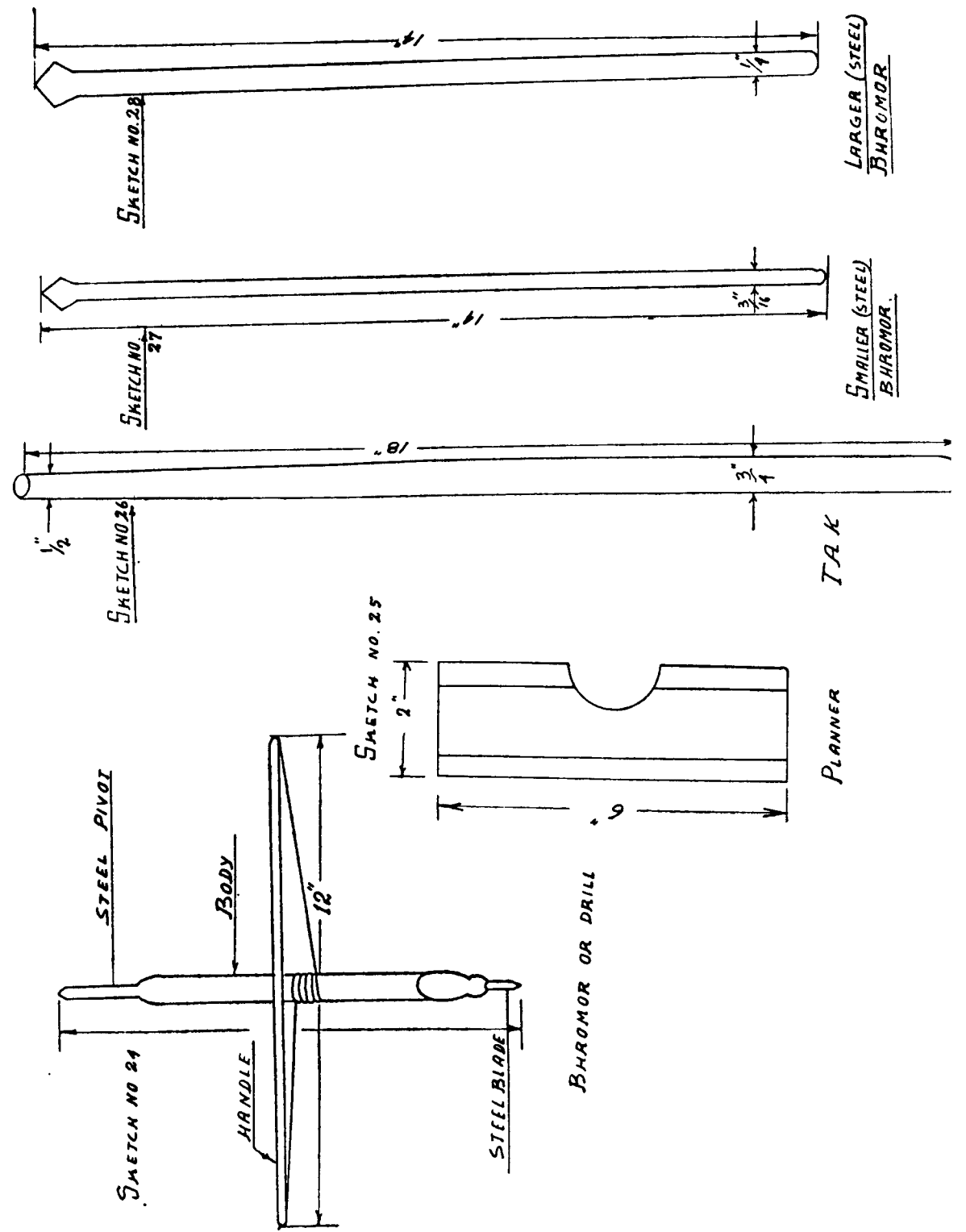


TONGS

SKETCH NO. 23



SNIPS OR KATURI



SKETCH NO. 24

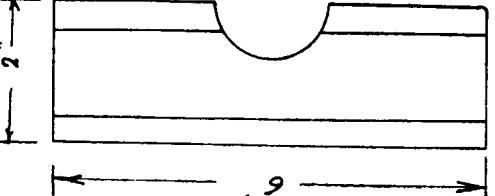
STEEL PIVOT

BODY

HANDLE

STEEL BLADE

SKETCH NO. 25



PLANNER

SKETCH NO. 26

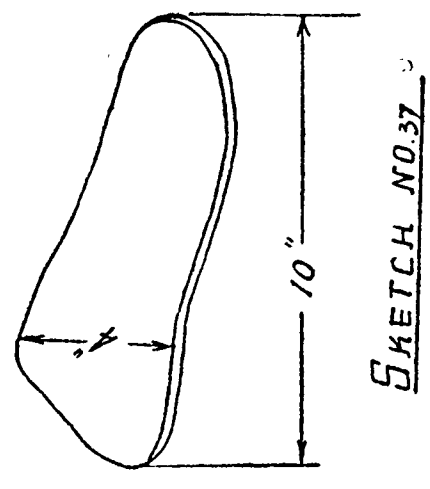
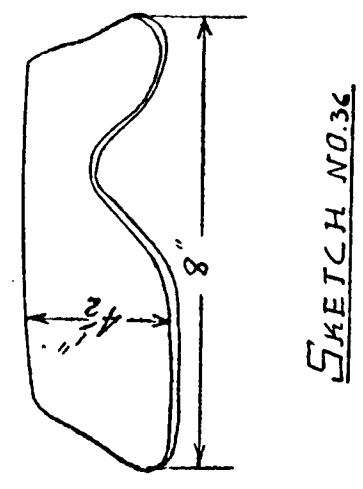
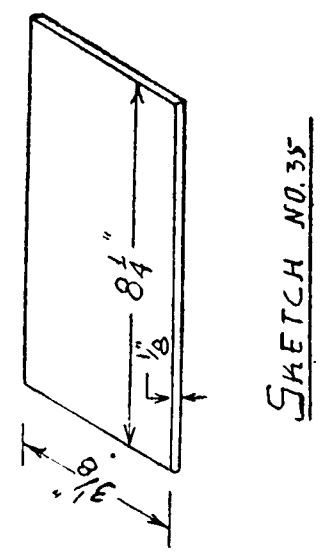
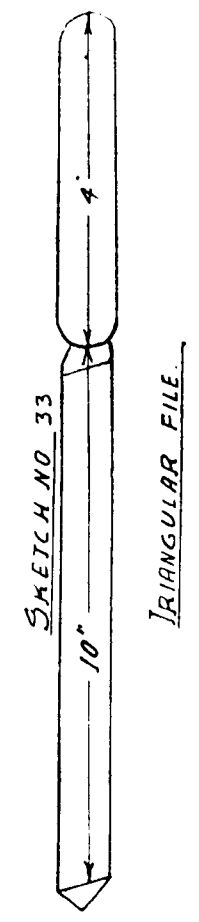
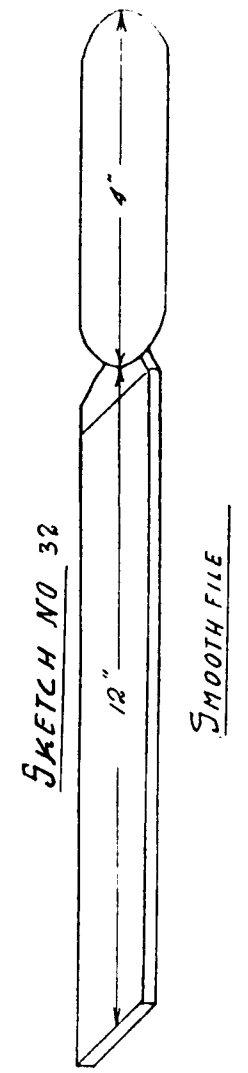
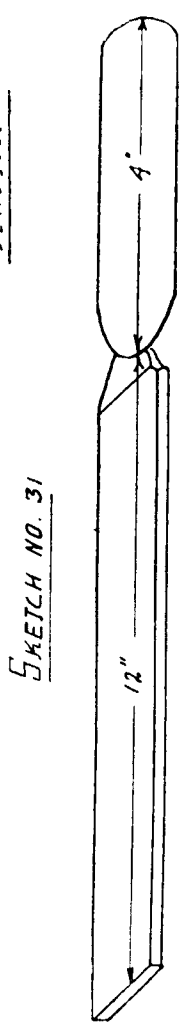
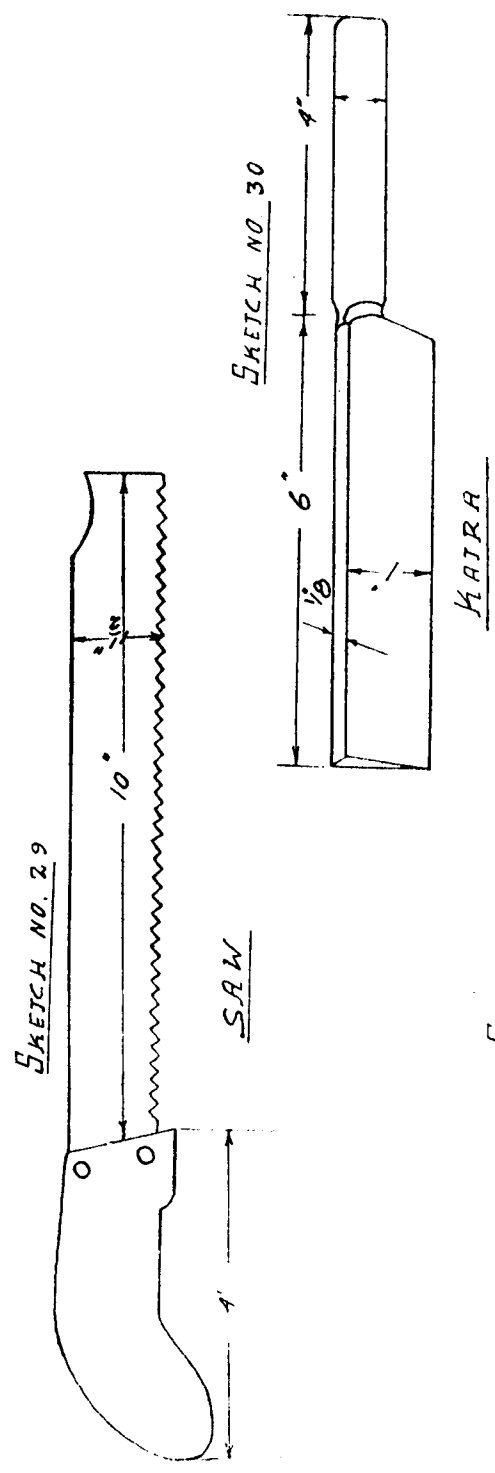
SKETCH NO. 27

SKETCH NO. 28

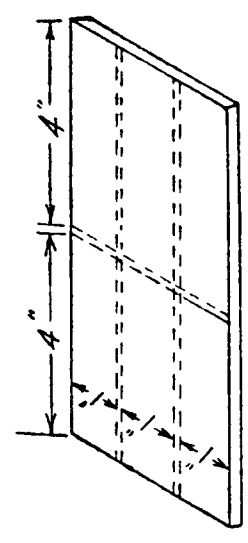
TAK

SMALLER (STEEL) BHRUMOR

LARGER (STEEL) BHRUMOR



TOTAL TIME FOR SIZING 5 MINS

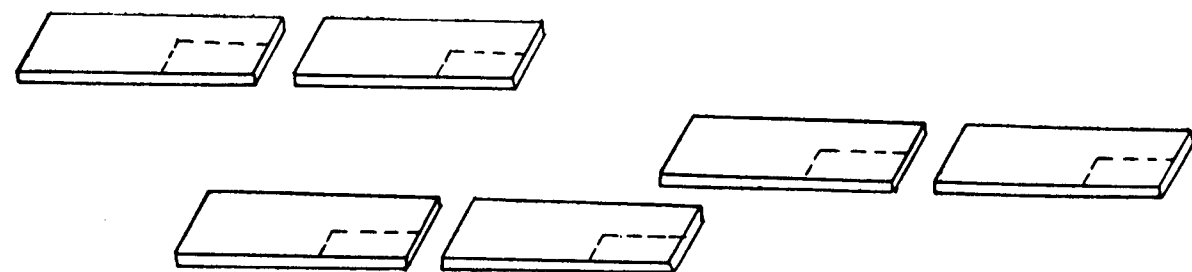


SKETCH NO. 38

TOTAL TIME FOR MARKING 5 MINS

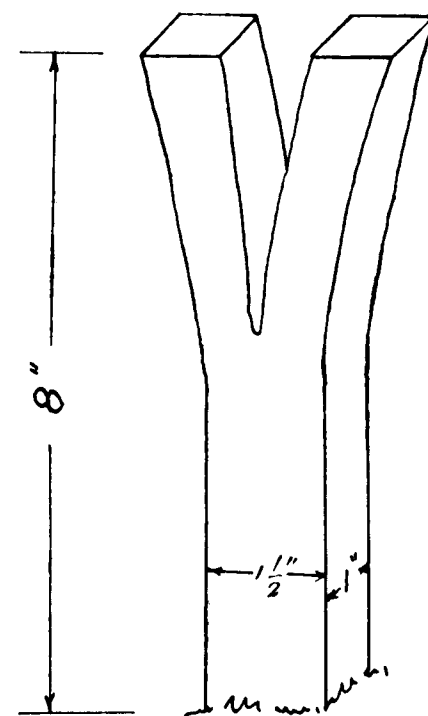
SUB:- STAGES MANUFACTURE

JOB:- BETEL NUT CUTTER

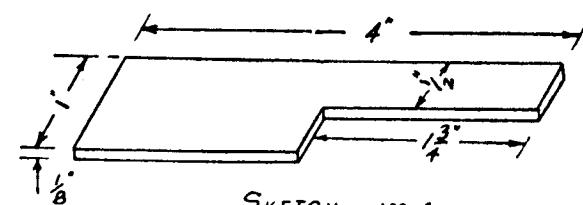


SKETCH NO. 39
TIME :- 40 SECONDS / PC.

SKETCH NO. 39



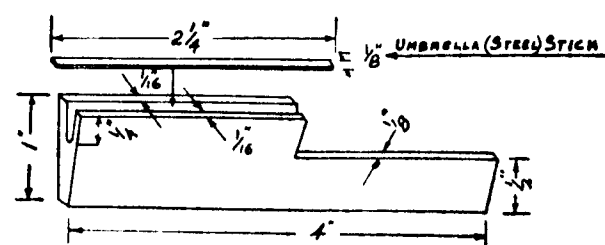
CHENG!



SKETCH NO. 40

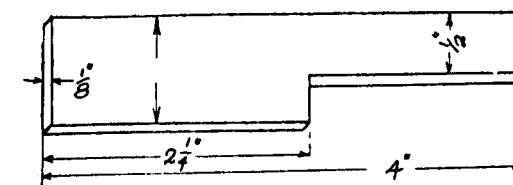
TIME :- 30 SECS EACH

SUB :- STAGES MANUFACTURE



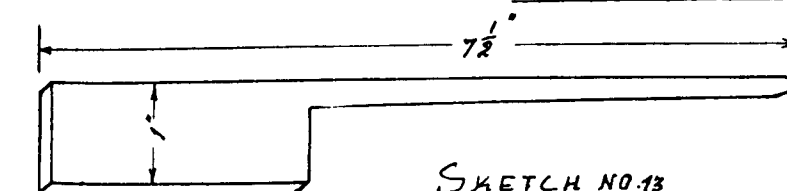
SKETCH NO. 41

JOB :- BETEL NUT CUTTER



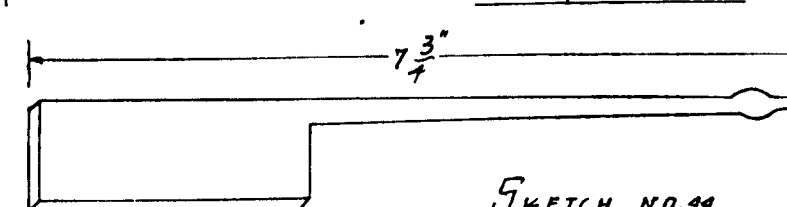
SKETCH NO. 12

TIME :- 20 SECS. EACH



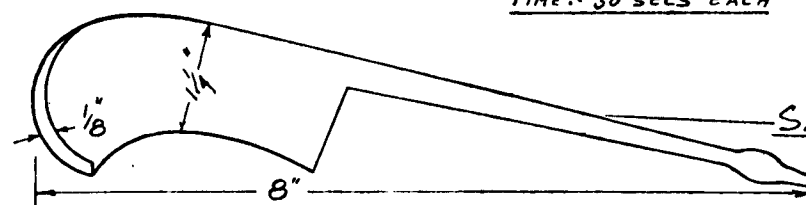
SKETCH NO. 13

TIME :- 40 SECS EACH



SKETCH NO. 49

TIME :- 30 SECS EACH

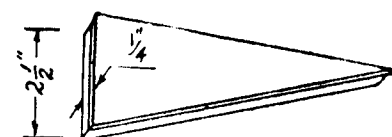


SKETCH NO. 15

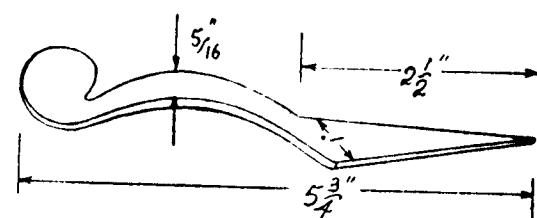
TIME :- 70 SECS EACH

SUB :- STAGES OF MANUFACTURE

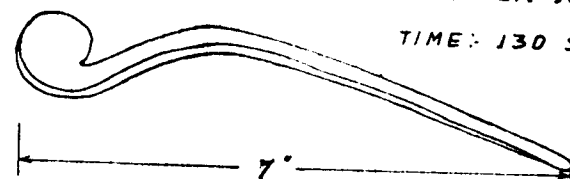
JOB :- BETEL NUT CUTTER



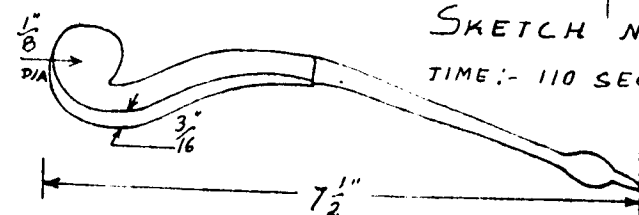
SKETCH NO. 46
TIME: 50 SECS. EACH.



SKETCH NO. 47
TIME: 130 SECS. EACH.



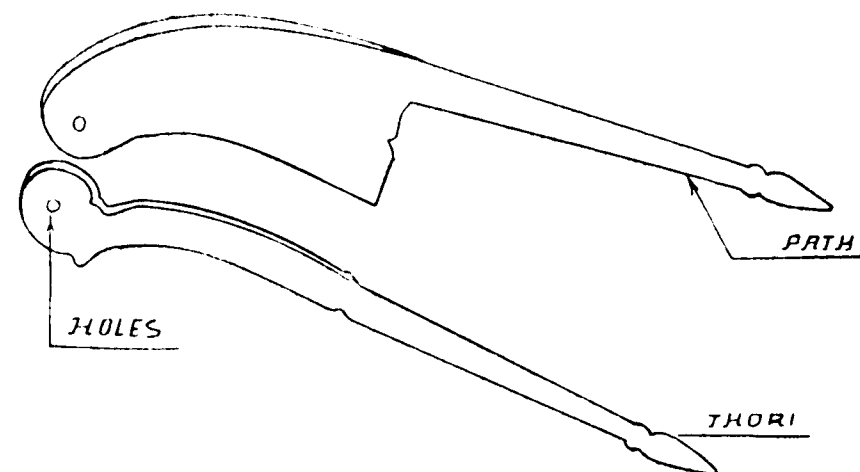
SKETCH NO. 48
TIME: 110 SECS. EACH.



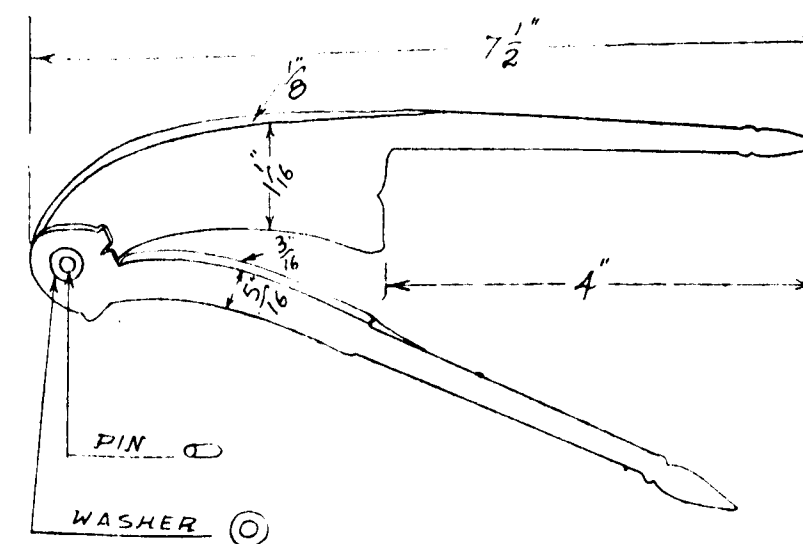
SKETCH NO. 49
TIME: 90 SECS. EACH.

SUB: STAGES OF MANUFACTURE

JOB: BETEL NUT CUTTER



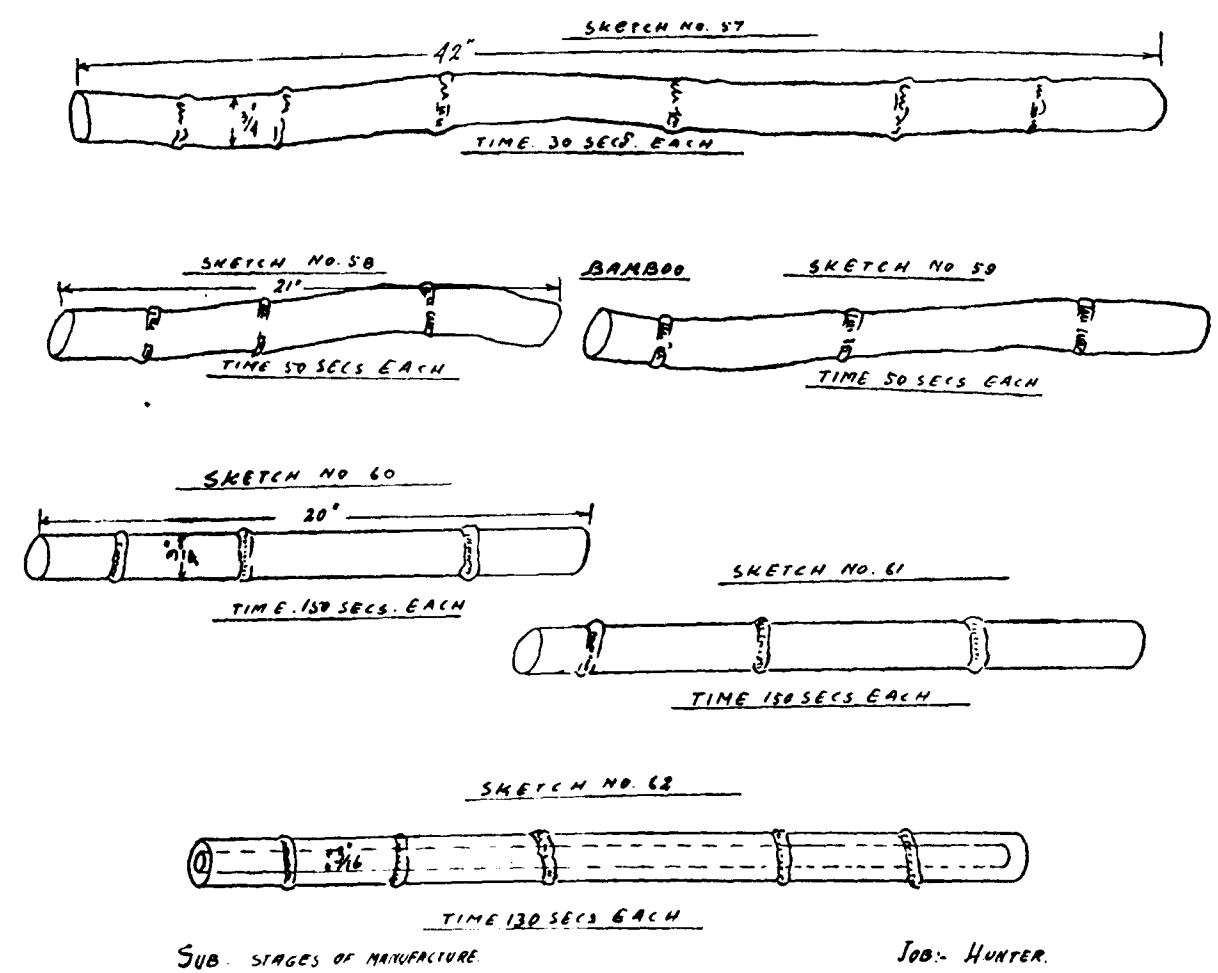
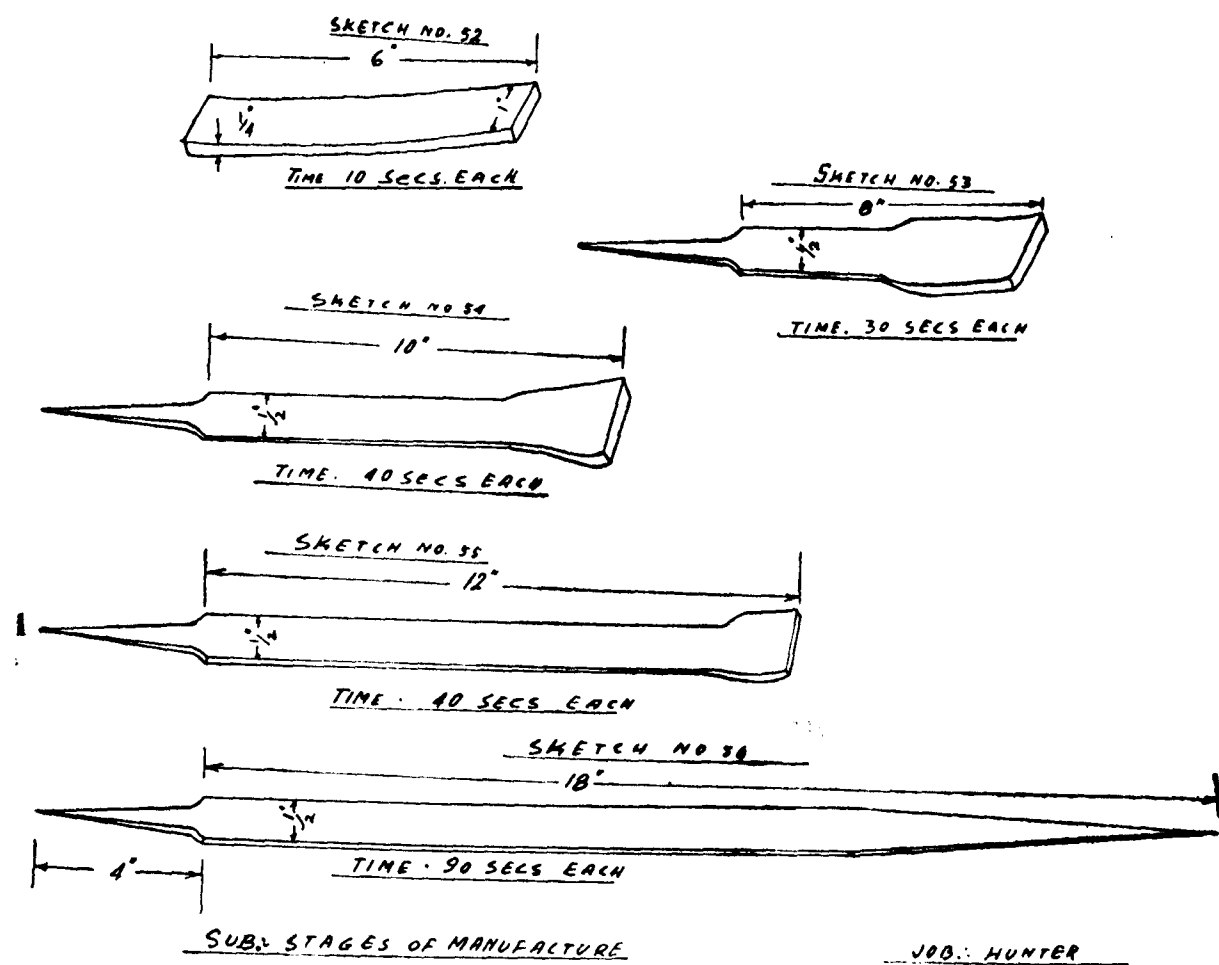
SKETCH NO. 50
TIME: 4 MINS. EACH

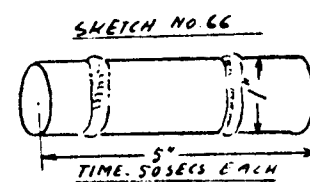
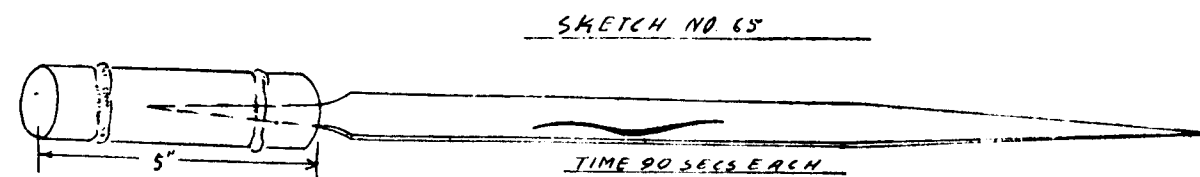
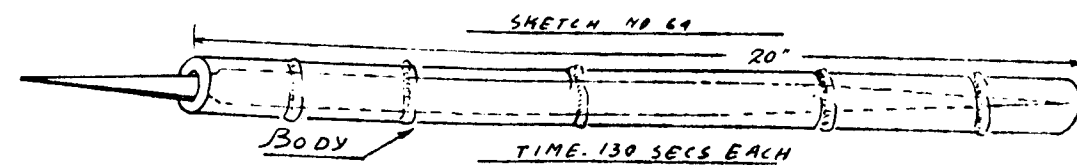
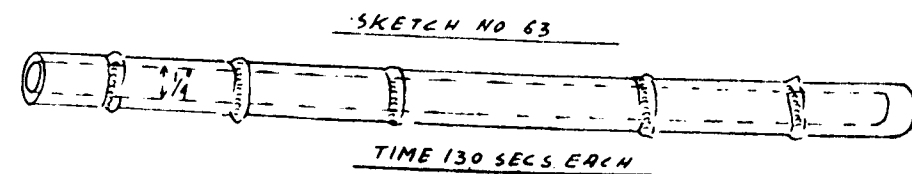


SKETCH NO. 51
TIME: 1 MINS. EACH

SUB: STAGES OF MANUFACTURE.

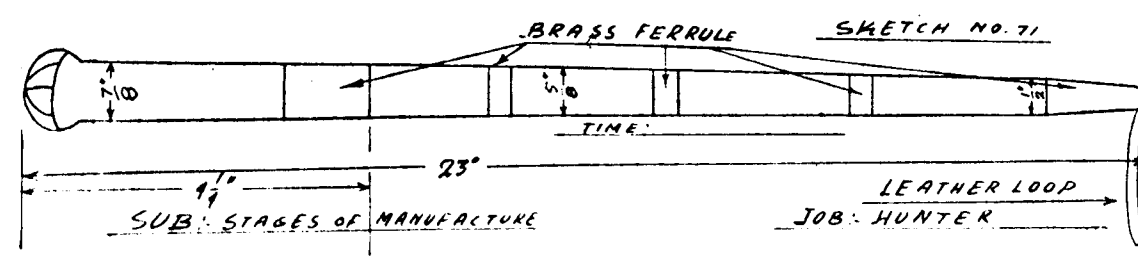
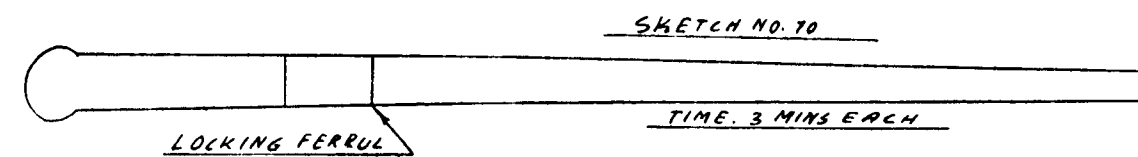
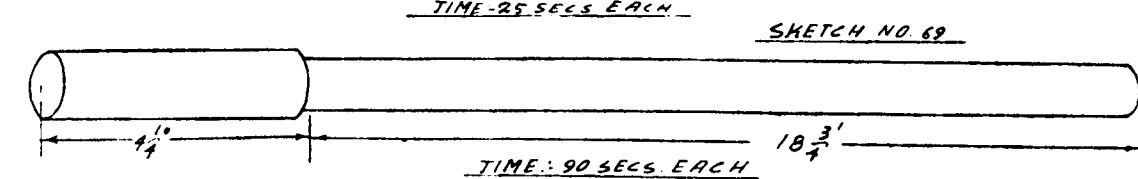
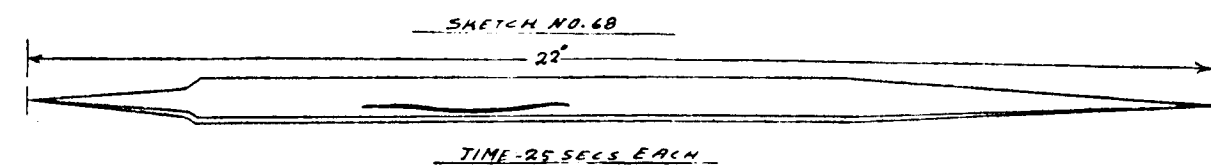
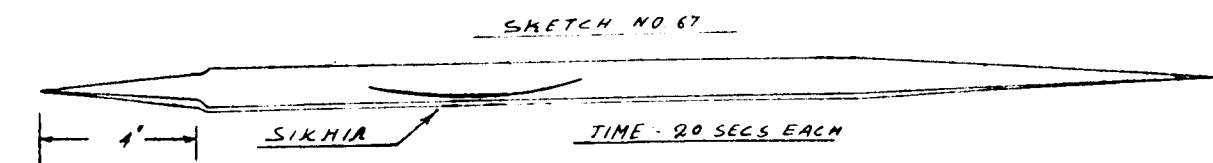
JOB: BETEL NUT CUTTER





SUB. STAGES OF MANUFACTURE

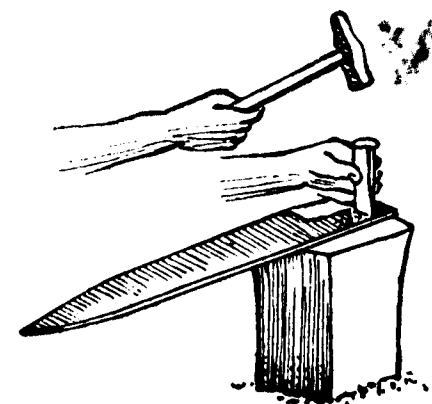
JOB: HUNTER



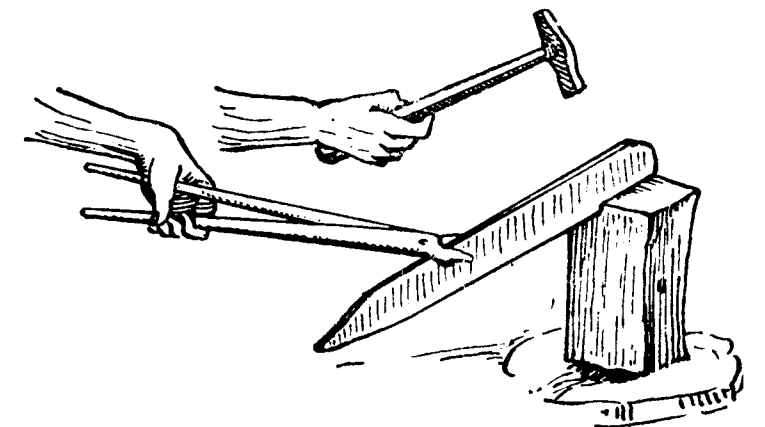
SUB. STAGES OF MANUFACTURE



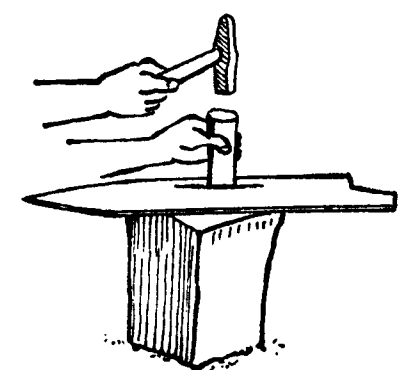
Sketch No. 72
Forging of blade (1)



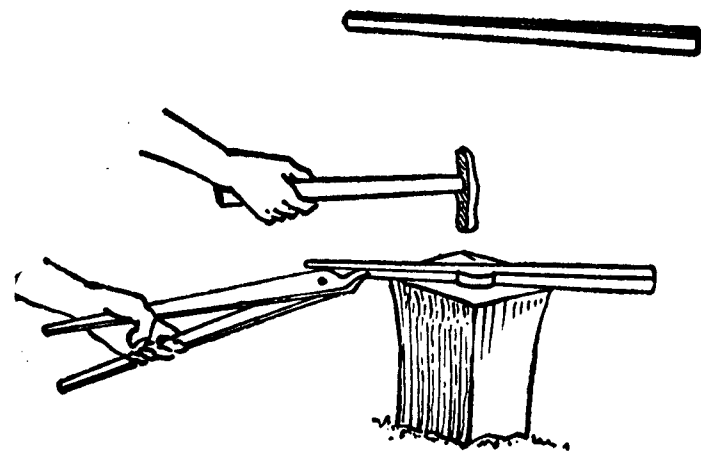
Sketch No. 74
Cutting



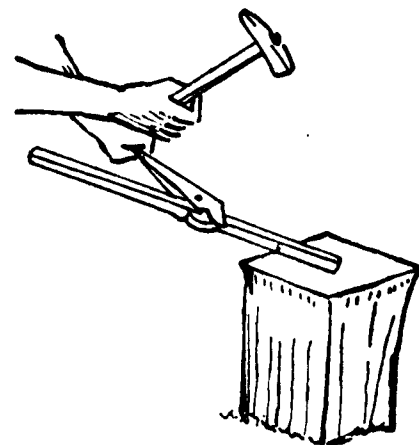
Sketch No. 73
Forging (2)



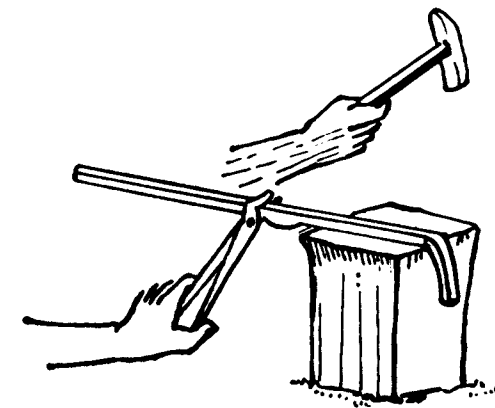
Sketch No. 75
Marking



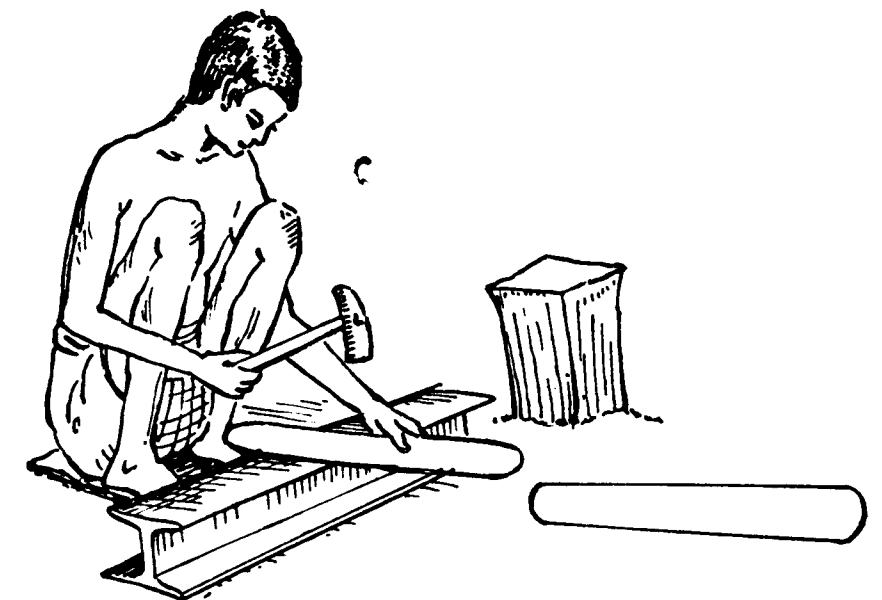
Sketch No. 76
Forging of spring (1)



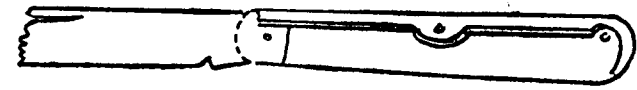
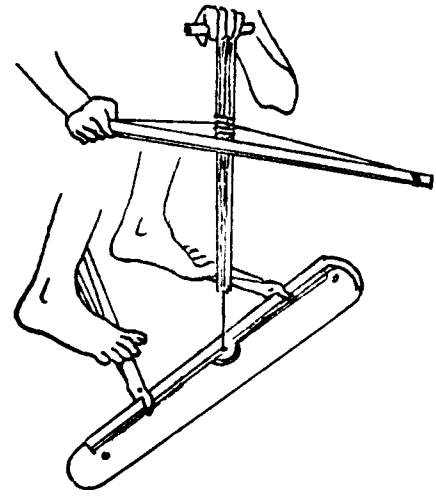
Sketch No. 77
Forging of spring (2)



Sketch No. 78
Forging of spring (3)



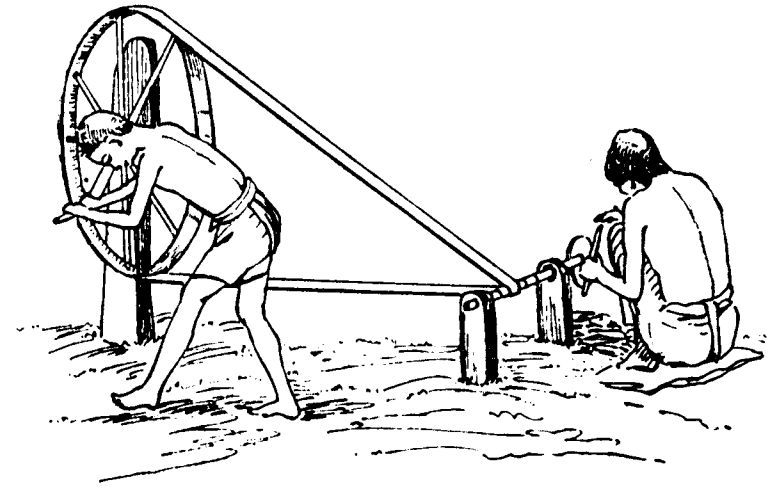
Sketch No. 79
Sizing of brass handle



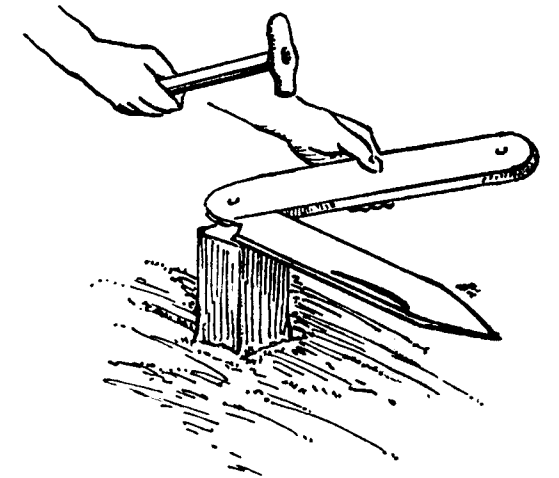
Sketch No. 80
Boring



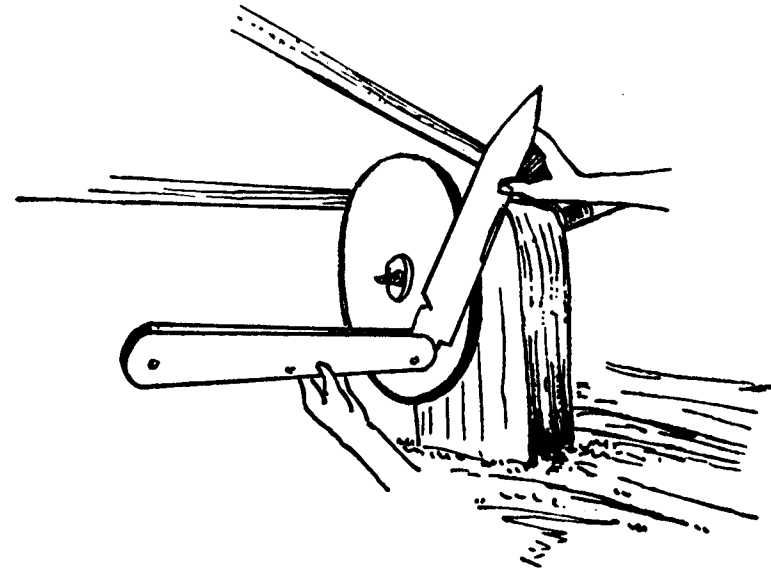
Sketch No. 81
Filing of blade



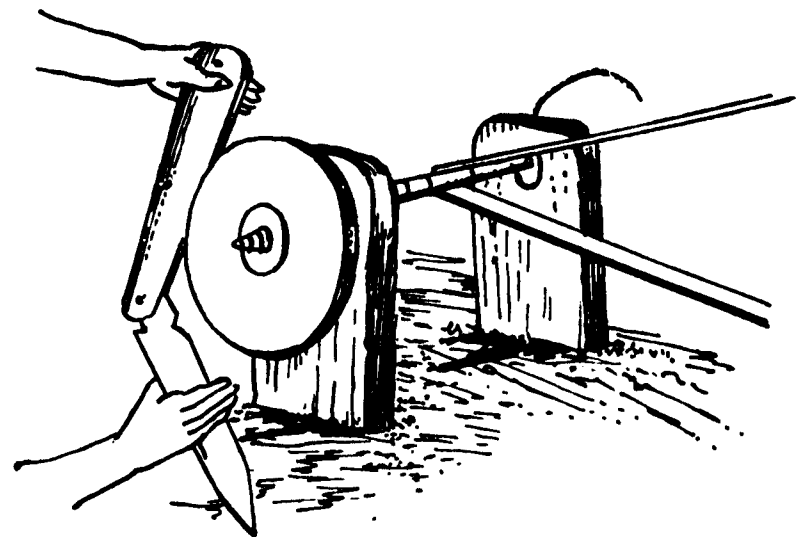
Sketch No. 82
Grinding of blade



Sketch No. 83
Rivetting



Sketch No. 84
Sharpening



Sketch No. 85
Polishing



Sl. No. 21 (Photo plate 14758)
Hammering the *thori* (lower part of a betel-nut cracker).

(Para 4. 6. 1e)



Sl. No. 22 (Photo plate 14781)
Polishing a job.

(Para 4. 6. 1f)



Sl. No. 23 (Photo plate 14770)
Rough filing a *thori* (lower part of a beetle-nut cracker).

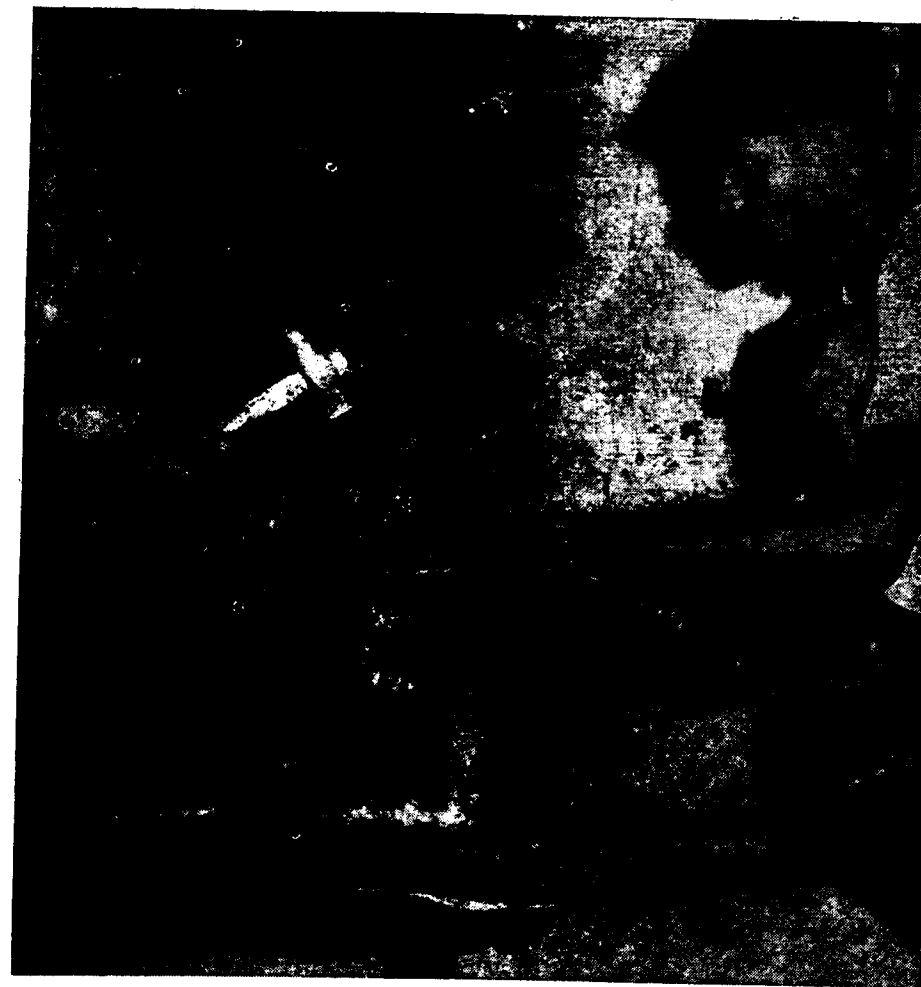
(Para 4. 6. 1f)



Sl. No. 24 (Photo plate 14771)

Filing the handle portion of a *thori* (lower part of a betel-nut cracker). Feet play an important role in such a job.

(Para 4. 6. 1f)



Sl. No. 25 (Photo plate 14765)

Hole for putting pin in the *thori* is punched.

(Para 4. 6. 1f)



Sl. No. 26 (Photo plate 14769)
Both *path* and *thori* are rivetted.

(Para 4. 6. 1g)



Sl. No. 27 (Photo plate 14768)
Light hammering here and there makes a betel-nut cracker complete.
(Para 4. 6. 1g)



Sl. No. 28 (Photo plate 14767)
Engraving the name of the article on the *path* is done by a fine and hard chisel.
(Para 4. 6. 1h)

ECONOMY OF THE CRAFT 5

5.1 Procurement and Price of Raw Materials

5.1.1. Most of the essential raw materials for making cutlery are procured locally. Some business houses in the area maintain stocks of these commodities, especially iron and steel and a small quantity of brass which they collect from Ranchi and Calcutta. The rest of the raw materials, bamboo-poles, horn, leather and brass, are collected from Ranchi, Purulia and Calcutta. The Santhals and other tribal inhabitants of the surrounding villages collect a small quantity of wood from the forests and sell it to the artisans at comparatively cheap rates. In the past, however, the local market used to supply the entire demand of bamboo poles and wood. The artisans sometimes purchase brass in the form of broken household utensils. Coal and lac are also available in the Jhalda area.

5.1.2. The following list will give an idea about the sources of supply of the principal raw materials:

Raw material	Sources of supply
Steel & Iron Scrap	Local
Bamboo-poles	Ranchi
Wood	Local
Brass	Local & Ranchi
Coal	Local
Horn	Calcutta & Purulia
Leather	Calcutta
Lac	Local

5.1.3. As the two main raw materials, namely steel & iron, are locally purchased, the product quality is not always of the appropriate standard. No unit, however, has a rigid quality standard. The quality range of manufactures depends on the availability of raw materials in the local market and the price offered. In fact, quality is not a strong point with the artisans. Given the right quality of raw material, it is claimed, the artisans are capable of turning out the finest products.

5.1.4. Almost all the units buy raw materials on retail basis in the open market. Bulk purchase is not possible for most of the artisans due to the paucity of fund. In fact, some weak units buy iron, steel and coal in kilograms and in grams

only. Cash purchase is the usual practice. The cost on transport of raw materials is insignificant, as most of the items are locally available.

5.1.5. The following brings out the details of the retail price of the principal raw materials:

TABLE II
RETAIL PRICE OF THE PRINCIPAL RAW MATERIALS

Raw material	Unit	Price (Rs.)
Steel Scrap	Md.	20-00
Iron Scrap	Md.	20-00
Coal	Md.	1-00
Brass	Sr.	4-00
Bamboo-poles	100 pes.	20-00
Horn	Sr.	1-00

5.2 Labour and Other Charges

5.2.1. After raw materials, the wage of labour is next item of importance. Excepting the wage of the helper engaged by the artisan, no expense due to labour is involved. The usual wage rate for a helper is Rs. 1.50 per day of 8 working hours. Sometimes, boys of the artisan family work as helper for whom wage rate of Rs. 0.30 to 0.60 per day may be charged. An expert artisan is not usually employed in other's workshop. If it at all happens, he may charge as much as Rs. 3-00 per day.

5.2.2. Other factors which contribute to the cost of production of the cutlery articles, are the rent for the workshop, repairs, purchase and depreciation of tools, incidental charges for marketing, interest on loan, etc. Most of the units do not spend any money for paying direct rent to a separate landlord, because of the fact that the owner of the house is the craftsman himself. Either a portion of the residential house is converted into workshop or it is built within the area of his homestead land. The units which are located in rented houses have to pay rent at the rate of Rs. 5.00 per month on an average. Purchase, repair and depreciation of tools may involve a sum not more than Rs. 3.00 per month per establishment.

5.2.3. The artisans do not usually take loan from the *mahajans*. In the peak period, they are sometimes given some advance for purchase of raw material by the *paikars* (wholesale-middlemen) against some specific order placed with the artisans. An interesting system is prevalent in the area. When an artisan has made certain quantity of a particular product but has not found a ready customer for the same, he deposits those finished articles of daily produce to the artisan-*mahajans* of the locality, from whom he receives cash to the extent of two-thirds of the sale-price of those articles as loan. The articles thus deposited form a sort of pledge. In due course, when the artisan finds a customer for his products, he takes back those articles from the *mahajan* and clears off the debt with the usual rate of interest Rs. 0.06 per rupee per month or part thereof. These artisan-*mahajans* do not normally

purchase these products, but they sometimes help the artisan in procuring customer for his products.

5.3. Cost of Production

5.3.1. The artisans do not maintain any written account of raw materials, labour, articles produced, income, etc. The general rough account followed by them is mainly based on the amount of principal raw materials consumed for the production of particular articles. The sale price of the articles is fixed roughly on the basis of consumption of raw materials and labour involved.

5.3.2. The following table enumerates the cost of production of three important articles produced at three different sample units:

TABLE III
COST OF PRODUCTION

Name of Article	Volume of average production	Period of production	Cost of Production						Total (Rs.)	Sale value (Rs.)
			Raw material	Value (Rs.)	Labour	Value (Rs.)	Rent	Depreciation and other charges		
1	2	3	4	5	6	7	8	9	10	11
Hunter	1½ doz.	1 day	Steel	1.00	Forging	1.00	0.33	0.13	..	11.00
			Brass	1.00	Grinding	1.00				
			Bamboo	1.00	Fitting and Polishing by self	3.00				
			Lac	0.25						
			Coal	0.12						
			Leather	0.25						
			Tin & Brass	0.10						
			Colour	0.06						
			Fuel	0.06						
				3.84		5.00	0.33	0.13	9.30	11.00
Janti (betel-nut cracker)	1½ doz.	1 day	Steel	1.40	Grinding	0.25	0.10	0.12	..	6.75
			Coal	0.12	Forging (Helper-family member-son)	0.60				
			Sohaga, etc.	0.06	Self-forging and finishing	2.00				
				1.58		2.85	0.10	0.12	4.65	6.75
Knife	1 doz.	1 day	Steel	0.20	Helper-forging, grinding	1.50	0.17	0.12	..	9.00
			Brass	2.00						
			Coal	0.06	Self	3.00				
				2.26		4.50	0.17	0.12	7.50	9.00

5.4 Annual Output

5.4.1. The following table showing the total annual output of the sample units gives an idea of the volume of production of cutlery in Jhalda :

TABLE IV

TOTAL ANNUAL OUTPUT

Serial No. of Units	Items of production	Annual output (approx. dozen)	Value of output (Rs.)
1.	Hunter	300	3,300-00
	Gupti	80	1,920-00
2.	Hunter	150	3,300-00
	Gupti	80	1,920-00
3.	Janti	900	3,150-00
4.	Janti	500	2,250-00
5.	Janti	800	3,200-00
6.	Knife	350	3,150-00
7.	Scissors	500	3,000-00
Total		3,660	25,190-00

5.4.2. From the table, it appears that in the seven sample units, the cutlery worth Rs.25,190.00 is produced annually. The average output per unit is, therefore, Rs.3,598-57. If the 24 cutlery units are taken into consideration, the annual production stands at Rs.86,365-68. Although a particular artisan produces different items of cutlery in addition to the main items for which he has got preference, the calculation above is based on the assumption that the unit produces the main items only.

5.4.3. The artisans produce varieties of cutlery, but in absence of written and systematic account for purchase, production and sale, the exact figure cannot be reached at. Regarding the sale price they are concerned only with the prevalent rates offered by the *paikars* who are their principal buyers. If fact, the production is controlled by the marketing process prevalent in the area. The artisans, therefore, cannot throw any light

on the sale price of their finished articles at the ultimate consumers' door.

5.4.4. The following table showing input and output of three units producing different items of cutlery will be of interest:

TABLE V

INPUT AND OUTPUT

Name of Article	No. produced in a day	Input (raw material, labour, etc.) (Rs.)	Output (sale price) (Rs.)	Output Input Ratio
Hunter	1 doz.	9-30	11-00	1-22
Janti	1½ "	4-65	6-75	1-45
Knife	1 "	7-05	9-00	1-28

5.5 Assets and Working Capital

5.5.1. For most of the artisans there is no other asset excepting the land and structure of the workshop and the tools. Out of the seven sample units, three are housed in rented workshop and so for these units, the only fixed asset is the tools. The value of a workshop including land and the structure may be in the order of Rs.500.00, whereas the value of tools and implements possessed by a unit is not more than Rs.200-00 on an average. So for the self-owned units, the asset is Rs.700.00 only, whereas for rented units it is only Rs.200.00 on an average.

5.5.2. Most of the units cannot normally maintain a stock of raw materials, nor they have any stock of finished articles. At best any unit possesses raw materials required for a week's production, but there are artisans who buy raw material on daily basis. No other liquid money is invested in the workshop. Working capital may, therefore, be calculated on the basis of the value of raw materials consumed per day. It appears that the three units considered in table No. III consume raw materials worth Rs. 7.68 in a day. Calculated on this basis the value of monthly consumption of raw materials by all the 24 units is Rs. 1,536-00. The annual figure comes to Rs. 18,432-00 from which an idea of the working capital may be formed.

5.6 Marketing

5.6.1. The artisans need not worry much for marketing of their products, because these are sold at the artisans' door to the *paikars* who usually gather in large number during the peak months from Kartick to Jaistha. During this period they come to Jhalda and stay there for a number of days. Orders are placed with the artisans who supply articles according to their specifications and requirements. Sometimes a *paikar* makes an advance of some money to the artisans for purchase of raw materials which may be required for the supply of his order. Besides specific orders, they pay daily visit to the artisans for selection and purchase of other items of cutlery according to their requirements. Cash sale is the system. During the slack months of Asar to Aswin, their visits are less frequent but not rare. In fact, approximately 90 per cent of sale is effected in this way on wholesale basis.

5.6.2. Mostly Bihari Chatris, the *paikars* come from different parts of Bihar, U. P. and West Bengal. They deal in cutlery along with other commodities. Since the primary buyers, i.e., the *paikars* purchase most of their produce, the artisans have little knowledge of the ultimate consumer of their articles, the places where these are sold, the exact profit made by these people and other informations regarding the destination of their articles. It is, however, gathered that the *paikars* sell these products to different fares and melas spreading over West Bengal, Bihar and U. P. They usually make a profit of about 30 to 50 per cent on these articles. Harihar Chatra Mela at Sonepur, Rathajatra Mela at Ranchi, Pous Mela at Santiniketan and Shibchaturdasi Mela at Vishnupur are some of the melas which may be mentioned in this connection. Formerly, however, some of the artisans visited these melas with their articles, but now-a-days the practice has been abandoned due to heavy railway fare and exorbitant rental charges for the stalls. Of course, two local melas are still attended to. The Satighata Mela about 20 Km. from Jhalda is a must for most of the artisans. This mela is held for a day in the month of Pous when an artisan expects sale of his produce worth Rs. 100.00 to Rs. 150.00. Tulin Pous Mela about 7 Km. from Jhalda is another attraction.

5.6.3. A certain quantity of cutlery is sold direct to the consumer at the artisans' door. A small portion is also purchased by the Karmakar Co-operative Society and by another cutlery dealer in the locality. Sale effected in this way does

not exceed 10 per cent. Mention may be made here that the artisans do not hawk in the market for sale of their products.

5.6.4. It is noted that the *paikars* are the nerve centre of marketing of cutlery of Jhalda. The craft is expected to thrive so long as the *paikars* have demand for their products which give them reasonable profit. The industry is at the mercy of these people who are the dominating factor in the marketing structure. But for the absence of this source of marketing, the industry as a whole is sure to suffer.

5.7 Co-operative Society

5.7.1. Jhalda Karmakar Co-operative Society Ltd., was established in the year 1947, under Bihar-Orissa Co-operative Societies Act of 1935. With the transfer of Purulia in 1956, the Co-operative Society came under the Government of West Bengal. The Society was started with 15 members with a paid up share capital of Rs. 208.00. The value of each share is Rs. 10.00. The present membership is 81.

5.7.2. The aims and objects of the society are : (1) to establish workshop on co-operative basis, to produce improved types of carpentry tools and cutlery by the members of the society and arrange for sale, (2) to procure essential raw materials and the tools required ; (3) to revive the name and fame of the craftsmen and to improve their social, educational and economic condition ; (4) to grant loan to the members for implementation of the above.

5.7.3. In the year 1956, the society was granted a loan of Rs. 2,000.00 as a cash credit loan by the Purulia Central Bank Ltd., at an interest of 5 per cent. The business of the society could not, however, flourish. In the year 1957, Director of Industries, West Bengal, granted an industrial loan of Rs. 15,750.00 as working capital loan at 2½ per cent interest. With the increase of capital the society made some progress in different directions. The society purchased raw materials from Calcutta and local market from time to time, and advanced the same to the artisan members. The wages were paid to them after finished products were received at the society's disposal. The society appointed agents for sale of products in Calcutta and outside markets. The system continued for three years from 1958 to 1960, during which period the society acquired a good will for the products.

5.7.4. Later, some members were seen not to turn up with their finished products, after receiving the raw materials from the society. The defaulting members began to sell goods elsewhere at a higher profit. On the other hand, carpentry tool artisans had got some preference in the distribution of raw materials, as the augers were in good demand. This preferential treatment and the mismanagement in general, led the society to a crisis. Consequently the management was taken over by the Assistant Registrar of Co-operative Societies, West Bengal.

5.7.5. At present the society has stopped the system of giving advance of raw materials to its members. The average daily sale of the society is Rs. 10.00 only. The function of the society has practically come to a stand-still. The assets and liabilities of the society at present show that the society has failed miserably. The present asset may be roughly Rs. 6,000.00, whereas the liabilities Rs. 18,000.00. It may be said that the society's role has fulfilled none of the objectives for which it stands.

5.8 Why did the Co-operative fail

5.8.1. One may question why the Co-operative Society of the artisans, formed in 1947, and financed

by the Government in 1957, had gone into liquidation in 1964, even after steps were taken by the society to supply raw materials and arrange sale of finished products. As far as it could be learnt, the Managing Committee of the Society was formed by Karmakars interested in carpentry tools' units only (excepting one, who had a unit in walking sticks). The assistance programme, therefore, was restricted primarily to those units and the traditional cutlery units did not receive raw materials adequately. Further, as the society had no control on the trade of products, the member units individually took the advantage of independent transactions. Hence, the history of the working of the Jhalda Karmakar Co-operative Society will reveal a victory of the local trading interests and would give lessons now and in future as to (i) how an artisan's Society should be made to represent various types of member-units, if technically, their functions, and methods of operations are not similar, (ii) how income of various categories of units and workers should be increased and (iii) what steps and cautions should be taken while formulating the working programme of assistance in the shape of supplies, and loans, when already, even though unfavourable in many respects, there are very strong traditional rings of alternative arrangements in similar lines of trade controlled by the middlemen of the localities and those coming from outside.

6.1 Income from the Workshop

6.1.1. From table III it appears that an artisan who makes hunters can earn a margin of Rs. 1.70 (i.e., 11.00—9.30) by selling a dozen of hunters produced in a single working day at a cost of Rs. 9.30. On the basis of the above monthly income of the artisan would be something like Rs. 42.50 only for 25 working days in a month. But as the artisan is the owner of the workshop and at the same time himself a craftsman, his own wage, i.e., Rs. 3.00 per day is not required to be paid in cash to anybody else. Thus his daily income is the sum of Rs. 1.70 and the calculated daily wage of Rs. 3.00, which his labour could fetch if it is hired by some other similar establishment. The amount comes to Rs. 4.70. On the basis, the average monthly income of the artisan is Rs. 117.50.

6.1.2. An examination of the table will show that the cutlery artisans who produce different articles have the same pattern in respect of labour as a factor of production. For outside labour, the artisan spends in cash in order to pay the wage of the helper.

6.1.3. For an artisan who produces *janti* the average monthly income including that of his son who helps him in his workshop comes out to be Rs. 117.50, calculated as below :

Monthly income = 25 [(sale price—cost of production) + his own wage + his son's wage]

Exactly in the same way, the artisan who makes knife earns Rs. 123.75 ($1.95 \times 25 + 3.00 \times 25$) a month.

6.1.4. It is to be noted that the monthly income shown above is the normal average. But if the artisan does not work for some days at a stretch or frequently absents himself from work due to this reason or that, the monthly income is sure to come down. The reverse is also true. Hand-some order from the *paikars* may give the artisan a good stimulus, and he produces more and earns more than what is normally expected.

6.2 Income of Different Units

6.2.1. Table XII will show that (for cutlery units) :

(i) income of heads of units in different types (units being classified according to operations : forging, fittings minus polishing, fittings with polishing, polishing and all complete) varies even when the full capacity is utilised in them ;

(ii) net income of 1 head artisan in forging and complete units is about Rs. 2.50 to Rs. 3.00 per working day ; that in fittings' units is about Rs. 4.00 to 4.50 per day, but in polishing units it is slightly higher than that in the forging units ; the calculation is based on the assumption that the full capacity has been used. The actual income, however, will be less because the capacity is not always fully utilised in the units ;

(iii) the forging units supply forged materials to fittings' and finishing units. It will be interesting to note that while the forging rates for the manufacture of blades of swords, sword-sticks and hunter with mild steel and steel differ, the artisan does not generally get any extra benefit from the special skill required for the forging of blades of steel, because the capacity to manufacture steel materials per day is lower and the total wages for the forged materials almost remain the same in both cases.

6.3 Role of Trading-cum-Manufacturing Units

6.3.1. While discussing about the functions of different types of cutlery units, an important feature of the economy of the units was revealed. It was learnt that :

(i) there are five Poddar units which supply raw materials to the forging units and get their requirement of forged materials from time to time ;

(ii) some of the fittings' units also purchase raw materials from one or two of these Poddar units ;

(iii) orders from the *paikars* coming mostly from different places in West Bengal and Bihar are secured by these middlemen-craftsmen who have formed another trade-ring internally. They distribute the orders and supply the finished materials to the *paikars* ;

(iv) similarly, not all the carpentry tools' units secure orders independently ; one such unit has been found to distribute orders to 5 other units ;

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(v) the units producing scissors, betel-nut crackers, etc., generally sell their products locally and directly in local markets only in the lean months of June-October, the middlemen Poddar/Craftsmen receive the materials and advance money against charges, not generally exceeding 6 paise per month per rupee, pending their final disposal to the *paikars*. Scissors have good demand to the local *biri* and tailoring units ;

(vi) the fittings' units also do not independently sell ; the few Poddar units receive the materials and dispose them thereafter ; per dozen of hunters and sword-sticks, these middlemen-craftsmen keep a trade-margin varying from Rs. 0.50 to Rs. 2.00 ;

(vii) when the primary manufacturing units receive orders from the intermediate trading-cum-manufacturing units, running payments are made by the latter to the former units against deliveries of articles from time to time ;

(viii) as the economy of the carpentry tools' units was not within the purview of the study, it is not known whether at all and to what extent the local Poddars similarly act as financiers and traders for such units, particularly for those having no oil engine of their own ;

(ix) naturally, therefore, these few Poddar cutlery units, besides their individual manufacturing programme, have got an investment programme in the working and subsistence capital of other primary units ; sufficient data are not available to establish the extent of such investment ;

(x) another conclusion can be derived from the basic facts there, that in the interest of their larger net income, these trading-cum-manufacturing units always try to keep the terms of trade and financing in the primary units in their favour and the bargain goes against the primary units generally as they are to take finance from the intermediate units not only in the peak months of business, but also in the lean months, the benefits of changes in prices of finished products are reaped by the middlemen-craftsmen and the *paikars*, the share being dependent on bargain on each case, whereas, the brunt of low prices falls on primary units as these release products at prices close to their manufacturing costs ;

(xi) the only way open to the primary units to have more margin of income is to keep the level of wages of helpers constant and to find out as many individual, final consumers locally as possible ; it may be noted here that the wages of helpers vary from Rs. 0.75 to Rs. 2.00 per working day depending on the nature of work ; the helpers are from Poddar/Karmakar/Kando/Rajwar/Dom/Mohamedans ; they form the temporary cadre in the industry often shifting from one unit to the other, depending on the periodic contracts and terms of work ; [in the interest of secrecy in local trade, the names of trading-cum-financing units are not disclosed].

6.3.2. Thus, even though the Karmakars constitute the majority of the skilled hands in the industry and hold the traditional skill of forging, the Poddars have, by and large, now a greater control on the economy of the cutlery industry serving as local link between the primary producers and outsider-traders, [the second observation is not intended for carpentry tools' units].

6.4 Family Budget

6.4.1. In the absence of any subsidiary source of income, the manufacture of cutlery is the primary occupation of most of the artisans of Jhalda. With a few exceptions, the artisans do not possess any agricultural or other landed property. But every artisan owns a house on a small plot of land in the municipal area, and a portion of it is converted into workshop. A few units are also housed in rented structures. Most artisans live a hand-to-mouth existence. With meagre earnings from the sale of daily produce, the major portion of which is essential for the purchase of daily household necessities, an artisan can set aside only a small portion of his income for the purchase of raw materials required for next day's production. Except in the case of two or three well-to-do artisans, the family budget of the artisans is thus a question of daily existence. Average family size being five, the cost of living is somehow managed by the income from the workshop. Most of the artisans spend almost all their earnings for food, clothing and other expenses. Major expenditure is, however, involved in the purchase of food and cereals.

6.4.2. The following table shows the monthly income and expenditure of three sample units :

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TABLE VI

FAMILY BUDGET (MONTHLY)

Major Head	Income	Major Head	Expenditure
UNIT I			
INCOME FROM THE BUSINESS Rs. 123.75.			
	Rs. P.		Rs. P.
Craft under study	123.75	Food and cereal	108.00
Remittance from brother	25.00	Pan. bidi, etc.	2.00
		Fuel and Lighting	3.50
		House rent, repair, taxes, etc.	0.13
		Clothing, etc.	8.00
		Medical and other services	4.00
		Miscellaneous expenditure	1.00
		Construction and repair	2.00
	Total 148.75	Total	128.63

NOTE :— Size of the family 5

UNIT II

INCOME FROM BUSINESS Rs. 117.50

Craft under study	117.50	Food and cereal	105.00
		Pan. bidi, etc.	3.60
		Fuel and lighting	3.00
		House rent, repair, taxes, etc.	0.25
		Clothing, etc.	5.00
		Education	0.25
		Others	1.10
	Total 117.50	Total	118.20

NOTE :— Size of the family 8

UNIT III

INCOME FROM BUSINESS Rs. 117.50

Cultivation	42.00	Food and cereal	100.00
Craft under study	117.50	Pan, bidi, tobacco, etc.	8.00
Remittance from son	50.00	Fuel and lighting	4.00
Money lending	15.00	House rent, repair, taxes, etc	1.25
Other sources	5.00	Clothing, etc.	6.00
		Conveyance	3.00
		Charities	0.15
		Other services	1.20
		Construction and improvement of building	1.50
		Miscellaneous	0.50
	Total 229.50	Total	125.60

NOTE :— Size of the family 2

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6.4.3. It is evident that the owner of the unit No. III is well-to-do artisan whereas the other two are weak units.

6.5 Employment

6.5.1. It has already been mentioned that most of the units employ helpers on daily wages as and when required. The number of helpers in a unit varies from 1 to 5. So, taking all the units into consideration it can be concluded that about 72 persons, besides the 24 owner-artisans, are directly employed in the cutlery units. Although the family size of these helpers is not known, we may assume it to be consisted of 5 on an average. On this basis, about 360 people belonging to helpers' families and 120 members of the artisans' families are entirely dependant on this industry for their livelihood. The helpers come from Poddar, Karmakar, Kando, Rajwar, Dom and sometime Mohamedan families.

6.5.2. According to the statements of the artisans the number of *paikars* who are responsible for marketing of Jhalda cutlery is about 50. These people with their dependent family members earn their livelihood partly from this industry. Moreover, the local and outside dealers of raw materials are also to depend for their earnings on this industry to some extent. So, the industry at its present state has provision for about 96 people of the locality for direct employment, but for indirect means of livelihood several hundred people belonging to different parts of the country have to depend on it.

6.5.3. In recent times the pattern of livelihood of different community people in the area has undergone variation to some extent, and the change of caste occupation is noticeable. The Poddars and Kandos are instances to this direction. In spite of the fact that an artisan finds normally no difficulty in fixing his male dependents in his occupation, still then change of occupation slowly takes place in the hope for better remuneration and brighter prospect. As for instance, among the sample units, some members belonging to Karmakar community have practically given up their caste profession and have accepted work in the local lac factories, *biri* making units and building construction. Some members even work in outside factories and offices. It is of interest to note that, although some members have given up their caste profession and some have changed to carpentry tool production, other people have stepped in, keeping the employment position more or less fixed for the recent years. With the existing tools possessed by the units, it is doubtful

whether their production may rise enormously, even if there be heavy demand. Only by engaging more helper, the annual production may be increased to some extent. Further scope for additional employment in these units at the present conditions of the industry seems to be little. Of course, during the slack months the artisans enjoy more leisure which can be utilised in a better way if the production be kept uniform throughout the year.

6.6 Change of Occupation of the Craftsmen

6.6.1. The tradition of the industry vested with the Karmakars. But it is now told by Sibal Karmakar (62), a master-craftsman, that in his life time, 12 karmakar families have shifted to Ranchi, Daltongunj, Deoghar, Chaibasa and Purulia. Ten Karmakars have taken up alternative occupations of running shops (6), repairing watches (3) and cycles (1) (*vide* table—XV attached); one is an Agricultural Graduate and a Government employee; four others have taken up technical line including one, who is a 5th year student in the Calcutta Medical College.

6.6.2. On the other hand, from one generation back, persons of two other castes have entered into this industry. The nature of their work and participation in the industry will be dealt in some details later. At the present moment, out of 62 Iron and Steel Works' Units, 42/10/9/1 belong to Karmakar/Poddar/Kando/Rajwar castes respectively.

6.6.3. The local Poddars are traditionally wealthy persons and are engaged in gold and silver smithy and trade. They were connected with the local trade in lac, gold and silver, although it could not be ascertained whether they were financiers also and invested floating capital with the traders of Jhalda, Tulin, Jaipur, Begunkodar, Bartanr and Kalimati—the places which are reputed for markets and once-a-week hats. The Kandos are traditionally sweet-meat and pressed-rice (*chira*) makers. Tables XVI and XVII attached will show that not all of them have left their business; 178 Poddars are all engaged in trade in gold, silver and miscellaneous other items; but 197 Kandos, excluding 50 as engaged in *chira*-making and sweet-meats, are now in various other occupations connected with *biri* making, lac, grocery, miscellaneous shops and ricksaw-pulling.

6.6.4. This diversification in the occupational structure came gradually with the development of local trade and business and immediate avenues of further employment to the growing population.

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The Poddars and Kandos came as helpers to the Karmakar units. Certainly, these persons could not have better employment in their own trades. Starting with walking sticks, the Poddars remained with cutlery, sword and hunter; the Kandos, however, along with the Karmakars, took the advantages of a distinctive shift in the manufacturing programme of the industry, when, during the Second World War, there was a good demand for carpentry tools for defence purposes. At the present moment, there are 31 such units in carpentry tools only, producing augers, chisels, pruning knives and planes, which have markets in Chakradharpur, Chaibasa, Rourkella, Cuttack, Jubbulpur, Bilaspur, Ranchi and Madras.

6.7 Relative Importance of Different Categories of Iron and Steel Works

6.7.1. In respect of the number of units and the persons employed, the carpentry tools' trade have now a better prominence in the industry. Technologically, the carpentry tools' units have gone one step further; 8 of them have been using 9 oil engines to turn the wheels for grinding and polishing. Next in importance are the 17 units manufacturing sword-sticks, hunters and daggers. The number of the pure cutlery units is 5. There are, further 4 smithies turning out mostly agricultural implements while 3 units do mixed jobs.

6.8 Various Structural Composition of the Cutlery Units

6.8.1. At Jhalda, the Poddars and Kandos, like the Karmakars, are now established in the industry. At Kanchannagar (Burdwan), amongst the craftsmen, there are Maliks, Mondals, Singhs and Mohamedans, besides the Karmakars. At Keshabpur (Howrah), they are all Karmakars.

6.8.2. Regarding the occupation of the parents of the present heads of 62 Iron & Steel Works of Jhalda, Table VII shows that:

(i) 41 out of 42 Karmakars were already in the industry; 16 were in general smithy for agricultural and household implements;

(ii) none of them was then in carpentry tools as this trade had not yet developed;

(iii) only 2 Poddars were in the industry, of whom 1 was in walking sticks, 7 others were in business in lac;

(iv) only 1 Kando was in cutlery line; 6 were in lac factories and 3 in agriculture;

(v) none of the Karmakars were in lac industry.

6.9 Locational and Caste-wise Distribution of Cutlery Units

6.9.1. Table VIII shows that, at present:

(i) 22 Karmakars have taken up carpentry tools; 13 are in cutlery including swords, hunters, etc., and only 7 are in general smithy;

(ii) 8 Kandos are in carpentry tools and 2 of them are in cutlery;

(iii) all the 9 Poddars are in swords, hunters, etc.; but none of them is in carpentry tools;

(iv) none of the Poddars and Kandos are in general smithy units.

6.9.2. Table VIII further shows that there are 30 out of 62 units at Poddar Para and 19 units on the Purulia-Jhalda Road; 13 other units are located at Dom Para, Kumarkuli, Ojhakuli and Station Road. There are Kando and Karmakar units in Poddar and Dom Paras. 8 out of the 9 Poddar units are in Poddar Para while the remaining one is in Dom Para.

6.9.3. The different localities at Jhalda, known as Poddar Para, Dom Para, etc., accommodate the Poddar, Kando, Dom, and Karmakar families without any discrimination. As a matter of fact, all these 'Paras' are just adjacent to one another, all at a distance of about 0.3 Km. from the main road, distinct by having one main lane each of their own, each lane running almost parallel to the other.

6.9.4. As the Poddars are rather the wealthier section of the locality many of their houses are brick-built with cemented floors. On the other hand, the general picture of all these localities is one of houses with *khapra*-sheds and mud-plastered walls. The roads of these lanes bear stone chips and have side drains; these remind any one that the Jhalda Municipality was established on July 1, 1888.

6.9.5. It has been stated that the Poddars do not have any carpentry tools' units. How is it, that in view of better commercial prospects in such lines, the Poddars remained in cutlery, swords and hunters, whereas, the Karmakars and Kandos took the advantage of this shift in tradition? The reason is this: the Poddars and Kandos entered as helpers to the Karmakar units; the Kandos learnt all types of smithy operations,

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but the Poddars could not master the traditional skill, particularly in respect of forging jobs. Forging is the most important portion of work in auger, which is the number 1 item in carpentry tools' units. Thus, adaptation to technological operations has been partial for the Poddars.

6.9.6. Table IX shows that (for cutlery units only) :

(i) from the functional view points, the cutlery units are not similar ;

(ii) even though out of 24 such units manufacturing various types of cutlery articles including hunters, swords, etc., there are 11 units doing all jobs from forging to finishing, the remaining 13 units are functionally connected and form 4 categories ;

(iii) there is one Karmakar unit in cutlery for forging jobs only ; this unit and 3 other Karmakar units doing general smithy jobs feed the 12 other units with forged materials ;

(iv) these 12 units are also not all alike ; in 7 of them, fittings and finishing jobs only are done, polishing being done from 2 units meant only for finishing and polishing ; 3 units do fittings and polishing with forged materials ;

(v) the purely forging units are all Karmakar units ; fittings, polishing and finishing units are only distributed between the Karmakars (5) and Poddars (7) ; of the 11 complete units, 7/2/2/units belong to Karmakars/Poddars/Kandos respectively ;

(vi) in the Poddar units, jobs necessitating the use of furnace and anvil are generally done by others ; the Poddars started with walking sticks and by and large, they are still now mostly engaged in fittings and finishing work ;

(vii) in 20 out of 24 cutlery units, there are helpers ; generally, the units work with 1 artisan and 1 helper ; the artisan is the head of unit ; in the 10 fittings' units, however, there are 20 helpers ; of them, the 3 units with polishing arrangements have 10 helpers.

6.10 Distribution of Cutlery Units according to Productions

6.10.1 Table X shows that in the cutlery units :

(i) amongst the 24 such units, there is a major distinction in respect of the items of manufacture ; while 7 units are engaged in miscellaneous

cutlery articles including walking sticks ; the 17 other units are for sword, sword-sticks, hunters, daggers, etc. ;

(ii) even in the former group of pure cutlery articles, 2 units are exclusively for walking sticks, while 3 others are only for betel-nut crackers and scissors. Scissors are also manufactured by one unit which is primarily meant for swords (*Kripan*) ;

(iii) the 3 units manufacturing betel-nut crackers have special traditional characteristics in the use of 3 polishing instruments called *Chalna*, *Kurus Pathar* and *Maskala*, of which the details have already been recorded ;

6.10.2. The same table shows a picture of the craftsmen's household. These are :

(i) there are no Poddars in the betel-nut crackers group ; similarly, there are no Kandos in the groups for swords, hunters and vegetable-cutter ; there are Karmakars in all the types ;

(ii) there is, however, no restriction in taking helpers from any of the above 3 castes in any type of the units, although the distribution of units have been shown according to the caste of head of units.

6.10.3. It is seen from Table XI that :

(i) not in respect of all the above articles, these are to pass through various types of units for being processed until the goods are ready for sale ;

(ii) the betel-nut crackers, scissors, vegetable-cutters, knives, and walking sticks are manufactured in one and the same type of units where all necessary technical operations are done ;

(iii) only in the case of swords, daggers, sword-sticks and hunters, the articles are to pass through different types of units undertaking forging, fittings, finishing and polishing jobs separately ; of course, there are 4 units in this group out of 17, which are complete units.

6.11 Similar Products elsewhere

6.11.1. Besides Jhalda, cutlery are also produced in a number of places in West Bengal, of which Kanchannagar cutlery has long been famous and respectability. Knives and scissors made in the area are in demand all over West Bengal. According to a survey of cutlery industry in Burdwan, it appears that there are altogether 27 units spread over Kanchannagar in Burdwan

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town, and the police stations of Raina, Khandaghost, Galsi and Burdwan. In volume of production and in value Burdwan cutlery seem to be greater than that of Jhalda and quality better. The knives of Kanchannagar face competition from the products of Delhi, Aligarh and Madras in Calcutta Market, but there is hardly any competition from Jhalda products. Another interesting point to note is that in Jhalda there are 24 units concentrated within a mile, but there are only 9 units concentrated in Kanchannagar area.

6.11.2. The District Industrial Officer, Burdwan informed :

The Kanchannagar (about 5 Km. from Burdwan District Head Qrs.) cutlery artisans have been producing for the last 4 generations knives, scissors, razors, tea-garden implements, kitchen cutlery and surgical implements (the last item is not at present manufactured). The present number of artisans is 95. Fifty years back, there were 5 privately-worked units employing 300 people. During 1934-39 and immediately after the Second World War, there was slump in their business. It is reported that during this period, more than 200 persons have taken up other occupations. But still, the Kanchannagar knives (*Ma*, *Ajani*, *Kalamkata*, Pocket knives, Naider, Number one Pocket, Number 2 Pocket), scissors (*Napte*, *Kaparkata*, *Haler Kanchi*), razors and kitchen cutlery are used as utility products everywhere. A Co-operative Society has been formed with the artisans since 1954. Although the products have got good market, the limiting factor for good business is the steady supply of carbon steel, plastic and celluloid sheets at reasonable prices.

6.11.3. Facts about the Keshabpur (Police station Domjur, Dist. Howrah at a distance of 21 Km. from District Head Quarters and 6 Km. from Block Head Quarters) cutlery artisans show that they used to manufacture steel scissors for tailors, hair cutters and *biri*-makers for generations. There are four units engaging 8 artisans now. Sri Tulsi Charan Karmakar, Ratan Ch. Karmakar, Mahadev Karmakar and Balai Ch. Karmakar are good craftsmen. Although the descendants of the older artisans have taken up

alternative occupations none from the families of the above Karmakars have changed traditional work. It is learnt from the District Industrial Officer, Howrah that the products have got a good market ; here, therefore, the traditional skill can be maintained provided arrangements for the availability of quality raw materials can be made convenient for the artisans. Of course, a suitable organisation for rendering, technical and supplies' services will be very helpful.

6.12 Prospect of the Industry

6.12.1. There is no recorded statement showing the business transactions of all these units over time, so that any trend could be established or analysed. But, from the available data obtained during May-September, 1964, on the economy of the units, and if economy is any indication, it can be said that there is no possibility of any considerable expansion in the trade of sword-sticks, hunter and daggers. With better communication facilities and more contacts between places for various development programmes, we may guess that, though not in immediate future, but gradually, the effective demand, which is the limiting factor here for these articles, may show a diminishing trend. With a family size of (a) above 6 persons in 10 units out of 24 in cutlery groups and of (b) between 3 to 5 persons in 13 units in the same group and (c) with a monthly income, per unit, between Rs. 75.00 to Rs. 125.00 only in months of good business, we have reasons to believe that the persons in these families will come out of the parent units.

6.12.2. The name of Jhalda was so long associated with lac and swords ; lime-stone has now recently been added in the list. In the *mouzas* of Kudagara, Pakhabera, Ichatu, Digardih and Jabar, all belonging to the Jhalda Estate area, 20 years leases have been given to 4 parties for extraction of lime-stone deposits—[information obtained from the office of Additional Deputy Commissioner, Purulia]. It only suggests that the character of trade and commerce of Jhalda will get a new shape gradually, although livestock, lac, cutlery and *biri* will constitute the bulk of items.

WAY OF LIFE OF THE CRAFTSMEN 7

7.1 Residence and the Family Life

7.1.1. Most of the dwelling houses of the cutlery artisans have brick-built unplastered or earthen walls, country-tiled roof and earthen floor. On the other hand a few well-to-do artisans live in pucca buildings. The plinth height of the houses varies between 30 cm. and 60 cm. The area of the covered space in each house is about 30 Sq. M., divided into two rooms and a verandah. The verandah is used as kitchen and dining room. The dwelling rooms have doors, but rarely a window. Most of the houses are wanting in kitchen and latrine. The inhabitants are normally accustomed to use nearby fields and jungles for the latrine purpose. For children roadside drains and open lanes serve as latrine. Every house possesses a well from which water for drinking as well as for domestic purposes is collected.

7.1.2. In the Poddarpara where the cutlery artisans are mostly concentrated, there are two metalled roads on both sides of which rows of houses occupied by the Karmakars, the Poddars and the Kandos are seen packed together.

7.1.3. The family of the artisan consists of five members on an average and includes mainly wife, children and parents. In some cases, joint family system is in existence, but it is rapidly breaking down.

7.2 Education

The cutlery artisans have little or no education. Though primary education is received by some of them, higher education is rare. Nevertheless the Karmakars who have left their traditional profession and have recourse to other trade like cycle and watch repair, hardware business, stationery, etc., are educationally advanced. Among the artisans the Poddars are better placed in respect of education. At present, however, most of the artisans send their boys to school to get some education, but the boys have to help their parents in their workshop even during study hours. Female education is scarce.

7.3 Daily life

The working period of the artisans varies between eight and ten hours a day in slack and peak periods and, so the daily life is adjusted accordingly. He usually gets up between 5 and

6 o'clock in the morning and opens his workshop and starts work between 6 and 7 A.M. or he may go to the market to purchase raw materials required for his day's job. He takes his morning tiffin while in the workshop. He closes his work at noon, takes two to three hours time for mid-day meal and rest, and then again works till evening. Of course, mid-day recess and hours of work are adjusted in accordance with pressure of work, his health and other family factors. In the evening he goes to the market to buy household necessities and also, raw material for the next day, if his purse permit. During the peak period, however, the *paikars* gather at the door of the artisans who have to attend them particularly in the evening. After taking his meal usually before 9 P.M. he chats either with his friends and relatives or attends *Bhagawat* reading or *Nam Sankirtan*.

7.4 Marriage

7.4.1. The boys marry at fairly early age. Of course, some late marriage is not uncommon. With girls same is the case. In the past the bride-groom had to pay money to the bride's father on the occasion; in case of well-placed groom, of course, dowry system was prevalent. But now-a-days bride's father must give presents, cash or kind, to the groom.

7.4.2. Marriage is confined to own community people. Inter-caste marriage is never heard of in the area. In search of bride or bride-groom, the Jhalda Karmakars have to move to and enquire at a number of places in Bihar and West Bengal, where there is concentration of people of their own community.

7.4.3. Bankura, Bishnupur, Chitalpur, Purulia, Gola, Dhanbad, Ranchi, Singhbhum, Gaya, Chas, Chaibasa, Tatanagar, etc., are some of the places visited by the Karmakars for the purpose.

7.4.4. The Jhalda Karmakars write 'Karmakar' after their name, which serves the purpose of surname. But in Bihar area, some Karmakars use 'Sarma' or 'Lohar' as their family title.

7.4.5. The Poddars also have marriage connection in their own community. But while settling marriage, a Poddar groom having the surname 'Poddar' must select a bride from a family with different surnames, such as, Chanda, Dutt, De, Barat, etc. The system of marriage among the Kandos is more or less the same as the Karmakars.

WAY OF LIFE OF THE CRAFTSMEN

7.4.6. For settlement of marriage, the artisans, therefore, have to move beyond Jhalda to a number of places in West Bengal and Bihar. They also pay certain visits to Ranchi and Purulia for purchase of raw materials. Other occasions for visit to different fairs and *melas* are in connection with sale of their products, but this rarely happens.

7.4.7. *Satighata Mela* about 16 Km. from Jhalda is visited for a day by most of the artisans in the month of Pous. *Tulin Pous Mela* is another attraction. Some artisans, however, afford to travel to a number of distant *melas*, like Rathajatra Mela at Ranchi, Shibchaturdasi Mela at Bankura and Bishnupur and Pous Mela at Santiniketan.

7.5 Dietary Pattern

Besides the two principal meals which consist of *dal*, *bhat*, *roti* and *sabji*, the artisans' morning and evening tiffin comprises *muri* (fried rice), *chira* or *chapati* with tea. The usual practice is to take rice at noon and *atta* at night. This type of meal is common with males, females and children in all seasons of the year. Milk as an essential article of food for children, is wanting. Financially better, the Poddars afford to add fish or meat once or twice a week to their diet, whereas the Karmakars or the Kandos have meat or fish twice a month. During the period of soaring price of food grains, fish, meat, vegetables and other commodities of daily life, some of the artisans add the liquid portion of boiled rice to their daily diet.

7.6 Functions and Festivals

7.6.1. Besides marriage ceremony, *Annaprasan* and other social functions, *Annapurna Puja*, *Biswakarma Puja* and *Manasa Puja* are the three main religious festivals observed by the artisans.

7.6.2. Goddess *Annapurna* is the Divine Food-giver. Her worship coincides with *Basanti Puja* in the month of Chaitra. In the Poddarpara she is worshipped annually for four days with pomp and grandeur in her own temple by the Poddars while the Karmakars, the Kandos and others actively participate. *Jatras* and theatrical performances are organised on the occasion. The *puja* is followed by immersion ceremony. The Poddars observe a week's holiday during the festival.

7.6.3. *Viswakarma Puja*, next in importance, is organised and actively participated by the Karmakars and the Kandos on the last day of the Bengali month Bhadra, while the Poddars and others take part in it in various ways. The function which lasts for a day is followed by theatrical performance and immersion ceremony. All the artisans belonging to the three communities observe two days' holiday on the occasion. To the Karmakars the Divine Architect, *Viswakarma* must have a supreme position.

7.6.4. The surrounding hilly regions are infested with poisonous and deadly snakes particularly in the rainy season. The worship of *Manasa*, the goddess of snakes, is a month long festival and continues between the months of Sraban and Bhadra. The daily worship is followed by recitals and songs from the *Manasa Mangal*. The festival comes to a close with sacrifice of goat, ducks, pigeons, fruits and sometimes, fowls.

7.6.5. The worship of *Manasa* is very popular among the Kandos. Besides the *Sarbajanik Festival*, the *Mansa Mangal* is seen to be recited in many of their houses during the rainy months. They also worship the god *Ganesh*.

7.6.6. There is also the worship of *Gayatri* by the Brahmins and other festivals, such as *Durga Puja*, *Kali Puja*, *Sitala Puja* and *Saraswati Puja* in which the artisans also participate.

7.7 Inter-community Relation

7.7.1. The economic and social relation among the three artisan communities is guided by their similarity of profession, its problems and prospects. For years they live and grow together side by side in the same locality. So there is every likelihood of the existence of a common-based social equality. Economically weak, the Karmakar and the Kando artisans are to depend on the Poddars in various ways, but for superior craftsmanship the Poddar artisans are no less dependent on the Karmakars. Although inter-caste marriage among the three communities is not in vogue, inter-dining is not restricted. In social functions and festivals they actively participate together.

7.7.2. It is gathered that about 25 years ago, the artisan communities were treated as 'untouchables' by the Brahmins of the area, but now it has become a thing of the past. Though inter-dining is not still allowed, the artisan communities mix freely with the Brahmins and take

WAY OF LIFE OF THE CRAFTSMEN

part in their social and religious functions with certain restrictions. The Brahmins also attend the *pujas* and other social functions of the artisan communities. The Doms and the Ghasis who are inferior in social status due mainly to their profession also mix with the artisan communities without much restrictions.

7.8 Artisans Outside the Workshops--a few features

7.8.1. To any casual visitor, however, the artisan's area in Jhalda presents a compact picture of cottage units manufacturing different types of articles. Amongst the Karmakars, Poddars and Kandos, there are good personal relations extended over to family invitations also. The artisan-members of these castes have no social relations with those belonging to Dom, Ghasi and Mohamedans. Marriage relations are strictly restricted to the respective castes only. An interesting feature of the Karmakars is that, by marriage, they are connected with like-families in Ranchi, Hazaribagh, Lohardaga, Purulia, Bankura, Rani-gunj and Burdwan, but do not have any such connections with the Bengali Karmakar families.

7.8.2. The present temples of the Karmakars and the Poddars for Biswakarma and Annapurna respectively are located side by side at the junction of the three localities, Domkuli, Poddarpara and Sasthikuli. These temples were established in Bengali years of 1319 (for Biswakarma) and 1314 (for Annapurna) [it is 1371 now].

7.8.3. The one tank in this area of the artisans serve the families of all the castes (photo plate No. 14753). It is, further, pleasing to observe the women-folk of all these families bringing drinking water from and have bath early in the morning in the nearby river of Saldaha at a distance of about one Km., which flows south of Jhalda westwards.

7.9 Steps should be taken to create conditions of growth and to eliminate the present stress of unfavourable trading interests in the industry

7.9.1. Tradition is the products of skill turning out quality through generations. The framework of the local administrative set up in which the tradition was mainly nourished, has changed; but still, in their own way, the artisans have been maintaining an indigenous technology. If we are proud of those artisans who, without any training, could extract iron and manufacture guns and swords, we are equally so about the present artisans, who in current years, have been delivering

twists in the augers and the required sharpness and hardness on chisels and planes.

7.9.2. But we are afraid, how long their distinctiveness can be maintained in view of the present local economy controlling the operations with the furnace, grinding wheels and hammers. In the *modus operandi* of the cutlery units, the traders and the intermediate financing-cum-trading units have used the tradition in their favour. The possibility can not be ruled out if the distinctiveness of the craftsmen would wither away with the brunt of poverty of the primary producers. Local trading interests, low price-cost gap for the manufacturers, use of substandard raw materials for cheapening cost, problem of lean months, low wages, and the lack of adequate working capital with the units may erode the individual distinctiveness of the craftsmen in near future, although in the present range of products at Jhalda, quality is evident.

7.9.3. There are chances of the independent units being converted into workshop units to be completely managed by those few manufacturing units which have financing and trading functions also. In that case, the craftsmen will have reasons to sacrifice individual skill to the pressure of manufacturing articles according to specifications and within cost found to be most favourable for the key units. On the other hand, so long as the independent units will function, low wages in these units will not attract capable hands and new entrants; it is only natural then, that there will be fewer master-craftsmen in the circumstances.

7.9.4. It is high time that steps are taken to have such working programme for the Industrial Units there which will maintain and improve upon the traditional skill in the primary units and ensure better wages by stabilising employment opportunities. This may call for the re-organisation of a Co-operative Society there and the diversification of the lines of manufacture accompanied by such technological changes in the units which can be accommodated by the artisans. It may be worthwhile to try out different types of garden and forest implements (like *khurpi*, pick-axe, etc.), standard tailors' scissors, hand-tools and miscellaneous forging jobs, particularly railway coach parts and also to divert the sparable skill in machining, fittings and repair works through a phased training programme. Locally in the District, at Raghunathpur, Purulia and Jhalda and in the neighbouring industrial areas of Jamshedpur, Durgapur, Asansol, Kharagpur and Ranchi, the trained personnel may get employment in new lines.

APPENDICES

APPENDIX A
LIST OF CUTLERY CRAFTSMEN AT JHALDA, PURULIA

Name	Age	No. of Members in the Household	Articles made
1. Pravakar Karmakar	38	5	Knives
2. Sambhu Karmakar	20	3	Hunter, <i>Gupti</i> , Knives
3. Kalo Kando	32	6	Betel-nut crackers
4. Kanai Kando	32	7	Betel-nut crackers
5. Doman Karmakar	38	3	Betel-nut crackers, Daggers
6. Mathura Prosad Karmakar	22	4	Hunter, <i>Gupti</i> , Knives
7. Sankar Karmakar	55	1	<i>Gupti</i>
8. Rash Behari Poddar	40	8	Hunter, <i>Gupti</i>
9. Lala Babu Poddar	38	4	Hunter, <i>Gupti</i>
10. Jatil Poddar	22	3	Hunter, <i>Gupti</i>
11. Durgadas Poddar (since expired)	60	7	Hunter, <i>Gupti</i>
12. Prafulla Poddar	32	4	Hunter, <i>Gupti</i> (now only bamboo stick)
13. Lakshmi Ram Karmakar	45	4	Hunter, Betel-nut cracker, Vegetable cutters
14. Rakhahari Karmakar	44	6	Dagger, Cutter, Vegetable cutter
15. Nitya Hari Poddar	44	7	Hunter, <i>Gupti</i>
16. Kanailal Karmakar	45	5	Scissors, <i>Janti</i>
17. Gopal Karmakar	42	6	Scissors, Betel-nut cracker
18. Janaki Karmakar	44	6	Knives, Cutter, Hunter and <i>Gupti</i>
19. Dhruva Karmakar	46	5	Knives, Daggers
20. Rash Behari Karmakar	25	4	Hunter, <i>Gupti</i>
21. Chandi Poddar	28	4	Hunter, <i>Gupti</i>
22. Khudu Karmakar	..	..	Scissors
23. Kesto Karmakar	..	..	Scissors
24. Mohan Karmakar	36	..	Scissors

NOTE : Serial Nos. 1, 3, 4, 5, 8, 15 and 16 are the Sample Units.

At Begunkodar, Purulia :

1. Radhanath Karmakar	40	2	Betel-nut cracker, Knives, Vegetable cutter
2. Bholanath Karmakar	42	9	Betel-nut cracker, Knives, Vegetable cutter
3. Surendra Karmakar	55	2	Betel-nut cracker, Knives, Vegetable cutter
4. Upendra Karmakar	55	9	Betel-nut cracker, Knives, Vegetable cutter

APPENDIX B

LIST OF CUTLERY PRODUCTS OF JHALDA, PURULIA

- | | |
|--|--|
| 1. Knives of various shape and size (<i>Chaku</i>) | 7. Hunter |
| 2. Vegetable cutter (<i>Bati</i>) | 8. Daggers (<i>Chora</i>) |
| 3. Cutter of various shape and size (<i>Dao</i>) | 9. <i>Kripans</i> |
| 4. Scissors (<i>Kanchi</i>) | 10. Coconut scraper (<i>Narikel korani</i>) |
| 5. Betel-nut cracker (<i>Janti</i>) | 11. <i>Tungi, Tabla, Bhojali</i> |
| 6. Sword sticks (<i>Gupti</i>) | 12. Axe (<i>Kurul</i>), Spear-head (<i>Ballam</i>) |

APPENDIX C

LIST OF MAIN RAW MATERIALS

- | | |
|--|-----------------|
| 1. Spring steel scrap (<i>Garir Patti</i>) | 6. Bamboo poles |
| 2. Iron scrap | 7. Wood |
| 3. Brass sheets | 8. Coal |
| 4. Buffalo and Deer horn | 9. Lac |
| 5. Wires (iron and brass) | |

APPENDIX D

LIST OF TOOLS

- | | |
|-----------------|-------------------------------------|
| 1. Anvil | 11. Hand wheels |
| 2. Hammer | 12. Grinding wheels |
| 3. Files | 13. <i>Akoai</i> (local name) |
| 4. Saw | 14. <i>Dhash Saree</i> (local name) |
| 5. Chisel | 15. <i>Chenghi</i> (local name) |
| 6. Scissors | 16. Rail piece |
| 7. Tongs | 17. Iron wheel |
| 8. Hand borer | 18. Grinding and Polishing tools |
| 9. Centre punch | 19. <i>Challa</i> (local name) |
| 10. Hand blower | 20. <i>Tak</i> (local name) |

APPENDIX E

TEST REPORTS ON IRON ORES AND MAIN RAW MATERIALS*

- | | |
|---|--|
| 1. Black sandy material collected from <i>Bansa Pahar</i> :
(a) Iron content=47.4 per cent (approx)
(b) Total siliceous material=30 per cent (approx)
(c) Loss on drying at 105° C=0.04 per cent | 3. Brass :
Copper content=59.3 per cent |
| 2. Iron Ore (in lump) collected from a spot near <i>Bansa Pahar</i> :
(a) Iron content=48.3 per cent (approx)
(b) Total siliceous materials=21.1 per cent (approx)
(c) Loss on drying at 105° C=0.1 per cent | 4. Samples :
Rockwell Hardness Number at 150 kg. load in 'c' scale
(a) Spring steel 17.03°
(b) Soft iron —9°
—12°
—5° |

* Tests were carried out by Quality Marking Laboratory, Directorate of Industries, West Bengal.

APPENDIX F

BIOGRAPHY OF SHRI JATIL PODDAR, A NEW ENTRANT IN THE CUTLERY CRAFT

Shri Jatil Poddar is a youngman with sound physique. He comes from a Poddar family of Jhalda living in the Poddarpara. His present age is about 21 years. His father Shri Sakhi Chand Poddar worked as helper in a number of cutlery workshops and is still working.

After completing primary education, Jatil admitted himself in the local Higher Secondary School but could not proceed beyond Class VIII there for monetary difficulties. After leaving school, Jatil began earning as a helper in a hunter and *gupti*—workshop in the locality at the age of about 16. While working as a helper he learnt the technique of manufacture of hunter and *gupti* and started his own workshop in January, 1964. During these few months, Jatil has had a good earning. The workshop is situated in a portion of his own dwelling house. He now

employs one or sometimes two helpers in his workshop.

He buys forged blades for hunter at the rate of Rs. 2.00 per dozen and blades for *gupti* at the rate of Rs. 5.00 per dozen and fits these in bamboo or wood. He buys raw materials like bamboo poles, wood, brass, tin, shellac, etc. He has neither polishing nor forging arrangement of his own. After fitting he gets the blades polished in some other's units and for this, he is to spend Rs. 1.50 per dozen of hunter and Rs. 3.75 per dozen of *gupti*. He manufactures 6 hunters or 4-5 *gupti* per day.

According to him, for fitting a dozen of hunter, he requires two days. The following statement of income and expenditure will clarify his statement :

FOR FITTING ONE DOZEN OF HUNTER

Income	Rs. P.	Expenditure	Rs. P.
Wholesale price for a dozen of finished hunter	11.00	Cost of blades	2.00
		Cost of polishing charges	1.50
		Cost of bamboo	0.75
		Cost of brass	0.75
		Cost of shellac	0.25
		Cost of bamboo head	0.12
		Cost of coal, <i>Sohaga</i> , , etc.	0.37
		Total	5.74
Margin : Rs. 11.00—Rs. 5.74.—Rs. 5.26 for two days			

FOR FITTING ONE DOZEN OF GUPTI

Income	Rs. P.	Expenditure	Rs. P.
Wholesale price for a dozen of finished <i>gupti</i>	21.00	Cost of blades	5.00
		Cost of polishing charges	3.75
		Cost of bamboo	1.50
		Cost of bamboo head	0.12
		Cost of brass	1.00
		Cost of tin	0.12
		Cost of coal, shellac, <i>Sohaga</i> , etc.	1.00
		Total	12.49

Margin : Rs. 21.00—Rs. 12.49=Rs. 8.51 for 3 days.

Monthly income :

Per month of 25 working days=Rs. 65.75 (for hunter)

Per month of 25 working days=Rs. 70.75 (for *gupti*)

In both the cases, rent for the workshop, and depreciation charges of tools are not considered. If the rent is taken to be Rs. 5.00 per month and the depreciation charges of the tools to be Re. 1.00 per month income comes to be Rs. 59.75 for hunter and Rs. 64.75 for *gupti*. This income

seems to be reasonable. Of course, Jatil has to spend some amount for employing a helper occasionally. The value of total production is Rs. 175.00 (average) and he hopes a better future. He has no mind to change his trade. Jatil seems to be satisfied with his trade.

APPENDIX G

BIOGRAPHY OF SHRI GOPAL KARMAKAR, A MASTER-CRAFTSMAN OF JHALDA

Shri Gopal Karmakar is aged about 44 years. His father Late Lakshmi Narayan Karmakar who died at the age of about 57 was a good craftsman of the locality. Gopal Karmakar learnt the craft as he worked in his father's workshop while he was a boy. He read upto Class VIII, but due to pecuniary difficulties and due to the fact that in the past the lohars did not like that their sons would get higher education and would take recourse to service or other trade, his education was discontinued. So he took to cutlery production. The workshop he now possesses was owned by his father. At present he is having a good earning from his workshop.

He married about 20 years back and has three sons and three daughters. He lives in his own house at the Loharpara. The workshop near the

Jhalda Railway Station is owned by him. A portion of the house in which his workshop is situated is rented to some other person from whom he gets rent at the rate of Rs. 6.00 per month.

At present, Shri Gopal Karmakar's job is mainly forging. He sometimes makes *janti*, *boti*, knives, etc., on made to order basis.

He is of opinion that his sons should not engage themselves in cutlery production work unless they are compelled to do so. He likes that they should get proper education and engage themselves in service or any other better profession than cutlery.

According to his statement he earns about Rs. 150.00 p.m. from his workshop.

APPENDIX H

BIOGRAPHY OF SHRI JHARUDAS KARMAKAR, A NON-PRACTISING ARTISAN

Shri Jharudas Karmakar is aged about 65 years. He belongs to the Lohar Community. His father Late Dwariknath Karmakar had a workshop manufacturing carpentry tools and cutlery products.

Shri Jharudas Karmakar read upto Class IV. He then took his training in the Industrial School at Patna in the year 1924. Unfortunately he could not complete the training. After coming back home he began to work in his father's workshop. After the death of his father, he could not, however, continue his workshop and started a watch repair shop at Jhalda about 30 years back.

During the 2nd World War, he, in association

with his cousins started again a cutlery workshop at Jhalda, which continued for 7 years. But after that, due to some family difficulties and some misunderstanding amongst his cousins, the workshop was stopped about 16 years back. He, however, handed over the tools and other equipments to his cousins who started their own workshop separately.

At present, he earns about Rs. 100.00 from his watch repair shop. Now-a-days his son looks after his shop. He has got landed property from which the requirement of rice for his family consisting of 11 members is met. He is a well-to-do man and possesses a *pucca* building in the poddarpara.

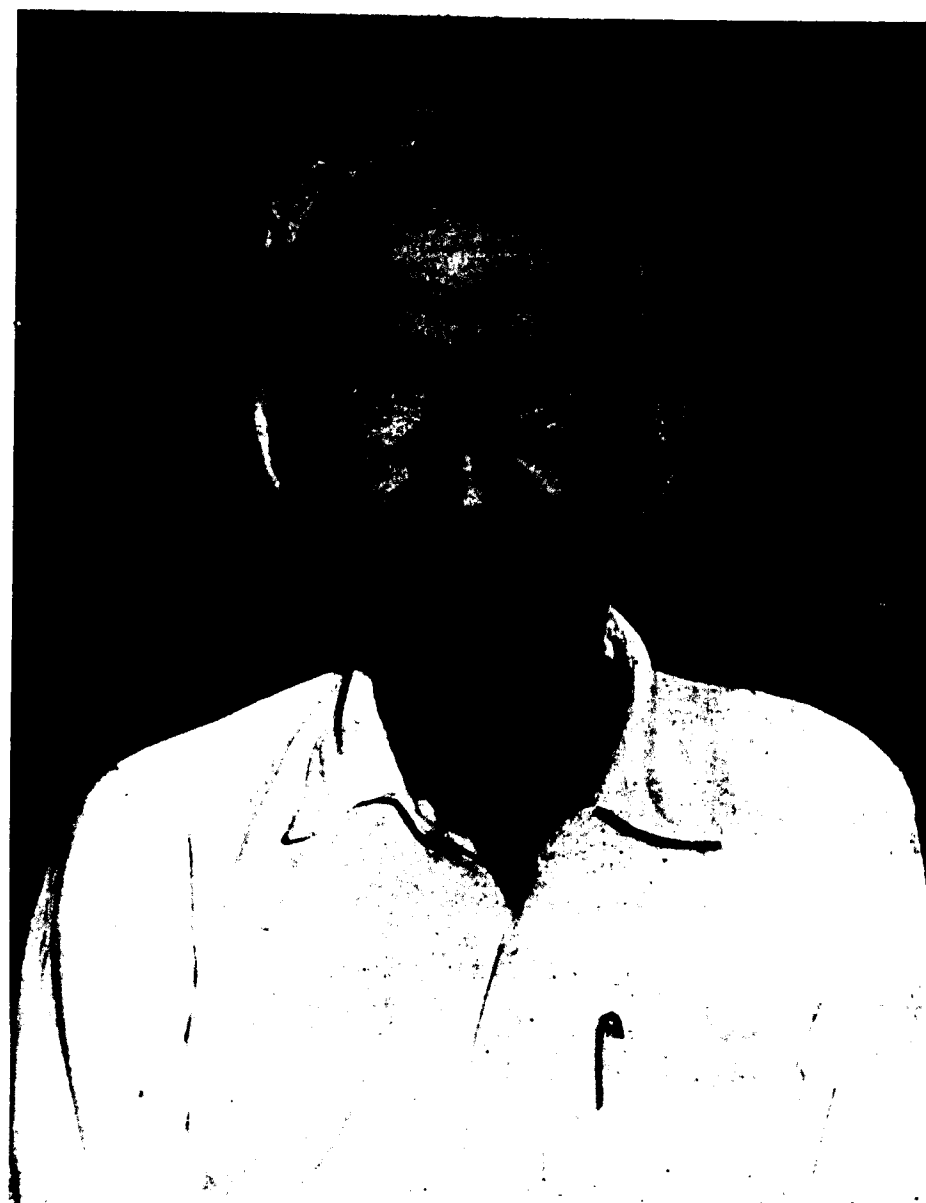


Sl. No. 29 (Photo Plate 14753)

The tank located in the eastern portion of Loharpara of Jhalda that serves the families of all castes. In the distant north-east is seen the Kapila hills.

(Para 7. 8. 3)

TABLES



Sl. No. 30 (Photo plate 14778)
Shri Shib Lal Karmakar (62), a master-craftsman of Jhalda.

TABLE VII
OCCUPATION OF PARENTS OF PRESENT HEADS OF UNITS
September, 1964

Parents pertaining to the <i>present</i> units of	Parents were engaged in						
	Manufacture of <i>Bhojali</i> , country-guns and swords	Manufacture of cutlery articles including sword-sticks	Manufacture of walking sticks	Manufacture of general smithy articles and agricultural implements	Business and work in lac	Other jobs	Agriculture
(i) Cutlery Group	1 (Karmakar)	7 (Karmakar-6, Poddar-1)	2 (Karmakar-1, Poddar-1)	4 (Karmakar)	8 (Poddar-6, Karmakar-2)	2 (Karmakar-1, Poddar-1)	..
(ii) General Smithy Group	..	..	..	4 (Karmakar)	..	..	..
(iii) Carpentry Tools Group	1 (Karmakar)	14 (Karmakar-13, Kando-1)	..	8 (Karmakar)	5 (Kando-4, Rajwar-1)	..	3 (Kando)
(iv) Mixed Group	..	3 (Karmakar)	..	..	..	..	..
	2 (Karmakar)	24 (Karmakar-22, Poddar-1, Kando-1)	2 (Karmakar-1, Poddar-1)	16 (Karmakar)	13 (Poddar-6, Kando-6, Rajwar-1)	2 (Karmakar-1, Poddar-1)	3 (Kando)

TABLE VIII
IRON AND STEEL WORKS' UNITS OF JHALDA (PURULIA)

September, 1964

Total Number of Units : 62

	Cutlery Group	Smithy Group (manufactur- ing agricul- tural and household implements)	Carpentry Tools Group	Mixed Group	Total
1. Total Number of Units	24	4	31	3	62
2. Persons employed	58	9	120	8	195
3. Age-group of Head of Units					
(i) between 20 - 25	3	0	3	1	7
(ii) between 26 -35	5	0	10	0	15
(iii) between 36-45	10	4	10	2	26
(iv) between 46 and above	6	0	8	..	14
	24	4	31	3	62
4. Dependents in Families of Heads of Units :					
(i) 1-2	1	0	2	1	4
(ii) 3-5	13	3	16	2	34
(iii) 6 and above	10	1	13	..	24
	24	4	31	3	62
5. Caste of Heads of Units :					
(i) Karmakar (Hindu)	13	4	22	3	42
(ii) Kando (Hindu)	2	0	8	..	10
(iii) Poddar (Hindu)	9	0	..	..	9
(iv) Rajwar (Hindu)	..	0	1	..	1
	24	4	31	3	62
6. Location of Workshop :					
(i) At Poddar 'Para' (area)	15	1	13	1	30
(ii) At Dom 'Para' (area)	2	0	5	0	7
(iii) On Main Road (Purulia-Ranchi Road via Jhalda)	3	3	12	1	19
(iv) In adjoining 'Para' (area) [Ojha Kuli (1), Station Road (1), Kumarkuli (2)]	4	0	1	1	6
	24	4	31	3	62

TABLE IX
CLASSIFICATION OF CUTLERY UNITS ACCORDING TO THEIR FUNCTIONS

September, 1964

(A) Units for Forging only	(B) Units for Fittings and Finishing of Forged materials (minus polishing)	(C) Units for Fittings and Finishing of Forged mate- rials (with polishing)	(D) Units for Polishing and Finishing	(E) Units undertaking all functions from Forging to Finishing
1. Rakshahari Karmakar with 1 helper (3 Mixed type Units of Mitani Karmakar, Rash Behari Kar- makar, Kanai Lal Karmakar also do forging)	1. Sambhu Karmakar with 1 helper 2. Mathura Karmakar with no helper 3. Rash Behari Karmakar with 2 helpers 4. Lala Babu Poddar with no helper 5. Jatil Poddar with 1 helper 6. Chandri Poddar with 4 helpers 7. Hari Poddar with 1 helper	1. Nanda Kishore Pod- dar does not work himself, 4 helpers 2. Nitya Poddar with 5 helpers 3. Dhruva Karmakar with 1 helper	1. Guiram Karmakar with 2 helpers 2. Parikshit Poddar with 1 helper	1. Pravakar Karmakar with 1 helper 2. Daman Karmakar with no helper 3. Sankar Karmakar with no helper 4. Gopal Karmakar with 1 helper 5. Kesto Karmakar with 1 helper 6. Gour Karmakar with 1 helper 7. Madan Karmakar with 1 helper 8. Prafulla Poddar with 1 helper 9. Lakshmiram Poddar with 1 helper 10. Kalo Kando with 2 helpers 11. Kanai Kando with 1 helper

Summary				Caste-wise Classification			
Type of Units	Heads of Units (Artisans No.)	Helpers (No.)	Total Employment (No.)	Type	Karmakar Units (No.)	Poddar Units (No.)	Kando Units (No.)
A	1	1	2	A	1	..	..
B	7	10	17	B	3	4	..
C	3	10	13	C	1	2	..
D	2	3	5	D	1	1	..
E	11	10	21	E	7	2	2
	24	34	58		13	9	2
					=24 units		

TABLE X
DISTRIBUTION OF CUTLERY UNITS ACCORDING TO THEIR TYPE OF PRODUCTIONS
September, 1964

Type of Articles	Number of Units involved			
	Karmakar	Poddar	Kando	Total
(i) Betel-nut cracker and Scissors	1	..	2	3
(ii) Knife, Vegetable-cutter and miscellaneous cutlery	1	1	..	2
(iii) <i>Gupti</i> , Hunter, Swords, Dagger, <i>Tungi</i>	10	7	..	17
(iv) Walking Stick -	1	1	..	2
	13	9	2	24

TABLE XI
PATTERN OF MANUFACTURE OF DIFFERENT TYPES OF ARTICLES

Type of Articles Produced	Pass through Units of Functional Type				
	A	B	C	D	E
(i) Betel-nut cracker and Scissors	..	..	..	..	3
(ii) Knife, Vegetable-cutter	..	..	..	..	2
(iii) <i>Gupti</i> , Hunter, Swords, Daggers	1	7	3	2	4
				(1 unit also polishes vegetable-cutter)	
(iv) Walking Stick					2
					24

TABLE XII
COMPARATIVE INCOME RATES IN CUTLERY UNITS
A. Forging Units (Cutlery)

	Average Capacity per day with 1 artisan and 1 helper	*Rate of forging cost and wage for forged material	**Value of forged material in a day	Value of finished material when sold to ultimate consumers and middlemen after fittings and finishing
		Rs.	Rs.	Rs.
(i) <i>Blades of Swords</i> —				
(a) Mild steel	4 pieces	1.50 per piece	6.00	10.00 per piece
(b) Steel	3 „	2.00 „	6.00	20.00 „
(ii) <i>Blades of Hunter</i> —				
(a) Mild steel	4 doz.	1.00 per doz.	4.00	11.00 per doz
(b) Steel	2 „	2.00 „	4.00	15.00 „
(iii) <i>Blades of Gupti</i> —				
(a) Mild steel	2 doz.	3.00 per doz.	6.00	22.00 per doz.
(b) Steel	1½ „	4.50 „	6.75	50.00 „

*Paid by Units to which Forging Units supply forged materials.

**Charges are inclusive of Helpers' pay and cost of coal and contingencies borne by head of Forging Units, which constitute almost 50 per cent; i.e., artisan gets at the rate of Rs. 2.00 to 3.37 per day.

TABLE XII—contd.
B. Units for Fitting and Finishing of Forged Materials (minus polishing)

	Capacity per day	Value of finished material	Income of head of Units excluding helpers' pay, cost of forged raw materials, charges for polishing, etc.
		Rs.	Rs.
Units of 1 artisan with 2 helpers	16 pieces of Hunter (Mild steel) or 8 pieces of <i>Gupti</i> (Mild steel)	14.00 per doz. 13.37 per doz.	About Rs. 4.00—5.00 per day

C. Units for Fittings and Finishing of Forged Materials (including polishing)

	Capacity per day	Value of finished material	Income of head of units excluding 4 workdrs' pay for finishing and polishing, cost of forged materials, other contingent charges, etc.
		Rs.	Rs.
Units of 4 workers excluding head of Units	15 pieces of Hunter (Mild steel) or 8 pieces of <i>Gupti</i> (Mild steel)	13.75	About Rs. 4.00—3.50 per day

D. Units for Polishing and Finishing

	Capacity per day	Polishing charges received	Income of artisan excluding wages of helper, raw materials for work, etc., per day
		Rs.	Rs.
Units of 1 artisan and 1 helper	4 doz. Hunter (Mild steel) or 2 doz. <i>Gupti</i> (Mild steel)	6.00 7.50	About 3.00 About 3.25

E. Complete Units of Betel-nut

	Capacity per day	Value of finished material	Income of artisan excluding helpers' pay, raw materials, etc.
		Rs.	Rs.
Units of 1 artisan with 1 helper	2 doz.	6.50	About 2.60 per day.

Charges for Forging in Carpentry Tools' Units

	Rates	Average capacity per day of artisan and one helper	Value of forged material	Sale-value of finished material
	Rs.		Rs.	Rs.
(i) 63 Auger	6.00—7.50 per doz. depending on specifications.	14—18 pieces	8.75—9.00	13.00—18.00 per doz.
(ii) Bevel Chisel Mortise Firmer	3.00—5.00 per doz. depending on specifications.	18—24 „	6.00—7.50	8.00—12.00 „
(iii) Planes	3.62—3.87 per doz. depending on specifications.	18—24 „	5.80—7.25	7.00—10.00 „

TABLE XIII
LIST OF CARPENTRY TOOLS' UNITS
September, 1964

Serial
No. Name of Head of Unit

1. Shri Bhutu Karmakar
2. „ Jagat Karmakar
3. „ Mahadev Karmakar
4. „ Krista Karmakar
5. „ Ratan Karmakar
6. „ Debilal Karmakar
7. „ Kalipada Karmakar
8. „ Durgadas Karmakar
9. „ Balaram Karmakar
10. „ Ram Chandra Karmakar
11. „ Ratnakar Karmakar
12. „ Janaki Karmakar
13. „ Bitu Karmakar
14. „ Gour Karmakar
15. „ Sambhu Karmakar
16. „ Matilal Karmakar
17. „ Amulya Karmakar
18. „ Nanu Karmakar
19. „ Sankar Karmakar
20. „ Golak Karmakar
21. „ Barun Karmakar
22. „ Budhu Karmakar
23. „ Ramen Kando
24. „ Jyoti Kando
25. „ Habu Kando
26. „ Ratan Kando
27. „ Mitran Kando
28. „ Srishthi Kando
29. „ Hari Kando
30. „ Mati Kando
31. „ Narayan Rajwar

Articles of manufacture
Augers, Chisels, Planes, Pruning Knives
for Tea Gardens

Deliveries to
Madras, Ranchi, Burdwan, Durgapur,
Rourkella, Chakradharpur, Chaibansa,
Jabalpur, Cuttack, Bilaspur, etc.

Units having oil engines
No. No. of Engines
8 9
All belong to Karmakar Units and none
to Kando Units

Stages of manufacture
Forging, First Grinding for elimination
of roughness. Heat treatment for effecting
hardness, Second grinding, Fittings and
Polishing

TABLE XIII—contd.
LIST OF SMITHY UNITS

Serial
No. Name of Head of Unit

1. Shri Khudu Karmakar
2. „ Mati Karmakar
3. „ Sankar Karmakar
4. „ Manasa Karmakar

LIST OF MIXED UNITS

1. Shri Rashbehari Karmakar
2. „ Mitran Karmakar
3. „ Kanailal Karmakar

TABLE XIV
ACCOMMODATION OF CUTLERY UNITS
September, 1964

	Karmakar Units	Poddar Units	Kando Units	Total
(i) Workshops attached with residence	7 (1 rented)	7 (4 rented)	2	16
(ii) Workshops <i>not</i> attached with residence	6 (all rented)	2 (all rented)	..	8
	13	9	2	24
(a) Total rented units	=13			
(b) Total unrented units	=11			
	24			

TABLE XV

LIST OF OTHER KARMAKARS, NOW ENGAGED IN ALTERNATIVE OCCUPATION

September, 1964

Serial No.	Name and Local Address	His Age	Occupation of his Father	His previous Occupation	When left	His present Occupation
1.	Shri Radhyasam Karmakar, Main Road	52	Cutlery	Cutlery	30 years back	Stationery shop
2.	„ Haripada Karmakar, Main Road	60	„	„	35 „	„
3.	„ Gour Karmakar, Poddarpara	50	„	„	20 „	Teacher in Primary School
4.	„ Jharu Karmakar, Poddarpara	60	„	„	30 „	Watch-maker
5.	„ Nilmoni Karmakar, Poddarpara	52	„	Cycle repairing	10 „	„
6.	„ Prabhu Das Karmakar, Sasthikuli	55	„	Shop of hardware goods	10 „	„
7.	„ Mohit Karmakar, Sasthikuli	22	„	„	„	Student in Purulia Polytechnic
8.	„ Jogendra Karmakar, Sasthikuli	50	„	Cutlery	22 „	Hardware shop
9.	„ Santosh Karmakar, Sasthikuli	24	„	„	„	Cycle repairing
10.	„ Sasadhar Karmakar, B.Sc. (Ag), Sasthikuli	32	Hardware shop	„	„	Govt. employee
11.	„ Durgapada Karmakar (Matriculate)	25	„	„	„	Show stall
12.	„ Dhiren Karmakar (passed Mining Engineering this year), Sasthikuli	27	„	„	„	„
13.	„ Basanta Karmakar, Sasthikuli (passed from Purulia Polytechnic in 1963)	21	„	„	„	„
14.	„ Bhola Karmakar (Matriculate), Main Road	30	Stationery shop	„	„	Shop keeper
15.	„ Nirmal Karmakar, Sasthikuli	22	„	„	„	„
16.	„ Dhiren Karmakar, Main Road	28	„	„	„	Student in Calcutta Medical College (5th year)

TABLE XVI

OCCUPATION OF OTHER KANDOS, NOT ENGAGED IN IRON AND STEEL WORKS

September, 1964

Biri-making	Lac work	Chira-making	Grocery	Sweet-meat shop	Ricksaw-puller	Other shops	Bell-metal	Cycle repairing	Total
100	60	40	10	10	10	10	5	2	247

TABLE XVII

OCCUPATION OF OTHER PODDARS, NOT ENGAGED IN IRON AND STEEL WORKS

September, 1964

Gold/Silver smithy	Grocery and other shops	Dealers in Gold and Silver	Total
138	21	19	178

LIST OF AGENTS FOR THE SALE OF GOVERNMENT OF INDIA PUBLICATIONS
(as on 17 February, 1964)

AGARTALA —Laxmi Bhandar Books & Scientific Sales (Rest.)	BHOPAL —
AGRA —	1 Superintendent, State Government Press (Reg.)
1 National Book House, Jeoni Mandi (Reg.)	2 Lyall Book Depot, Mohd. Din Bldg., Sultania Road (Reg.)
2 Wadhawa & Co., 45, Civil Lines (Reg.)	3 Delite Books, Opp. Bhopal Talkies (Rest.)
3 Banwari Lal Jain, Publishers, Moti Katra (Rest.)	BHUBANESWAR —Ekamra Vidyahaban, Eastern Tower, Room No. 3 (Rest.)
4 English Book Depot, Sadar Bazar, Agra Cantt. (Rest.)	BIJAPUR —Shri D. V. Deshpande, Recognised Law Booksellers, Prop., Vinod Book Depot, Near Shiralshetti Chowk (Rest.)
AHMADNAGAR —V. T. Jorakar, Prop., Rama General Stores, Navi Path (Rest.)	BIKANER —Bhandani Bros. (Rest.)
AHMEDABAD —	BILASPUR —Sharma Book Stall, Sadar Bazar (Rest.)
1 Balgovind Kuber Dass & Co., Gandhi Road (Reg.)	BOMBAY —
2 Chandra Kant Chiman Lal Vora, Gandhi Road (Reg.)	1 Supdt., Printing and Stationery, Queens Road (Reg.)
3 New Order Book Co., Ellis Bridge (Reg.)	2 Charles Lambert and Co., 101, Mahatma Gandhi Road (Reg.)
4 Mahajan Bros., Opp. Khadia Police Gate (Rest.)	3 Co-operator's Book Depot, 5/32, Ahmed Sallor Bldg., Dadar (Reg.)
5 Sastu Kitab Ghar, Near Relief Talkies, Patthar Kuva, Relief Road (Reg.)	4 Current Book House, Maruti Lane, Raghunath Dadaji St. (Reg.)
AJMER —	5 Current Technical Literature Co. P. Ltd., India House, 1st Floor (Reg.)
1 Book-Land, 663, Madar Gate (Reg.)	6 International Book House Ltd., 9, Ash Lane, M.G. Road (Reg.)
2 Rajputana Book House, Station Road (Reg.)	7 Lakkami Book Depot, Girgaum (Reg.)
3 Law Book House, 271, Hathl Bhata (Reg.)	8 Elpees Agencies, 24, Bhangwadi, Kalbadevi (Reg.)
4 Vijay Bros., Kutchery Road (Rest.)	9 P. P. H. Book Stall, 190-B, Khetwadi Main Road (Reg.)
5 Krishna Bros., Kutchery Road (Rest.)	10 New Book Co., 188-190, Dr. Dadabhai Naoroji Road (Reg.)
ALIGARH —Friends' Book House, Muslim University Market (Reg.)	11 Popular Book Depot, Lamington Road (Reg.)
ALLAHABAD	12 Sunder Das Gian Chand, 601, Girgaum Road, Near Princess Street (Reg.)
1 Superintendent, Printing & Stationery, U.P. (Reg.)	13 D. B. Taraporewala Sons and Co. (P) Ltd., 210, Dr. Dadabhai Naoroji Road (Reg.)
2 Kitabistan, 17-A, Kamla Nehru Road (Reg.)	14 Thacker and Co., Rampart Row (Reg.)
3 Law Book Co., Sardar Patel Marg, P. Box 4 (Reg.)	15 N. M. Tripathi Private Ltd., Princess Street (Reg.)
4 Ram Narain Lal Beni Modho, 2-A, Katra Road (Reg.)	16 The Kothari Book Depot, King Edward Road (Reg.)
5 Universal Book Co., 20, M.G. Road (Reg.)	17 P. H. Rama Krishna and Sons, 147, Rajaram Bhuvan, Shivaji Park Road No. 6 (Rest.)
6 The University Book Agency (of Lahore), Elgin Road (Reg.)	18 C. Jamnadas and Co., Booksellers, 146-C, Princess St. (Reg.)
7 Wadhawa & Co., 23, M.G. Marg (Rest.)	19 Indo Nath and Co., A-6, Daulat Nagar Borivli (Reg.)
8 Bharat Law House, 15, Mahatma Gandhi Marg (Rest.)	20 Minerva Book Shop, Shop No. 1/80, N. Subhas Road (Reg.)
9 Ram Narain Lal Beni Prashad, 2-A, Katra Road (Rest.)	21 Academic Book Co., Association Building, Girgaum Road (Rest.)
AMBALA —	22 Dominion Publishers, 23, Bell Building, Sir P.M. Road (Rest.)
1 English Book Depot, Ambala Cantt. (Reg.)	23 Bombay National History Society, 91, Walkeshwar Road (Rest.)
2 Seth Law House, 8719, Railway Road, Ambala Cantt. (Rest.)	24 Dowamadeo and Co., 16, Nazrin Building, Ballard Estate (Rest.)
AMRITSAR —	25 Asian Trading Co., 310, the Miraball, P.B. 1505 (Rest.)
1 The Law Book Agency, G. T. Road, Putligarh (Reg.)	CALCUTTA —
2 S. Gupta, Agent, Government Publications, Near P.O. Majith Mandi (Reg.)	1 Chatterjee and Co., 3/1, Bacharam Chatterjee Lane (Reg.)
3 Amar Nath & Sons, Near P.O. Majith Mandi (Reg.)	2 Dasz Gupta and Co. Ltd., 54/3, College Street (Reg.)
ANAND —	3 Hindu Library, 69-A, Bolaram De Street (Reg.)
1 Vijaya Stores, Station Road (Rest.)	4 S.K. Lahiri and Co. Private Ltd., College Street (Reg.)
2 Charto Book Stall, Tulsi Sadan, Stn. Road (Rest.)	5 M.C. Sarkar and Sons Private Ltd., 14, Bankim Chatterjee Street (Reg.)
ASANSOL —D. N. Roy & R. K. Roy, Booksellers, Atwal Building (Rest.)	6 W. Newman and Co. Ltd., 3, Old Court House Street (Reg.)
BANGALORE —	7 Oxford Book and Stationery Co., 17, Park Street (Reg.)
1 The Bangalore Legal Practitioner Co-op. Society Ltd., Bar Association Building (Reg.)	8 R. Chambray and Co. Ltd., Kent House, P. 33, Mission Road Extension (Reg.)
2 S. S. Book Emporium, 118, Mount Joy Road (Reg.)	9 S.C. Sarkar and Sons Private Ltd., 1C, College Square (Reg.)
3 The Bangalore Press, Lake View, Mysore Road, P.O. Box 507 (Reg.)	10 Thacker Spink and Co. (1933) P. Ltd., 3, Esplanade East (Reg.)
4 The Standard Book Depot, Avenue Road (Reg.)	11 Firma K. L. Mukhopadhyaya, 6/1A, Banchoa Ram Akur Lane (Reg.)
5 Vichara Sahitya Private Ltd., Balepet (Reg.)	12 K.K. Roy, P. Box No. 10210, Calcutta-19 (Rest.)
6 Makkala Pustaka Press, Balamandira, Gandhinagar (Reg.)	13 Sm. P.D. Upadhyay, 77, Muktarani Babu Street (Rest.)
7 Maruthi Book Depot, Avenue Road (Rest.)	14 Universal Book Dist., 8/2, Hastings Street (Rest.)
8 International Book House P. Ltd., 4-F, Mahatma Gandhi Road (Reg.)	15 Modern Book Depot, 9, Chowringhee Centre (Rest.)
9 Navakarnataka Pubns. Private Ltd., Majestic Circle (Rest.)	16 Soor and Co., 125, Canning Street (Reg.)
BAREILLY —Agarwal Brothers, Baza Bazar (Reg.)	17 S. Bhattacharjee, 49, Dharanitala Street (Rest.)
BARODA —	18 Mukherjee Library, 10, Sarba Khan Road (Reg.)
1 Shri Chandrakant Mohan Lal Shah, Raopura (Rest.)	19 Current Literature Co., 208, Mahatma Gandhi Road (Reg.)
2 Good Companions Booksellers, Publishers & Sub-Agent (Rest.)	20 The Book Depository, 4/1, Madan Street (1st Floor) (Rest.)
3 New Medical Book House, 540, Madan Zampa Road (Rest.)	21 Scientific Book Agency, Netaji Subhas Road (Rest.)
BELGAUM —The Secretary, S.D. College, Co-operative Stores Ltd. (Rest.)	22 Reliance Trading Co., 17/1 Banku Bihari Ghose Lane, District Howrah (Rest.)
BELGHARIA —Granthlok, Antiquarian Booksellers & Publishers (24-Parganas), 5/1 Ambica Mukherjee Road (Reg.)	23 Indian Book Dist. Co., 6512, Mahatma Gandhi Road (Rest.)
BHAGALPUR —Paper Stationery Stores, D. N. Singh Road (Reg.)	CALICUT —Touring Book Stall (Rest.)

(ii)

CHANDIGARH—

- 1 Supdt., Govt. Printing and Stationery, Punjab
- 2 Jain Law Agency, Flat No. 8, Sector No. 22 . . . (Reg.)
- 3 Rama News Agency Bookseller, Sector No. 22 . . . (Reg.)
- 4 Universal Book Store, Booth 25, Sector 22 D . . . (Reg.)
- 5 English Book Shop, 34, Sector 22 D . . . (Rest.)
- 6 Mehta Bros., 15-Z, Sector 22 B . . . (Rest.)
- 7 Tandan Book Depot, Shopping Centre, Sector 16 . . . (Rest.)
- 8 Kailash Law Publishers, Sector 22 B . . . (Rest.)

CHHINDWARA—The Verma Book Depot . . . (Rest.)

COCHIN—Saraswat Corporation Ltd., Palliarakav Road . . (Reg.)

CUTTACK—

- 1 Press Officer, Orissa Sectt.
- 2 Outtack Law Times . . . (Reg.)
- 3 Prabhat K. Mahapatra, Mangalabag, P.B. 35 . . . (Reg.)
- 4 D.P. Sur & Sons, Mangalabag . . . (Rest.)
- 5 Utikal Stores, Balu Bazar . . . (Rest.)

DHRAADUN—

- 1 Jugal Kishore & Co., Rajpur Road . . . (Reg.)
- 2 National News Agency, Paltan Bazar . . . (Reg.)
- 3 Bishan Singh and Mahendra Pal Singh, 318, Chukhuwala . . (Reg.)
- 4 Utam Pustak Bhandar, Paltan Bazar . . . (Rest.)

DELHI—

- 1 J. M. Jaina & Brothers, Mori Gate . . . (Reg.)
- 2 Atma Ram & Sons, Kashmere Gate . . . (Reg.)
- 3 Federal Law Book Depot, Kashmere Gate . . . (Reg.)
- 4 Bahri Bros., 188, Lalpat Rai Market . . . (Reg.)
- 5 Bawa Harkishan Dass Bedi (Vijaya General Agencies) P.B. No. 2027, Ahata Kedara, Chamailan Road . . . (Reg.)
- 6 Book-Well, 4, Sant Narankari Colony, P.B. 1565 . . . (Reg.)
- 7 Imperial Publishing Co., 3, Faiz Bazar, Daryaganj . . . (Reg.)
- 8 Metropolitan Book Co., 1, Faiz Bazar . . . (Reg.)
- 9 Publication Centre, Subsimandi . . . (Reg.)
- 10 Youngman & Co., Nai Sarak . . . (Reg.)
- 11 Indian Army Book Depot, 3, Daryaganj . . . (Reg.)
- 12 All India Educational Supply Co., Shri Ram Buildings, Jawahar Nagar . . . (Rest.)
- 13 Dhanwant Medical & Law Book House, 1522, Lalpat Rai Market . . . (Rest.)
- 14 University Book House, 15, U. B. Bangalore Road, Jawahar Nagar . . . (Rest.)
- 15 Law Literature House, 2646, Balimaran . . . (Rest.)
- 16 Summer Brothers, P.O. Birla Lines . . . (Rest.)
- 17 Universal Book & Stationery Co., 16, Netaji Subhash Marg . . . (Reg.)
- 18 B. Nath & Bros., 3808, Charakhawalan (Chowri Bazar) . . (Rest.)
- 19 Rajkamal Prakashan P. Ltd., 8, Faiz Bazar . . . (Reg.)
- 20 Premier Book Co., Printers, Publishers & Booksellers, Nai Sarak . . . (Rest.)
- 21 Universal Book Traders, 80, Gokhale Market . . . (Reg.)
- 22 Tech. & Commercial Book Coy., 75, Gokhale Market . . (Rest.)
- 23 Saini Law Publishing Co., 1416, Chabiganj, Kashmere Gate . . . (Rest.)
- 24 G.M. Ahuja, Booksellers & Stationers, 309, Nehru Bazar . . (Rest.)
- 25 Sat Narain & Sons, 3141, Mohd. Ali Bazar, Mori Gate . . (Reg.)
- 26 Kitab Mahal (Wholesale Div.) P. Ltd., 28, Faiz Bazar . . (Reg.)
- 27 Hindu Sahitya Sansar, Nai Sarak . . . (Rest.)
- 28 Munshi Ram Manohar Lal, Oriental Booksellers & Publishers, P.B. 1165, Nai Sarak . . . (Rest.)
- 29 K.L. Seth, Suppliers of Law, Commercial Tech. Books, Shanti Nagar, Ganeshpura . . . (Rest.)
- 30 Adarsh Publishing Service, 5A/10, Ansari Road . . . (Rest.)

DHANBAD—

- 1 Ismag Co-operative Stores Ltd., P.O. Indian School of Mines . . . (Reg.)
- 2 New Sketch Press, Post Box 26 . . . (Rest.)

DHARWAR—

- 1 The Agricultural College Consumers Co-op. Society . . (Rest.)
- 2 Rameshaya Book Depot, Subhas Road . . . (Rest.)
- 3 Karnatakaya Sahitya Mandira of Publishers and Booksellers . . .

KENDAKULAM—

- 1 Pai & Co., Cloth Bazar Road . . . (Rest.)
- 2 South India Traders, O/o. Constitutional Journal . . . (Reg.)

FEROZEPUR—English Book Depot, 78, Jhoke Road . . . (Reg.)
 GAUHATI—Mokshada Pustakalaya . . . (Reg.)
 GAYA—Sahitya Sadan, Gautam Budha Marg . . . (Reg.)
 GHAZIABAD—Jayana Book Agency . . . (Rest.)
 GORAKHPUR—Vishwa Vidyalaya Prakashan, Nakhes Road . . (Reg.)
 GUDUR—The General Manager, The N.D.C. Publishing & Ptg. Society Ltd. . . . (Rest.)

GUNTUR—Book Lovers Private Ltd., Kadriguda, Chowrasta (Reg.)

GWALIOR—

- 1 Supdt., Printing & Stationery, M.B.
- 2 Loyal Book Depot, Patankar Bazar, Laashkar . . . (Reg.)
- 3 M.C. Daftari, Prop. M. B. Jain & Bros., Booksellers, Sarafa, Laashkar . . . (Rest.)

HUBLI—Pervaje's Book House, Kopplkar Road . . . (Reg.)

HYDERABAD—

- 1 Director, Govt. Press
- 2 The Swaraj Book Depot, Lakdikapul . . . (Reg.)
- 3 Book Lovers Private Ltd. . . . (Rest.)
- 4 Labour Law Publications, 873, Sultan Bazar . . . (Rest.)

IMPHAL—Tikendra & Sons, Bookseller . . . (Rest.)

INDORE—

- 1 Wadhawa & Co., 56, M.G. Road . . . (Reg.)
- 2 Swarup Brother's, Khajuri Bazar . . . (Rest.)
- 3 Madhya Pradesh Book Centre, 41, Ahilya Pura . . . (Rest.)
- 4 Modern Book House, Shiv Vilas Palace . . . (Rest.)
- 5 Navyug Sahitya Sadan, Publishers & Booksellers, 10, Khajuri Bazar . . . (Rest.)

JABALPUR—

- 1 Modern Book House, 286, Jawaharganj . . . (Reg.)
- 2 National Book House, 156, Jai Prakash Narain Marg . . (R.)

JAIPUR—

- 1 Government Printing and Stationery Department, Rajasthan . .
- 2 Bharat Law House, Booksellers & Publishers, Opp. Prem Prakash Cinema . . . (Reg.)
- 3 Garg Book Co., Tripolia Bazar . . . (Reg.)
- 4 Vanimandir, Sawai Mansingh Highway . . . (Reg.)
- 5 Kalyan Mal & Sons, Tripolia Bazar . . . (Reg.)
- 6 Popular Book Depot, Chaura Basti . . . (Rest.)
- 7 Krishna Book Depot, Chaura Basti . . . (Rest.)
- 8 Dominion Law Depot, Shah Building, P.B. No. 23 . . . (Rest.)

JAMNAGAR—Swadeshi Vastu Bhandar . . . (Reg.)

JAMSHEDPUR—

- 1 Amar Kitab Ghar, Diagonal Road, P.B. 78 . . . (Reg.)
- 2 Gupta Stores, Dhatkidih . . . (Reg.)
- 3 Sanyal Bros., Booksellers & News Agents, Bistapur Market . . . (Rest.)

JAWALAPUR—Sahyog Book Depot . . . (Rest.)

JHUNJHUNU—

- 1 Shashi Kumar Sarat Chand . . . (Rest.)
- 2 Kapram Prakashan Prasaran, 1/90, Namdha Niwas, Azad Marg . . . (R.)

JODHPUR—

- 1 Dwarka Das Rath, Wholesale Books and News Agents . . (Reg.)
- 2 Kitab-Ghar, Sojati Gate . . . (Reg.)
- 3 Chopra Brothers, Tripolia Bazar . . . (Reg.)

JULLUNDUR—

- 1 Hazooria Bros., Mai Hiran Gate . . . (Rest.)
- 2 Jain General House, Bazar Bansanwala . . . (Reg.)
- 3 University Publishers, Railway Road . . . (Rest.)

KANPUR—

- 1 Advani & Co., P. Box. 100, The Mall . . . (Reg.)
- 2 Sahitya Niketan, Shreedhanand Park . . . (Reg.)
- 3 The Universal Book Stall, The Mall . . . (Reg.)
- 4 Raj Corporation, Raj House, P.B. 200, Chowk . . . (Rest.)

KARUR—Shri V. Nagaraja Rao, 26, Srinivasapuram . . . (Rest.)

KODARMA—The Bhagwati Press, P.O. Jhumri Tilaiya, Dt. Hazaribagh . . . (Reg.)

KOLHAPUR—Maharashtra Granth Bhandar, Mahadwar Road . . (Rest.)

KOTA—Kota Book Depot . . . (Rest.)

KUMTA—S.V. Kamat, Booksellers & Stationers (N. Kanara) . . (Reg.)

LUCKNOW—

- 1 Soochna Sahitya Depot (State Book Depot)
- 2 Balkrishna Book Co. Ltd., Hazratganj . . . (Reg.)

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LUCKNOW—contd.

- 3 British Book Depot, 84, Hazratganj . . . (Reg.)
- 4 Ram Advani, Hazratganj, P.B. 154 . . . (Reg.)
- 5 Universal Publishers (P.) Ltd., Hazratganj . . . (Reg.)
- 6 Eastern Book Co., Lalbagh Road . . . (Reg.)
- 7 Civil & Military Educational Stores, 106/B, Sadar Bazar . . (Rest.)
- 8 Aquarium Supply Co., 213, Faizabad Road . . . (Rest.)
- 9 Law Book Mart, Amin-Ud-Daula Park . . . (Rest.)

LUDHIANA—

- 1 Lyall Book Depot, Chaura Bazar . . . (Reg.)
- 2 Mohindra Brothers, Katcheri Road . . . (Rest.)
- 3 Nanda Stationery Bhandar, Pustak Bazar . . . (Rest.)
- The Pharmacy News, Pindi Street . . . (Rest.)

MADRAS—

- 1 Supdt., Govt. Press, Mount Road
- Account Test Institute, P.O. 760 Emgore . . . (Reg.)
- 3 C. Subbiah Chetty & Co., Triplicane . . . (Reg.)
- 4 K. Krishnamurthy, Post Box 384 . . . (Reg.)
- 5 Presidency Book Supplies, 8, Pycrofts Road, Triplicane . . (Reg.)
- 6 Vardachary & Co., 8, Linghi Chetty Street . . . (Reg.)
- 7 Palani Parachuram, 3, Pycrofts Road, Triplicane . . . (Reg.)
- 8 NCBH Private Ltd., 199, Mount Road . . . (Rest.)
- 9 V. Sadanand, The Personal Bookshop, 10, Congress Building, 111, Mount Road . . . (Rest.)

MADURAI—

- 1 Oriental Book House, 258, West Masi Street . . . (Reg.)
- 2 Vivekananda Press, 48, West Masi Street . . . (Reg.)

MANDYA SUGAR TOWN—K. N. Narimhe Gowda & Sons . . (Rest.)

MANGALORE—U.R. Shenoy Sons, Car Street, P. Box 128 . . (Reg.)

MANJESHWAR—Mukunda Krishna Nayak . . . (Rest.)

MATHURA—Rath & Co., Tilohi Building, Bengali Ghat . . . (Rest.)

MEERUT—

- 1 Prakash Educational Stores, Subhas Bazar . . . (Reg.)
- 2 Hind Chitra Press, West Kutcheri Road . . . (Reg.)
- 3 Loyal Book Depot, Chhipi Tank . . . (Reg.)
- 4 Bharat Educational Stores, Chhipi Tank . . . (Rest.)
- 5 Universal Book Depot, Booksellers & News Agents . . . (Rest.)

MONGHYR—Anusandhan, Minerva Press Building . . . (Rest.)

MUSSOORIE—

- 1 Cambridge Book Depot, The Mall . . . (Rest.)
- 2 Hind Traders . . . (Rest.)

MUZAFFARNAGAR—

- 1 Mittal & Co., 85-C, New Mandi . . . (Rest.)
- 2 B.S. Jain & Co., 71, Abupura . . . (Rest.)

MUZAFFARPUR—

- 1 Scientific & Educational Supply Syndicate . . . (Reg.)
- 2 Legal Corner, Tikmanio House, Angola Road . . . (Rest.)
- 3 Tirhut Book Depot . . . (Rest.)

MYSORE—

- 1 H. Venkataramiah & Sons, New Statue Circle . . . (Reg.)
- 2 Peoples Book House, Opp. Jagan Mohan Palace . . . (Reg.)
- 3 Gesta Book House, Booksellers & Publishers, Krishnamurthipuram . . . (Rest.)
- 4 News Papers House, Lansdown Building . . . (Rest.)
- 5 Indian Mercantile Corporation, Toy Palace Ramvilas . . (Rest.)

NADIAD—R.S. Desay, Station Road . . . (Rest.)

NAGPUR—

- 1 Supdt., Govt. Press & Book Depot . . . (Reg.)
- 2 Western Book Depot, Residency Road . . . (Reg.)
- 3 The Asstt. Secretary, Mineral Industry Association, Mineral House . . . (Rest.)

NAINITAL—Coural Book Depot, Bara Bazar . . . (Rest.)

NANDED—

- 1 Book Centre, College Law General Books, Station Road . . . (Rest.)
- 2 Hindustan General Stores, Paper & Stationery Merchants, P. B. No. 51 . . . (Rest.)
- 3 Sanjoy Book Agency, Vazirabad . . . (Rest.)

NEW DELHI—

- 1 Amrk Book Co., Connaught Circus . . . (Reg.)
- 2 Bhawani & Sons, 8 F. Connaught Place . . . (Reg.)
- 3 Central News Agency, 23/90, Connaught Circus . . . (Reg.)

NEW DELHI—contd.

- 4 Empire Book Depot, 278, Aliganj . . . (Reg.)
- 5 English Book Stores, 7-L, Connaught Circus, P.O.B. 328 . . (Reg.)
- 6 Faqir Chand & Sons, 15-A, Khan Market . . . (Reg.)
- 7 Jain Book Agency, C-9, Prem House, Connaught Place . . (Reg.)
- 8 Oxford Book & Stationery Co., Scindia House . . . (Reg.)
- 9 Ramkrishna & Sons (of Lahore), 16/B, Connaught Place . . (Reg.)
- 10 Sikh Publishing House, 7-C, Connaught Place . . . (Reg.)
- 11 Suneja Book Centre, 24/90, Connaught Circus . . . (Reg.)
- 12 United Book Agency, 31, Municipal Market, Connaught Circus . . . (Reg.)
- 13 Jayana Book Depot, Chhaparwala Kuan, Karol Bagh . . . (Reg.)
- 14 Navayug Traders, Desh Bandhu Gupta Road, Dev Nagar . . (Reg.)
- 15 Sarawati Book Depot, 15, Lady Harding Road . . . (Reg.)
- 16 The Secretary, Indian Met. Society, Lodi Road . . . (Reg.)
- 17 New Book Depot, Latest Books, Periodicals, Sty. & Novelles, P.B. 96, Connaught Place . . . (Reg.)
- 18 Mehra Brothers, 50-G, Kalkaji . . . (Reg.)
- 19 Luxmi Book Stores, 42, Janpath . . . (Rest.)
- 20 Hindi Book House, 82, Janpath . . . (Rest.)
- 21 People Publishing House (P.) Ltd., Rani Jhansi Road . . . (Reg.)
- 22 R. K. Publishers, 23, Beadon Pura, Karol Bagh . . . (Rest.)
- 23 Sharma Bros., 17, New Market, Moti Nagar . . . (Reg.)
- 24 Aapki Dukan, 5/5777, Dev Nagar . . . (Rest.)
- 25 Sarvodaya Service, 66A-1, Rohtak Road, P.B. 2521 . . . (Rest.)
- 26 H. Chandson, P.B. No. 3084 . . . (Rest.)
- 27 The Secretary, Federation of Association of Small Industry of India, 23-B/2, Rohtak Road . . . (Rest.)
- 28 Standard Booksellers & Stationers, Palm Enclave . . . (Rest.)
- 29 Lakshmi Book Depot, 57, Regarpura . . . (Rest.)
- 30 Sant Ram, Booksellers, 16, New Municipal Market, Lody Colony . . . (Rest.)

PANJIM—

- 1 Singhal's Book House, P.O.B. 70, Near the Church . . . (Rest.)
- 2 Sagoon Gaydev Dhoud, Booksellers, 5-7 Rua, 31 de Jameria . . . (Rest.)

PATHANKOT—The Krishna Book Depot, Main Bazar . . . (Rest.)

PATIALA—

- 1 Supdt., Bhupendra State Press
- 2 Jain & Co., 17, Shah Nashin Bazar . . . (Reg.)

PATNA—

- 1 Supdt., Govt. Printing (Bihar)
- 2 J.N.P. Agarwal & Co., Padri-Ki-Haveli, Raghunath Bhawan . . . (Reg.)
- 3 Luxmi Trading Co., Padri-Ki-Haveli . . . (Reg.)
- 4 Moti Lal Banarsi Dass, Bankipore . . . (Reg.)
- 5 Bengal Law House, Chowhatta . . . (Rest.)

PITHORAGARH—Manjram Punetha & Sons . . . (Rest.)

PONDICHERRY—M/s. Honesty Book House, 9 Rue Duplix . . (R.)

POONA—

- 1 Deccan Book Stall, Deccan Gymkhana . . . (Reg.)
- 2 Imperial Book Depot, 266, M.G. Road . . . (Reg.)
- 3 International Book Service, Deccan, Gymkhana . . . (Reg.)
- 4 Raka Book Agency, Opp. Natu's Chawl, Near Appa Balwant Chowk . . . (Reg.)
- 5 Utility Book Depot, 1339, Shivaji Nagar . . . (Rest.)

PUDUKOTTAI—Shri P. N. Swaminathan Sivan & Co., East Main Road . . . (Rest.)

RAJKOT—Mohan Lal Dosabhai Shah, Booksellers and Sub-Agents . . . (Reg.)

RANCHI—

- 1 Crown Book Depot, Upper Bazar . . . (Reg.)
- 2 Pustak Mahal, Upper Bazar . . . (Rest.)

REWA—Supdt., Govt. State Emporium, V.P.

ROURKELA—The Rourkela Review . . . (Rest.)

SAHARANPUR—Chandra Bharata Pustak Bhandar, Court Road . . . (Rest.)

SECUNDERABAD—Hindustan Diary Publishers, Market Street . . . (Reg.)

SILCHAR—Shri Nishitto Sen, Nazirpatti . . . (Rest.)

SIMLA—

- 1 Supdt., Himachal Pradesh Govt.
- 2 Minerva Book Shop, The Mall . . . (Reg.)
- 3 The New Book Depot, 79, The Mall . . . (Reg.)

SINNAR—Shri N. N. Jakhadi, Agent, Times of India, Sinnar (Nasik) . . . (Rest.)

SHILLONG—

- 1 The Officer-in-Charge, Assam Govt. B.D. (Rest.)
 - 2 Chapia Bookstall, P.B. No. 1 (Reg.)
- SONEPAT—United Book Agency (Reg.)
- SRINAGAR—The Kashmir Bookshop, Residency Road (Reg.)
- SURAT—Shri Gajanan Pustakalaya, Tower Road (Reg.)

TIRUCHIRAPALLI—

- 1 Kalpana Publishers, Wosjur. (Reg.)
- 2 S. Krishnaswami & Co., 35, Subhash Chander Bose Road (Reg.)
- 3 Palaniappa Bros. (Rest.)

TRIVANDRUM—

- 1 International Book Depot, Main Road (Reg.)
- 2 Reddear Press & Book Depot, P.B. No. 4 (Rest.)

TUTICORIN—Shri K. Thilagaranjan, 10-C, French Chapel Road (Rest.)

UDAIPUR—

- 1 Jagdish & Co., Inside Surajpole (Rest.)
- 2 Book Centre, Maharana, Bhopal Consumers Co-op. Society Ltd. (Rest.)

UJJAIN—Manak Chand Book Depot, Sati Gate (Rest.)

VARANASI—

- 1 Students, Friends & Co., Lanka (Rest.)
- 2 Chowkhamba Sanskrit Series Office, Gopal Mandir Road, P.B. 8 (Reg.)
- 3 Globe Book Centre (Rest.)
- 4 Kohinoor Stores, University Road, Lanka (Reg.)
- 5 B.H.U. Book Depot (Rest.)

VELLORE—A. Venkatasubhan, Law Booksellers (Reg.)

VIJAYAWADA—The Book & Review Centre, Eluru Road, Govenpet (Rest.)

VISHAKHAPATNAM—

- 1 Gupta Brothers, Vizla Building (Reg.)
- 2 Book Centre, 11/97, Main Road (Reg.)
- 3 The Secy. Andhra University, General Co-op. Stores Ltd., (Rest.)

VIZIANAGARAM—Sarda & Co. (Rest.)

WARDHA—Swarajya Bhandar, Bhorji Market (Reg.)

For Local Sale

- 1 Govt. of India Kitab Mahal, Janpath, Opp. India Coffee House New Delhi.
- 2 Govt. of India Book Depot, 8, Hastings Street, Calcutta.
- 3 High Commissioner for India in London, India House, London, W.C.2

Railway Bookstall holders

- 1 S/S. A.H. Wheeler & Co., 15, Elgin Road, Allahabad
- 2 Gahlot Bros., K.E.M. Road, Bikaner
- 3 Higginbothams & Co. Ltd., Mount Road, Madras
- 4 M. Gulab Singh & Sons Private Ltd., Mathura Road, New Delhi

Foreign

- 1 S/S. Education Enterprise Private Ltd., Kathumandu (Nepal)
- 2 S/S. Aktie Bologat C.E. Fritzes Kungl. Hovbokhandel, Fredagatton-2, Box 1654, Stockholm (Sweden).
- 3 Reise-und Reiseverlag Stuttgart, Post 730, Gutenbergstra 21, Stuttgart No. 7246, Stuttgart, Germany (Germany West).

- 4 Shri Iswar Subramanyam 452, Reversite Driv. Apt. 6, New York 27 NWY.

- 5 The Proprietor, Book Centre, Lakshmi Mansons, 49, The Mall, Lahore (Pakistan).

On S. and R. Basis

- 1 The Head Clerk, Govt. Book Depot, Ahmedabad
- 2 The Asstt. Director, Extension Centre, Kapileswar Road, Belghum
- 3 The Employment Officer, Employment Exchange, Dhar
- 4 The Asstt. Director, Footwear Extension Centre, Polo Ground No. 1, Jodhpur.
- 5 The O.I./C., Extension Centre, Club Road, Muzaffarpur
- 6 The Director, Indian Bureau of Mines, Govt. of India, Ministry of Mines & Fuel, Nagpur.
- 7 The Asstt. Director, Industrial Extension Centre, Nadiad (Gujarat)
- 8 The Head Clerk, Photozincographic Press, 5, Finance Road, Poona
- 9 Govt. Printing & Stationery, Rajkot
- 10 The O.I./C., Extension Centre, Industrial Estate, Kokar, Ranchi
- 11 The Director, S.I.S.I. Industrial Extension Centre, Udhana, Surat
- 12 The Registrar of Companies, Narayani Building, 27, Erabourne Road, Calcutta-1.
- 13 The Registrar of Companies, Kerala, 50, Feet Road, Ernakulam
- 14 The Registrar of Companies, H. No. 3-5-83, Hyderguda, Hyderabad
- 15 Registrar of Companies, Assam, Manipur and Tripura, Shillong
- 16 Registrar of Companies, Sunlight Insurance Building, Ajmeri Gate Extension, New Delhi.
- 17 Registrar of Companies, Punjab and Himachal Pradesh, Link Road, Jullundhar City.
- 18 Registrar of Companies, Bihar, Jamal Road, Patna-1
- 19 Registrar of Companies, Raj. & Ajmer, Shri Kamta Prasad House, 1st Floor, 'C' Scheme, Ashok Marg, Jaipur.
- 20 The Registrar of Companies, Andhra Bank Building, 6 Linghi Chetty Street, P.B. 1880, Madras.
- 21 The Registrar of Companies, Mahatma Gandhi Road, West Cott. Bldg. P.B. 334, Kanpur.
- 22 The Registrar of Companies, Everest 100, Marine Drive, Bombay
- 23 The Registrar of Companies, 162, Brigade Road, Bangalore
- 24 The Registrar of Companies, Gwalior
- 25 Asstt. Director, Extension Centre, Bhuli Road, Dhanbad
- 26 Registrar of Companies, Orissa, Cuttack Chandi, Cuttack
- 27 The Registrar of Companies, Gujarat State, Gujarat Samachar Building, Ahmedabad.
- 28 Publication Division, Sale Depot, North Block, New Delhi
- 29 The Development Commissioner, Small Scale Industries, New Delhi
- 30 The O.I./C., University Employment Bureau, Lucknow
- 31 O.I./C., S.I.S.I. Extension Centre, Malda
- 32 O.I./C., S.I.S.I. Extension Centre, Habra, Tabahria, 24-Parganas
- 33 O.I./C., S.I.S.I. Model Carpentry Workshop, Piyali Nagar, P.O. Burnipur.
- 34 O.I./C., S.I.S.I., Chrontanning Extension Centre, Tangra 32, North Topsia Road, Calcutta-46.
- 35 O.I./C., S.I.S.I. Extension Centre (Footwear), Calcutta
- 36 Asstt. Director, Extension Centre, Hyderabad
- 37 Asstt. Director, Extension Centre, Krishna Distt. (A.P.)
- 38 Employment Officer, Employment Exchange, Jabua
- 39 Dy. Director Incharge, S.I.S.I., C/o. Chief Civil Admn. Goa, Panjim
- 40 The Registrar of Trade Unions, Kanpur
- 41 The Employment Officer, Employment Exchange, Gopal Bhavan, Morina.
- 42 The O.I./C., State Information Centre, Hyderabad
- 43 The Registrar of Companies, Pondicherry
- 44 The Asstt. Director of Publicity and Information, Vidhana Sabha (P. B. 271), Bangalore.

