

Educational (189 6) Department.

ORDINARY MS.

G.O., No. 470

Dated 7th August 1896

INDEXED.

[Despatch Abstract.]

IDENTIFICATION BY MEANS OF FINGER PRINTS.

Communicating to the Director of Public Instruction, the Commissioner for Government Examinations and the Syndicate of the University of Madras proceedings, Judicial department, on letter from the Government of India regarding the uses of the system of ---; and requesting them to report whether the system might not be introduced for the identification of competitors at public examinations on detection of cases in which there has been false personation.

BACK PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.
	1104		1896				
	1142	1896 + 168	1897.				

FROM CIRCULATION
WITH REMARKS.

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GOVERNMENT OF MADRAS.

JUDICIAL DEPARTMENT.

READ—the following paper:—

From J. P. HEWETT, Esq., C.I.E., Secretary to the Government of India, Home Department (Public), to the Chief Secretary to the Government of Madras, dated Simla, the 8th May 1896, No. 12-Pub.—854.

The system of identifying persons by means of impressions of the tips of their fingers has been successfully employed for several years in the Registration Department in Bengal, and has been incorporated with the anthropometric system adopted in that Province for the identification of criminals. Recently it has been represented to the Government of India that the use of finger-prints for the purpose of identification is capable of being extended in various directions with great benefit to the public service. The Government of India have accordingly caused a note, describing the system in outline, to be drawn up, a copy of which is forwarded herewith for the information of the Government of Madras. Particulars as to the sources of more complete information can be obtained if desired from this office: but the Government of India apprehend that Local Governments will have no difficulty in obtaining for themselves more detailed information if they wish to make enquiry on the subject. At present the Governor-General in Council only desires to bring the uses of the system prominently before the notice of the Government of Madras, which will judge as to the advisability of adopting it for any public purpose in the Madras Presidency. If it is adopted, I am to ask that the Government of India may be informed of the fact and also may be acquainted, after intervals of not more than a year, with the progress made in working the system and the degree of usefulness ascribed to it.

ENCLOSURE.

System of Identification by Finger-prints.

Every one bears on his body a visible token of identity in the system of ramification of the minute ridges that run across the palms of the hands and the soles of the feet, and more especially in the scrolls or other patterns that the ridges form on the inner surfaces of the bulbs of the fingers. These latter are believed to be in themselves amply sufficient for purposes of identification. The value of finger-prints as a means of identification is thus testified to by the committee which was appointed by the Secretary of State of the Home Department in London to enquire into the best means available for identifying habitual criminals:—“The finger-prints will afford in most cases the scientific proof of identity, and wherever the system is applied will render a wrong identification practically impossible.”

Mr. Francis Galton, who gave evidence before the committee, has established the following facts in connection with the subject. The marks are persistent through life. There is an enormous variety of them in different individuals, and although there is some deterioration on account of age, the pattern can still be made out. Even after burns the original marks reappear as before. In cases of severe cuts or ulcers there may be distortion, but short of very serious injury the marks would not be destroyed. The improbability of the prints being the same in two sets of two or three fingers is so enormous that it can hardly be put into figures. The prints therefore form a signature which cannot be imitated.

2. The following is a rough outline of the method in which it has been proposed by Mr. Galton to make use of this means of identification. The minute ridges covering the bulbs of the fingers (which are really slight elevations of the skin containing at intervals small holes or pores) would run straight across the fingers from side to side up to the very tip—just as they do

in the lower part of the finger—but for the nail, which disturbs their parallelism and squeezes them downwards at either side of the finger. Consequently the ridges that run close to the tip are greatly arched; those that successively follow are gradually less so, until in some cases the arch insensibly disappears about the level of the joint. Usually, however, the gradual transition from an arch to a straight line fails to be carried out, and there is a break in the sequence and a consequent interspace. The uppermost boundary of the interspace is formed by the lowermost arch, and the lowermost boundary by the uppermost straight ridge. As the usual number of holes or pores exist within the interspace, the ridges containing them form an independent scroll-work which has been termed the pattern by Mr. Galton. These patterns, almost without exception, can be classified as belonging to three main shapes or designs, to which respectively Mr. Galton has applied the names of Primaries (lines arched, whether upwards or downwards, across the finger), Whorls and Loops.

3. The identification consists in tracing (by the aid of a magnifying glass) the same lines or ridges, and the same peculiarities in them, in impressions made by the same finger at whatever distance of years. The length and thickness of the lines will vary with age and differing conditions of body, but this does not prevent the impression of the finger from being recognized with certainty. The classification of individuals, which is necessary for purposes of record and reference, is arranged for by Mr. Galton in the following manner. Taking the three varieties of patterns abovementioned, and subdividing each into two according as the slope of the lines is upwards or downwards from the side, he has six possible varieties of fingers, to which severally are assigned the numbers 1 to 6. The numerical sign for each individual is the numbers thus borne by his fingers in a fixed order (Mr. Galton thinks it might suffice, for the identification of criminals, to take six fingers only). A number of classes of manageable size result, which can be subdivided by adding further particulars till the search for prints corresponding with those sought to be compared becomes a matter of no great difficulty.

4. For the purpose of identifying any one with a person who he claims or is supposed to be, no classification is required but merely comparison of two prints taken from the fingers at two different periods to see whether they agree. It seems to be established that, if they do not agree, even after the lapse of many years, they cannot have been made by the same individual. In cases of classifying a large number of persons or of identifying criminals, the services of an expert would be required, but in ordinary cases the two sets of prints would be enlarged by photography or be examined by a magnifying glass, and there would be no difficulty in discovering whether they had been made by the same or by two different hands.

5. As regards the mode of taking finger-prints, the recommendations of the Home Secretary's committee are briefly as follows:—

- (1) A plate of copper screwed by its corners down at both ends to a board one inch thick, an ordinary printer's roller, two tubes of printer's ink, some benzole and cards, should be provided.
- (2) Less than a drop of ink should be squeezed on the plate and worked with the roller till it forms an even layer on the surface, which must be so thin as to allow the copper colour to show through it.
- (3) The man's right hand should then be taken and the bulbs of the fingers laid on the inked plate and pressed gently but firmly with the operator's own hand. The inked fingers should then be placed flat on the card, so that imprints may be taken.
- (4) The roller and slab must be thoroughly cleaned with benzol and dried with a rag and put out of the way of dust. The fingers may also be readily cleaned with benzole or turpentine.

A piece of glass will do as well as the copper. The ordinary native ink, diluted with a little oil, may do. Experience has shown that imprints can be made with sufficient distinctness by non-expert persons using such ink. If the prints are taken on a small piece of white paper, the operation can be repeated several times, or until a perfect specimen is obtained, and this can be gummed on to any document with which it is desired to preserve the print.

6. The system of identification by finger-prints appears to be capable of utilisation in various ways in the Civil department. It has already been incorporated with the anthropometric system introduced into Bengal by Mr. Henry, Inspector-General of Police, and has been successfully employed in the identification of criminals. It may eventually, if Mr. F. Galton's views are correct, be possible to identify persons by finger-prints alone. For the present, however, for the identification of criminals, this method has to be associated with anthropometry, and only helps to make identification under that system absolutely certain.

The system of finger-prints has also been introduced in the Registration Department in Bengal for securing the identification of parties and their witnesses in the registration of deeds. It was brought into operation in all Sadr Registration offices from the 1st June 1894, and has since been introduced into the subordinate offices. It has already helped in the detection of two cases of false personation.

The system is likely to prove an important safeguard in preventing false personation in the case of pensioners, especially females. Applicants for payment of pension might be compelled, in case of doubt as to their identity, to produce fresh impressions of their fingers for comparison with their standard prints which would be kept in the pension offices. This evidence would be especially valuable in the case of *Purdanashin* women, whose impressions could be obtained through their relatives or friends. The Government of India propose to introduce this system into Lower Bengal, as an experimental measure at present, for the purpose of identifying Government pensioners.

The system might be useful in identifying the next-of-kin, if Government servants were required to have affixed to their service books the finger-prints of those who were recognized as their heirs. It might also be usefully employed for the identification of competitors at public examinations. It has further been suggested that impressions may be taken of the finger-tips of all candidates for the public service; and that they may be attached to all legal documents in the courts. Emigrants might also be required to leave their finger-prints as a token of their identity. And if the method proves an effective means of identification, it is probable that it could be put to various other uses.

7. The system of taking impressions of finger-tips was adopted in 1893 in recruiting for the Native Army, but it was considered unnecessary and abandoned last year, false personation being almost unknown in the army. The Home authorities are, it is believed, about to introduce anthropometry combined with finger-prints for recruiting purposes, and there is little doubt that this will prove of the greatest use in detecting the re-enlistment of deserters. In the Recruiting Department the system may also be adopted as a check against false personation by persons who claim to be the persons passed by the medical authority.

ORDER—No. 1057, Judicial, dated 23rd June 1896.

The foregoing letter from the Government of India, with its enclosure, will be communicated to the Lieutenant-General Commanding the Forces, to the Honourable the Judges of the High Court, to all Departments of the Secretariat, and to the Inspectors-General of Police, Prisons and Registration for information.

2. As systems of identification by means of finger-prints have already been introduced in the Police and Registration Departments, the respective Inspectors-General will be requested to prepare and forward the annual reports called for by the Government of India. The first report should be submitted towards the close of 1896.

3. The following letter will be despatched to the Government of India:—

[Here enter No. 1058, dated 23rd June 1896.]

(True Extract.)

Ranun
Jr Chief Secretary.

To all Departments of the Secretariat.
 „ the Deputy Adjutant General, Madras Command.
 „ the Inspector-General of Police.
 „ „ of Prisons.
 „ „ of Registration.
 „ the Honourable the Chief Justice, with C.L.

Exd. A. Ratt.

Gobt. of {1896} Madras.
JUDICIAL.

JUDICIAL.

Issued

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Encl

G.O., No. 1057, 23rd June 1896.

JUNE.

Identification by means of
Finger-prints.

Communicating to the Lieutenant-General Commanding the Forces, &c., letter from the Government of India regarding the uses of the system of —; requesting the Inspectors-General of Police and Registration to prepare and forward annual reports on the progress made in working the system in their departments; and addressing the Government of India on the subject.

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DATED

CURRENT No.

Order No. 470. 27 Aug 1896. 6/2/96

Communicated to the D.P.I.

the Coms for Govt Exams. & the Syndicate
of the University of Madras ^{for consideration} ~~with the~~
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~~remains~~ that the system might not be
introduced for the identification of
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On detection of cases in which there has been
false impersonation.

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LETTER OF GOVERNMENT.

STATEMENT WITH DITTO.

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