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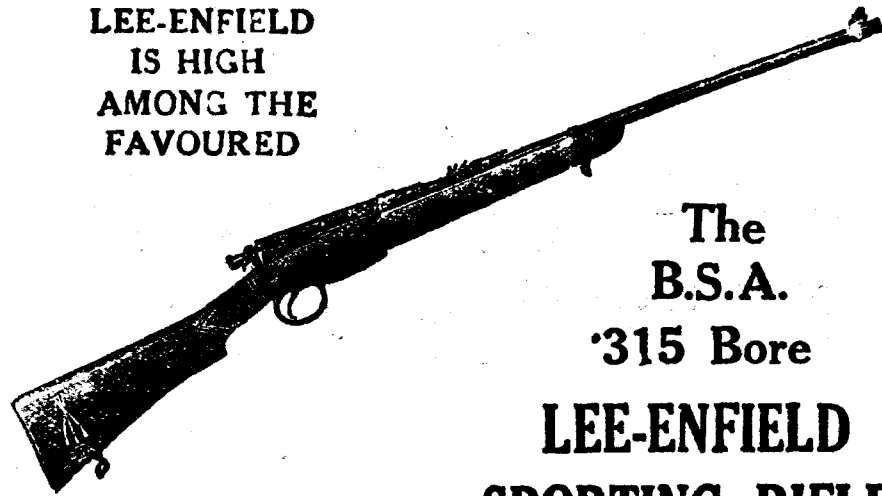
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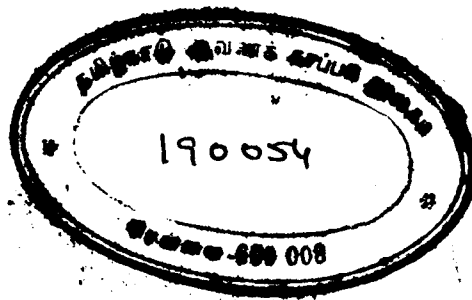
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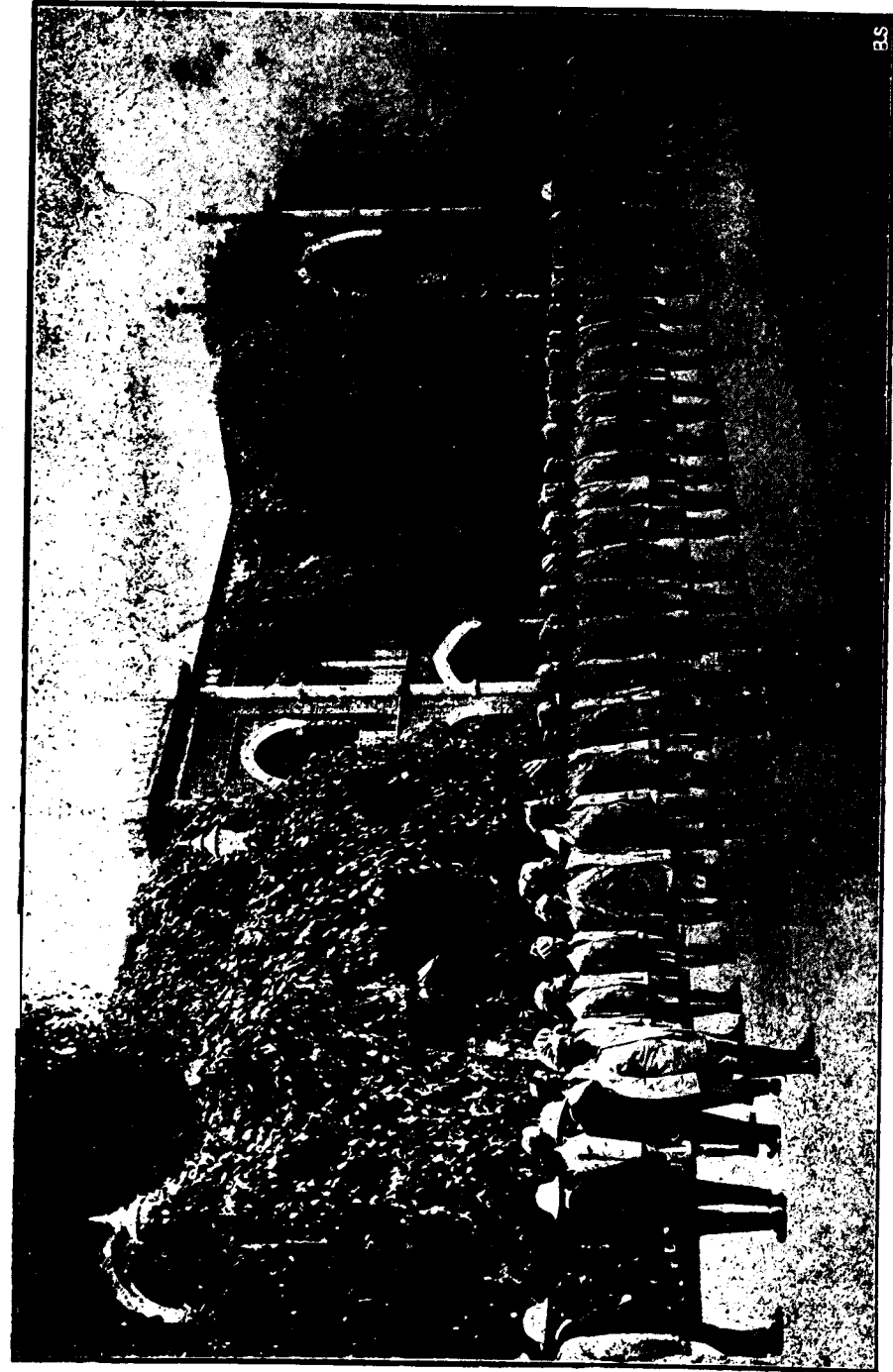
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His Excellency the **Viscount Goschen**, G.C.I.E., C.B.E., V.D., Governor of Madras, inspecting a Guard of Honour formed by the Students of the Madras Forest College on "Speech Day"—1st July 1926.

The Madras Forest College Magazine.

(Published Quarterly.)

Vol. X.]

JUNE 1926.

[No 4.

Note, on the colour, and colour changes of some Madras timbers.

The variety of the shades of colour of Madras timbers is as great as the number of species, but by far the majority are some shade of red, brown, grey, or yellow, while many are whitish.

(1) *Red* of various grades is found in :—

- * † *Mesua ferrea*.
- * *Gluta travancorica*.
- *Cassia Fistula*.
- Bassia* spp.
- Bischofia javanica*.
- Cedrela Toona*

† The range of variation in the colour of this species is so great that Beddome on that basis and that of certain other characters has split up the species into three different ones; but commercially the three are clubbed into one species. Advantage is taken of this range of variation, by some Railway contractors who make attempts—sometimes successful—to match sleeper specimens of a deep shade of *Poeciloneuron indicum* (which is of a lighter red than the typical *mesua*) with those of the lightest shade of *mesua ferrea*.

- Pterocarpus Santalinus.
- Acrocarpus fraxinifolius
- Lagerstroemia spp
- Soymida febrifuga.
- Ormosia travancorica, etc.

(2) *Brown or greyish brown:—*

- Albizia Lebbek.
- * Terminalia tomentosa (a *dark coloured* variety of this can be made to match with a *light* one of *Rosewood*)
- Grewia spp

(3) *Reddish brown:—*

- Xylia xylocarpa.
- Eugenias.
- Cleistanthus collinus,
- Thespesia populnea (chocolate brown)
- Careya arborea
- Hopea spp etc.

(4) *Greenish brown or greenish grey:—*

- Michelia spp.
- Terminalia paniculata.
- Strychnos potatorum.
- Vitex spp.
- Anogeissus latifolia etc

(5) *Yellow of various shades:—*

- Adina cordifolia.
- * Artocarpus integrifolia.
- Sarcocephalus missionis.
- Chloroxylon swietenia
- Morinda citrifolia.
- Limonea acidissima.
- Zanthoxylum Rhetsa, etc.
- (most of the woods of *Rutaceae*.)

(6) *White or yellowish white:—*

- Ilex spp.
- Bombax malabaricum,
- Wrightia tinctoria.
- Ægle marmelos
- Erythrina
- Lansium anamallayanum.
- Pittosporum tetraspermum.
- Grevillea robusta.
- Lophopetalum Wightianum
- Trewia nudiflora
- Gmelina arborea.
- Alstonia scholaris.
- Ailanthus excelsa.
- Excoecaria agallocha.
- Symplocos spicata, etc.

(7) *Purplish black*:—

- * *Dalbergia latifolia*.
- Hardwickia binata*.
- Tamarind (heart wood.)*
- Terminalia chebula*.

(8) *Black*:—

- Diospyros ebenum*
- Palmyra* (peripheral portion)

In the above list the colour referred to is that assumed by the *heartwood* after exposure for a time to air and light. Those marked with an asterik exhibit a wide range of variation.

The great diversity of the colour of timbers is enhanced by the effect of light, air, heat, and certain other factors that conspire to either bleach or deepen the tint; but for the most part such colour change is only skin deep, a slight cut exposing again the original and natural colour. The change of colour in some species of wood is attributed to the action of light, and not to oxidation, as the change has been observed in pieces of such species enclosed in glass tubes filled with hydrogen, that is, in the absence of any oxygen. In some, heat plays a large part, in others air. In many, more than one of these factors probably cause the discolouration. The deepening of colour obtained by the application of a coat of potassium permanganate solution on to the timber surface before the polishing is done, should be attributed to an acceleration of the oxidation. A darkening of colour is also caused by ammonia vapour, as in the case of wood in stables and in marshy ground.

It is said that the natives of certain parts of Africa throw mangrove logs (which are brown) into bogs in order to blacken them, and palm them off as Ebony.

In selecting a timber for a purpose where a particular shade of colour is desired one must therefore be on one's guard. If it is intended to preserve the colour of the freshly planed surface as far as possible, it is advisable to immediately apply a coat or two of polish to the surface. Though the majority of Madras timbers darken on exposure, instances are not wanting of good furniture species fading in colour if not protected by polish. Rose wood and *Gluta travancorica*, usually get paler in colour on exposure to air and strong light. Other species—not used for furniture, however,—that behave in like manner are *Pterocarpus Santalinus*, *Mesua ferrea*, *Calophyllum* spp., *Michelia* spp. A rich red, purple and a light yellow generally show a tendency to fade. But dark yellow and certain other tints deepen exceedingly and rapidly. When panels of *Artocarpus hirsuta*, *Shorea Talura*, *Shorea Tumbuggaia*, *Shorea robusta*, *Balanocarpus utilis*, are sawn out of a log one can scarcely notice any difference in the colour of the heartwood and the sapwood. Indeed it would be difficult to find the boundary between the two zones of wood. But after a few days' exposure to air and light a marked difference can be found between the two regions, the heartwood darkening considerably, the sapwood of course suffering little change. In fact, one accustomed to the colour of only the weathered surface of the said species can hardly recognise them if they are presented freshly prepared. A freshly planed surface of *Shorea Talura* was found to be so sensitive, and darke-

ning so appreciably and rapidly that the writer was able to obtain on the surface a sort of positive picture from a photographic negative (film) closely applied to it by pasting strips of paper all round the edges of the film. By removing the film and applying a thin coat of polish on the whole surface of the panel the picture was fairly well 'fixed'!

For many purposes darkening or discolouration of the natural colour of timber has to be prevented. Particularly for the match industry a white or nearly white colour is much in demand, though the reason does not seem to be clear—probably it is a case of meaningless prejudice. The soft whitish woods such as *Bombax malabaricum*, *Trewia nudiflora*, *Alstonia scholaris*, *Ailanthus* spp, *Givotia rottleriformis*, *Tetrameles nudiflora*, *Evodia Roxburghiana*, *Odina Wodier* (Sapwood), that are being used or can be used for the purpose are very liable to discolouration if dry seasoned *in the log*, and should therefore be *converted green* in order to preserve the pale white colour.

Deepened and at times strange hues, even deep blue and green are often indications of incipient unsoundness, the limits of a decaying spot being marked by dusky lines or zones. The colour of the sections of freshly felled logs is often used as a criterion of quality.

Contact with water has various effects on the colour and other properties of some species. Some stain very badly. *Pterocarpus marsupium* stains yellow (owing to the yellow colour of a solution of the gum-kino, the latter being present in the wood.) Even a coat of polish may not be sufficient preventative of the stain. *Pterocarpus santalinus* (Red sanders) stains salmon pink. This is however very marked only on

contact with alcohol as the dyeing principle santalin dissolves more readily in alcohol.

The mangroves turn jet black when immersed in water for a time. *Dillenia indica* behaves similarly. Many of the *Eugenias* turn black if immersed for a time in water containing some trace of iron salts. Certain species though they get discoloured by being kept in contact with water and used in water, are rendered more durable thereby. *Bombax malabaricum*, *Dillenia indica*, *Engenia jambolana*, *Ficus* spp. and *Phyllanthus emblica*, are some of the species belonging to this category.

Extracts of some species of wood have a characteristic colour, and are useful as a means of identification. A few shavings of the wood in question are placed in water and boiled, or immersed in a test tube containing alcohol. Some impart a deep colour even to cold water, and within a few minutes. Some give a reaction only with alcohol. Occasionally we meet with what is called 'fluorescence', that is, the display of different colours by the extract when viewed by reflected and transmitted light. All species of *Pterocarpus* exhibit this property to a striking degree.

EDITOR.

Mapping contours using the ordinary Abney level, or Clinometers

No one doubts the extra-ordinary utility of the Improved Abney level, and the Trailer tape, which like the Polar planimeter, are

wonderful applications of certain simple calculations. Several articles which have appeared in the pages of this magazine, have drawn attention to the principles involved, the method of using, and I believe even a new type of instrument is being designed and perfected. I have no such ambitions.

These articles are likely to create the impression, that to get stock maps of our forests, rapidly and accurately it is essential to get the whole outfit, or (pending such a happy day when we have the improved apparatus), to fold our arms, and sit in peace; though it is probably a crying need of many of the Districts in our Presidency, that we require accurate stock maps of our forests, on which to base a rational system of management. This we all recognise, notwithstanding that our Presidency appears to be ahead of several others in Working Plans.

The objection usually raised to the Ordinary Abney level or other angle measuring clinometer, such as the Watkins, is the apparent difficulty of referring to tables. Admitted that ordinary Sine, or Tangent, or Cosine tables, are incapable of easy reference for our purposes, under field conditions, nothing hinders the preparation of special tables of practical utility. Though all forest *Officers* know how these tables can be prepared, usually they have not got the Logarithmic and other tables from which these tables may be prepared. So I send these tables forth into the world not with the intention of supplanting the trailer tape outfit in its legitimate field of timber cruising on a large scale, but with the purpose of supplementing it in such a way that

without indenting for a larger number of instruments, every division that cares to, might organise its cruising on a small scale with available materials.

Armed with these tables, a couple of ordinary Gunter's chains, an ordinary Abney level, with or without vernier attachment, or a Watkins or other angle measuring clinometer, the ordinary Prismatic compass, and of course pencil, paper etc., it is possible to do the work of mapping including contouring, with an expedition and efficiency equal to that of the Improved Abney cum Trailer tape method. Here I must say that the American compass is no doubt superior to the Prismatic compass for forest surveys, because it has got only one leg as against our 3, and has got a needle instead of a disc, though its accuracy may possibly be on a par only with the old surveying compass now generally discarded.

For working with these tables, the two Gunter's chains are fastened end to end, so as to read continuously up to 200 links. The leader sets the Prismatic compass at the starting point, directs it in the direction of advance, notes some outstanding feature, and with the Prismatic compass and one end of the double chain, advances in this direction, until he has measured 100 links on the slope. Some mark on the turban, hat or face of the leader, at the same height as the eye of the follower having been previously determined, the follower reads the angle of inclination of this mark, when the leader has advanced one chain. Referring to the table, column A, he decides the

[illegible]

number of extra links that he has to pay out so as to get 100 links horizontal measurement, and the leader further advances in the proper direction, through this extra length. A second inclination reading is taken, and by a reference to the tables column C, the rise or fall in feet is obtained, and further procedure is the same as the Improved Abney Level method. Sometimes it would be convenient after taking the first prismatic reading, to range out the line with staves, as far as possible, if cheap labour is available.

The chain being sturdier than the trailer tape, cooly wages being less in India than in America, the ordinary abney or Watkins clinometer, and the Prismatic compass, being usually found in almost all Divisional Forest Offices, and these instruments being more useful all round than highly specialised instruments, are potent causes which ought to decide in favour of these tables. The objection that the table is perishable, is met by stating that it would be available extraordinarily cheap, and its life could be considerably increased, by pasting it on card-board; and replacement, and stocking of spares would cost a negligible amount. This and several similar useful tables, may ultimately go into book form, and contain much information needed for a forest officer, and thus form a forest counterpart of the "Molesworth." This is my apology for the publication of these tables.

Though I have originally calculated the figures, in two tables, one giving, the necessary elongation correct to the nearest link, corresponding to the angles, and the second table giving the rise or fall in feet correct to the nearest foot, corresponding to several inclinations, I have

found that the consolidation of both these into one table, would facilitate its use, and I have done accordingly. It will be observed that I have made my calculations correct to the nearest minute; in actual use it is enough to read correct to 1/10th or 16th of a degree, and reference to tables is in no way complicated.

Practical illustrations of the use of these tables: Assume that you have the Angle measuring instrument, and table, and that the leader has measured a chain on the slope. You take a reading estimating the fractions of a degree. Say it is $2\frac{1}{2}$ degrees. Refer to columns B and A of your tables. You find that when the reading is between $0^{\circ}-00'$ and $5^{\circ}-36'$ 0 is the requisite elongation. This means that it is not more than half a link. Hence the chainman leader need not advance any further. Hence you need not take a second reading; but refer to columns B and C. Here you find that from $2^{\circ}-10'$ to $3^{\circ}-2'$ the rise or fall to the nearest foot is 3. This means that it is greater than $2\frac{1}{2}$ feet and less than $3\frac{1}{2}$ feet. Hence for $2^{\circ}-30'$ the rise or fall as the case may be is 3 feet correct to the nearest foot, and if this is a rise you add this to the reduced level of the station where you are standing, and obtain the reduced level of the station where the leader is standing; if it is a fall you subtract it from the reduced level of the station where you are standing, and thus obtain the reduced level of the station where the leader is standing.

Take a second case. The leader advances one chain as usual on the slope. You read $5\frac{1}{2}$ degrees. Columns B and A show that between $51^{\circ}-27'$ and $51^{\circ}-44'$ the elongation should be 60 links; for, for an angle between these two limits, if the slope length is 160 links, the

horizontal equivalent will be 100 links correct to the nearest link. So you pay out 60 links in addition to the 100 links already out, and the leader advances further this distance. Variations in the slope, would alter your inclination reading now. So read again. Assume you read actually $51\frac{3}{4}^\circ$. Referring to columns B and C you notice that between 51-40' and 52-0' the rise or fall to the nearest foot corresponding to the horizontal measurement of 100 links, is 84 feet. This added to or subtracted from the reduced level of the station from which you took your reading, will give you the reduced level of the station where your leader stands.

Though it has taken so many words explaining the method, reference to the tables, in the form now put before you does not take more than 5 seconds, and proficiency would come with practice.

The communication of ideas is facilitated, by an intimate talk over the matter, and hence each reader whom I have addressed familiarly in the second person in this article, would I hope excuse me for this.

If there is a demand for these tables, I believe the management of this magazine, may be able to undertake to supply them, at small cost, separately printed on substantial paper.

Horizontal Equivalents, and vertical rise corresponding to measurements on slopes.

My apology for the publication of this is its utility.

I daresay any one who has had to chain in hilly country, knows the necessity for correct horizontal measurements, the difficulty of

carrying out such measurements, and the accuracy caused by chaining in bits, each bit being held horizontal. In the absence of any clinometers, those methods may be resorted to, but if any angle measuring instrument is available, it is very easy to calculate the horizontal equivalent of the length measured on the slope. I append a simple table, which I believe will help many Forest Officers, in their survey work. In the absence of a suitable clinometer, any protractor with a plumb bob hanging down from the centre, will read the slopes necessary, and is perhaps the cheapest and most convenient instrument for this purpose. When viewing along the base of the protractor, if this base is horizontal, the plumb line will indicate 90 degrees. When the base is inclined to the horizontal the inclination of the plumb line to the 90 degree line, will be equal to the inclination of the base to the horizontal. But if a Watkins clinometer or an Abneys level is available, we need not have recourse to the crude instrument I suggested.

In use, read the slope inclination, and from the tables that I append, you can get either the horizontal equivalent in links of one chain, or the vertical rise or fall in feet corresponding to one chain, in either case the chain measurement being conveniently along the slope. Any multiple or fraction of a chain reading might also be disposed of pro-rata.

I lay no claim to originality in these calculations. The horizontal equivalents are obtained by the formula $l \cos O$ and the vertical equivalents by $l \sin O$.

Table of Horizontal and Vertical Equivalents of 1 Chain.

Angle Degrees.	H. Eq. Links.	Rise Feet.	Angle Degrees.	H. Eq. Links.	Rise Feet.	Angle Degrees.	H. Eq. Links.	Rise Feet.
0	100.0	0.00						
1	100.0	1.15	31	85.7	33.98	61	48.5	57.72
2	99.9	2.30	32	84.8	34.97	62	46.9	58.26
3	99.9	3.45	33	83.9	35.95	63	45.4	58.80
4	99.8	4.60	34	82.9	36.91	64	43.8	59.32
5	99.6	5.75	35	81.9	37.86	65	42.3	59.81
6	99.5	6.90	36	80.9	38.79	66	40.7	60.28
7	99.3	8.04	37	79.9	39.73	67	39.1	60.74
8	99.0	9.18	38	78.8	40.63	68	37.5	61.19
9	98.8	10.32	39	77.7	41.54	69	35.8	61.62
10	98.5	11.46	40	76.6	42.42	70	34.2	62.02
11	98.2	12.60	41	75.5	43.29	71	32.6	62.40
12	97.8	13.72	42	74.3	44.15	72	30.9	62.76
13	97.4	14.85	43	73.1	45.01	73	29.2	63.11
14	97.0	15.97	44	71.9	45.84	74	27.9	63.43
15	96.6	17.08	45	70.7	46.67	75	25.9	63.74
16	96.1	18.19	46	69.5	47.47	76	24.2	64.03
17	95.6	19.26	47	68.2	48.26	77	22.6	64.30
18	95.1	20.39	48	66.9	49.05	78	20.8	64.45
19	94.6	21.48	49	65.6	49.81	79	19.1	64.77
20	94.0	22.06	50	64.3	50.56	80	17.4	65.00
21	93.4	23.66	51	62.9	51.29	81	15.6	65.18
22	92.7	24.72	52	61.6	52.00	82	13.9	65.36
23	92.1	25.79	53	60.2	52.70	83	12.2	65.51
24	91.4	26.84	54	58.8	53.39	84	10.5	65.63
25	90.6	27.83	55	57.4	54.06	85	8.7	65.74
26	89.9	28.93	56	55.9	54.71	86	7.0	65.83
27	89.1	29.96	57	54.5	55.35	87	5.2	65.90
28	88.3	30.98	58	53.0	55.96	88	3.5	65.95
29	87.5	32.00	59	52.5	56.57	89	1.7	65.98
30	86.9	33.00	60	50.0	57.15	90	0.0	66.00

M. S. Raghavan,
Instructor Madras Forest College.

Elephants and their much exaggerated Sagacity.

The popular estimate of the intelligence of an elephant is, no doubt, due to its size and staid appearance, its gentleness, and the ease with which it can perform numerous services with its trunk. However, the opinion is generally held by those who have lived amongst elephants and had ample opportunities of observing them, that the layman's exalted idea of its intellect is a greatly exaggerated one; and instead of being the very sagacious animal it is commonly believed to be, its sagacity is of a very mediocre description. And of the truth of this opinion no one who has had much to do with elephants can entertain a doubt. To most people in general, and particularly amongst those not acquainted with elephants in countries outside its native home, the wonderful things an elephant can do make it a general favourite and tales of intelligence--most of them highly exaggerated--are not only accepted without investigation, but welcomed with pleasure.

Undoubtedly a domesticated elephant is very obedient and it is also easily taught, but its reasoning powers are poor--below those of a dog, and possibly other animals, and beyond those matters of daily routine taught it, it evinces no special discernment. The animal is quick in picking up anything it is taught, but decidedly lacking in originality. Now let us see whether the elephant shows more intelligence in its wild state than other animals. It readily tumbles into a pit dug for catching it, though it possesses a trunk, which is capable of guarding it against such dangers. The others of the herd make no effort to assist the fallen one, as they might easily do by kicking in the

earth round the pit giving a helping hand (at least proboscis) or throwing in branches and billets of wood, instead of that they flee in terror.

It often happens that a calf falls into a pit near which the mother will remain until she is driven away by the men, without doing anything to assist it, not even feeding it by throwing in a few branches. To most people, no doubt, this is more difficult to believe than if they were told that the mother supplied its unfortunate baby with grass, brought water in her trunk, or filled up the pit with trees and so helped to get the young one out.

Again take the Kheddah operations; whole herds of elephants are driven into ill-concealed enclosures, which no other animal could be made to enter. Even experience does not bring wisdom, for elephants which happen to effect their escape are caught again.

These facts are certainly against the conclusion that the elephant is a very shrewd animal, with no facility for reasoning with which he is commonly credited. Most of the stories one reads or hears about, except those relating of feats of strength or docility performed under its trainer's direction, are beyond its intellectual power and are but pleasant fiction and here is a good one of its kind, which, I am sure, most of us have heard or read at some time or other. An elephant used to pass a tailor's shop daily on its return from its bath and put its trunk through the window to receive from the tailor some tasty morsel. One day the tailor was in a bad mood and when the elephant put its trunk through the window he, instead of giving it the usual tit-bit gave the elephant's trunk a nasty prick with his needle.

The elephant was furious and marched off to the nearest muddy pool, filled its trunk with the dirty water and returning to the tailors' shop gave him a delightful shower bath and absolutely spoilt the lovely silk dress he was making for the biggest memsahib of the district; the tailor was a ruined man and the elephant had his revenge.

It is a common idea that elephants are treacherous and retentive of injury, but this is a groundless one. Persons who do not understand elephants often give them credit for doing things which are suggested to them and in which they are directed by their mahouts or trainers on their necks. However, it may be stated that their good qualities cannot be exaggerated and that their vices are few, and only occur in exceptional animals at certain periods, this period is known as 'musth,' when even the most reliable elephant becomes dangerous. At this time he "sees red" like the mopliah and runs amok. A good Mahout can detect this "musth" coming on several days before it reaches the dangerous stage, and by hobbling the animal, can prevent trouble. In the cheeks of an elephant are two small holes, called "errors," and from these holes oozes a slight secretion. One of the mahout's duties each day is to examine the holes and run a piece of straw into them. If there is an odour of musk about the straw when he pulls it out, it is a sign that the "Musth" period is coming on.

Elephants do not push with their fore-heads or the region above their eyes, but with the base of the trunk, about one foot below the eyes. Elephants are poor sighted and their hearing is not acute

but their sense of smell is highly developed. The elephant uses both his trunk and his lungs in calling and has a large variety of sounds with which to express himself. When rushing an enemy he trumpets shrilly; when enraged with wounds, he grumbles hoarsely from his throat; he expresses fear by a shrill, brassy trumpet and a roar; and pleasure by a continued low squeaking through the trunk. When suspicious of danger he raps the end of his trunk smartly on the ground and trumpets; the peculiar noise sounds like that produced by the throwing down of a bag of rupees.

The elephant is an interesting, good and faithful animal, and he does not attack his keeper without excuse, except when he is in what is called the "Musth" period, which has already been described. A baby elephant weighs approximately 200 pounds at birth, and stands three feet high. The age of an elephant can be told largely by the ears; an old animal has ragged ears and sunken cheeks. An elephant is full grown at 25 years of age and lives in captivity to a hundred years, and probably half as long again in a wild state. The height of an elephant at its shoulder is almost twice the circumference of its front foot and the girth of its neck one-eighth less than its height. Elephants 10½ feet in height and slightly more have been shot. but the existence of animals 11 and 12 feet high is nothing but a myth.

R. H. M.

Instructor M. F. C.

Forest Week Sports Activities.

Forest College Vs. Visitors.

Cricket : This match was played on the College ground on Sunday, June 27th, and resulted in an overwhelming victory for the College.

Mr. Richmond captaining to Visitors, won the toss and elected to bat. He and Mr. Latham opened the innings and for some considerable time it looked as if the College would never succeed in getting either batsman out. However Latham at length fell a victim to Kewal Krishen's bowling, having made 35 runs without giving a chance. The score, at the fall of the first wicket was 91—a notable achievement on the part of the two veterans of the team.

We were fortunate in quickly getting rid of Mr. Wimbush, as on occasion, he can make many runs. However, after scoring two singles, he fell a victim to Kewal Krishen.

Richmond having scored 70 decided it was time he went, and accordingly did so.

The rest of the side did nothing worthy of note and the whole team was dismissed for 133.

In the bowling Divekar captured 4 wickets for 20 runs and Kewal Krishen 3 for 22.

The College opened their innings after lunch with Williams and Simon, the bowling being entrusted to Wimbush and Vasudevan. Both bowlers commanded respect and the scoring at the beginning was fairly

slow. When the board showed 51, Williams was given out L. B. W. having made 16. Mitchell joined Simon, but after another four had been scored, Simon was bowled by Vasudevan, having contributed a useful 28. Darrington joined Mitchell and the two put on a further 31 before Mitchell was caught off Sweet's bowling. Kewal Krishen then joined Darrington and they took the score up to 132, when the latter was bowled by Wimbush. Of the remainder of the team Lagn, by dint of large hitting and many escapes made 16. The total score was 202 for 9 wickets, innings declared. In the bowling line, Richmond took 5 wickets for 45 runs.

After tea the visitors again batted, and an extraordinary fiasco ensued, the whole side being dismissed for 35 runs Simon taking 9 wickets for 14 runs.

It was unfortunate that the fielding of the visitors' team was so poor, since, had many catches offered been taken, the college score would have been very much smaller, and a much closer match would have resulted.

THE SCORES ARE APPENDED.

Visitors:	1st Innings.	2nd Innings.	
Latham	c. Verma	b. K. Krishen 35.	c. Williams b. Simon 8
Richmond	c. Mitchell	b. Simon 70.	c. Devikar b. Simon 1
Wimbush	c. and b.	K. Krishen 2.	b. Simon 3
Barry	c. Williams	b. Divekar 2.	not out 3
Duckworth	b. Divekar	...	9. c. Darrington b. Simon 0
Wernham	c. K. Krishen	b. Divekar 0.	c. K. Krishen b. Simon 4

Martin	b. K. Krishen	...	4.	c. and b.	Simon	2
Pearce	c. Divekar	b. Simon	0.	c. Williams	b. Simon	0
Sweet	b. Divekar	...	0.	b. Simon	—	2
Mitchell (J.E.M.)	b. Mitchell	...	2.	c. Darrington	b. K. Krishen	1
Vasudevan	not out		2.	c. Williams	b. Simon	12
Extras	...	...	7.	Extras		0
			Total	13.3	Total	35

Forest College.

Williams	bw.	b. Duckworth	16
Simon	b.	Vasudevan	28
Mitchell (R. H.)	c.	Duckworth	b. Sweet 20
Darrington	b.	Wimbush	— 27
K. Krishen	c.	Latham	b. Richmond 44
Taylor	b.	Richmond	— 10
Verma	St.	Latham	b. Richmond 0
Lagn	St.	Latham	b. Richmond 16
Khokar	bw.	b. Richmond	5
Mohan	not out	—	13
Divekar	not out	—	6
Extras			17
			Total... 202

Golf. The Forest Department challenged the Coimbatore Club to singles and four-ball matches, and these were played on the Coimbatore Links on the mornings of June 28th and 29th. There

were no startling individual matches; Forests won the singles by $4\frac{1}{2}$ matches, to $3\frac{1}{2}$, and the four-ball matches were halved, each side winning two.

Tennis. The Department Versus the Coimbatore Club: Played on the club courts on the evenings of the 28th and 29th June. The men's doubles resulted in an overwhelming victory for Coimbatore, though Wimbush and Richmond, won all their matches, and Brand and Hart won three out of four.

In the mixed doubles, however, the position was very much reversed, Forests winning fourteen out of a total sixteen matches played. The ladies representing the Forests played very well indeed and are to be congratulated on playing such hard tennis throughout four consecutive sets.

Inter Divisional Hockey:—This match was played off on June 26th. Both teams were evenly matched and the game was fast and furious throughout. The Juniors drew first blood after 20 minutes play, Misal being responsible, with a nice shot which completely beat the Senior Division Goalie. During the remainder of the first half both goals were frequently threatened, but no further goals were scored. In the second half the Seniors had slightly the better of game and Khokar, captain of the Senior team, by his dash and good stick work equalised with a hard shot 15 minutes after the start. Soon afterwards Khokar again netted the ball and though the Juniors tried their best to equalise, they were beaten by the odd goal in three. The Seniors are to be congratulated on winning the tournament twice, both

as Juniors and Seniors. Our thanks to Messrs Green and Duckworth for having very kindly referred the match.

Tennis (The Fischer Cup.) Five students entered for the tournament, the finalists being A. Khan and K. Krishen—both of the Junior Division—and resulted in a win for the former. The play was very steady—in fact far too steady—and there was very little variety of strokes, which made the match rather un-interesting and monotonous.

It was disappointing, however, that more students did not enter and it is hoped that a little more interest will be evinced next year.

D. M.

Prize day at the Madras Forest College—1st July 1926.

On the 1st of July, which was the concluding day of the "Forest Week", a large and distinguished gathering of officials and non-official Europeans and Indians assembled in the hall in the Madras Forest College to witness the distribution of certificates, medals and prizes to the thirteenth batch of successful students. His Excellency the Right Hon'ble Viscount Goschen of Hawkhurst, G. C. I. E., C. B. E., V. D., Governor of Madras presided and did the college and students the honour of distributing the prizes and certificates.

Prominent among those present were:—

H. A. Latham Esqr., Chief Conservator of Forests; Messrs. R. D. Richmond, D. T. Barry, A. Wimbush, T. Clear, F. R. Madan, K. R. Venkataramana Ayyar, Conservators of Forests; Mr. and Mrs. Martin; A. R. Cox Esq., I. C. S. Collector of Coimbatore, J. M. Green Esq.,

D. S. P., Mr. Rama Ayyangar, Conservator of Forests, Mysore, Rao Bahadur Ratnasabapathi Mudaliar, Messrs. C. V. Venkatramana Ayyangar, B. A., B. L., M. L. C. T. A. Ramalinga Chettiar, B. A., B. L., M. L. C., the Zamindars of Uttukuli and Samathur, and a number of officers from the Agricultural College and Coimbatore town. His Excellency was met at the main entrance to the college by the Chief Conservator of Forests and the Principal. His Excellency then inspected the Guard of Honour formed by the students. After being introduced to the Conservators of Forests, and the staff of the college, His Excellency proceeded upstairs to the Prize Distribution Hall. The function was opened by Mr. C. R. F. Williams, the Principal of the college, who having extended a hearty welcome to His Excellency, spoke as follows:-
Your Excellency, ladies and gentlemen,

It is now four years since the Madras Forest College has been honoured by the presence of His Excellency the Governor, and it gives me very great pleasure on behalf of the College to welcome Your Excellency to day. We feel it an honour both to the College and to the whole of the Department, and we are very grateful indeed that Your Excellency has been good enough to find time to preside at our Prize giving. I can assure Your Excellency that those students who are fortunate enough to receive their prizes from your hands will feel themselves doubly honoured.

I very much regret that owing to the re-arrangement of the entry of the Senior Students for their prizes in order to save time, we have not been able to ask some of our numerous friends to join us in the platform.

Before asking Your Excellency to be so good as to present the prizes may I briefly outline the work of the year.

During the past twelve months we have experienced the usual changes of staff, Messrs Darrington and Raghavan, filling the vacancies caused by the transfer of Messrs. J. A. Wilson and C. M. Kushalappa. Our curriculum is primarily practical and the College is staffed by officers who are deputed from their ordinary work for two years. It will be seen therefore that these changes of staff tend to ensure that the instruction is of a practical nature, and Instructors are able to illustrate their lectures from their own varied experience.

We were fortunate in securing Mr. Bridge, our Forest Economist, to give a course of lectures to the Senior students on some of the more important aspects of Forest Utilization, but owing to his taking some leave, Mr. Pearce, our Logging Engineer, was not able to repeat his very interesting course of lectures in Logging Engineering. It has been arranged that both he and Mr. Wernham who has recently returned from special training in America will deliver short courses of lectures to the students during the ensuing year. In my opinion, the utility of these lectures from experts both in College and on tour cannot be over estimated. It is our object to turn out a practical Ranger, and such instruction is of very great value.

Our college course lasts two years, and we have therefore, a Senior and a Junior year. Three students having been sent down as being unlikely to profit by the course, the Senior Division began the

year 26 strong, all of whom sat for the final examinations. The results of these examinations show that the general standard is a little higher than last year, although as is usual many students find difficulty in expressing themselves really intelligibly in English in technical subjects

Of these 26 students:—

- 1 obtained Honours,
- 22 obtained Higher Standard Certificates,
- 3 obtained Lower Standard Certificates.

No student failed to qualify and the large majority of students obtained their Higher Standard Certificates with ease. The standard of intelligence of the Central Provinces and Bombay Students is still on the upward grade, and the Madras students no longer have the monopoly of the first few places in the list as has been the case in the past.

The Junior Division is 29 strong, and appears to be getting on quite well. It is interesting to note that the top man of this Division for the first time is a Central Provinces Student.

Tours. Five months of the year were spent in camp in accordance with the usual programme, and our thanks are due to the District officers and their staffs who all helped to make our camps instructive and pleasurable.

Athletics. Turning to Athletics, which as you probably know is a compulsory part of our curriculum.

Cricket. Our Cricket team after beginning the year well by defeating our old adversaries the Gymkhana Club in a close game, went badly to pieces, and we again failed to secure the Local Tournament Shield. It is unfortunate from our point of view that this tournament is played in August and September, when our Senior students have left us and there has been no time to train the new comers. We miss our Ceylon students very much in this branch of sport

Grigg Sports. I am afraid that this year we only did moderately well, and did not retain the aggregate cup for open events which we to easily won the year before.

Our College Athletic Sports were held in September, and the weather being fine, we had a very successful afternoon. The Richmond Cup which is awarded to the student obtaining the greatest number of points in the more important events was won by student Khokhar, with student Lagu as runner up. Competition was keen, and both students are to be congratulated upon their performances. Very fortunately the Honourable the Home Member, the Inspector General of Forests, and the Chief Conservator were able to be present on this occasion.

The Marathon Race over a seven mile cross country course was won very easily by the Junior Division, the first man home being student Gupta, who completed the course in just over 46 minutes—a very creditable performance. I regret that the Senior Division should have been so easily defeated both as Juniors and Seniors.

Our Hockey Team this year was distinctly good, and we had every hope of winning the Local Hockey Tournament. The first two

rounds were won fairly easily, but we were defeated in the final after a very hard and close game.

The Senior Division won the Cowley-Brown Cup by two goals to one, very largely due to the dash of their captain, student Khokhar. The Senior Division thus won the cup both as Juniors and Seniors.

Our students while at the College are subjected to semi-military discipline, and I think that there is no doubt that our system of regular exercise consisting of compulsory games and daily physical training combined with regular medical attendance turn out a very smart, healthy student. The difference between a class on arrival at the College and on departure is most marked.

The general standard of health and discipline has been satisfactory.

May I now ask Your Excellency to be so kind as to present the Prizes and Certificates:—

1. *Campbell-Walker Prize* - the best Student in Forestry.
P. K. Subba Narayana Ayyar (IV Circle Madras).
2. *Gold Medal for Best Senior Student on marks.*
P. K. Subba Narayana Ayyar.
3. *Silver Medal for Honours and Certificate.*
P. K. Subba Narayana Ayyar.
4. *Range Administration' Prize.*
P. K. Subba Narayana Ayyar.
5. *Indian Forester Prize*—for an Essay by present students.
P. K. Subba Narayana Ayyar.

6. *Brazier Prize* - the best Practical all round Ranger.
Y. Vydyanathan. (IV Circle, Madras).
7. *Lodge Prize for Engineering* - and Higher Standard Certificate-
Y. Vydyanathan.
8. *Madras Conservators' Prize* - for survey and Drawing.
H. P. Verma and Higher Standard Certificate (Central Provinces).
9. *Higher Standard Certificates.* (arranged in order of merit).

1	Y. Vydianathan	(IV Circle, Madras).
2	S. Venkatrama Iyer	do
3	Mohammad Firoz Khan	Central Provinces
4	K. M. Verghis	Bombay
5	L. G. Lagu	do
6	N. V. Divekar	do
7	H. P. Verma	Central Provinces
8	K. Yeleswara Rao	do
9	M. K. L. Mohan	do
10	A. C. Sarawate	do
11	R. L. Yado	do
12	Abdul Syed	do
13	Waliti Ram	do
14	Harcharan Singh	do
15	S. A. J. Quraeshi	Bombay

- | | | |
|----|--------------------|---------------------|
| 16 | K. B. Jape | C. P. |
| 17 | P. A. Desai | Bombay |
| 18 | Gurdas Singh | C. P. |
| 19 | M. Syed Abdullah | Behar and Orissa |
| 20 | Muhammad Oosman | Hyderabad |
| 21 | B. R. Avatar Sinha | Behar and Orissa |
| 22 | V. N. Leapingwell | (II Circle, Madras) |

Lower Standard Certificates:

- | | |
|----|--------------------|
| 23 | N. G. Savant |
| 24 | Md. W. K. Khokhar |
| 25 | A. B. Muthunayagam |
11. *Chief Conservator's Prize for best Junior Student.*
Hukam Singh.
 12. *Pentland Shield for best all round Athlete.*
Md. W. K. Khokhar.
 13. *Inter Division Hockey-Cowley Brown Cup Senior Dn.*
Md. W. K. Khokhar.
 14. *Swimming Medal.*
L. G. Lagu.
 15. *Fischer Cup for Tennis.*
A. Ullah Khan.
 16. *Moopil Nair Cup for Marathon Race.*
R. N. Gupta.

His Excellency then rose amidst loud applause and addressed the audience as follows:—

“Mr. Williams, Ladies and Gentlemen,

While I am addressing you young men of the Forest College, I should like to take the opportunity to refer to what has, I know, been considered a long-standing grievance on the part of lower standard certificate men. It has been represented to Government that these lower standard students who are appointed as range officers, seventh grade, have had to remain for an over long period in that grade on account of the preference shown to honours and higher standard certificate men with a resulting block of promotion. My Government have considered this matter very carefully and as a result have issued a recent Government order which we hope, in due course, will remedy the position for the lower standard men. Under this G. O. those of them, who have put in seven years approved service will be appointed to the sixth grade during the current year and in succeeding years men of the following year will similarly be promoted each year to the sixth grade. This arrangement will continue until all students who have left or will leave the College in 1926-27 have reached the sixth grade; honours and higher standard men will have no claim to preferential promotion to the next or fifth grade. I feel sure that all of you will agree that this is a fair and equitable arrangement.

THE BUSINESS SIDE.

I want now to deal with the general subject of forestry, a subject in which I have always taken the greatest interest and I can

assure you that my interest is not ephemeral or likely to die away in the evening on my way back from Coimbatore. But it is a subject to which for many years I have given considerable attention and my interest has been considerably revived during my time in this province where such potentialities exist in the great districts under forest. In the past, I venture to think, too much attention has been paid to the preservation of forests and silviculture and too little to the development of the business side of the industry. The Forest service were the guardians of the great forests which they tended and cared for, experimenting on the suitability of trees for soil and climate and maintaining and extending the acreage under forest but the trading of the timber was outside their sphere. During the war there was a timber shortage over the world and India, like other countries, was called upon for much needed supplies, which she was unfortunately unable to meet largely owing to the lack of an organisation trained on a large scale to extract the timber, and so an opportunity was lost of greatly increasing forest revenue during the period of high prices. Since the year 1922 considerable progress has been made in the forest Department. It has been mainly an experimental period, but this work which has been done by the Forest Department has not, perhaps been properly appreciated, possibly due to the fact that it has not been sufficiently known. It has nevertheless, been of deep interest and very successful. I have not the time to-day to deal at length with all that has been done during that period, but I would like to call attention to two main features of the work. The first has been the institution of an engineering branch under the able control of Mr. Martin, which has been concerned with experiments for the

extraction of timber from the forests by machinery. The result was most satisfactory and we now have a staff trained in this method of logging. Then experimental work has been carried out at Olavakot in finding uses for the new timbers hitherto unused. Two new timbers have been placed on the market and the demand created is so great that all available supplies have been insufficient to satisfy it. Another timber hitherto little used is now finding a steadily increasing market and another species thought to be of no value has now been accepted as suitable for sleepers if properly treated.

A FORWARD POLICY.

So the position is this. We have reached a psychological moment in the history of our Forest Department. Following the years of depression after the war business is now getting into its stride again. Capital is flowing into new enterprises and expanding existing industries, and the timber trade is sharing in this better outlook. Madras possesses large resources in fine timber forests hitherto unutilised. As I have pointed out, the Forest Department, during the past years, has been making experiments and preparing itself to meet the demands which might be made upon it. I would to-day make an urgent appeal to the people of this province to support the Government in a forward policy for our Forest Department. I am confident myself that we have in our forests a source for considerably increasing the revenue of the province. There is a considerable and increasing demand now for our timbers, and to meet that demand

we must further develop our Forest Department and its machinery, but it is an expenditure which I am sure will be well repaid. The real question before us to-day is this. The tide of business is flowing our way. Are we to miss, that tide for want of support and sit upon the shore and see our rivals benefit by their initiative and our want of energy? If we are not prepared at this moment to take the business which is being offered to us, we shall lose our markets which will go to others and which it will probably not be possible for us to regain in the future. I am not placing before you to-day any scatter-brained scheme but a business proposition. We have goods to deliver and I know as a fact that there is at the present moment a demand for those goods. Here in Madras we have a great programme of expansion and improvement recently inaugurated by the railways.

MARKETS FOR TIMBER.

The Metur project is now under way. The Pykara is soon to be started followed, it is hoped, by other hydro-electric and industrial developments. All these enterprises use timber in large quantities.

Besides this, large local markets are found to exist for building materials, boxes, picture moulding and we have wood of high class suitable for panelling and cabinet making which has only to be known to set up a demand. The railways have asked us to supply sleepers, and if we are unable to do so, they will have to turn to outside sources for their supply. I have myself been approached by another country where no timber is grown to ask whether we can

supply railway sleepers in large numbers for their railway development and also timber suitable for building. A utilisation department has been created and is being expanded in the Forest Department which is really a marketing division of that department. It has collected and is collecting information as to the present demand for timbers of all kinds, and is being approached by various industrial enterprises who are anxious to obtain timber. Demand at the present moment is exceeding supply. Costs of extraction and manufacture have steadily decreased and prices are increasing. The Forest service, at the present moment, is full of enthusiasm and optimism. Mr. Tireman is full of zeal to expand his department and to increase its revenue. He is ably supported by Mr. Martin to whom I have already referred and who, with his experience of other countries, is fully alive to the possibilities of the forests in India. This province is not a rich province and there are many schemes having for their object the material and physical welfare of the people which we are unable to develop at the present moment owing to want of funds. Surely, it does behoove us energetically to further an industry which is capable of considerably increasing the revenue of the province. Financial support of this industry at the present moment will I am sure, bring in good interest in the future, I would appeal to you, students of this College, to-day to take your full share in furthering these schemes. Do not look upon forestry merely as your profession, but make it your hobby too. Put into your work the best that is in you, remembering that it may be your part to take a share in assisting the economic development of your province.

REGENERATION.

If you will allow me, there are just two other subjects to which I would refer, both of which are concerned with what I have been speaking to you about to-day. I know that one of the criticisms which are made upon the policy, which I have been advocating to-day, is that it will do much to destroy our forests. No doubt, in the past, there has been somewhat of a tendency among forest officers to be over-cautious and to doubt the possibility of raising a new crop to replace the old one. I would respectfully venture to impress upon the department that regeneration is what the forest officers are trained for, and that it is a part of their duties to find a way to regenerate the exploited areas. Successful experiments have already been made in this direction and it has been proved to the satisfaction of experts that the regeneration of the evergreen forests, long looked on as very difficult, is an easy and cheap matter, for it can be left to nature with merely a certain amount of tending and weeding of the new crop. I will not go further into so technical a question to-day, but it is, I venture to suggest, a matter to which attention should be devoted and experiments made. The experiment of handing over to the panchayets fuel and grazing forests has so far proved in the main satisfactory and has considerably relieved the expert forest officer, and has thereby freed him to devote his energies to more important and more productive work.

His Excellency, in conclusion, hoped that the Forest Department would continue to make progress. He was anxious to seize that opportunity to put before the public the present position of the

Forest Department. On that matter he was an optimist, and his optimism rested on a sure foundation. His desire was to see whether he could not inspire the people of this Presidency in their own interest as well as in the interest of the Presidency with the optimism he had felt personally. (Cheers).

Mr. H. A. Latham, Chief Conservator of Forests, in proposing a hearty vote of thanks to His Excellency spoke as follows:—

“Your Excellency, Ladies and gentlemen,

With your permission I would, in the first place, express on behalf of the members of the Department and of the staff and students of the Forest College our great appreciation of Your Excellency's kindness in presiding over our annual gathering to-day and in consenting to present the prizes. To receive them from Your Excellency's hands is an honour which will greatly enhance their value to the recipients.

I do not propose, sir, to indulge in any comments on the report which has been placed before Your Excellency to-day, but I have to thank Your Excellency for the words of advice and encouragement which you have given. They are the more welcome because we are all aware that Your Excellency takes a keen interest in the working of the Department and has an intimate knowledge of the developments which are now going on and of the many problems which it has to face and, if possible, to solve.

We are, as Your Excellency knows, in a period of transition. The demands upon us and the conditions under which we have to work are changing and in some respects rapidly, and these demands and conditions and the manner in which they should be met are matter of anxious consideration, of earnest debate and possibly in some cases of clash of opinion but I wish to assure Your Excellency, these are healthy symptoms and derive from that unabated keenness which permeates the Department throughout and are evidence of its earnest desire to discharge the important responsibilities laid upon it to the benefit of the Presidency and its people.

In that task, sir, this College must continue to play an important part and it will be the endeavour of all those concerned with it to turn out men thoroughly qualified to take part in it and to enable the Department to face the future and all that it may bring with confidence and in the hope that it may justify the interest Your Excellency has conferred on it by being present to-day.

Mr. Latham then called for three cheers for His Excellency and they were lustily given. A move was then made to the ground floor of the College where the guests partook of refreshments.

His Excellency and party then left by Motor for Ootacamund and shortly afterwards the other guests also dispersed and thus ended a most successful function.

Prevention from leech bites.

Mr. J. S. Vedanayakam's suggestion on page 1 & 2 of our Magazine issued in March last is no doubt useful to men of better rank.

But it is impossible for poor subordinates and coolies of the logging branch. In practice, it is found at Mt. Stuart that soap of any kind is as effective as unbleached lawn cloth stockings.

We are here walking bare footed in the leech areas by applying ordinary washing soap. This saves us money and annoyance. Now there are no more complaints from coolies about the leeches. *Indian soaps* are more efficacious than those of foreign manufacture.

R. MARIMUTHU PILLAI,

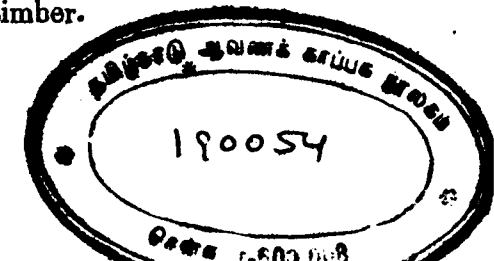
Logging Branch.

EXTRACTS.

A Terminalia tomentosa felled recently at Dhoni, (Palghat Division) had a diameter of 7 ft., at the point of junction of two branches. The lower log weighed 10 tons, and contained 280 c. ft. The two logs above the fork contained respectively 160 cub. ft. and 120 cub. ft. These logs were yarded up a slope of 22°!

A Teak log felled in 1922 at Tellikal, Mount Stuart, (South Coimbatore) yielded 790 c. ft. of marketable timber.

JL
JB, d, m 21, N 16
N 24



A new way to illuminate microscopes.

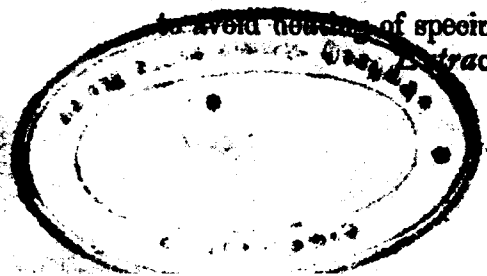
When using the compound microscope it is necessary to throw relatively strong light on the object which is being viewed. Always this has been done by means of daylight or electric light, the rays being reflected on the object either from above it, or from below it.

Now the process of making fused quartz glass in various sizes and shapes has become practicable, a new way to illuminate the object under the microscope has been found. A bent rod of the new quartz glass is placed under the object, one end of the rod under the stage, and the other in front of a powerful lamp.

If one were to do this with ordinary glass, however, so little of the light that entered the end of the tube would find its way around the corner that the arrangement would be useless. It is however a peculiarity of fused quartz glass that light will follow through it, around a corner, a phenomenon which is almost uncanny when observed.

The facts that quartz absorbs a very small portion of the light, and has a high melting point, make its use in this work advantageous. The light conveyed through a solid quartz rod is sufficiently brilliant to illuminate high power objectives without the additional use of substage condensers. The rod also gives better detail than the ordinary methods of illumination. The ends of the rod are ground uniformly, but not polished. Diffused light thus obtained obviates all trouble from images of the filament. It is also possible to work farther from the light source to avoid heating of specimens.

Extract from the "Scientific American" March 1926.



Weight of Rain, and the wettest place.

The weight of an inch of rain on an acre of ground would be 229,152 pounds * * *

The wettest place on earth is Cherapunji, India, where there is an annual precipitation of 458 inches!

How long is a seed's life?

* * * Beet seeds retain their germinating power for 17 years, according to experiments recently conducted by Professor K. Dorph Petersen, of the Danish Seed Testing Station. A considerable number of seeds were stored away seventeen years ago and some were with-drawn every year for experiments. The tests showed 85 per cent of germination, the second year, and 24 per cent the seventeenth year of dormancy. Seeds of white clover germinated after twenty five years. Only a few grass species tested showed much life after seven or eight years. It would also seem that environmental conditions may influence the length of time a seed may remain alive.

Uncle Sam, Spend thrift.

"Hitherto, we (U. S. A.) have been a nation of wood-cutters; hence forth, thanks to national legislation and our highly efficient Forest Service, we are learning to become a nation of wood-growers. Only in this way can we avert disaster. European peoples have been nations of wood-growers for centuries. Most carefully do they cut the mature wood, and plant the seedlings or young shrubs. Under our present methods, our forests produce only 12.8 cubic feet per acre, whereas to meet our present consumption, they should produce over 52 cubic feet. European nations on the other hand, because of centuries of careful forestry are growing as much timber as they cut, Austria and Switzer-

land producing nearly 36 cubic feet per acre, France 40.5 cubic feet and Germany 48 cubic feet per acre, per year....."

—*Extracts from "Scientific American"*.

"Canada is the principal source of soft wood supplies in the British Empire."

The Forest Capital of the world is decreasing at the rate of 18 billion cubic feet per annum, and if consumption continues to increase at the present rate, this decrease will be doubled in fifty years.

In Europe (as a whole) the annual consumption of wood exceeds the growth by 3 billion cubic feet. In the United States the annual cut is four times the estimated annual growth.

The Forests of Russia and Siberia are to a large extent inaccessible."

—*Extract from "Forest Facts"—Canada.*

* * * * *

The part of good citizens.

"A people without children would face a hopeless future; a country without trees is almost as helpless; forests which are so used that they cannot renew themselves will soon vanish, and with them all their benefits. When you help to preserve our forests or plant new ones you are acting the part of good citizens"

—*Theodore Roosevelt.*

The problem of glass breakage solved:

Glass of a special composition called "*Monax*" is now being manufactured in England. A very tough material is thereby obtained, and it is possible for the manufacturers to supply flasks and breakers with which one can drive an 1½ inch nail completely into a piece of ordinary deal wood without fracturing the glass. The same beaker or flask can be used quite safely for boiling water over a naked flame. This is an unusual test for a piece of scientific glassware, but it is one which demonstrates the value of monax in a manner that leaves no doubt on the points mentioned.

* * * * *

Rustless steel and flexible glass 5,000 years ago?

In a book entitled "Glass in the old World" an account is given of the alleged opening of the first and second pyramids of Gizeh. As these pyramids are known with tolerable certainty to have been built between 3969 and 3845 B. C. we may conclude that the things found in them when first opened must have been at least 5,000 years ago. It is stated that there were found among other things *arms which rust not, and glass that might be bent and not broken.*

The ancients have a most exasperating way of anticipating our new ideas"

—*Nature, June 5, 1926.*

Extracts from the College Museum Visitors Book.

1. It is a place from which we can vipe (sic) out ignorance (Land Lord).

2. The exhibits that are arranged here are fresh from Nature's most felicitous mould and are impressive at once imposing and interesting (Land Lord).

3. I am not interested in seeing the unlucky swords, arms and guns. It will be very very excellent if there are old swords and guns which were used in the time of Tippu Sultan in Madras. Then the visitors will be much interested and will wonder at the old guns and swords and also will learn a lot of things. (Student).

4. Satisfied. The nib is not well I hope that you will change the nib. (Merchant).

5. Everything I observed to be decent and clean worth seeing but sorry that the door to the top story is little short. (Timber Merchant).

6. Everything is very nice for sight (Merchant).

7. Everything is pretty but not most beautiful (Teacher)

8. The beauties of forestry represented in a nut shell.

9. I am exceedingly glad to note of this beautiful and grand building and the articles kept in very good order, * I have never seen such an ancient and old trees like these rose and teack trees of 410 years old The watchmen are very active, honest and trust-worthy- their pay should be increased at once. (Private Vakil aged 76 years).

10. Two eyes are not enough (Student).

11. Everything $\left\{ \begin{array}{l} \text{excellant.} \\ \text{excellunt.} \\ \text{ehelent.} \\ \text{ealent.} \\ \text{exelent.} \end{array} \right\}$ to see.

12. Marvellous, raises thoughts towards the creator above.

13. Vary good. (Member of Y. M. M. A.)

14. A beautiful and instructive demonstration of the Miracle of God's power in the forest.

15. Elephant skeleton of course splendid. (Medico).

16. Very pleasent for a heavily turned brain. (Student).

17. Good sight to relieve the monotony of Coimbatore. (Student, Law College).

18. It is worth seeing—especially forest officers of all class. (Forester).

The Campaign against Prickly-Pear in Australia.

Work of the Commonwealth Prickly-Pear Board.

By Alan P. Dodd, Officer-in-Charge of the Investigations.

* * * * *

THE WORK IN AMERICA.

The cactus family is botanically a rather isolated group, and has evolved a considerable insect fauna that appears restricted to plants in the family. In the United States alone, the Board's entomologists have made known more than sixty species of insects that are primarily

cactus feeders; in Mexico and South America other species occur; a number of these has proved new to science.

The work in America consists of the study of the insects in the field, and the breeding and forwarding of numbers of reared material free from parasitic enemies, of all species that promise to be of use in the control of prickly-pear in Australia. Before shipments are sent, tests are carried out with each insect in order to ascertain the possibility of its being able to develop on other plants. These tests have given interesting results, and more than one insect has been eliminated because the tests showed that it was capable of sustaining its life cycle on certain economic plants. The tests are repeated in Australia against economic plants and native trees.

To date, about forty different species of cactus insects have been forwarded to Australia, in most cases many thousands of each.

THE WORK IN AUSTRALIA.

In Australia the Board has established a central laboratory at Sherwood, near Brisbane, and field stations at Westwood, near Rockhampton, Chinchilla, two hundred miles west from Brisbane, and Gravesend, on the Moree-Iverell railway in New South Wales. Sherwood acts as the quarantine station where the insects are received from America and bred through one generation to eliminate further the risk of the introduction of parasites that might exercise a serious check on the rapid multiplication of the desired insects; the bred material is then distributed to the field stations. The equipment at the field stations consists of insects and a great many breeding cages of various types. The function of these stations is to rear the insects in sufficient numbers to permit of liberation in the open.

Throughout the investigations one of the chief difficulties has been the acclimatisation of the introduced insects. It must be remem-

bered that the seasons in North America are the reverse of those in Australia; thus when an insect should be hibernating in the North American winter it must be actively feeding in an Australian summer. With most of the insects, repeated shipments over a period of two or three years have been necessary to secure their establishment in the rearing cages; indeed, certain species have quite failed to adapt themselves, either through the unsuitability of caged conditions, or to differences in climate.

Another phase of the work has been the study of the adaptability of the insects to Australian prickly-pears. The two main species involved in Australia are the common pest pear, *Opuntia inermis*, and the spiny pest pear, *O. stricta*; lesser pests are the velvety tree pear, *O. tomentosa*, the smooth tree pear, *O. monacantha*, and the tiger pear *O. aurantiaca*, while several other forms are found in scattered quantity. Very few cactus insects will attack all prickly-pears indiscriminately most of them show a decided preference for certain forms, and in some cases will readily attack one pear and refuse to live on another.

INSECTS SUCCESSFULLY INTRODUCED INTO AUSTRALIA.

Of the insects successfully introduced into Australia, the most widely known are the cochineals, of which the most important is the wild cochineal, *D. tomentosus*. Three strains of this insect have been brought into the country from Texas, Arizona, and Chico, California, the two first by the Board, the last by independent action. All three will live readily on the two chief pest pears, but the virulence of the attack varies. The Chico cochineal is most destructive to the common pest pear, *O. inermis*, the Texas form favours the spiny pest pear, *O. stricta*, while the Arizona strain seems to be equally suited by either plant. These cochineals are being widely spread throughout Queensland and New South Wales. They are doing splendid service in

many places, especially in dense pear in timbered areas, breaking up the plant masses and destroying old plants; but probably the most useful feature of their work is the manner in which they attack the young seedlings. The Indian cochineal *D. indicus*, was introduced in 1913 by the Queensland Prickly-pear Travelling Commission and will exist on the smooth tree pear, *O. monacantha*, only completely destroying large clumps of this plant in the space of a few months.

Of the plant sucking bugs, several species of the genus *Chelinidia* have been acclimatised; *C. tabulata* has been liberated in many places and has increased at a very rapid rate in the field; in fact, in some localities, millions must now be present from small numbers set free in the past two or three years *C. vittiger* has also been released at various places.

Of the internal feeding caterpillars, one species, *Melitara junctolineella*, has been readily acclimatised; about a million have been liberated, and it is now firmly established in several localities. These caterpillars are solitary in habit, and tunnel within the joints or pads of prickly-pear. A related insect is *Melitara prodenialis*, but the caterpillars are social in habit, a number feeding together within the pear pads; recently this species has been set free in the Westwood district, and promises to be especially useful as a pear destroyer.

One of the most recent of the Board's importations has been strikingly successful in so far as rapid increase is concerned. This insect is *Cactoblastis cactorum*, a social caterpillar allied to the *Melitaras*. Less than three thousand larvæ arrived from Argentine in May 1925, but the increase has been so great that in February and March 1926, nine months later sufficient stocks had been raised to warrant the release of two and a half millions throughout the pear areas. These caterpillars are voracious feeders, and should the increase in the field be sustained at one half the rate experienced in the cages, great destruction of pear should be brought about.

Many other insects are being bred and acclimatised, and the Board is continuing the introduction of new forms, believing that the control of the prickly-pear by biological means can only be brought about by the combined attack of a variety of insects operating on the different parts of the plant.—*Extract from "Nature"—May 1926.*

Madras Forest Rangers' Association Coimbatore.

At an extraordinary meeting of the Madras Forest Rangers' Association held at Coimbatore on the 1st of July, with Mr. P. Velayudam Nair in the chair, the following resolutions were moved and passed unanimously.—

1. That a deputation of nine members of the Association do wait upon the Hon. the Home member with the Government of Madras at an early date, and that the Secretary be authorized to communicate with the Hon. the Home Member to arrange for the interview and also to take steps to draft a memorial to be presented to him laying therein special stress on the subjects of the pay and promotion of Rangers, introduction of time scale of pay and immediate absorption of all the supernumerary Rangers in the regular cadre.

2. That a portion of the Association funds be placed at the disposal of the President of the Association for propaganda work on behalf of the Association.

3. That the Association regrets to place on record the untimely deaths of Rangers A. Manicka Mudaliyar S. V. Sibguttullah Sahib and G. N. Subba Rao and offers its hearty condolence to the members of the bereaved families, (Adopted all standing)—*Extract from "The Hindu" July 9th 1926.*

Contributions to the Gase Forest Museum.

No	Contribution.	Contributor.
1	About thirty botanical specimens ...	H. A. Latham Esq., I.F.S.
2.	Photo of a Toda hut	} Md. Firoz Khan M.F.C, 1924-26 Dn.
3.	Do. (two) ...	
4.	Two specimens of <i>Dendrocalamus strictus</i> , one 52 ft. long and the other 35 ft.	} M. R. Ry. I. Sambasiva- rao Naidu R. O Palavaram.

Gazette Notifications.

23—2—1926.

Mr. F. R. Madan, District Forest Officer, South Mangalore, leave on average pay for three weeks, with effect from date of relief.

Mr. H. P. Ward, Forest Utilization Officer, to be in charge of the office of the Forest Economist in addition to his own duties.

Mr. R. D. Richmond, Conservator of Forests, on return from leave to be Conservator of Forests First Circle.

Mr. F. R. Madan, District Forest Officer, South Mangalore, to act as Conservator of Forests Second Circle

Mr. K.G. Belliappa, District Forest Officer, East Salem, to be District Forest Officer, South Mangalore.

Mr. A. Raju Naicker, District Forest Officer, South Kurnool, to be District Forest Officer, West Vellore.

Mr. V. N. Seshagiri Rao, Extra Assistant Conservator of Forests attached to South Kurnool, to be District Forest Officer, South Kurnool.

2—3—1926.

Mr. J. H. Longrigg, Deputy Conservator of Forests has been granted an extension of leave on half average pay for five months.

Mr. O. H. C. Shelswell, Deputy Conservator of Forests, attached to the Office of the Conservator of Forests, II Circle, to be Deputy Conservator of Forests attached to the Office of the Conservator of Forests, VI Circle.

The Secretary of State for India has appointed Saiyid Abdul Qadir Sahib Bahadur, Extra Assistant Conservator of Forests, to the Indian Forest Service with effect from the 4th November 1925 in the vacancy caused by the death of Mr. H. W. A. Gaudoin.

Mr. T. A. Whitehead, Acting Conservator of Forests is confirmed as Conservator of Forests with effect from 11th February 1926.

M. R. Ry. P. Govinda Menon Avergal, Extra Assistant Conservator of Forests is granted a further extension of privilege leave for 2 days from 24th January 1926 and furlough on average salary for 2 months and nine days in continuation.

Mr. M. C. Chandy, District Forest Officer, West Cuddapah is granted leave on average pay for 21 days from 8th April 1926 with permission to prefix the Easter holidays.

M. Amir Padshah Sahib Bahadur, Extra Assistant Conservator of Forests, Chittoor, will act as District Forest Officer, West Cuddapah Division during the absence of Mr. M. C. Chandy on leave.

M. R. Ry. A. Hanumantha Rao Panthulu Garu, Extra Assistant Conservator of Forests, South Vellore is granted leave on average pay for four months from or after 1st April 1926 and leave on average pay for one year and eight months in continuation, preparatory to retirement.

9—3—1926.

Mr. N. D. Sahni, Assistant Conservator of Forests, South Coimbatore is posted to the Chenai Nair Exploitation unit for the annual check of the stocks of stores and timber.

16—3—1926.

Mr. J. K. Pearce, to be temporary Logging Engineer in the Forest Department.

Mr. C. C. Wilson, Acting conservator of Forests (on deputation to the Forest Research Institute and College, Dehra Dun) is confirmed as conservator of Forests with effect from 2nd March 26.

The officers mentioned below have been declared by the Board to have passed in the subjects specified against their names:—

Mr. J. Coode, Working Plans Officer, Wynad, in Forest Law, Forest Revenue, and office Procedure and accounts.

Mr. B. Janakiram Singh, Assistant Conservator of Forests, Tinnevely in office procedure and accounts.

Mr. K. T. Mathew, Assistant Conservator of Forests, South Mangalore, in office procedure and accounts.

Mr. M. N. Raman Pillai, Ranger, Working Plans Circle in Forest Revenue.

23—3—1926.

Saiyid-ud-din Ahmed Sahib Bahadur, District Forest Officer, Kurnool East is granted leave on average pay for 1 month from 8-4-26 with permission to prefix the Easter holidays.

Mr. B. S. Kesava Vittal, East Kurnool, will act as District Forest Officer, East Kurnool, during the absence of Saiyid-ud-din Ahmed Sahib Bahadur granted leave.

Mr. C. R. Ranganathan, Assistant Conservator of Forests and Imperial Assistant in the Timber Testing section of the Forest Research Institute and College, Dehra Dun, is on reversion to Madras attached for training to the Palghat Division.

Saiyid Riaz-ud-din Sahib Bahadur, Extra Assistant Conservator of Forests, on return from leave is attached to the South Kurnool Division.

30—3—1926.

Mr. H. P. Ward, Forest Economist, leave on average pay for eight months with effect from date of relief.

Mr. J. C. Wrench, Deputy Conservator of Forests, to be District Forest Officer, Ganjam from the date of relief of Mr. F. D. Ardagh.

Mr. O. H. C. Shelswell, Dy. Conservator of Forests, attached to the office of the Conservator of Forests VI Circle to be Deputy Conservator of Forests attached to the office of the Chief Conservator of Forests from the date of joining duty.

Mr. A. M. C. Littlewood, District Forest Officer, Nilambur, is granted leave on average pay for fifteen days from 8th April 1926 with permission to prefix the Easter holidays.

M. R. Ry. C. M. Kushalappa Avl., Extra Assistant Conservator of Forests, Nilambur, will act as District Forest Officer, Nilambur, during the absence of Mr. M. C. Littlewood.

Mr. S. R. Rao, Assistant Conservator of Forests is granted an extension of leave for seven days from 6—10—1925 to 12—10—1925 in continuation of the leave already granted.

M. R. Ry. P. Govinda Menon Avergal, Extra Assistant Conservator of Forests, on return from leave, is attached to the Wynaad Division.

5—4—1926.

Mr. H. Tireman, C.I.E., Chief Conservator of Forests leave on average pay for four months, with effect from 3rd June 1926.

Mr. H. A. Latham, Conservator of Forests, to act as chief Conservator of Forests, during the absence of Mr. Tireman on leave.

Mr. M. V. Laurie, Assistant Conservator of Forests attached to the Forest Economist Madras with effect from 1st April 1926, and to be Forest Economist with effect from the date of relief of Mr. H. P. Ward.

Mr. S. R. Rao, District Forest Officer, Upper Godavari, will on relief by Mr. P. Venkataramanan, be posted to do duty at the office of the Conservator of Forests, I Circle.

M. R. Ry. A. R. Narasimha Aiyangar Avl. Extra assistant conservator of forests Wynaad, is granted leave on average pay for fifteen days from 17th March 1926.

20—4—1926.

M. R. Ry. Rao Sahib K. R. Venkataramana Ayyar Avergal, District Forest Officer, West Kurnool, to act as Conservator of Forests, IV Circle, from about 26th May 1926.

Mr. A. M. C. Littlewood, District Forest Officer Nilambur granted extension of leave on average pay for ten days.

M. R. Ry. C. M. Kushalappa Avergal, Extra Assistant Conservator of Forests, Nilambur will continue to act as District Forest Officer, Nilambur, during the absence of Mr. A. M. C. Littlewood on leave or until further orders.

4—5—1926.

Mr. O. H. C. Shelswell, Deputy Conservator of Forests attached to the office of the Chief Conservator of Forests, to be Personal Assistant to the Chief Conservator of Forests with effect from 15th May 1926.

M. R. Ry. C. M. Kushalappa Avergal, Extra Assistant Conservator of Forests, and District Forest Officer, Nilambur, to be attached to Coorg from the date of joining duty.

Mr. S. K. Basu, Assistant Conservator of Forests, South Mangalore Division is granted leave on average pay for two months and five days from 1st August 1926

M. R. Ry. B. A. Cariappa Avergal, Extra Assistant Conservator of Forests, is granted leave on average pay for fifteen days from date of relief.

Mr. K. T. Mathew, Assistant Conservator of Forests, South Mangalore Division, is posted to do duty under the District Forest Officer, Palghat.

11—5—1926.

Mr. A. R. Brand, Junior Instructor, Madras Forest College, leave on average pay for eight months out of India or Ceylon from 1st August 1926 or the date of relief.

vi.

Mr. K. T. Mathew, Assistant Conservator of Forests on probation is appointed with effect from 15th September 1925, to be Assistant Conservator of Forests, permanent.

Mr. M. C. Chandy, District Forest Officer, West Cuddapah, is granted an extension of leave on average pay for twenty one days in continuation of the leave already granted.

Amir Padsha Sahib Bahadur will continue to act as District Forest Officer, West Cuddapah during the absence of Mr. Chandy on leave.

M. R. Ry. B. S. Kesava Vittal, Extra Assistant Conservator, will continue to act as District Forest Officer, Kurnool East, during the absence of Said-ud-din Ahmed Sahib Bahadur, on leave.

M. R. Ry. A. V. Sundaram, Avergal, Extra Assistant Conservator of Forests, South Coimbatore Division, to do duty in the Beyppore Depot, Nilambur Division.

Mr. V. S. Kuppusami Assistant Conservator of Forests, to be attached to the Chief Forest Engineer.

18—5—1926.

M. R. Ry. P. Venkataramanan Avl., Extra Assistant Conservator of forests an extension of leave on average pay on medical certificate for three months in continuation of the leave already taken by him.

Mr. George Venugopal, District Forest Officer, East Salem Division, to be District Forest Officer, West Kurnool Division, with effect from or about 20th May 1926.

Mr. M. C. Chandy, District Forest Officer, West Cuddapah, to be Junior Instructor, Madras Forest College, Coimbatore, from or after 1st August 1926.

The services of Mr. C. R. Ranganathan, Imperial Assistant to the Officer in charge, Timber Testing Section, Forest Research Institute and College, Dehra Dun, are replaced at the disposal of the Government of Madras, with effect from the afternoon of the 1st April 1926.

vii.

M. R. Ry. S. Ramasawi Ayyar Avl. Extra Assistant Conservator of Forests North Salem Division, is posted to act as District Forest Officer, East Salem Division, vice Mr. George Venugopal, or until further orders.

25—5—1926.

Mr. F. D. Ardagh, Deputy Conservator of Forests, Madras, whose service have been placed at the disposal of the Government of India, is appointed as officer in charge, Minor Forest Products section, Forest Research Institute and College, Dehra Dun, with effect from the forenoon of the 27th April 1926.

8—6—1926.

Mr. D. A. Stracey, Extra Assist. Conservator of Forests, an extension of leave on average pay on medical certificate for three months and twenty three days, and half average pay for seven days in continuation thereof.

15—6—1926.

Major W. F. Chipp, Forest Engineer-in-charge of Exploitation division, Olavakode, to be Forest Engineer-in-charge of saw mills and Extraction with effect from 1st June 1926.

Muhammed Abdul Hafiz Sahib Bahadur, Assistant Forest utilization officer, is granted leave on average pay for three weeks, with effect from date of relief in June.

M. R. Ry. K. G. Belliappa Avergal District Forest Officer, South Mangalore, is granted leave on average pay for three weeks with effect from date of relief.

Mr. S. K. Basu, Assistant Conservator of Forests, South Mangalore, is posted to act as District Forest Officer, South Mangalore, during the absence of M. R. Ry. Rao Sahib, K. G. Belliappa on leave or until further orders.

Mr. B. Janakirhm Singh, Assistant Conservator of Forests, Tinnevely, to act as District Forest Officer, Tinnevely, until further orders.

Capt. H. A. Irwin, Forest Engineer, Madras, is granted privilege leave for one month from 1st September 1926.

viii.

Mr. C. J. Van Haeften, E. A. C. of Forests, will hold charge of the Forest Engineer's division during Mr. Irwin's absence on leave.

Mr. A. M. C. Littlewood, D. F. O. Nilambur is granted a further extension of leave for nine days with effect from 3rd May 1926.

Mr. N. D. M. Sahni, Assistant Conservator of Forests, on completion of work at Olavakode is posted to the Beypore depot, to work under the orders of the Forest Utilization Officer, Madras.

Mr. K. T. Mathew Assistant Conservator of Forests, Palghat is posted to do duty under the District Forest Officer, Nilambur for training.

22-6-1926.

Mr. P. W. Davis, working Plan Officer, Mangalore North, leave on average pay for eight months with effect from the 1st of August 1926 or date of relief.

Mr. G. S. Lasrado, District Forest Officer, North Mangalore is granted with effect from the 6th October 1926, leave on average pay for four months, and in continuation thereof leave on half average pay upto and inclusive of 6th March 1927 preparatory to his retirement with effect from 7th March 1927.

Mr. H. E. Brown E. A. C. of Forests, Nilambur, granted leave on average pay on medical certificate for 3 months with effect from 28th April 1926, or date of relief

M. R. Ry. A. V. Sundaram Avl. E. A. C. of Forests, granted leave on average pay for 24 days from 13-5-26 and leave on half average pay for 28 days in continuation.

M. R. Ry. A. V. Sundaram Avl., on return from leave is posted to do duty under the D. F. O. South Coimbatore,

ix.

Notifications relating to Rangers.

13-3-1926.

The following transfers of rangers are ordered with effect from 1st April 1926.

Mr. R. E. Lemos, Ranger, I Grade sub protem from the Forest Engineering Branch to the IV Circle.

M. R. Ry. C. S. Ramanathan, Ranger IV Grade from the IV Circle to the Forest Engineering Branch.

30-4-1926.

The following reversion of rangers is ordered with effect from 1-3-1926 vice M. R. Ry. B. V. Nagaraja Ayyar, Ranger III grade restored to II grade.

Mr. J. A. P. D'Cruz from II grade sub protem to III grade permanent.

M.R.Ry. N. Sundaresa Ayyar from II grade Spt. to III grade permanent.

3-5-1926.

The following promotions of rangers are ordered:—

I. *With effect from 10-10-25 vice M.R.Ry. T. K. Parthasarathi Ayyangar Ranger, VI Grade permanently reduced to VII Grade.*

M. R. Ry. G. V. Subba Rao from VI Grade sub protem to VI Grade permanent.

II. *With effect from 3-2-26 vice M. R. Ry. G. N. Subba Rao Ranger VI Grade deceased.*

M. R. Ry. N. Gopalan Nayar VI Grade sub protem to VI Grade permanent.

M. R. Ry. N. Chakrapani Ayyangar from VII Grade permanent to VI Grade sub protem.

M. R. Ry. T. Perumal Kavandan from VII Grade sub protem to VII Grade permanent.

Abdul Khalak Sheriff Sahib, Forester I Grade to VII Grade sub-protem.

III. *With effect from 4-1-1926 vice Mr. C. S. King, Ranger III Grade on other duty as instructor Vernacular Training School in the I Circle.*

M. R. Ry. B. Kotilingam, M. R. H. 1922 Supernumerary ranger to VII Grade subprotem for a period of seven months.

IV. *With effect from 16-1-26 vice M. R. Ry. C. Ramaswami Nayudu, Ranger I Grade on other duty as Instructor and M. R. Ry. S. Sankaran, Ranger V. Grade, on other duty as Assistant Instructor. Vernacular Training School in the Second Circle.*

M. R. Ry. M. S. Krishnaswami Ayyar. M. R. H. 1922, Supernumerary ranger to VII Grade sub protem for a period of seven months.

M. R. Ry. M. M. Mandanna M. R. H 1922, Supernumerary ranger to VII Grade sub protem to 14-4-1926.

M. R. Ry. M. S. Ayyanna M. R. H. 1923, Supernumerary ranger to VII Grade subprotem from 15-4-26 to 15-8-1926.

V. *With effect from 1-2-26 vice M. R. Ry. V. Narayanaswami, Ayyar, Ranger V. Grade, on other duty as Instructor, Vernacular Training School in the Fourth Circle.*

M. R. Ry. M. V. Ganesan, M. H. H. 1922, Supernumerary ranger to VII Grade subprotem for a period of seven months.

VI. *With effect from 1-2-1926. M. R. Ry. T. S. Ramalingam Ayyar M. R. L. 1921, Supernumerary Ranger to VII Grade subprotem during the period he acts as Asst: Instructor, Vernacular Training School in the Fourth Circle.*

VII. *With effect from 15-4-1926 vice M. R. Ry. A. Rama Hebbbar Ranger, II Grade on other duty as Senior Instructor. Vernacular Training School in the Sixth Circle.*

M. R. Ry. P. A. Madhavan, M. R. H. 1922, Supernumerary Ranger, to VII Grade sub protem for a period of seven months.

VIII. *With effect from 15-4-1926. M. R. Ry. M. M. Mandanna, M. R. H. 1922 Supernumerary Ranger to VII Grade sub protem to 15-8-1926 and M. R. Ry. M. S. Ayyanna, M. R. H. 1923, Supernumerary ranger, to VII Grade subprotem from 16-8-1926 to 14-11-1926.*

3—5—1926.

Mr. W. S. Fernandez, Ranger IV Grade from Sixth Circle to First Circle.

M. R. Ry. A. Ramamirtha Pingale, Ranger, VI Grade, from First to Sixth Circle.

4—5—1926.

M. R. Ry. K. Karunakara Nambiar, Ranger, III Grade from V Circle to the Engineering branch for duty on the new Elival road.

26—4—1926.

Mr. R. E. Lemos, Ranger I Grade Sub-pro-tem is granted leave on average pay for 12 days combined with leave on average pay on medical certificate for 1 month and 21 days with effect from 5-2-1926.

15—5—1926.

P. K. Kuttappan Pillai, Ranger V Grade is granted an extension of leave on average pay on medical certificate for 4 months with effect from 21-2-26, the date of the expiry of his first leave.

22—5—1926.

C. H. Ashe, Ranger III Grade, Forest Engineer's Division Madras is granted leave on average pay for two months with effect from 15-5-26 or date of relief.

2—6—1926.

M. R. Ry. K. Jayaram Ayyar, Ranger VI grade from the IV Circle to the V Circle.

Mr. H. Myers, Ranger, IV Grade from the V Circle to the Forest Engineering Branch to work under the Forest Engineer.

14—6—1926.

I. *With effect from 4-2-1926 vice M. R. Ry. S. Sankara Alwa, Ranger VI grade who forfeited his appointment.*

xii.

Mr. M. P. Phillip from VI grade sub-protom to VI grade permanent.

M. R. Ry. T. Perumal Gownden from VII grade permanent to VI grade sub-protom.

M. R. Ry. B. Krishna Rao from VII grade sub-protom to VII grade permanent.

M. R. Ry. B. Kotilingam, supernumerary Ranger, to VII grade sub-protom.

The promotion of M. R. Ry. B. Kotilingam in this arrangement will take effect from 4-8-26, the date on which the Ranger's sub-protom promotion ordered in G. O. No. 155 will terminate.

M. R. Ry. S. Vedanayakam, supernumerary Ranger to VII grade sub-protom from 4-2-26 to 3-8-26.

II. *With effect from 1-11-25 vice Saiyid Ibrahim Albeiz Sahib Bahadur Ranger III grade reduced to IV grade permanently ;*

M. R. Ry. T. S. Varadachari from III grade sub-protom to III grade permanent.

III. *With effect from 20-4-26 vice M. R. Ry. Tatacharya, Ranger IV grade reduced to V grade for 6 months from 20-4-26 :—*

M. R. Ry. C. T. Tiruvengadam from V grade permanent to IV grade sub-protom.

IV. *With effect from 26-4-26 vice M. R. Ry. B. Sambamurthi Iyer, Ranger IV grade reduced to V grade for 2 months from 26-4-26 to 26-6-26 :—*

M. R. Ry. D. Ramakrishniah Ranger V grade permanent to IV grade sub-protom.

I. *With effect from 25-5-26 vice Saiyid Vaziuddin Sibgatullah Sahib Bahadur, Ranger, VI Grade deceased.*

M. R. Ry. K. Raghvan from VI Grade S.P.T. to VI Grade permanent.

xiii.

M. R. Ry. B. Krishna Rao from VII Grade permanent to VI Grade S. P. T.

Abdul Khalak Sheriff Sahib Bahadur from VII Grade S. P. T. to VII Grade permanent.

M. R. Ry. M. S. Krishnaswami Ayyar M. R. H. 1922 Supernumerary Ranger to VII Grade S. P. T.

(The Promotion of M. R. Ry. M. S. Krishnaswami Ayyar in this arrangement will take effect from 16-8-26 the date on which his S.P.T. promotion ordered in C. C. P. No. 155 Rt. dated 3-5-26 will terminate.)

M. R. Ry. P. Madhava Nair, M. R. H. 1923 Supernumerary Ranger to VII Grade S. P. T. from 25-5-26 to 3-8-26.

M. R. Ry. J. S. Vedanayagam, M. R. H. 1923, Supernumerary Ranger to VII Grade S. P. T. from 4-1-26 the date on which his S. P. T. promotion to VII Grade, ordered in C. C. P. No. 202 Rt. dated 14-6-26 will terminate) to 15-8-26.

2. The following reversion of a ranger is ordered consequent on the restoration to IV Grade of M. R. Ry. B. Sambamurthi Ayyar, Ranger.

M. R. Ry. D. Ramakrishna Ayya from IV Grade S. P. T. to V Grade permanent with effect from 26-6-26.

31—3—1926.

The following promotions of Foresters are ordered with effect from 1st March 1926.

1. T. M. Janardhan Forester II grade undergoing training at the Madras Forest College, Coimbatore to be Forester I grade vice a vacancy.

5. P. Kanna Poduval, Forester IV grade of the Logging Engineering division, to be Forester III grade.
9. N. C. Madappa, Temporary Forester under Logging Engineer, on Rs. 30. plus Class I allowance of Rs. 5. to be Forester IV grade
10. C. B. Pemmiiah Temporary Forester under the Logging Engineer, on Rs. 30. plus Class I allowance of Rs. 5. to be Forester IV grade.

14—6—1926.

M. R. Ry. K. P. Chathu Nayar, Ranger V Grade IV Circle is transferred to the Engineering Branch for duty on the new Elival Road.

5—7—1926.

M. R. Ry. P. K. Kuttappan Pillai, Ranger, V Grade, Logging Engineer's Division, is granted subject to eligibility an extension of leave on average pay on medical certificate for 3 months with effect from 21-6-26 the date of expiry of his last leave.

First Circle.

11—3—1926.

On return from leave (27-3-26) M. R. Ry. B. Krishna Rao Ranger III Grade, Guntur, is transferred to Ganjam for the charge of the Surada Range with additional charge of Pondakhhol Range temporarily.

2. On relief by No. 1 M. R. Ry. A. Subrahmany Iyer, Ranger V grade Ganjam, is transferred to Nellore, for the charge of the Rapur Range to relieve Ranger B. Alagirisami Naidu granted leave.

11—3—1926.

M. R. Ry. B. Alagiriswamy Naidu, Ranger IV grade, Nellore District, is granted leave on average pay for four months from date of relief.

19—3—1926.

On relief by Y. Vydyanatham, Mr. I. John, Ranger VII grade, is transferred from Kukuluba to Pondakhhol Range, Ganjam District.

1—4—1926.

M. R. Ry. M. Umapati Mudaliar, Ranger VI grade is reduced to VII grade for one year from 31-12-1925.

9—5—1926.

Mr. W. S. Fernandez, Ranger IV grade transferred from VI Circle is posted to the charge of Lakkavaram Range, Godavari Upper vice M. R. Ry. A. Ramamritha Pingale, Ranger VI grade transferred to VI Circle.

4—6—1926.

1. M. R. Ry. M. Umapathi Mudaliar Ranger VII grade, Guntur is transferred to Ganjam.

2. Mr. I John, Ranger VII Grade is transferred to Guntur.

No. 2 to relieve No. 1.

29—6—1926.

1. Mr. C. S. King, Ranger III grade, on relief at the Vernacular Training School, to be Forest Assistant, Balliguda.
2. On relief by No. 1 Mr. J. A. P. D'Cruz Ranger III Grade to the Polavaram Range, Lower Godavari.
3. On relief by No. 2 M. R. Ry. L. Sambasiva Rao Naidu, Ranger VI grade to Cokavaram Range Lower Godavari.
4. On relief by No. 3 M. R. Ry. N. K. Sarma, Ranger III grade to the Vizayanagaram Estate Service as Special Forest Officer.

Second Circle.

9—3—1926.

In modification of this office S. O. No. 21 of 26 dated 23-2-26 the District Forest officer's action in having granted 27 days leave on average pay to Mr. Abdul Hassain Kirmani Sahib from 24-1-26 and in putting Mr. B. Punniiah Range officer Cumbum in additional charge is approved.

19—3—1926.

M. R. Ry. G. V. Subbarao, Ranger, VI Grade Sub-Protom, in Charge of Pecheruvu Range Kurnool West Division, is granted leave on full average pay for four months from date of relief.

2. M. R. Ry. A. Vyasalu, Ranger VII Grade, on return from leave, is posted to Pecheruvu Range vice No. 1 granted leave. (This cancels the posting of this Ranger to Survey Teak Plantations ordered in this office reference M. 1. 978/25 dated 17-10-25.)

The leave granted to M. R. Ry. A. Seetharamiah Ranger, VI Grade Cuddapah West Division in this Office S. O. No. 27-26 dated 8-4-26 will be leave on full average pay for three months on medical certificate from the forenoon of 13-3-26.

23—3—1926.

M. R. Ry. A. Seetharamiah, Ranger, VI Grade Ganganapalle Range, West Cuddapah Division is granted leave subject to the production of Medical Certificates from date of relief. (The period of leave will be decided on receipt of Medical Certificate.

2. M. R. Ry. T. Sreeramulu Naidu, Ranger, VII Grade who is due back from leave on 13-3-26 is posted to the charge of Ganganapalle Range West Cuddapah Division on relief of No. 1.

3—4—1926.

Ranger M. R. Ry. H. Rama Rao is provisionally granted an extension of leave on half average pay from 27th February 1926 for 10 months and 15 days.

M. R. Ry. A. Muthukrishna Mudaliar Ranger, VI Grade, Cuddapah West Division is granted an extension of leave on full average pay for one month and five days from 15th April 1926 in continuation of the three months leave granted in this office Service Order No. 188/25 dated 27th December 1925.

2. On the expiry of this leave, the Ranger is to join duty in Sanipaya Range, Cuddapah West Division to relieve M. R. Ry. T. N. Seshagiri Rao Ranger I grade who desires to go on leave preparatory to retirement from 20th May 1926.

8—4—1926.

Mr. M. Hussain Khan Ranger II grade on return from leave (10—4—26.) is posted to Giddalore Range Kurnool South Division.

2. M. R. Ry. Thatachari Ranger IV Grade Kurnool South Division on relief by No. 1 is posted to work under the orders of the District Forest officer Kurnool West till the order of his transfer to the IV Circle is given effect to or till further orders.

15—4—1926.

Mr. Abdul Rahim Khan, Ranger VI Grade Gundlakamma Range Kurnool South Division is transferred to Owk Range of the same division.

2. M. R. Ry. G. Rama Rao, Ranger IV Grade Owk Range Kurnool South Division is transferred to Gundlakamma Range of the same division vice No. 1.

The absence of M. R. Ry. N. Sundaresa Aiyar Ranger II Grade Sub-portem Vontimitta Range Cuddapah West Division from 17-3-1926 to 26-3-1926 (both days inclusive) will be treated as leave on full average pay.

20—4—1926.

M. R. Ry. M. Subarayalu Naidu, Ranger II Grade on return from leave (28-4-26) is posted to the charge of Kurnool Range, Kurnool West Division (This cancels his posting for special duty to Kurnool West Division ordered in this office S. O. No. 19 of 26 dated 20-2-26).

xviii.

2. Mr. J. B. Rodrigues Supernumerary Ranger Kurnool Range Kurnool West Division on relief by No. 1 is posted for special duty in the same division (Kurnool West.)

M. R. Ry. Purushothama Rao Ranger VI Grade on transfer from IV Circle is posted on special duty to Kurnool West Division (stock mapping in Nandyal Range with head quarters at Erripad) to relieve Ranger Tatachari transferred to IV Circle. (Chandragiri Range Chittoor Division.)

(This cancels the posting of Ranger K. Purushotama Rao to Giddalur Range.)

These transfers are to take effect on or after 21-5-26 and on receipt of Chief Conservator's order.

M. R. Ry. K. Thathachari Ranger IV Grade, Kurnool West Division is temporarily reduced to V grade for a period of six months with effect from the date of this office proceedings No. D Dis M 2-2241-25 dated 20-4-26.

26-4-1926.

M. R. Ry. A. Muthukrishna Mudaliar, Ranger VI Grade Cuddapah West Division is granted an extension of leave on full average pay for one month from 15-4-26 in continuation of the three months leave granted.

2. M. R. Ry. T. N. Seshagiri Rao Ranger I Grade Sanipaya Range, Cuddapah West Division is granted leave from 19-5-26 preparatory to retirement as noted below.

	Y.	M.	Days.
Privilege leave	0	0	11
Furlough on full pay	0	7	19
Furlough on half pay	0	8	28
Total	1	4	28

xix.

3. Ranger A. Muthukrishna Mudaliar will be attached to Cuddapah west Division from the date of expiry of his leave (15-5-26) till he relieves Ranger T. N. Seshagiri Rao on 19-5-26 forenoon.

26-4-26.

M. R. Ry. N. Sundaresa Aiyar Ranger II Grade subprotom Vontimitta Range, Cuddapah West division is granted leave on full pay for one month from 1-5-1926 or from date of relief.

2. M. R. Ry. S. Ramachandra Aiyar Ranger III Grade Cuddapah Range Cuddapah West Division to relieve No. 1 and to remain in additional charge of Vontimitta Range.

2-5-1926.

M. R. Ry. D. Venksteswaralu VI grade on return from leave (on 10th June 1926) is posted for special duty in the Kurnool West Division.

M. R. Ry. S. V. Duraiswami Ayyar Ranger VI grade, on return from medical leave (20th May 1926) is posted to work under the orders of the District Forest Officer Cuddapah West for stock mapping the red-sander areas for preparation of Working Plans.

11-5-1926.

M. R. Ry. T. Sreeramulu Nayudu, Ranger VII grade, Ganganapalle Range, Cuddapah West Division will relieve M. R. Ry. N. Sundaresa Ayyar, Range Officer, Vontimitta, who has been granted leave for one month from date of relief in this office Service Order No. 49 of 26 dated 26th April 1926 and remain in additional charge of Vontimitta Range.

(This cancels the posting of M. R. Ry. S. Ramachandra Ayyar, Range Officer, Cuddapah to the additional charge of Vontimitta Range ordered in the above Service Order.)

The following promotions of Rangers have been ordered by the Chief Conservator:—

- I. With effect from 10th October 1925 vice M.R.Ry. T. K. Parthasarathi Ayyangar Ranger VI grade permanently reduced to VII grade.

M. R. Ry. G. V. Subba Rao (Kurnool West Division) from VI grade Subprotom to VI grade permanent.

II. *With effect from 3rd February 1926 vice M. R. Ry. G. N. Subba Rao Ranger VI grade deceased.*

Abdul Kalak Sheriff Sahib Forester I grade (Kurnool South Division) to VII grade Subprotom vice M. R. Ry. N. Chakrapani Ayyangar Ranger VII grade promoted VI grade Subprotom.

Ranger Abdul Kalak Sheriff is posted to Cuddapah North Division for stock mapping red sander areas for the preparation of Working Plans. It is hoped that the District Forest Officer will give up the Ranger a regular programme and will now be able to make good progress with stock-mapping.

14—5—1926.

M. R. Ry. K. R. Viswanatha Ayyar, Ranger IV grade, is on the abolition of Kalyandrug Range, Anantapur Division, posted to Kadiri Range of the same division.

2. M. R. Ry. B. Krishna Rao, Ranger VII grade Subprotom, Kadiri Range, is on relief by No. 1. transferred to Porumamilla Range, Cuddapah North Division.

3. M. R. Ry. B. T. Sitarama Ayyar, Ranger V grade, Porumamilla Range, is on relief by No. 2. posted to Cuddapah South division for stock-mapping the Red Sanders areas for the preparation of Working Plans.

21—5—1926.

M. R. Ry. N. C. Madhavan Pillai, Ranger III grade in charge of Sivapuram Range is granted leave on average pay for 22 days and leave on half average pay for 8 days from 20—5—26. He will hand over charge to the Range Officer Bailuty.

2. M. R. Ry. T. K. Ramaswamy Iyer, Ranger II grade in charge of Bailuty Range will be in additional charge of Sivapuram Range and relieve No. 1 on 20-5-26.

The extension of leave granted on Medical Certificate for two months without allowances to M. R. Ry. M. Subrayalu Nayudu, Ranger II grade, in this office Service Order No. 24 of 26 dated 25th February 1926 will be converted into 2 months leave "not due" on medical certificate and on half average pay as the Ranger has returned to duty on 28th April 1926.

26—5—1926.

M. R. Ry. T. Venkatasubbayya-Ranger V grade Rajampet Range Cuddapah South Division is granted leave on average pay for one month from 10th June 1926 or from date of relief.

2. M. R. Ry. A. Ranganayakalu Nayudu Ranger II grade, Kodur Range, Cuddapah South Division will relieve No. 1 and remain in additional charge of Rajampet Range.

M. R. Ry. A. Seetharamaiah, Ranger VI grade Ganganapalle Range West Cuddapah Division is granted leave subject to the production of Medical Certificate from date of relief. (The period of leave will be decided on receipt of Medical Certificate.

2. M. R. Ry. T. Sreeramulu Naidu Ranger, VII grade who is due back from leave on 13-3-26 is posted to the charge of Ganganapalle Range, West Cuddapah Division in relief of No. 1.

23—6—1926.

M. R. Ry. A. Sitaramayyar Ranger VI grade Cuddapah West Division is granted an extension of leave on average pay on Medical Certificate for 3 months from 13th June 1926 is continuation of the 3 months leave granted to him from 13th March 1926 in this office Service Order No. 33/26 dated 23rd March 1926.

M. R. Ry. R. Jaganatham Nayudu, Ranger VI grade, Tadpatri Range, Anantapur Division, is on abolition of Tadpatri Range, posted to Kurnool West Division for stock mapping work in Dhone Range of Kurnool West.

M. R. Ry. N. Sundaram Ayyar, Ranger III grade, Cuddapah West Division is granted on extension of leave on half average pay for 15 days from 12th July 1926 in continuation of two months and two days leave granted in this office Service order No. 49/26 dated 26th April 26 and No. 79/26 dated 10th June 1926.

8—7—1926.

M. R. Ry. O. Venkataramana Ayyar, Ranger I grade, Anantapur Division is, on return from leave (on 26th July 1926) posted to Kurnool East Division for special duty.

8—7—1926.

M. R. Ry. D. N. Subrahmania Ayyar, Ranger VI grade, Anantapur Division is granted an extension of leave on full average salary for one month from 10th July 1926 in continuation of one month's leave granted in Anantapur District Forest Officer's Service Order No. 208/26 dated 31st May 1926.

9—7—1926.

M. R. Ry. N. C. Mahadevan Pillai, Ranger III grade, on return from leave (10th July 1926) is posted on special duty for Rudracode Building work in Kurnool West Division.

M. R. Ry. G. V. Subba Rao, Ranger, VI grade, on return from leave (29th July 1926) is posted to Sivapuram Range of Kurnool West Division.

9—7—1926.

M. R. Ry. S. Sankaran Ranger V grade, Junior Instructor, Vernacular Training School, North Cuddapah Division is, on the close of the School Sessions (16th July 1926) posted to work under the Special Sylvicultural Officer, Kurnool South Division.

M. R. Ry. C. Ramaswamy Naidu, Ranger I grade, and Senior Instructor, Vernacular Training School, North Cuddapah Division, after the close of the School Session, is granted leave on full average salary for two months from date of relief.

10—7—1926.

M. R. Ry. D. Venkateswaralu Ranger VI grade Kurnool West Division is granted an extension of leave on medical certificate on full average pay for three months from 10th June 1926 in continuation of the four months leave granted in this office Service Order No. 15/26 dated 14th February 1926.

14—7—1926.

1. M. R. Ry. S. Sankaran Ranger V grade Junior Instructor Vernacular Training School after the close of the school sessions, is posted to Cuddapah South Division for stock-Mapping work. (This cancels the postings ordered in this Office Service Order No. 100 of 1926 dated 8-7-1926.

2. M. R. Ry. T. M. Krishnamachari Supernumerary Ranger attached to Kurnool South Division is posted to work under the Special Sylvicultural officer, Kurnool South Division.

Third Circle.

21—3—1926.

M. R. Ry. K. M. Srinivasulu Naidu Ranger VI Grade on Working Plans duty in Wynaad is granted leave on average pay on Medical Certificate for two months with effect from 26-2-26.

25—3—1926.

Ranger M. R. Ry. K. Kunhiraman Menon, under orders of transfer from the V Circle to the Working Plans Circle, will be posted to work under the Working Plans Officer Nilambur to whom he should report himself at Nilambur.

27—5—1926.

The leave on average pay on Medical Certificate for two months with effect from 26th February 1926 to M. R. Ry. A. M. Sreenivasulu Naidu Ranger VI Grade on Working Plan duty in Wynaad is extended by two months on Medical Certificate with effect from 26th April 1926.

Fourth Circle.

11—3—1926.

The unexpired portion of leave granted to Supernumerary Ranger M. S. Krishnaswami Ayvar in this office Service Order No. 8 of 1926, dated 27-1-1926, is cancelled.

11—3—1926.

M. R. Ry. P. Mathuramuthu Pillai, Ranger II grade, Central Salem division, is granted leave on average salary on medical certificate for 4 months from 5-2-1926.

18—3—1926.

M. R. Ry. T. E. Varadachary, Range Officer, Mamandur Range is granted leave on average pay for 20 days with effect from date of relief.
2. M. R. Ry. C. S. Ramanathan, special duty Ranger, now working in Mamandur is posted to the charge vice No. 1.

19—3—1926.

Ranger R. E. Lemos, I grade sub protem, is posted to the charge of the new Range to be formed at Denkanikota N. Salem from 1-4-1926.

26—3—1926.

M. R. Ry. P. A. Krishnaswami Mudaliar Ranger V grade in charge of Polur Range, South Vellore Division, is granted leave on average salary for 2 months from 10-4-1926 or date of relief.
2. M. R. Ry. T. K. Parthasarathi Ayyangar, Ranger VII grade on special duty in East Salem division is posted to the charge of Polur Range during the absence of No. 1 granted leave or until further orders.

18—4—1926.

M. R. Ry. T. E. Varadachari Ranger III grade, sub protem, is granted an extension of leave for one month in continuation of leave granted by the District Forest officer, Chittoor in his Service Order No. 61 of 1926, dated 18-3-1926.

24—4—1926.

Ranger M. R. Doraiswami Ayyar, V grade, on return from leave on 12-5-1926, is posted to the charge of Palmaner Range, Chittoor Dist.

2. Ranger V. P. Narayana Menon, IV grade, in charge of Chittoor Range, will relieve Mr. V. S. Kuppuswami, Assistant Conservator in time to join at Beypore on 2-5-1926 and hold charge of Palmaner Range in addition till he is relieved by No. 1.

6—5—1926.

Consequent on the immediate relief of Ranger C. S. Ramanathan the following posting is ordered.

Ranger K. Purshothama Rao in charge of Chandragiri Range is posted to be in additional charge of Mamandur Range till relieved by Ranger T. E. Varadachari on return from leave.

19—5—1926.

Consequent on the transfer of Ranger K. Jayarama Ayyar in charge of Tirupattur range, West Vellore division, to the Working Plans Circle and the amalgamation of Vellore range with Odugathur Range, the following postings are ordered:—

Ranger Mac. Bride Vellore Range, is posted to the charge of Tirupattur Range, West Vellore division.

2. Ranger K. M. Gopalachariar Odugathur range, will relieve No. 1 as soon as possible and hold charge of Vellore-cum-Odugathur range.
3. Ranger L. R. Narayana Ayyar, Krishnagiri range will relieve Ranger K. Jayarama Ayyar at once as already ordered and hold additional charge of Tirupattur range until he is relieved by No. 1.

22—5—1926.

1. Ranger P. Mathuraimuthu Pillai, II grade on return from leave on 5-6-1926 (subject to production of medical certificate for fitness to return to duty), is posted to the charge of Krishnagiri Range, West Vellore division. He will also hold additional charge of Tirupattur Range until relieved by Ranger Mac. Bride.
2. Ranger L. R. Narayana Ayyar, II grade on relief by No. 1 is transferred to the charge of Attur Range, East Salem Division.
3. Ranger S. Nagalingam Pillai, VI grade is transferred from Thammampatti Range to Namakkal Range South Salem Division.

4. Ranger I. Z. Robert Paul V grade is transferred from Namakkal to Thammampatti Range South Salem Division.
5. Ranger S. M. Srinivasagam Pillai, V grade on return from leave on 4-6-1926, is posted to the charge of Polur Range.

22-5-1926.

Consequent on the transfer of Ranger K. P. Chathu Nayar, V grade to the Engineering Branch for road work at Olavakode, Ranger S. Nagalingam Pillai, VI grade Thammampatti Range will relieve Ranger Chathu Nayar immediately and hold additional charge of Attur Range until relieved by Ranger L. R. Narayana Aiyar.

26-5-1926.

Ranger K. Parthasarathy Ayyangar, VII grade on relief of Polur Range is posted to special duty in South Vellore Division.

28-5-1926.

M. R. Ry. P. A. Krishnaswami Mudaliar, Ranger V grade is, on return from leave on 17-6-26 posted to the charge of Santhavasal Range vice Ranger S. V. Sihgatullahi Sahib deceased.

2. M. R. Ry. M. S. Krishnaswami Ayyar, Ranger VII grade S. P. T. on special duty in South Vellore Division will hold charge of Santhavasal Range until he is relieved by No. 1.

2-6-1926.

In partial modification of this office Service Order No. 42 of 1926, dated 19-5-26, M. R. Ry. T. S. Sankaranarayana Ayyar, Supernumerary Ranger on special duty in North Vellore division is posted to be in charge of Vellore Range pending amalgamation of Vellore and Odugathur Ranges, Vice Ranger Mac. Bride transferred to Tirupattur West Vellore division.

11-7-1926.

Mr. T. S. Sankaranarayana Ayyar Supernumerary Ranger in charge of Vellore Range will report himself for duty before the District Forest officer Chittoor as soon as he completes handing over charge of all 'ryots' forests to panchayat management and after handing over charge of the remaining forests of Vellore range to the Range officer Odugathur range.

Fifth Circle.

31-3-1926.

Ranger, S. G. Venkataramanan, V grade in charge of Kallakurichi Range, is, on relief, posted to the charge of Chitteri Range.

2. Ranger, Syed Munavar Sahib, V grade now in charge of Chitteri Range is granted leave on average pay for 3 months from date of relief by No. 1.

19-4-1926.

M. R. Ry. S. Sundaravaradachariar, Ranger 1V grade, Tinnevely District, is granted leave on average pay on Medical Certificate for 3 months from 25-3-1926, in continuation of the one month's leave granted.

3-5-1926.

Ranger A. Krishnamachari should at once relieve Ranger K. Karunakara Nambiar, Talamalai Ranger, North Coimbatore Division.

On relief Ranger K. Karunakara Nambiar should report himself to Captain Irwin for duty on the construction of the new Elival road near Olavakode.

12-5-1926.

On return from leave Ranger S. Sundaravaradachari, is posted to special duty at Mount Stuart, South Coimbatore.

14-5-1926.

M. R. Ry. K. Karunakaran Nambiar, Ranger III Grade, is granted leave on average pay for two months from date of relief.

14-5-1926

This Office S. O. No. 12/26 dated 3rd May 1926, posting Ranger K. Karunakara Nambiar for duty on the new Elival road near Olavakode is cancelled.

27-5-1926.

M. R. Ry. T. P. Palanikumaran Pillai, Ranger VI Grade, is reduced to the bottom of the VII Grade, with effect from 1st June 1926.

6—6—1926.

M. R. Ry. P. Velayuthan Nayar, Ranger I Grade. South Coimbatore District is granted leave on average pay for two months from the date when Ranger Sundaravaradachari reports for duty.

6—6—1926.

C. R. Raghunathan, Ranger VI Grade on return from leave is posted to Talamalai Ranger to relieve Range A. Krishnamachari.

2. On relief by No. 1. Ranger A. Krishnamachari will relieve Ranger A. K. Kunhunni Nair of the Depot Range, Pollachi.

3. On relief by Ranger A. Krishnamachari, Ranger A. K. Kunhunni Nair will relieve Ranger C. R. Raghunathan of Talamalai range charge.

26—4—1926.

M. R. Ry. C. Karunakara Menon, Ranger V Grade. is posted to charge of Natham Range, Madura District and will relieve ranger M. Sankaran Nair posted to VI Circle.

10—6—1926.

M. R. Ry. C. R. Ragunathan, Ranger VI Grade, South Coimbatore, is granted extension of leave on average pay for 1 month in continuation of the one month's leave granted by the District Forest Officer from 1st May 1926.

12—6—1926.

Ranger M. P. Philip, is posted to Nanguneri Range to relieve Mr. B. Janakiram Singh.

21—6—1926.

The order posting M. R. Ry. A. Krishnamachari, to Pollachi Depot is cancelled.

M. R. Ry. A. P. Srinivasa Ayyangar should relieve M. R. Ry. A. K. Kunhunni Nair of the Pollachi Depot at once.

M. R. Ry. C. R. Ragunathan on return from leave should report himself to the District Forest Officer, Madura for duty.

26—6—1926.

In modification of this office S. O. No. 28/26, dated 21st June 1926 the posting of Ranger C. R. Regunathan to Madura is cancelled.

2. Ranger C. R. Regunathan is posted to North Coimbatore for charge of Mettupalayam Range and should relieve Mr. S. Tara Singh Assistant Conservator of Forests.

11—7—1926.

1. A. K. Kunhunni Nair is posted to Pollachi Range.

2. Kondathu Gounden on relief by A. K. Kunhunni Nair is posted to Ramapuram Range.

3. T. V. Thayuman Mudaliar on relief by No. 2 to be on special duty in North Coimbatore.

4. K. Karunakaran Nambiar on return from leave is posted to Kodamady Range.

5. A. K. Anantharama Iyer on relief by No. 4 to be on special duty in Tinnevely.

Sixth Circle.

18—3—1926.

Mr. A. Joseph, Ranger VI grade, on return from leave is posted to the charge of the Mudumalai Range.

19—3—1926.

Mr. Thomas Tachil, Ranger, III grade is granted an extension of one month's leave on average pay in continuation of the three months' leave granted.

31—3—1926.

1. Mr. K. T. Mathew, Assistant Conservator, undergoing training in the South Mangalore Division, to the Palghat Division, for the charge of the Palghat Range—Subject to the Chief Conservator's approval.

2. M. R. Ry. K. R. Krishnan Nair Ranger III grade, in charge of the Palghat Range. to the Mannarghat Range.

3. Mr. W. S. Fernandez, Ranger IV grade, in charge of the Mannarghat Range, Palghat Division, to the South Mangalore Division for the charge of the Beltangadi Range.

25—4—1926.

M. R. Ry. N. Gopalan Nair, Ranger VI grade sub-protiem, in charge of the Segur Range, is on relief by Ranger P. Sankunni Nair, granted leave on average pay for one month and 15 days.

4—5—1926.

The posting of Ranger Fernandez to the charge of Beltangadi Range, South Mangalore Division is cancelled.

On relief by Ranger Krishnan Nair of the charge of Mannarghat Range, he will be attached to the Palghat Division pending orders of the Chief Conservator of Forests on his transfer to the I Circle.

4—5—1926.

M. R. Ry. C. Sankunni, Ranger 1 grade on return from leave on 7th June 1926, is posted to the charge of the Coondapur Range vice Ranger Kannan, transferred to Shankaranaraina Range.

10—5—26.

M. R. Ry. M. R. Ganesan, Supernumerary Ranger, is granted leave for three months, from 24th March 1926, made up of leave on average pay for one month and leave on average pay on medical certificate thereafter.

8—5—26.

M. R. Ry. A. Siddha Pillai, Ranger IV grade in charge of Shankaranaraina Range is granted leave on average pay for six weeks from date of relief.

M. R. Ry. A. Ramamurta Pingale, Ranger VI grade, transferred from the First to Sixth Circle in Chief Conservator's L. Dis. No. 124/B. 4-26 dated 3rd May 1926, to the South Mangalore Division for the charge of the Beltangadi Range.

11—6—1926.

M. R. Ry. M. Sankaran Nair, Ranger VI grade, transferred from the V to the VI Circle in Chief Conservator's L. Dis. No. 1335/26 dated 4-6-1926, to the South Mangalore Division, for the charge of the Kasaragod range vice Ranger C. Karunakara Menon transferred to the V Circle.

14—6—1926.

M. R. Ry. N. Gopalan Nair Ranger VI grade, on return from leave is reposted to the Mudumalai Range for special duty. This office S. O. No. 43/26 dated 1st June 1926 posting him to the Palghat Range is cancelled.

2. M. R. Ry. M. V. Ganesan, Ranger VII grade sub protom, on return from leave on 24-6-1926, to the charge of the Palghat Range.

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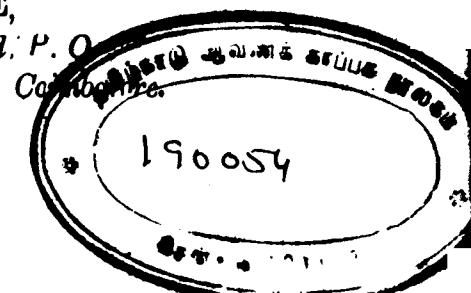
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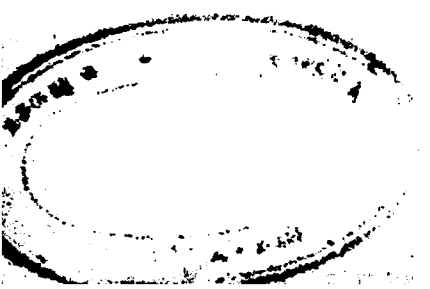
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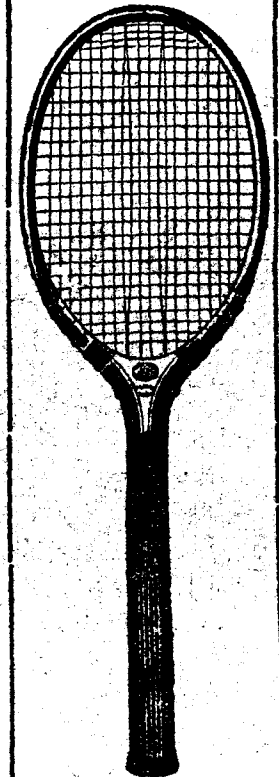
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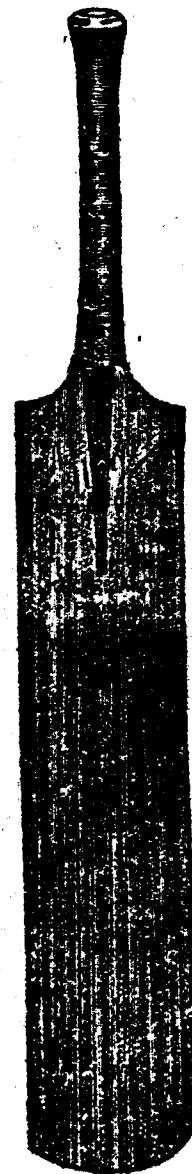
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