FOREST NOTES

FORESTS DEPARTMENT
PERTH
WESTERN AUSTRALIA

VOLUME 6 NUMBER 3

F O R E S T N O T E S

Volume 6 - Number 3

June 1968

Editor: R.J. Underwood

****

TABLE OF CONTENTS

BANKSIA CAN BE KILLED CHEAPLY WITH 2,4,5-T.

by C.W. Moore

The vast numbers of Banksia grandis which exist in various localities throughout the jarrah forest are taking up growing space at the expense of jarrah. It is also felt these dense stands could be aiding the spread of dieback as Banksia is a very susceptible host. Banksia has little or no commercial value so it is desirable to eradicate it.

Attempts at killing the species by the usual methods of applying herbicides, although successful, have been far too costly as Banksia occurs in such large numbers.

With all these thoughts in mind, the experiment described here was laid down in March 1965.

2,4,5-T ester in dieselene was used and was applied by the following two methods - Overbark spot spray and Notching.

There were eight treatments in all, each receiving 5 cc of the required solution. Plots were two chain by one chain with approximately 150 stems per plot.

Six months after treatment all small stems were showing some effect - yellowing of the crown; however, large stems were only showing effect in treatment 7 & 8.

The final assessment was made three years after the treatments were laid down and the results were as follow: -

Plot No.	Treatment	Percentage Deaths.
1	2 notches 5cc of 1% 2,4,5-T per notch	48
2	1 " " " 2% " " "	28
3	2 " " " 2% " " "	89
4	1 " " " 4% " " "	83
5	1 spot overbark 5cc of 4% " " spot	93
6	2 spot overbark 5cc of 2% " " "	97
7	1 spot overbark 5cc of 8% " " "	94
8	2 spot overbark 5cc of 4% " " "	94

From the above, the results show that overbark spot spray would be the better method of applying the herbicide and that treatment 6 would be the most economically efficient treatment among those tested.

The operator, in applying the herbicide, would have to be careful that he did not let the herbicide gush out and that the bark absorbed all the solution. However, Banksia readily absorbs the solution and very little more time and care has to be taken when compared to notching in jarrah. In notching Banksia the operator has a greater time-consuming problem of run-off; Banksia does not form a chisel-shaped

reservoir as jarrah does because of the brittle nature of its bark.

As a safety measure an overbark spray would also be more satisfactory as notching small Banksia can be quite dangerous. The notching tool can bounce off quite easily and hit the operator.

No colouring of the spray mixture is needed as the dieselene stains the bark readily and shows out very well.

A field trial covering 43 acres of dense Banksia was laid down by forest cadets at Dwellingup in March this year.

A single overbark spot spray of 5cc 2% 2,4,5-T ester in dieselene was used. Large Banksia were given an extra spot. The cost for materials and labour was $4.10 per acre. Total cost including materials, labour, transport, overhead and administration was $5.96 per acre. The total amount of solution used for the dense stand was 66 gals. or 1.53 gals. per acre.

It is likely that an experienced labour force would reduce this cost still further.

****

This could only happen in a Forest Office when and where the typist was in a state of severe mental fatigue after completing typing of Plantation Working Plan !!!

Quote

> 'On 9-6-67 I forwarded Electric Radiata no. F.D. 2032 to Como for repair or replacement'.

unquote

No names - no pack-drill.

****

IS THIS THE BIGGEST - or - CAN YOU BEAT IT?

by L. D. O'Grady

Growing on Flora Reserve ↑ 25886 - (Mid-west side Loc. 411, plan 341 A.40) is this Paper Bark (Melaleuca lanceolata) previously known as M. pubescens or M. Preissiana.

Height	67'
Girth - breast high	14'7"
Length of log	22'
Volume U-B (approx.)	$5\frac{1}{2}$ loads.

This particular tree is part of a scattered paper bark forest - badly malformed by uncontrolled fires. However, this tree apart from the loss of one limb at the base of the crown has a straight trunk and is fully clothed with bark. The crown itself, while not particularly vigorous is reasonable, heavily limbed and of umbrella shape.

The soil is a black acid peat, ph probably about 4.

Incidentally this Reserve which had not been burnt for about 20 years had reached a serious state of high hazard to neighbouring settlers.

A fire was put through on a warm day i.e. 20/9/67 with the result that an excellent burn resulted. Damage to Banksia, Paperbark and Jarrah appears to be practically nil. The native shrubs following the burning off have coppiced or suckered vigorously giving promise of an excellent flowering this Spring.

Needless to say if this Reserve had been burnt by an uncontrolled summer fire the forested areas would have been devastated.

There is also evidence that native fauna is being attracted to the area, i.e. by the extra food provided by the fire induced vegetation. I feel sure that if it were possible to burn over this Reserve at 12 monthly intervals there would be a strong advance in the health of the tree species caused by a reduction (by the burning) in competition from scrub species

****

WHAT IS SAFETY FIRST?

by G.E. Hampel

Quite often when safety first is mentioned everyone will weigh in with a list of what "The Forestry" ought to do in providing safeguards for machinery, proper equipment and suchlike but are very quiet when it comes to their own part.

Now it is very true that the Forests Dept. should provide these things and the present writer has on occasion made himself a bit of a nuisance by agitating for them but they are not all the story.

It is no use safety equipment being issued if it is not used. It is no use having the proper tools if they are not used properly.

No safety device can be provided that will stop men from having their dinner under a limb that is steadily burning off.

Or stop a man in a vehicle from trying to pass another when the road is too narrow.

Or stop a man spraying suckers against the wind and getting it back all over him.

Or stop a man from putting a full drum on its side, opening the bung and "copping the lot" all over his shirt.

It may be argued that nobody with any commonsense would do this sort of thing, but they have been done and by men of experience and commonsense. It just so happened that they ----

"didn't see the limb was burning". It fell five minutes after they were "shooed".

"he thought he had enough room to pass".

"he forgot about the wind blowing the spray back".

He just didn't think.

Sure these things could have been avoided with a little commonsense and that brings us to the point of this discourse.

Safety is just a matter of using commonsense.

It is only commonsense to look up at a tree before camping under it.

It is only commonsense to wait till the road widens before attempting to pass.

It is only commonsense to spray with the wind and not against it.

It is only commonsense to stand to one side of the drum.

Don't kid yourself that you would never do anything like that. We have all done something equally as silly at times. We have been lucky in the past but luck can run out.

By all means let us keep pressing for safeguards and safety equipment but let us also use our commonsense and that means being safety minded.

SAFETY FIRST IS JUST GOOD OLD FASHIONED COMMONSENSE.

****

NANNUP GOLF DAY

With the advent of another golfing season it seems an appropriate time to remind all Forest Department Staff members and their families that they would be very welcome at the next, which will be the third, Nannup Golf Day on Sunday 4th August, 1968.

Order of the day will be: -

Bring your picnic lunch, tea will be available.

Men to tee off at 12.00 noon for 18 holes Stapleford, an early start will mean no-one has to wander up the 18th in the dark. Lights will be adequate for the 19th!!

Ladies will follow with 9 holes stroke.

After play afternoon tea will be available followed by the children's barbeque and cool drinks, thence on to beer and barbeque for the adults, all of which will be provided at the Club House.

Last year, 1967, we were again lucky with the weather and a good field of 25 men and 9 ladies. Mrs. Betty Grace won the ladies with a nett 44 followed by Mrs. Hancock with a nett 47 after a countback from Mesdames Hill and Donnelly who also had nett 47.

Don Keene roared around the course and took off the day with a nett 66. Trust he let the Shannon River Golf Club handicapper know about this! Following Don was Bill Buchanan, nett 71 on a countback from Charlie Kelers, also a nett 71, local knowledge coming in here! The long markers winner, Barney White with a nett 76 and the "Mulga", Hugh Campbell with a nett score of ___ - I forget.

It would be a great help if all those members wishing to attend could send their entry, available in this copy of Forest Notes, to Bill Buchanan, c/- Forests Department, Nannup.

Again you are reminded you don't have to be a player to attend !!!

COLONEL BOGEY

NANNUP GOLF DAY

I will Attend the Golf Day to be held on Sunday Play

4th August, 1968 and will be accompanied by

( ) wife ( ) H'cap

( ) children

My handicap is ( )

Signed .....

PASTURE ESTABLISHMENT BEFORE PINE PLANTING - WHY NOT?

by R. J. Underwood

Most foresters are aware of the salutory effect old pastures have on pine growth. There are many examples in Western Australia. A question worth asking is whether it may not be worthwhile for the Department to consider some form of pasture establishment on virgin hardwood country well in advance of pine planting.

The establishment of a crop of a suitable variety of sub-clover or perhaps lupins for about five years before pine planting would have the following advantages:

(i) improvement of the soil, through nitrogen fixation, increased organic matter content of surface horizons and increased soil microbiological activity;

(ii) facilitation of scrub control;

(iii) financial return, through clover burr harvest or grazing lease. (the latter to be considered for non-catchment areas only).

The sort of problems likely to arise are:

(i) the necessity to find and prepare suitable areas four to five years in advance of planting;

(ii) The possibility that a green crop appearing from nowhere out in the bush might encourage rabbit and kangaroo populations to increase;

(iii) political problems, associated with the ultimate conversion to government forestry of areas initially developed as farmland;

(iv) fire control problems;

(v) the likelihood that the whole project may be economically unsound anyway.

It would be interesting and perhaps profitable to establish a well designed long-term experiment to test the likelihood of success of this idea. I would anticipate that the result would be a success in some regions but not in others. I can think of an area in the eastern country of the Mundaring Division comprising several thousand acres of poor jarrah on deep grey sands. The codominant height of these stands is about 35 feet and at this time they carry only about $1\frac{1}{2}$ loads per acre of mill logs together with about 20-30 tons per acre of green firewood. Volume increment on this area probably does not exceed 20 cubic feet per acre per annum. This is protection forest for the Goldfields Water Supply catchment and, in the sense that its timber productive capacity is so low, is not an economically viable forest.

However, the area is permanently dedicated State Forest less than 60 miles from Perth, the topography is easy and the rainfall assured at about a level of 20 to 25 inches per annum. Clearing costs are about on a par with coastal plain clearing.

On an area such as this a programme of progressive clearing, pasture establishment and plantation development (using conifer species with a proven productive capacity in a low rainfall environment) is immensely appealing. It may well be that the private investor would be interested in the pre-plantation phase of the programme, for I have no doubt that it would prove profitable. On non-catchment areas, the possibility of using the pre-plantation phase of development for sheep and cattle production also should not be dismissed lightly.

Heresy for a forester? The dreams of a frustrated agriculturalist? Some will probably think so, but in fact, far from it. Even the forester must admit that the end can sometimes justify the means. In this case the ultimate end must be the production of cellulose at an economically acceptable rate. If it could be shown that pasture establishment before pine planting on the sort of unproductive forest sites I am thinking about is of real benefit to the pine crop (and this must be conclusively shown), then a little short-term agriculture must be acceptable as part of a lot of long-term forestry.

The political problems inherent in this scheme may well be more devious and difficult than the technical ones. It is likely that certain interests would be strongly opposed to closing down a profitable agricultural operation for conversio to a departmental pine plantation. However, if the political ramifications of the proposal are forseen well in advance, there is no obvious reason why the Department's interests could not be adequately safeguarded by water-tight contract agreements.

To return to my original question - it would surely seem to be worthwhile to give this type of land development some close consideration. All that is needed is the land, the plan, the initiative and the approval. And I'll gladly supply the land .....

****

THE ESTABLISHMENT OF P. PINASTER IN THE BANKSIA BUSH COASTAL SANDS

by D. Lejeune

To understand the opportunity for large scale low coast plantation establishment within approximately 30 - 40 miles of the key market in W.A. one requires an appreciation of the forest type and methods of establishment.

Forest Type.

The largest trees are normally Banksias, Sheoaks and Christmas Trees with low density Jarrah and Coastal Blackbutt in scattered areas.

Clearing Procedure.

(1) Removal of millable timber. From the above it is obvious that millable timber is generally absent.

(2) Initial Clearing using two large dozers with chain and pushing or cutting any trees which cannot be chained. This is done entirely by contract and prices have been as low as $1.00 / ac. in bush with no Jarrah and up to $1.55 in an area with 50% Jarrah.

One summer is ample drying time for light bush. The initial burn follows.

(3) Final Clearing is done using a dozer with a wide front mounted rake. Rakes up to 26' have been used. Where there is no heavy material wheel tractors drawing scrub rakes can be used for economy. This work also lends itself to contract. Windrows or heaps are formed and these can be kept burning using a small machine. The only handwork really necessary is picking up the few stumps etc. when heaps do not burn completely. Because of machine planting it is necessary to have the ground much cleaner than in hand planting. Prices have been as low as $2.20 / ac.

Plowing

Use Fordson 4 x 4 and Chamberlain tractors drawing Chamberlain 14 disc plows

Contracting has not been tried and its merits are doubtful but piecework gives indications of advantages.

Furrow Lining.

The above tractors pull twin locally made steel furrow liners. The furrows collect rainfall, reduce exposure and scrub and grass competition in the first year. This has been a wages job but piecework is a possibility.

Planting

The above tractors drawing twin two man planting machines. For odd rows, short runs etc., single two man machines are used.

Initial Supering

2 oz. per tree of either super or zinc super is applied as soon as planting is complete. Four rows at a time can be covered using four men with super bins on a specially constructed tractor mounted platform. However some is still done by each man carrying his supply of super.

Cost does not vary with the method but with need for zinc super.

Roading

In the past, surfaced roads have been conspicuous by their absence and certainly a big expense was avoided. In future for administration, speed of access, fire control and extraction reasons it is proposed to have surfaced roads at approximately $\frac{1}{2}$ mile intervals. Cost of the surfacing with limestone or marl constitutes over 90% of the total cost. Judging by recent experience a total cost of $1200 per mile is anticipated giving a cost of approximately $7 per acre, with a roading intensity of approximately 1 mile per 183 acres.

Steep country planted with P. radiata in the Blackwood Valley is roaded at an intensity of 1 mile per 50 acres and assuming it is all gravelled costs approximately $66 per acre. Initial construction without gravel costs $46 / ac.

Possible Reductions in Cost

No great reductions are anticipated. The cost effect of some refinements in clearing will be minimal. There is certainly scope for a big reduction in supering costs and ultimately it is anticipated that super will be applied at a time of planting.

Future Costs of Establishment

Looking ahead for say 10 years and basing costs on todays value of the dollar the following costs might be anticipated as average.

Initial clearing	$ 1.20
Final Clearing	2.60
Plowing	1.50
Furrow Lining	0.50
Planting	3.50
Applying Fertiliser	4.50
	13.80

These costs include all contracts, wages, plant and materials.

Perhaps one of you Radiata Boys from the fogs of the Blackwood would like to indicate how the economics of radiata on steep land compares with these figures.

****

NEW ZEALAND BREAST BENCH PERFORMANCE

by H.C. Wickett

The accompanying diagram shows the layout and main statistics for the Mt. Tauhara Timber Co. mill at Taupo, New Zealand. I observed this mill in July, 1966 and the data shown were given to me by the owner, Mr. J. O'Neil.

In November 1966 a letter from the mill stated that the average output from the 30" bench was 6000 s. ft. per 8 hours produced by six men in that section and from the 42" bench it was 14,000 s. ft. per 8 hours produced by 9 men in that section inclusive of yardmen and stackers. Recovery was 46%. The hourly wage rate averaged 10/- and included a bonus on the daily production.

In October 1967 Mr. R. Moorhouse, Senior Inspector of Forests for New Zealand Forest Products inspected the mill and advised me at that time the normal output of the 30" bench cutting mainly 3 x 2 and 4 x 2 for studs was 10,000 s. ft. per 8 hour day and the output from the 42" bench ranged from 12,000 s. ft. per 8 hours on 1" sizes to 20,000 s. ft. on thicker (mainly 2" with some 3").

In March 1968 I observed the mill again. There had been no change in equipment. The 30" bench had not been used for some time. The 42" bench was working 8 hours at ordinary rates plus $\frac{3}{4}$ hour per day at time and a half as an incentive. Its average output was 20,000 s. ft. and its best day, $8\frac{3}{4}$ hours, was 23,000 s. ft.

The 42" bench receives wings and logs slabbed two sides parallel. All logs are de-barked, lengths are 10' to 16'. The "pin boy" operates the sizing gauge and the benchman and tailer out do not come to the bench and therefore can double flitch most of the time, i.e. the saw is almost constantly in wood.

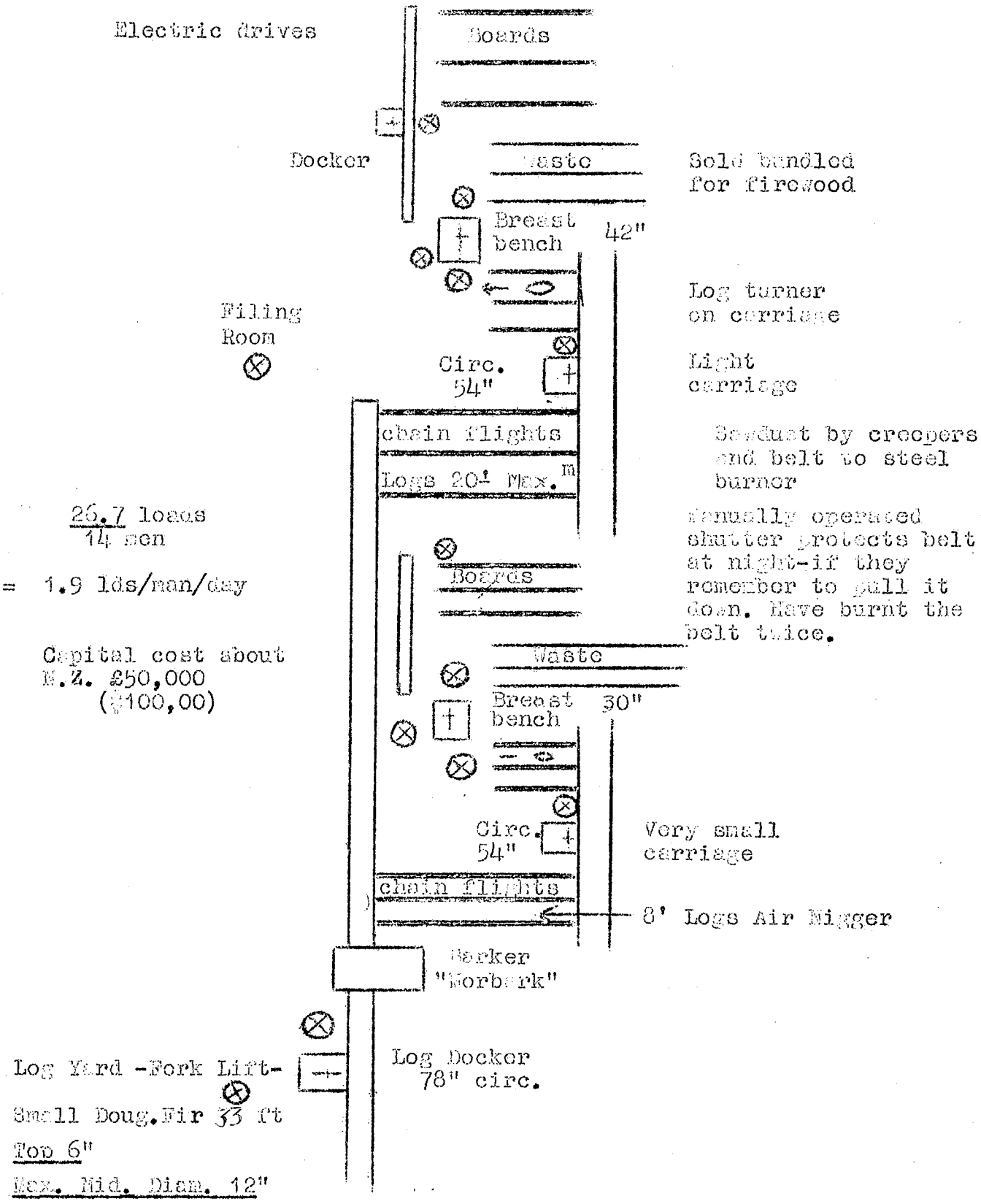
The bench roll arrangement is identical with our new F.D. benches but the feed roll at 95 f.p.m. is reckoned too slow. The return roll runs at 191 f.p.m. The motor is 60 h.p. The teeth are inserted taking about 3/8" kerf, the saw runs at 6880 f.p.m. The roll speeds are fixed by chain drives from the saw spindle.

As you can imagine, it is pretty to watch the co-ordination of movement by the bench team but there are other teams as good in other mills. Our pine benches producing about 2,500 to 3,000 s. ft. per day show up very poorly by comparison.

Mr Tauhara Timber Co-Taupo

Output 16 m sft. BM 8 hrs = 26.7 loads
Owner - Manager J. O'Neil

Cutting as much 2" scantling as possible and 1" boards.
Benches at ground level. Carriages elevated 5 ft.



26.7 loads / 14 men

= 1.9 lds/man/day

Capital cost about N.Z. £50,000 ($100,00)

Small Doug.Fir 33 ft
Top 6"
Max. Mid. Diam. 12"

SAFETY NEWSLETTER

INTRODUCTION

The causes of accidents are almost invariably unsafe acts or unsafe conditions.

Statistics show that unsafe acts are associated with at least 80% of our accidents.

This is the field in which most can be done to prevent accidents.

The surest way to prevent unsafe acts is to develop "Safety Awareness" in everyone.

What is it and how do you achieve it?

Basically it is knowing the skills and using them thoughtfully to carry out a job in the safest (and therefore the most efficient) way.

It means knowing the hazards of the job and being conscious of them so that you will guard against them.

It means being prepared to learn from others and to advise others in safer working methods.

There are two major parts to achieving Safety Awareness.

The first is time and effort being given by supervisors and experts to teaching the skills and hazards of each job to the newcomer or less experienced work mate.

The second is using every means to keep yourself and others thinking Safety. There are posters and films but the most important is talking regularly to each other, the overseers and the officers involved in each job about the work and its various Safety aspects. The overseers and officers have a special obligation in this regard, to start and keep the ball rolling. The few minutes a day it takes will pay handsome dividends.

Remember, "Safety Awareness" is important to you every wakeful hour, on the job, on the road and in the home.

In the next edition there will be an editorial about the other cause of accidents - unsafe conditions.

RECORDS AND STATISTICS

Our safety officer - Jack Marshall - reports that all divisions are making progress in their efforts to establish a safer working environment. The statistics are showing a steadily declining Disabling Injury frequency rate for the Department. There have been only 138 D.I. accidents in the past twelve months compared with an annual average of 185 for the past seven years. But there is plenty of room for improvement in most Divisions.

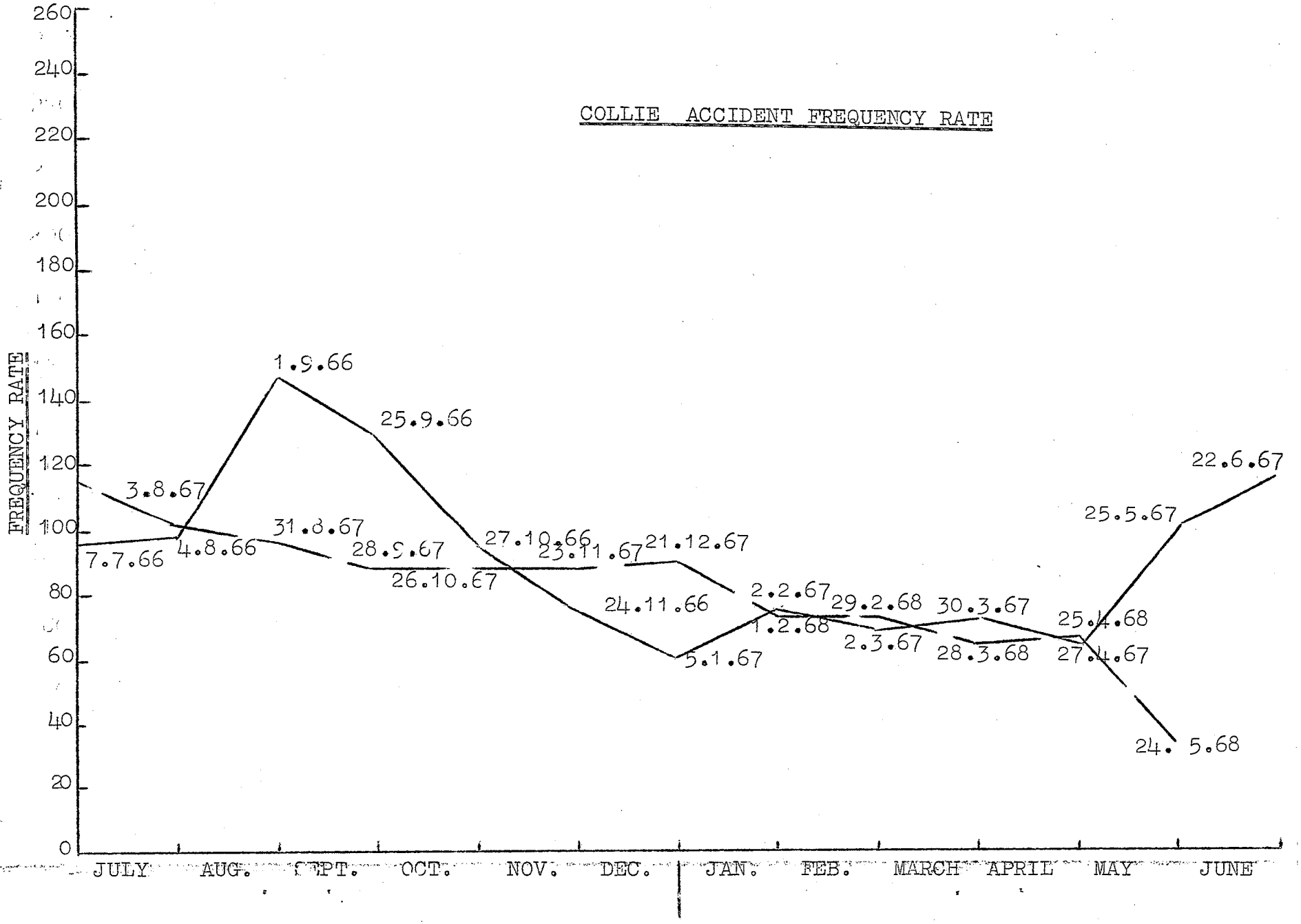
Collie are setting the pace at present with over 100,000 man hours worked without a Disabling Injury. They have I believe broken this run recently with one accident but congratulations to everyone in the Collie Division for the fine effort. Don't rest on your laurels.

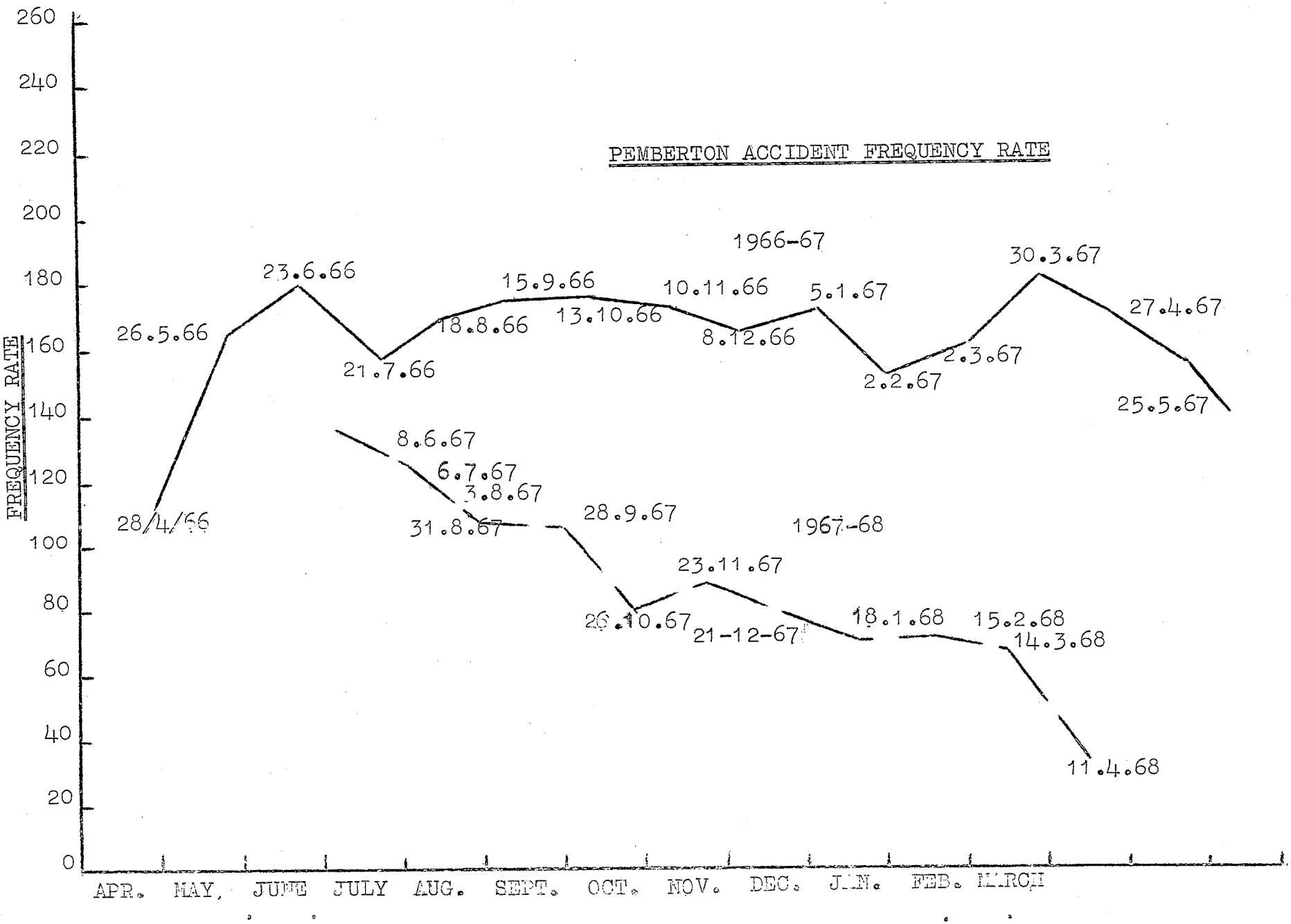
Manjimup have now been added to the list of divisions receiving the National Safety Council Award for working 50,000 man hours without a Disabling Injury. Congratulations Manjimup team. And it takes a team effort to reach this milestone. This makes six Divisions (three North and three South) to make the first grade.

The accident frequency graphs for Collie and Pemberton have been included, and illustrate the success of the accident prevention programme in these Divisions.

Twelve months statistics will be available for the whole department at the end of June and will be published in the next Forest Notes.

COLLIE ACCIDENT FREQUENCY RATE




PEMBERTON ACCIDENT FREQUENCY RATE
FREQUENCY RATE
260
240
220
200
180
160
140
120
100
80
60
40
20
0
1966-67
28/4/66
26.5.66
23.6.66
21.7.66
18.8.66
15.9.66
13.10.66
10.11.66
8.12.66
5.1.67
2.2.67
2.3.67
30.3.67
27.4.67
25.5.67
1967-68
8.6.67
6.7.67
3.8.67
31.8.67
28.9.67
26.10.67
23.11.67
21-12-67
18.1.68
15.2.68
14.3.68
11.4.68
APR.
MAY,
JUNE
JULY
AUG.
SEPT.
OCT.
NOV.
DEC.
JAN.
FEB.
MARCH

WHY WEAR EYE PROTECTION?

(Reproduced from the "Apprentices Safety Manual - Metal Trades" of the National Safety Council of W.A.)

In 1965 there were 3,149 serious eye injuries in Western Australia which necessitated the injured persons being away from their work for a total of 15,745 days.

Eye injuries represented 13% of all industrial Disabling Injuries during this year.

1,005 of the injuries were caused by the inadequate use of eye protection when using Hand Tools. The other major group of 951 injuries were received by persons working on or passing by machinery.

The wearing of correct eye protection would have saved ALL these injuries and ALL the suffering.

Some workers would not be without eye protection. These are the ones who know the job. Others don't wear eye protection and put forward various reasons.

1. "Eye protection means that I cannot see as clearly as I can without it".
   True, you can't see quite as clearly, though you could see better if you cleaned your eye protection regularly. Of course dirty, dusty eye protection will interfere with your vision.
   Still, it is agreed you could see slightly better without it. But at what a cost! Blindness or serious eye injury. You can see through glass much better than through a black patch.

2. "Eye protection fogs up".
   True again - but this easy to cure. Wash the inside of your lenses with soapy water or one of the anti-mist fluids. In hot weather, or if you sweat a lot, use your handkerchief as a sweatband. To be safe from blindness is worth a little effort.

3. "Eye protection is uncomfortable".
   True again, but probably it doesn't fit well. Take a little time - use a little energy - to adjust it. When it fits, you will soon forget you are wearing eye protection.

4. "I forgot to put it on".
   This is the commonest, real reason. We all forget at times. But that one time when you leave your eye protection in your pocket, or on your bench, or even on your forehead, can be the most costly bit of forgetfulness you'll ever have in your life.

So get the habit of eye protection at all times.

Better wear a glass over your eye than wear a glass eye.

****

"TICK" BITE TREATMENT

There has been a recent enquiry from Wanneroo about the best treatment for "tick" bites. Many of you will have a personal interest in the answer received from Doctor McNulty of the Department of Public Health.

He says:

"General instructions to your men affected by them (ticks) should include dabbing the affected skin with lighting kerosene or methylated spirits, which should be included in their first aid kit, or to take a bath in warm salty water. Clothing should be changed and washed. General skin cleanliness, avoidance of scratching and good first aid to scratched and abraded skin to prevent infection or to treat it when it has arisen are most important".

"Dimethyl pthalate or other mite repellent could be used on exposed skin and clothing to prevent the mites from becoming attached".

"There are a variety of ointments which could be used to ease the irritation but these would be better prescribed by the persons own doctor".

To this can be added a report from the Queensland Forest Service that complete protection is afforded by the use of the repellent Dibutyl Pthalate.

The following recipe for a repellent emulsion to treat clothing is recommended.

Half pint of Dibutyl Pthalate.

One gallon of water.

5 ozs. of soap.

Cut soap into small pieces and boil in half gallon of water until soap is melted.

Add the other half gallon of water and the half pint of Dibutyl Pthalate.

Clothes which have been washed clean should be dipped in this emulsion, wrung out and dried.

The emulsion can be kept for further use.

One treatment of emulsion establishes repellant effects which survive four boilings.

An alternative method of using the Pthalate repellent is similar to that advised by Doctor McNulty.

Rub the repellent onto exposed skin and the outside surfaces of trousers and socks.

SAFETY RULES : AXE

1. Keep axe in good condition. Cutting edge to be sharp and the face well ground. See that axe head is firmly fixed to handle.

2. Use only good quality handles. Dispose of split handles promptly. Repaired handles are a danger.

3. When not in use, replace axe guard for the protection of both yourself and the cutting-edge of axe.

4. Before felling or trimming, provide ample clear space to swing the axe. Remove all obstructions likely to cause dangerous deflections.

5. At all times ensure that you have a good balance and a firm footing.

6. When carrying an axe be prepared for possible tripping or falling. Hold axe so that you can readily toss it clear if you fall.

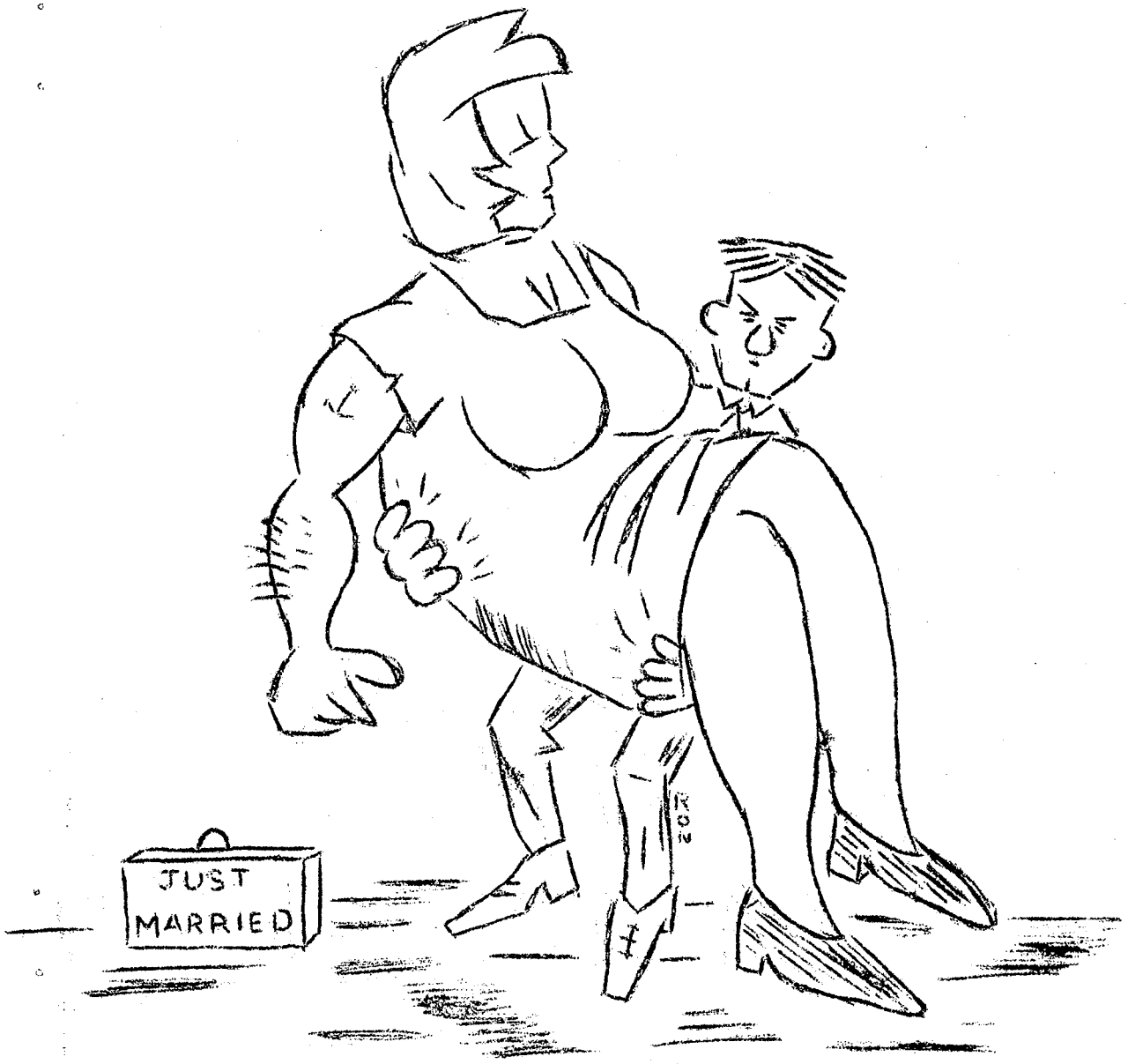
7. Do not misuse an axe.
   It is made for cutting and NOT for hammering.

8. When trimming a tree or log, stand on the safe side. Watch for the carry-through direction of the axe head.

9. When trimming pine billets, point limbs downwards to reduct tendency of axe-jamming.
   Support the billet so that the hand holding the billet, and the knees, are not in line with the swing of the axw. Deflected swings must be allowed for.

****

REMEMBER! WHEN LIFTING



GET HELP WITH HEAVY OBJECTS