

259/40/33

4th September, 1951.

Conservator, East.

H.Q. Mechanical Development
Committee Report No. 8

The Cole Park Peeling
Machine

A copy of the above report
is attached for your information.

for Director (Scotland).

Encl.

Cons & Eng

Please show to

Mr. Woolridge

" Maxwell

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H.O. MECHANICAL DEVELOPMENT COMMITTEE
REPORT NO. 8
on
THE COLE BANK PEELING MACHINE.

ORIGIN. In view of the cost of peeling pit props and stakes by hand an investigation into mechanical methods has been carried out.

A number of different types of machines are already in use in the United States and in Scandinavia but in nearly every case the machines involve :-

- (a). High capital cost.
- (b). A permanent base at which peeling would be done on a very large scale.

As neither of these conditions is acceptable at present in this country it was decided to experiment with a small semi-mobile machine which was being developed by W & L. Cole, Ltd., of Mile End, London, E.3.

DESCRIPTION. This machine consists of a high speed cutting head carried on a hinged arm which can rise and fall as a pole passes beneath it. The arm can be raised by the operator through a hydraulic control. The cutter is driven through three V belts by a Petter 10 H.P. diesel engine. The pole being peeled is fed under the cutter and, at the same time, rotated by rollers which are also driven by the engine.

PRICE - complete with engine = £706.

A photograph of the machine peeling a pole of about 4" diameter is attached to this report.

OBSERVATIONS.

1. The cutter removes the bark leaving a very clean finish, all the knots being smooth.
2. A ring of bark is left on the pole at the end first entering the machine. This is because the operator cannot engage the cutter until the pole has fully entered. The width of the remaining ring of bark depends upon the accuracy of the operator. This bark does not matter in the case of stakes where it is removed in the subsequent pointing.
3. The number of operators required is two.
4. Whilst the machine is able to peel poles 20 feet long and up to 5 inches diameter it was found to be more suitable for shorter lengths, particularly for peeling 5 ft. x $2\frac{1}{2}$ ins. stakes prior to croosoting.

Output = 900 stakes per day = 112 per hour.

5. OPERATING COSTS on 5 ft. x $2\frac{1}{2}$ ins. stakes

		<u>Per annum</u>		<u>Per Hour</u>
				<u>s</u> <u>d</u>
Depreciation (20% of £706)	=	£ 141	=	1 5
Interest (3% of £706)	=	£ 21	=	0 $2\frac{1}{2}$
Inspection and supervision	=	£ 50	=	0 6
Total Overheads =				2 $1\frac{1}{2}$
Fuel at $\frac{1}{2}$ gall. per hour at 1/4 per gall	=		=	0 8
Repairs	=		=	0 8
Total Running Cost	=		=	1 4
Total Machine Cost	=		=	3 $5\frac{1}{2}$
Labour Cost (112 stakes - 2 men) =			=	5 0
Total Cost per Hour =			=	8 $5\frac{1}{2}$
				=====

Cost of machine peeling = 0.9d per stake

This compares with peeling by hand at 1.5d per stake

- CONCLUSIONS.
1. The cost of peeling 5 ft x $2\frac{1}{2}$ in. stakes by the Cole machine is half the cost of peeling by hand.
 2. The standard of finish on these stakes attained by the Cole machine is very much higher than can be accomplished by hand methods.
 3. For larger poles the machine is of diminishing value and above 5 inches diameter it has little or no advantage particularly where crooked poles are encountered.

M. P. Hall.

Machinery Research Officer.

