

## ROSEWOOD FROM INDIA.

ROSEWOOD from South America still holds the British market. One writer says in a British journal that Indian rosewood ought to displace the South American. Among other things he says: The natives of India have long recognized the valuable qualities of the blackwood or rosewood of the southern district of our great dependency, and its utility for furniture has been demonstrated at various exhibitions in London during the last few years. It is largely employed for carving purposes, some of the most elaborate work being done in this rosewood. It is closely allied to the "sisso," and the tree grows to an immense size in the Annamally forest. Specimens are frequently found forty to fifty feet in girth, and it is found in other parts of India and Burmah. The wood is close-grained, strong, flexible, fibrous and durable, and generally of a deep purple color. This is sometimes mottled with greenish-black veins, which fade to a dark brown or black. When sawed, it emits an agreeable odor. Admitting a high polish, its use for the best class of furniture is apparent when considered with other qualities.

The logs, some of which, imported to London in 1878, sold for \$68 per ton, are sent from India from 9 to 16 feet long and from 20 to 34 inches in diameter, and are in a very sound condition. The wood does not warp when cut into boards, and when treated with oil, a common circumstance in India, it becomes almost black. These qualities have resulted in its employment by the Madras government for the construction of gun-carriages, for which purpose it has long been used in Bombay. Cabinet-makers hold it in high repute, and its suitability for the interior fittings of ship cabins, railway carriages and the like should lead to its early extended use in this country. The wood is said to be equal to Bahia or Rio rosewood, and taking into account its cheapness and superior widths, as well as its soundness, a great desideratum in converting, there can not be any doubt, at half the price of the other rosewoods, the wood from India must eventually supplant the ordinary kinds. Already our French neighbors, with their usual keenness to adopt new woods, are very large consumers, notwithstanding the national prejudice against wood supplied from the colonies of Great Britain.

## A FEW STEAM PUMP CALCULATIONS

**WANTED**—A steam pump to deliver 1,000 gallons per minute. Strokes per minute, 40; length of stroke, two feet; steam pressure, 80 pounds; head to pump against, 100 feet; allowance for loss, 20 per cent. A loss of 20 per cent. necessitates calculations for 1,000 gallons + 20 per cent., or 1,200 gallons per minute. This divided by 7.48 gives 160.4 cubic feet of water per minute. Dividing 160.4 by 40 we have 4.01 cubic feet per stroke, and call it 4, omitting the decimal. Dividing again by the length of the stroke (in feet) we get  $4 \div 2 = 2$  square feet as the area of the pump cylinder, or about  $19\frac{1}{2}$  inches for diameter; a pretty large diameter for the stroke, but necessary to meet the requirements, although it would be better to lengthen the stroke to three feet. The head of 100 feet (.434 pounds per foot, but calling it .5, makes an allowance for friction) gives us fifty pounds pressure per sq. inch of piston, and the piston area equals  $2 \times 144 = 288$  square inches,  $288 \times 50 = 14,400$  pounds total pressure on the piston to be overcome by steam pressure on the steam piston. Dividing the total load by the steam pressure we have  $14,400 \div 80 = 180$  square inches for the steam piston plus 20 per cent. loss in the steam cylinder, etc.— $15.25 \times 3.05 = 18.3$  inches as steam cylinder diameter. The conditions here given are a little unusual, the head being low for the pressure used, and the stroke short for the diameter; also the small number of strokes per minute, but the method of calculating is clearly shown and can be done for any selected case. In the case of suction or lifting pumps simply add the lift to the head forced against and use this as a total head, making an allowance for possible leaks in the suction pipe.

## LUMBERING ON THE ST. MAURICE RIVER.

AN official of the Lake St. John, Que., railway says: "There are not a dozen people in Quebec or Montreal, who have any conception of the lumbering operations being carried on this year on the St. Maurice river. You will be astonished in fact, when I tell you that the volume of business is almost as extensive as on the Ottawa. One firm alone, and at one point, employ 1,100 men and 600 horses, and the supplies for this little army mostly come from the city of Montreal. Where our

bridge crosses the river a pulp mill has been erected at a cost of one million dollars. Both in the mill and in the woods the number of men employed must run up to very near a thousand. As a matter of fact, no one can form any estimate as to the magnitude of the several industries along the river St. Maurice without being on the spot."

The Ottawa Saw Manufacturing Company is putting in machinery for the manufacture of hand saws.

**THOMAS PINK**  
MANUFACTURER  
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LUMBERING  
TOOLS

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CANT HOOK  
GAFF  
SOCKET

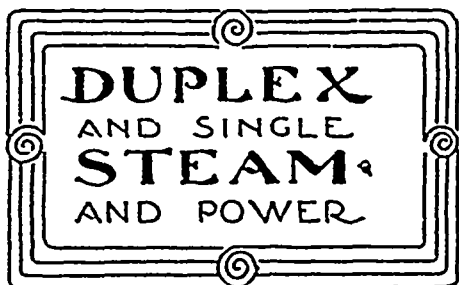
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