

ment with the mountain lumbermen. The general price on the prairies is said to have come down 20 to 30 per cent., with further reductions anticipated.

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Miller's sawmill at Pokiok, N.B., has resumed operations after a close-down of some weeks. This is due not so much to any present improvement in the lumber industry as to the hopes held out for better conditions in the fall.

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The Monarch Lumber Company, Winnipeg, authorized capital \$1,000,000, has been granted a Dominion charter to carry on business as timber merchants, sawmill proprietors and manufacture wood products. W. H. McWilliams, Winnipeg, and W. D. Douglas, Minneapolis, are members.

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C. O. Opdahl has bought the old Thomson-Emery planing mill at Fort Frances, Ont., and will erect a new wood-working factory with all the latest appliances for making doors, frames, moldings, shop fixtures, designs, and other classes of woodwork.

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Owing to the stagnant state of the export lumber market Stetson & Cutler's sawmills in St. John, N.B., have closed down indefinitely until times improve. Several of the mills in that district, we are informed by a "Canadian Woodworker" correspondent, however, continue in operation.

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Among the sawmills which suffered from the terrible forest fires two or three weeks ago in Southeastern British Columbia were the Elk Lumber Company, the Fernie Lumber Company, North American Land & Lumber Company, the Wood-McNab Lumber Company, and Alex. McDougall's mill at Fernie, the Hosmer Lumber Company of Hosmer, the North Star Lumber Company of Elks, the Sparwood Lumber Company of Sparwood.

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A fire originating in an oil tank in the tempering-room broke out one day last week in the factory of Shurly & Dietrich, the well-known saw manufacturers in Galt, Ont. The employees of the firm, however, headed by Mr. F. Shurly, worked with their own hose to such good advantage that when the fire engines arrived, which they did in quick time, the fire had been practically extinguished without much damage having been done.

MECHANICS OF THE FAN BLOWER.

By S. Walter.

Few among the common mechanical devices present more complicated problems regarding performance than does the fan blower. Simple as it is, and simple as are the physical laws which control its operation, the great variations in the conditions under which it may operate render accurate determination exceedingly difficult.

Aside from the differences between fans of various types and sizes, there is variety enough in the operating conditions of a single fan. They may be simply placed in two classes: those related to the freedom of discharge, as measured by area of outlet and by resistance, and those related to the speed of rotation and the velocity of discharge. The functions affected thereby are represented by the volume, the velocity, the pressure, and the power. Air temperature and humidity must also be taken into account for refined work. The efficiency, which is a function of the power, varies both with freedom of discharge and the speed of rotation.

This range of values and flexibility of conditions present difficulties in the way of accurate calculation that appear almost insuperable. Not but that they may be overcome if all the conditions are known, but such is usually the fact after the fan is installed, not before it has been put in operation.

Relative values are not difficult to determine, for fundamentally, with a given area of discharge, the volume and the velocity vary directly upon the speed of rotation, while the pressure produced varies as the square, and the power required as the cube of the revolutions. From these relations it is evident that a slight change in speed must result in considerable alteration in pressure, and still greater change in the power.

Were the fan rigid in its construction, and distinctly limited in its field of operation, the difficulties in the way of its application would be far greater. But fortunately it readily adjusts itself to conditions, its flexibility is brought into play, to a degree it becomes automatic in its adjustment. Let the resistance be more than can be overcome at given velocity and pressure, then the velocity slackens, while the volume, pressure and power readjust themselves to the conditions, and the fan still continues to operate.

The great mistake is made, however, when a fan is driven at a speed higher than is absolutely necessary to accomplish the desired result, whatever it may be. Then the power leaps up; it is practically doubled when the fan speed and the delivery is increased only 25 per cent. In other words, the power per unit of volume is increased about $2 \div 1.25 = 1.6$ times. Certainly this is an expensive method of increasing capacity. Far better as a rule is it to substitute a new and larger fan even at higher cost. Almost without fail it will show a handsome profit on the investment as evidenced in the saving of power.

THE MANTEL BUSINESS.

An interesting branch of the veneer using trade, says "Veneers," is the manufacturing of modern mantels, where quartered oak enters quite extensively, also plain oak, mahogany, birch, and occasionally some of the lighter woods. The general tendency of modern mantel-making is toward massiveness; therefore the heavier woods, especially oak, are quite a factor. Practically all modern mantels use a fair amount of veneer. A few years back there was more carving and moulding, and solid wood was used more extensively, but now the demand for heavy columns and massive effects generally calls for the use of quite a lot of veneer. It is a peculiar fact, too, that with the passing of the old-time fireplace and the general tendency to give way to the modern idea of economy in heating houses, the mantel idea is still retained. The mantel is one of the earmarks of home that it seems impossible to dispense with, and even though a modern house may be heated in the main with steam or hot air, mantels and fireplaces are still quite a feature. It looks like it always will be, too, because a lot of ancestral sentiment clings to it that brings the mantel idea back with renewed force every time it thinks of disappearing. There are new mantel manufacturing concerns going up all the time, and apparently they all find plenty to do, even though they have their dull season like other industries. Taking the mantel trade as a whole, it furnishes quite a market for quartered oak veneer, and also uses a fair amount of mahogany, birch and other woods.

Situations Vacant

Wanted—Firstclass carpenters; must have tools; wages twenty to twenty-five cents per hour; Apply John S. Metcalfe Co., Midland, Ont.

Bandsmen wanted, who are cabinetmakers, finishers and machine men; state experience and salary expected to A. Winn, secretary, Southampton, Ont.