

### THE STURTEVANT DRY-KILN APPARATUS.

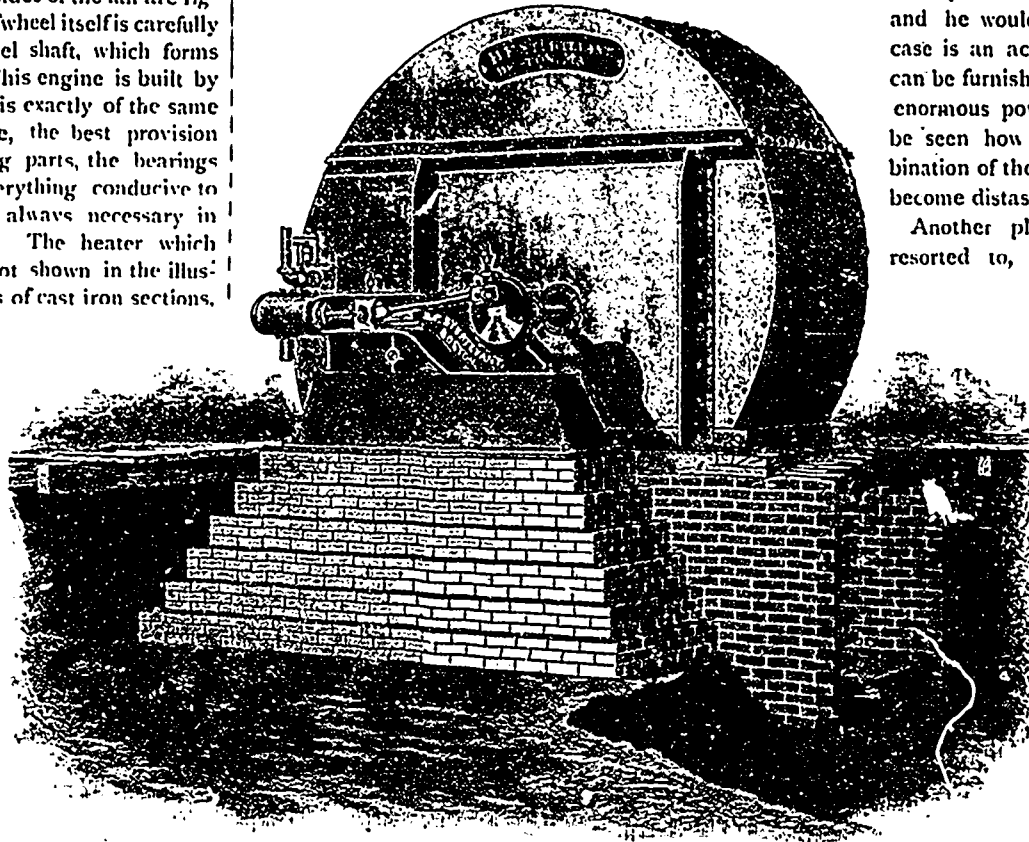
THE marked efficiency of the Sturtevant dry-kilns has always been attributed to the high grade of apparatus by which they are operated. Not content with a good thing, the attempt has always been to manufacture a better one, and the ever increasing trade in this line is the best evidence of the wisdom of this course. With the growth of the kiln business, the tendency has been toward the massing of kilns in single batteries, each operated by a single large apparatus. In large batteries the air ducts are of necessity usually underground, requiring the fan to be likewise placed if it is to discharge directly into the duct. To meet this requirement and at the same time reduce the cost of the fan, the B. F. Sturtevant Company, of Boston, Mass. several years ago introduced a type of fan with only three-quarters of the regular full housing, the lower portion being constructed of brick and forming at the same time the end of the duct. Such a type of fan, with engine connected directly thereto, is shown in the illustration herewith presented which represents the latest style of Sturtevant steel plate steam fan, with three-quarter steel plate housing. The arrangement is very compact, and as will be seen, when the room is floored over nothing appears above the surface but the engine and fan housing. The sides of the fan are rigidly stayed by angle irons; the fan wheel itself is carefully balanced and mounted on a steel shaft, which forms the main shaft of the engine. This engine is built by the above named company, and is exactly of the same grade as their automatic engine, the best provision being made for oiling all running parts, the bearings all being of large size, in fact everything conducive to the continued running which is always necessary in kiln plants, has been introduced. The heater which always accompanies this fan, is not shown in the illustration, but is made up of a series of cast iron sections, into which are screwed vertically rows of steel pipes, the upper portion of each section forming the steam and the lower the drip passage; the upper passage being divided midway so as to compel the steam to pass up, over and down the pipes. The entire heater is encased in a steel plate jacket connecting with the inlet of the fan. This jacket, as well as the heater sections, is supported on a substantial angle-iron frame foundation. Expansion of the heater sections is allowed for by the balls which are placed beneath one end. These sections are bolted together in groups by bolts extending entirely through the headers on one end, so that steam connections may be made with the end of the group and the drip may be removed at the same end, obviating the objection to other styles of heaters, having the inlet and drip upon different sides of the heater. Heaters of this class can be built in large groups of many sections, but their arrangement can only be determined by experience, as the greatest efficiency of the heating service can be best secured by a proper proportioning of the number of rows of pipe across which the air is drawn. These heaters are arranged to be operated by either live or exhaust steam, generally by exhaust steam from the mill engine during the day and by live steam during the night. The exhaust from the fan engine is always utilized in the heater, so that the motive power counts for nothing. The manner of application of this type of apparatus to the Sturtevant kiln is already well known, the air being forced in through inlets at one end of the kiln, and in its passage down through the kiln, coming in contact with every foot of lumber, and finally escaping at the opposite end of the kiln, the lumber being laid upon cars and pushed forward into the warm air. This gradual action results in thoroughly drying every part of the wet lumber. Lumber and stock of all descriptions, including staves, heading, kindling wood, shingles, spokes, woodenware, etc., can

easily be dried in the Sturtevant kiln when properly arranged. In many woodworking establishments, such as furniture and carriage manufactories, the same apparatus is used for heating the building and drying the lumber. Whenever the air escaping from the kiln is too moist it may be utilized in heating a portion of the building.

The Sturtevant system of heating has been extensively introduced and has proved a success in every way. Its peculiar advantage lies in the massing of the entire heating surface in a single heater, instead of stringing it all over the building as in the case of direct radiation. The amount of heating surface required is thereby reduced to about one third of that ordinarily provided. There is no opportunity for the freezing and leaking of exposed pipes with their consequent damage. Ventilation is provided with the heating, and owing to the pressure produced within the building all leakage is outward. The same system is applied to all classes of buildings, schools, houses, public buildings, etc., as well as manufactories.

### A RAILWAY COMMISSION.

WHETHER we should have a railway commission or not is the question that every now and then seems to disturb the minds of our great army of shippers and



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handlers, and it is the purpose of this journal to gather and give to its readers all the information and opinions available on the subject. A Railway Commission is a court just the same as any other court for the hearing and deciding of cases in dispute, with these differences, viz: its proceedings are of a summary nature; every facility is offered for the hearing and deciding of cases brought before it; no legal counsel need be employed, and hence it is much less expensive. Its powers would be much wider than any court now existent in that it would decide all matters of dispute between railway companies and corporations, which have now to be referred directly to the Legislative body as represented by the Railway committee at Ottawa. It would in all probability be made up of a capable legal gentleman, a business man, and a railroad expert, or engineer, so that all sides and shades of opinion would be fairly represented. The costs of this court would be very much smaller than those of our superior courts. It would give summary and final judgment upon all cases of alleged extortion or unfair discrimination on the part of public carriers. That there is a pressing need of such a court is already apparent to nearly all who are engaged in heavy freight handling, but for the benefit of the few let us suggest some good reasons for its establishment.

The present arrangement is so cumbersome and distant as to be practically beyond the reach of any but the largest corporations, or those who can afford to spend large sums of money to obtain a measure of justice. Now it is well known to every reader of this journal that our railways have been in the habit of giving discriminatory rates to large shippers or favorites, a practice which is very much to the disadvantage of the business of those not so favored, and it has been all but impossible for business men so placed to have this very apparent injustice remedied, notwithstanding the fact that it is contrary to law as well as right. They would either have to proceed in a court, which could not compel the production of the evidence necessary to make a good case, or go to the expense, trouble and loss of time necessary to carry the case to the railway committee at Ottawa. Then even should they join issues against the company their position would be a very unenviable one, because it is a well known fact that it is in the power of these monopolies to ruin the business of many of the people dependent upon them for shipping facilities. Take a case in point: Two men are buying wheat at G—; to one of them the company gives a rate of 12c. per cwt., to the more favored one 10c. per cwt. It is very plain that the second buyer can simply put the first off the market,

and he would be compelled to quit. The case is an actual one and names and dates can be furnished if necessary. Now with such enormous powers in their hands it can readily be seen how a railroad company, or a combination of them, could ruin any one who had become distasteful to them.

Another plan, which is not infrequently resorted to, is the granting of a ready supply of cars to the favored shipper and the withholding of the same from those whom they are not anxious to serve. That this act of tyranny has been perpetrated again and again, the testimonies given to the committee of the Toronto Board of Trade on shortage of cars more than proves, for it shows that our grain dealers, lumbermen and millers are annually made to suffer severely, and there does not now seem to be any means of abating this evil, save by placing the control of the matter in hands capable of dealing with it. That the matter of special and discriminating rates was amply proven by the sworn testi-

mony of the chief freight agents of both the G.T.R. and C.P.R., as given before the Royal Commission at Montreal, where they explicitly declared that they have general rates, special rates and "special" special rates. Then again they are hurting very seriously the shipping trade of this country with Great Britain and the continent, and the amount of which they rob the Canadian farmer annually foots up to something in the millions. In the testimony given at Montreal it is asserted that the Canadian roads have lost money upon the carriage of American freight, while in the same examination it transpires that the roads are making money. Now there is but one deduction which we can draw from this, and it is that the Canadian shipper and farmer is made to pay the losses which these roads have made in their unfair fight with their Yankee competitors. But we have other proof than that deducible from their own sworn testimony. We can adduce abundant evidence to show that the Canadian roads make a general practice of carrying flour, grain and other heavy freight, cheaper from Minneapolis or Chicago to the seaboard than from Toronto, not to mention Winnipeg or other points which would be entitled to the same rates at least. Now Toronto is at least 800 miles nearer the seaboard than Minneapolis, and 500 miles nearer than Chicago. While the C. P. R. were carrying wheat and flour from Winnipeg to Toronto at 47 cts. per cwt., they