

shall be exempt from taxation for any purpose excepting for school, sewer or water rates, but said manufacturing establishment shall pay in lieu thereof a license fee equal to one per cent. of the assessed valuation of its real estate. All ships or shares in ships of iron or steel or any combination of metals of like character built in the Province of Nova Scotia shall be exempt from taxation for any purpose whatsoever for a period of ten years from the time this Act shall come into force in any town, city or municipality."

THE WASTEFULNESS OF CHIMNEY DRAUGHT.

In a recent editorial discussion of the question of the various methods for the utilization of waste heat, the "Engineer"

considers among other features the wastefulness of the usual method of producing draught by the ascent of heated air in a chimney.

Taking the boiler as the wasteful member in a steam plant, its efficiency varies from 60 per cent. in a bad boiler to 80 per cent. in a very good one, these proportions of the heat produced by the combustion of the coal being realized in steam available for the engine in each case.

The difference may be said, without greatly stretching the truth, to go up the chimney. It is not to be disputed that much of the waste heat might be caught and utilized, but there are reasons why it is not so caught. In the first place the gases must be hot when they go into the chimney, or there will not be a draught.

As a matter of fact a draught got in this

way is the most expensive possible, save one. The exception is a steam jet in the chimney. A fan can be run for about one-tenth of the power represented by the waste heat required to command a good draught. A tall chimney will cost from \$5,000 to \$25,000—very much more than will a fan plant. But the fan is not used and the chimney is, largely because it is essential to discharge the products of combustion high up in the air over the roofs of surrounding houses. This necessity must be taken into account in so far as factories are concerned, but it does not hold good of steamships; yet we believe that in most cases a chimney stack 100 feet high would be sufficient, because with a fan, combustion could be more easily controlled than is possible with a chimney, to the end of preventing the giving off of smoke.

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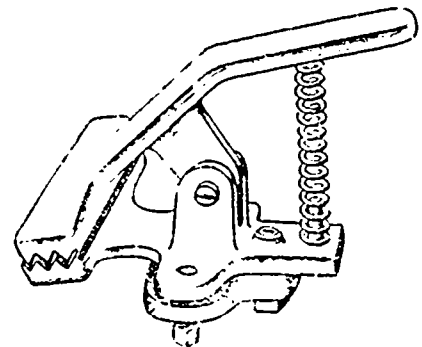
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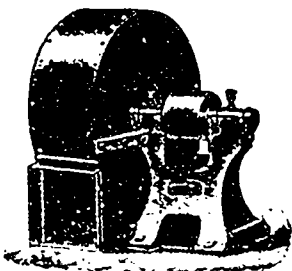
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