

BOILER EXPLOSION AT RIDGETOWN.

On the 6th of April a boiler exploded in the saw, stove and heading mill of Watson Bros., at Ridgetown, Ont., which completely wrecked the mill and has thus far resulted in the death of four persons. The accident occurred just as the employees were preparing to enter upon their day's work. The fire had been under the boiler for some time, but the machinery had only been in operation about a minute and a half.

The boiler was a horizontal tubular one, 54 inches diameter and 11 feet 6 inches long, with 58 tubes 3 in. in diameter, and a dome 20 in. diam. and 27 in. high. The plates were iron and were a little over one-quarter inch thick.

and uninjured, with bridge and bolt attached.

The dome was thrown about 600 feet, and the plate to which dome had been attached went about 700 feet in a different direction. The position of the front part of shell and of the back part confirm the theory that the boiler gave way first at the upper part, as these pieces were thrown in opposite directions and appear to have been turned end for end in their flight.

A second boiler which had no steam on at the time was thrown bodily over the engine and badly ruptured.

The violence of the explosion is clear proof that there was plenty of water in the boiler at the time, and the back head showed no sign of ever

traced out to the maker, or seller, or user of the boiler, and the blame fixed upon the right person.

The coroner's jury, in their verdict, stated that the cause of the explosion is unknown, but recommended that the government make it compulsory to users of steam boilers of all kinds to have them periodically inspected by competent boiler inspectors.

GAS LIGHTING FROM SAWDUST.

The town of Deseronto enjoys the distinction of being partially lighted by sawdust. The sawdust is charged in retorts, which are heated by a wood fire, the gas from the retorts passing into a series of coils and thence into the purifiers,



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The joints were all single riveted, the lap of plates being 2 in., and the rivets were $\frac{5}{8}$ in. diam. and 2 in. pitch. Manhole was 15 in. by $11\frac{1}{2}$ in. and had a strengthening ring around it $1\frac{3}{4}$ in. by $\frac{5}{8}$ in. The boiler was in general good order and fairly clean inside.

After explosion there was no evidence that the boiler had been neglected or had been carelessly used. The back head had been renewed at some time and was in very good condition, and evidently was stronger than the front head. The boiler had been used at a pressure of nearly 90 lbs. per sq. inch, and was supposed to be quite safe for a higher pressure. It apparently gave way first at the manhole, or near to it, and was split open from the top across the boiler. The manhole cover was picked up about 60 feet from the original position of the boiler, complete

having been over-heated. The quality of the plates seemed to be common boiler iron, and the most probable cause of the explosion was that the pressure carried was too high for the strength of the shell at the manhole and at base of dome. The severe strain put upon these parts had gradually weakened the boiler, so that it gave way at the ordinary working pressure.

How best to prevent similar accidents is a question well worth considering. In Great Britain where so many boilers are in use, Government inspection has been carefully avoided, but the Boiler Explosions Act requires the user of a steam boiler to report to the Government every accident, no matter how trifling, and an investigation is held and the owner has to prove that he was using all proper precautions. Under this system the fault which led to the accident is

which are similar to those used for coal gas. Lime is the principal purifying agent employed. When it passes out of the retorts the gas possesses an odor much less disagreeable than that of ordinary lighting gas, and resembles somewhat that of the smoke from a fire of green wood or leaves. The works in use are small, turning out daily 540 cubic metres of gas, for the production of which about two tons of sawdust are required. A man and a boy furnish all the labor needed at the works. The gas in an ordinary burner gives an illumination of about 18 c.p. The best quality comes from resinous woods. A quantity of 100 kilograms of sawdust leaves a residue of 20 kilograms of charcoal.

Timber testers say that seasoned timber is twice as strong as green. Long leaved pine is stronger than oak.