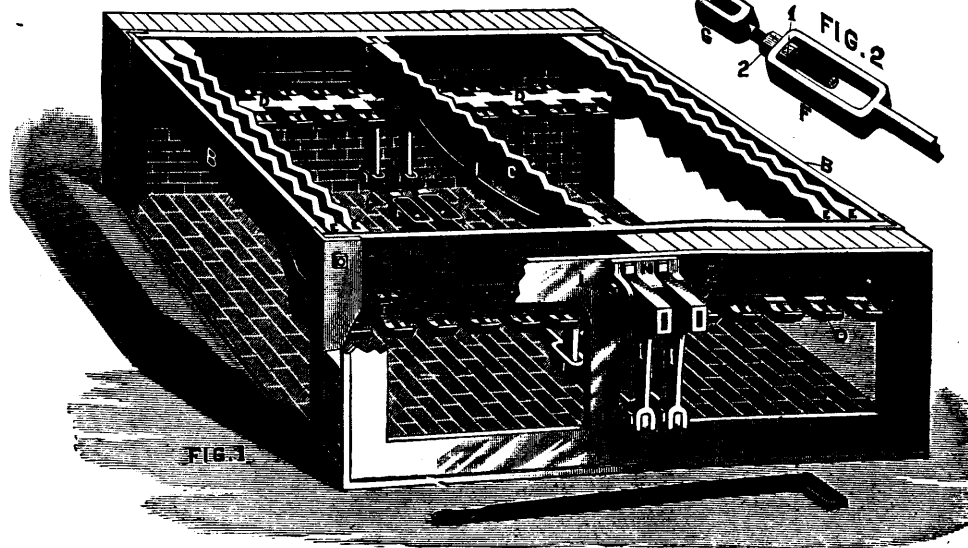


VOLCANIC SHAKING GRATE.

The accompanying illustrations are of the Volcanic patent shaking grate, manufactured by the Gurney Foundry Company, (Ltd.), Toronto.



It is described as embodying perfect construction, very durable and exceedingly economical, so much so that it will outlast from three to six sets of ordinary grates, and save from ten to twenty per cent. of fuel. Screenings or the poorest coal may be used to advantage, and no clinker can be formed. To keep the fire under the boiler clean and in good condition it is not necessary to open the fire doors, therefore the bottom of the boiler does not become chilled by a cold draft striking it, causing loss of steam and damage to the boiler. Each bar is independent of every other bar. It has an up and down movement, so when operated by means of the lever, clinkers are broken and fall into the ash pit.

Some of the points of merit in the Volcanic grate are:—

1. They are very simple in construction, there being no fingers, clips or complicated parts to get out of order.
2. It presents a perfectly level surface when at rest.
3. It has a perpendicular motion.
4. The bars are corrugated and taper from above downward.
5. By the combination of the perpendicular motion, together with the corrugated tapering bar, the toughest clinkers are broken and with the ashes drop easily into the ash pit.

6. The corrugated bars secure fifteen per cent. more air space than stationary bars, and also braces the bar so that it will not warp.

7. The grate stands in its own frame and does not depend upon the boiler walls or furnace for its support.

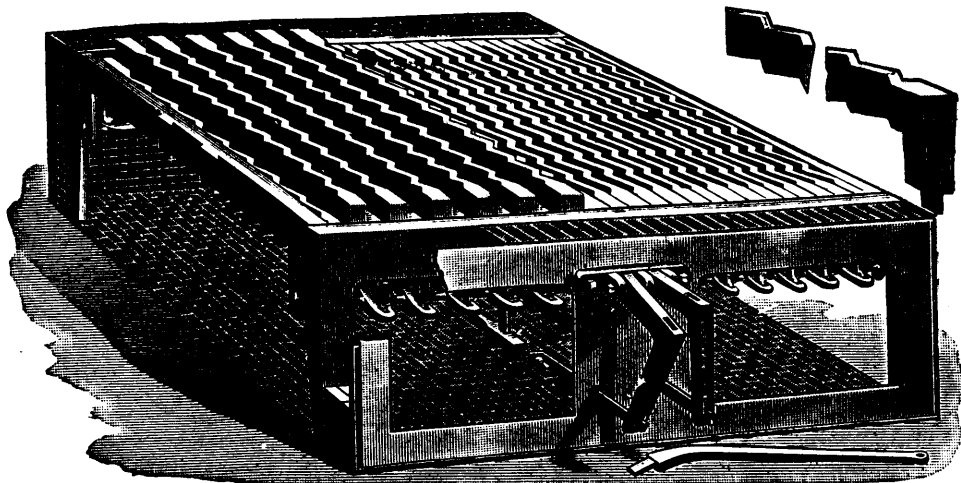
8. In use on locomotives, grates are so constructed that the motion of the locomotive, when running, secures a perfectly clean fire.

9. Any quality of coal can be burned, including hard or soft coal slack.

10. To put in a set of grates, it is not necessary to tear down any of the boiler wall.

By reference to the sectional view of the grate, here shown, it will be seen that in setting it up the following directions should be observed:—

A A are the two end frames. B B are the two side frames that bolt on to the end frames after the side frames are in place. C and D castings are next put in place. Next put in place two bars on each side marked E E. Level the bars E E at both ends. F F bolts on the front rocker. G G, the double nut connection is next made. When the outside bars are perfectly level the double nut connection G G must be made tight. Next place bracket "H" on boiler front. Then castings I I are connected to bracket "H" with lock pin J. Then attach connecting rods K to castings I I. Place balance of bars in position and key them on. The grate is now ready for use.



For further information and testimonials, apply to the Gurney Foundry Company, (Ltd.), Toronto.

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