

P. P. PARROTT.

Improvement in Blast-Furnaces.

No. 130,590.

Patented Aug. 20, 1872.

Fig. 1.

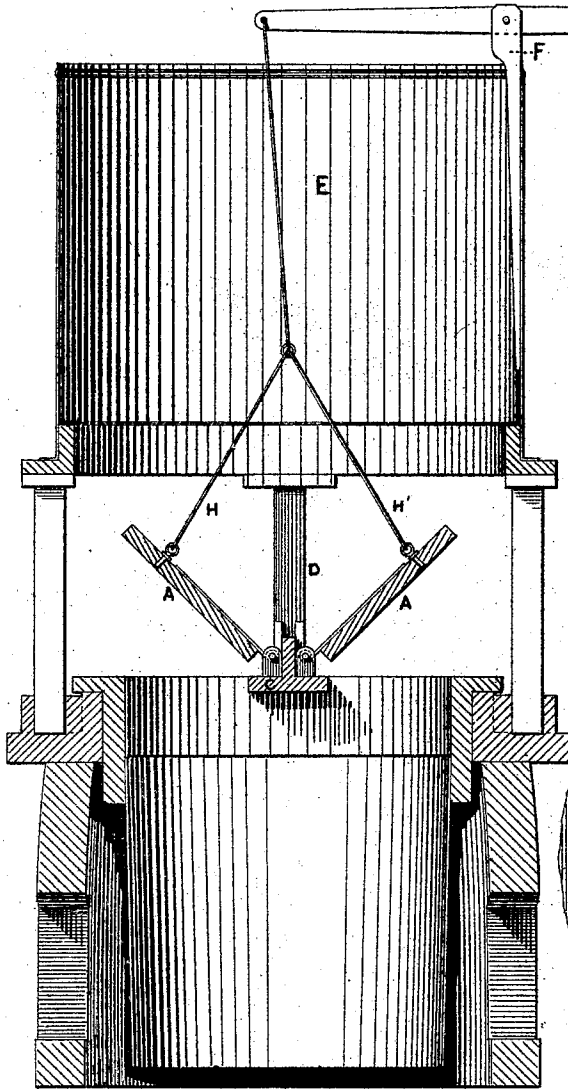
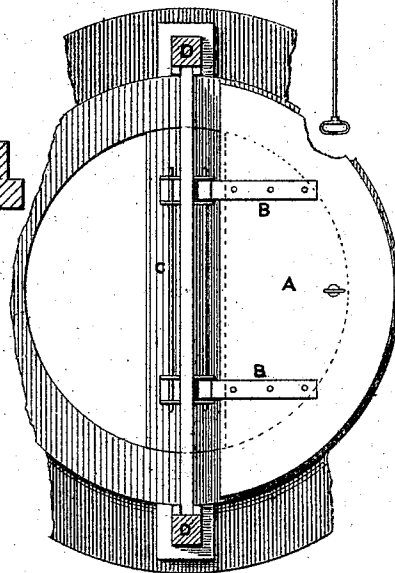


Fig. 2.



WITNESSES.

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IMPROVEMENT IN BLAST-FURNACES.

Specification forming part of Letters Patent No. 130,590, dated August 20, 1872.

Specification describing certain Improvements in Blast-Furnaces, invented by PETER P. PARROTT, of Greenwood Iron Works, in the county of Orange and State of New York.

Nature and Object.

This invention consists in providing a cover or shutter to the top of the furnace in such a manner as to prevent the escape of the gases ordinarily, but so arranged and counterbalanced as to be easily lifted by the workmen when charging the furnace, and also to give but little resistance to any explosion of gases underneath it.

Drawing.

Figure 1 is a sectional view of the upper portion of a furnace. Fig. 2 is a plan of the cover or shutter.

The cover is represented at A, and may be made of cast-iron or of sheet-metal, such as boiler-plate, which may be strengthened or stiffened by the hinges B, which may extend across the sheets as battens, as plainly shown at Fig. 2. These sheets are made to conform to the shape of the top of the furnace, and are therefore, semicircular in form, and attached at their straight edges to a bar, as at C, which extends across over the mouth of the furnace, and is arranged to slide between guides attached to posts, as at D D', that serve as supports to the funnel E, which is mounted in the usual style for such furnaces. To the upper portion of the funnel a bracket, F, is attached, to which is pivoted a lever, G, for lifting and supporting the shutters A A, and which is connected therewith either by chains

or rods, as at H H', and the weight of the entire cover is counterbalanced by a weight, as at K, attached in any convenient manner to the end of the lever or the operating rod or chain, as at L, Fig. 1.

When the furnace is to be charged with a fresh supply of ore or fuel, the shutters are raised up out of the way, as represented in Fig. 1, and then, after the operation of charging is completed, they are dropped down to rest upon and close the mouth of the furnace, and to prevent the ordinary escape of the gases. But it is evident with such a construction being hinged to a sliding bar, or one that can slide easily, and then, both being counterbalanced to a certain extent, that should any violent explosion of the gases occur the whole cover will be easily raised, and thereby permit the escape of the pressure that might otherwise injure the furnace. It is also evident that the bar to which the shutters are hinged may be arranged to slide in other ways than here shown, as by having its ends forked or curved around rods that might serve as guides; and it is also manifest that there are various methods of arranging the counterbalance; but

I claim—

1. A counterbalanced cover for a blast-furnace, substantially as described, and for the purposes set forth.
2. The combination of the cover for a blast-furnace with a sliding bar, substantially as described, and for the purposes set forth.

PETER P. PARROTT.

Witnesses:

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