P. M. BUTTERMORE.

Scrapers for Coke-Ovens.

No. 168,968. Patented Oct. 19, 1875.

Fig. 1.

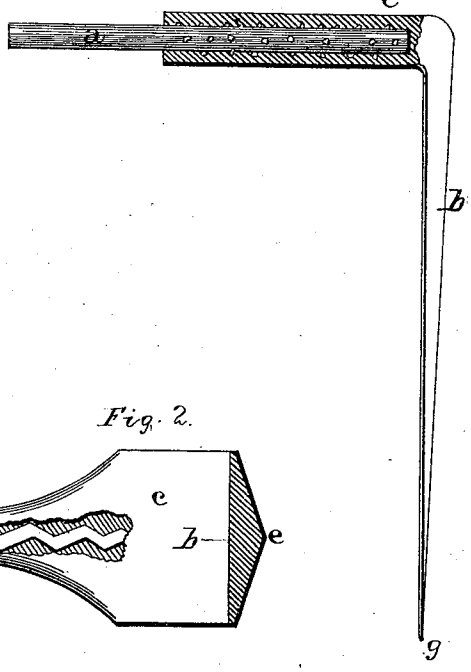


Fig. 3

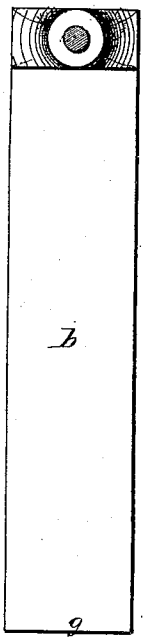


Fig. 2.

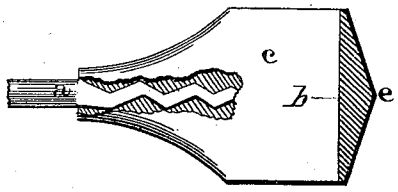
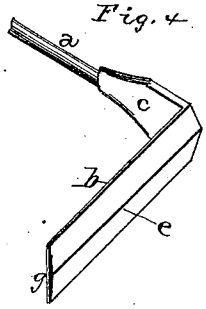


Fig. 4



WITNESSES.

J. Wm Garner

Wm H Jonson

INVENTOR.

A. M. Buttermore

per

F. A. Lehmann, Atty

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

PROVANCE M. BUTTERMORE, OF CONNELLSVILLE, PENNSYLVANIA.

IMPROVEMENT IN SCRAPERS FOR COKE-OVENS.

Specification forming part of Letters Patent No. **168,968**, dated October 19, 1875; application filed July 31, 1875.

To all whom it may concern:

Be it known that I, PROVANCE M. BUTTERMORE, of Connellsville, in the county of Fayette and State of Pennsylvania, have invented certain new and useful Improvements in Scrapers for Coke-Ovens; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings which form part of this specification.

My invention relates to an improvement in scrapers for coke-ovens; and it consists in the peculiar construction of parts, that will be more fully described hereinafter, whereby a cheaper article, and a scraper that is better adapted to its work than heretofore used, is produced.

Figure 1 is a plan view of my scraper. Fig. 2 is a cross-section of the same. Fig. 3 is a front view, showing the shape of the blade; and Fig. 4, a perspective of the same.

b represents the blade of the scraper, which is made long and narrow, and which tapers, in cross-section, from the heel *c* to the point *g*, as shown in Fig. 1. The face of this blade is perfectly flat; but upon its rear side is formed a flange or thickness, *e*, that is greatest at its center, and that tapers toward each edge of the blade. This flange braces and strengthens the blade, so as to prevent it from warping and breaking, as it otherwise would do, owing to the great heat to which it is subjected. The heel *c* is much thicker than the blade, and is secured to the rod *a*, to which the scraper-handle is welded. The rod *a*, made of wrought-iron, is roughened or made crooked at its inner end, and is inserted into the mold in which the blade is cast, so that the cast-iron will form around and adhere to it, as shown.

By making the blade of the shape here shown, and using with one of its edges down, not only will it sweep out a larger amount of coke, but it can be made to reach into all of the corners of the oven. By making the blade of cast-iron, and providing means for welding on a handle, the cost of the scraper is greatly lessened, and its durability increased.

Having thus described my invention, I claim—

A scraper for coke-ovens having a cast-iron blade that tapers, in cross-section, from the heel *c* to the point *g*, and that has a flange, *e*, on the rear side of the blade, that tapers from the center to the edges, in combination with the wrought-iron rod *a*, roughened or made crooked on its end, as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand this 26th day of July, 1875.

PROVANCE M. BUTTERMORE.

Witnesses:
E. J. MCHUGH,
RICHD. CAMPBELL.