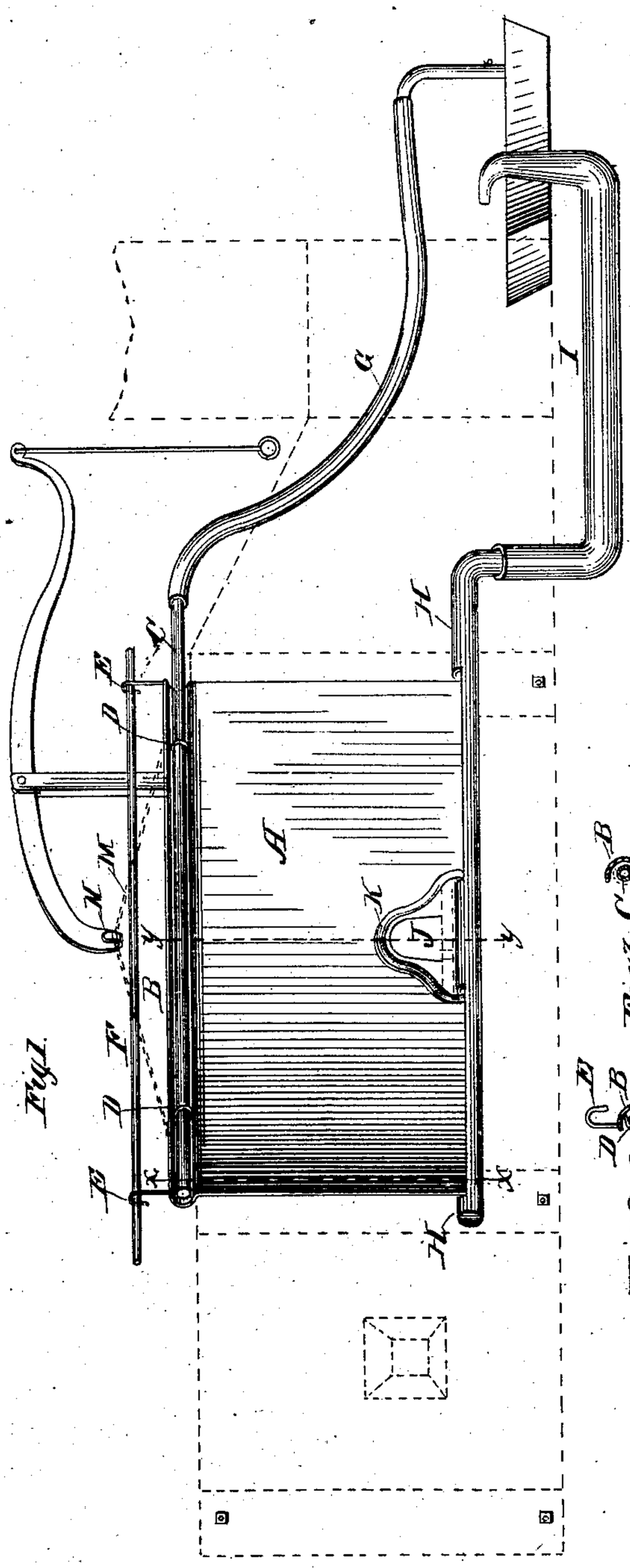
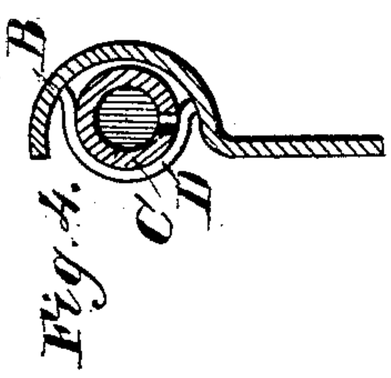
(No Model.)

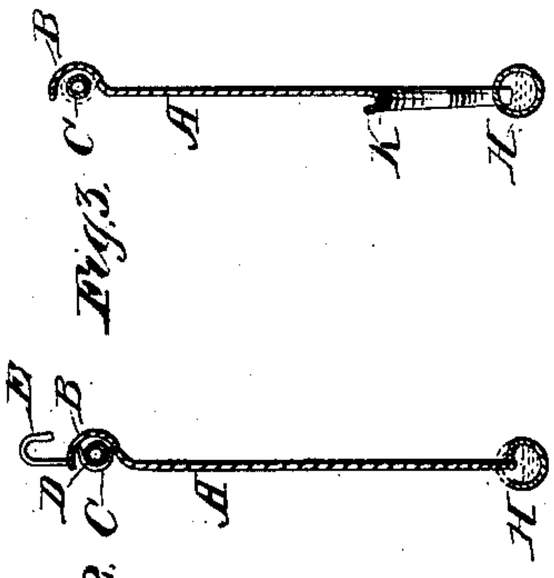
# W. W. McCALLIP.

## SHIELD FOR FURNACES.

No. 245,190. Patented Aug. 2, 1881.




WITNESSES

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By his Attorneys

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# UNITED STATES PATENT OFFICE.

WILLIAM W. McCALLIP, OF COLUMBUS, OHIO.

## SHIELD FOR FURNACES.

SPECIFICATION forming part of Letters Patent No. 245,190, dated August 2, 1881.

Application filed June 9, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM W. McCALLIP, of Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Shields for Furnaces; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

Figure 1 is a front perspective view of my invention. Fig. 2 is a vertical sectional view on the line *x x*. Fig. 3 is a vertical sectional view on the line *y y*; and Fig. 4 is a detail sectional view, showing perforated pipe C.

Corresponding parts in the several figures are denoted by like letters of reference.

This invention relates to an improved shield or screen to be arranged in front of puddling and other furnaces in order to protect the workmen from the excessive heat thrown out; and it consists, essentially, of a single shield or plate combined with a perforated pipe by which its surface may be covered with a continuously-flowing sheet of water, suitable supply-pipes, and a waste pipe or gutter to carry the waste water back to the bosh, as will be hereinafter fully described, and particularly pointed out in the claim.

In the drawings hereto annexed, A represents a flat shield or screen of plate metal, preferably iron, which is corrugated longitudinally near its upper end, forming a groove or recess, B, to receive the perforated pipe C, which is held in position by suitable staples or rings D. The shield A is provided with hooks E, by which it is suspended upon a rod, F, running in front of the furnaces. One end of the perforated pipe C is closed, and the other end is connected by flexible tubing G with the bosh or sink, from which water may be forced by any suitable mechanism into said pipe, escaping through the perforations in the latter and trickling from the groove or recess B in a constant stream or sheet down over the surface of the shield. The latter is provided at its lower end or edge with an open or partly-open pipe or gutter, H, which conducts the waste water through a suitable connecting-tube, I, back to the bosh.

Near its lower end the shield A is provided with a door-opening, J, corresponding in position with the door of the furnace, to which access may thus be had. The said door-opening J is provided with a gutter-flange, K, to deflect the water-sheet from the furnace-door and conduct it into the waste pipe or gutter H.

The shield A is provided at its upper end with a bail, L, capable of being adjusted upon a hook, M, upon the lever N, which is employed for the purpose of raising or opening the furnace-door. By this means the shield may be raised, together with the furnace-door, when a pile or ball is to be removed from the furnace.

From the foregoing description the operation and advantages of my invention will be readily understood. My improved furnace-shield is simple, light, inexpensive, and easily adjusted and manipulated.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

The herein-described furnace-shield, having perforated pipe C and flexible connecting-tube G, in combination with mechanism for raising and lowering said shield, as herein described, for the purpose shown and specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

WILLIAM WATERMAN McCALLIP.

Witnesses:

NATHAN B. MARPLE,

EDWARD D. MINOR.