

(No Model.)

A. M. McGEE.
Furnace for Heating Bolt Blanks.

No. 230,955.

Patented Aug. 10, 1880.

Fig. 1.

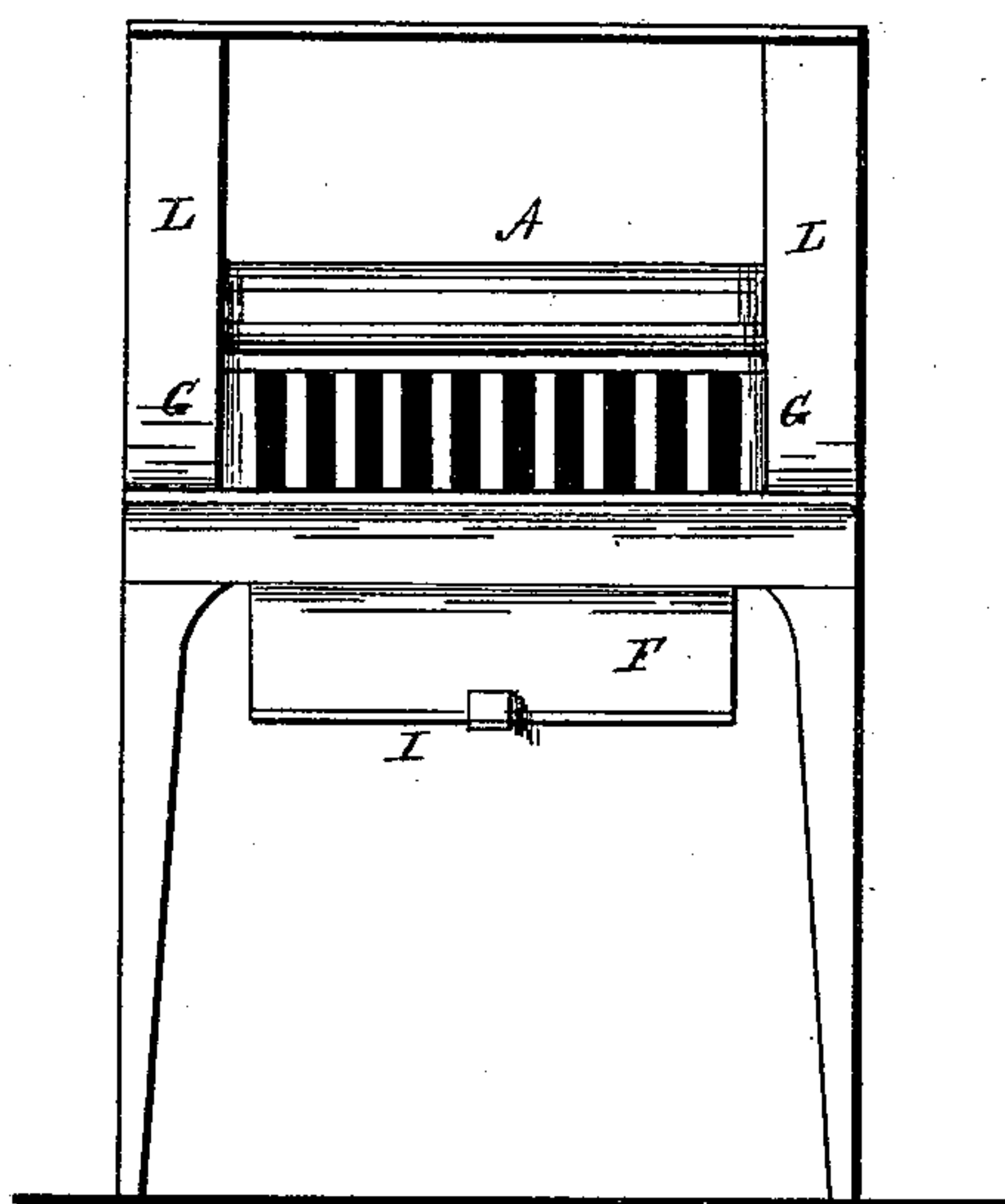


Fig. 2.

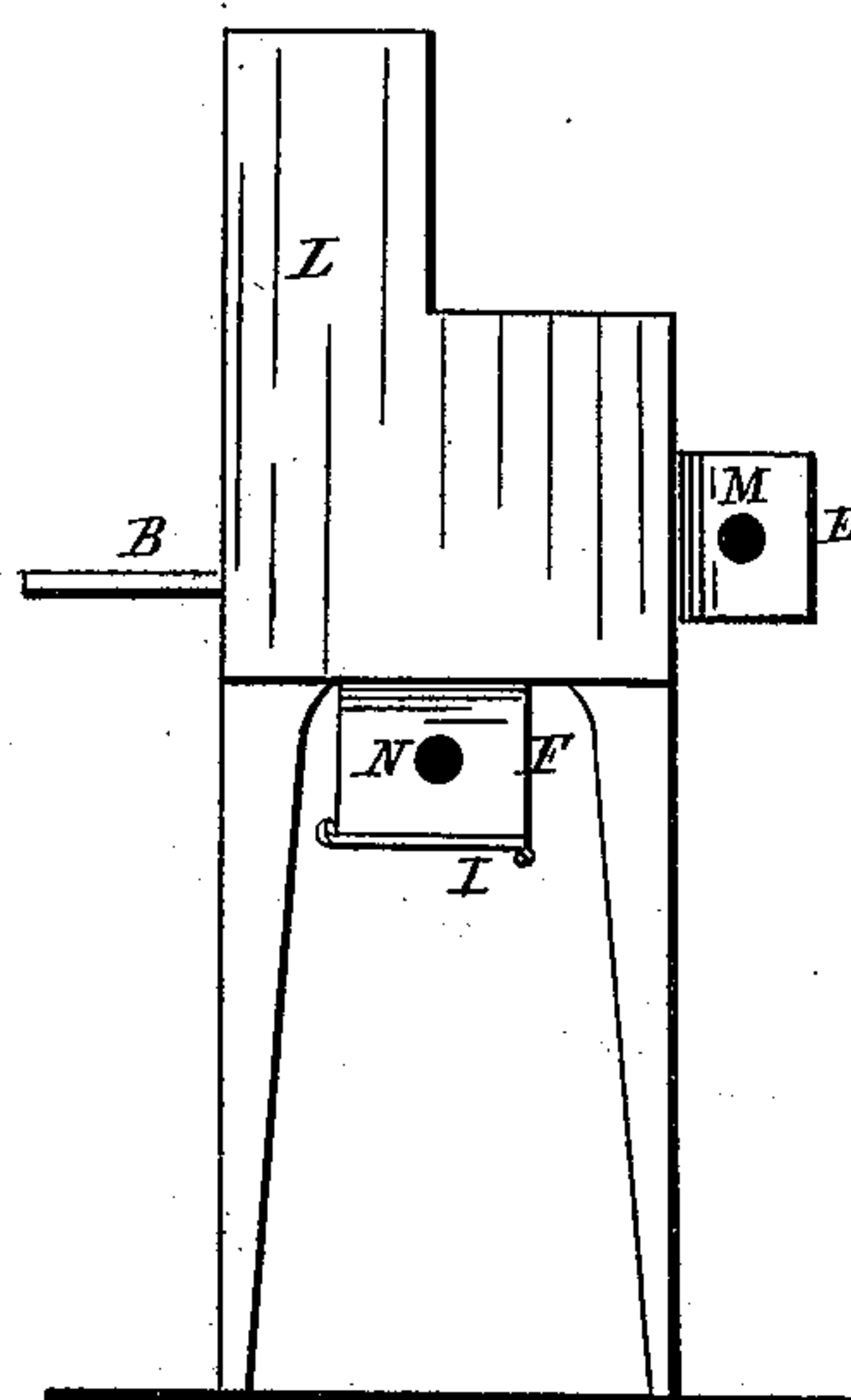


Fig. 3.

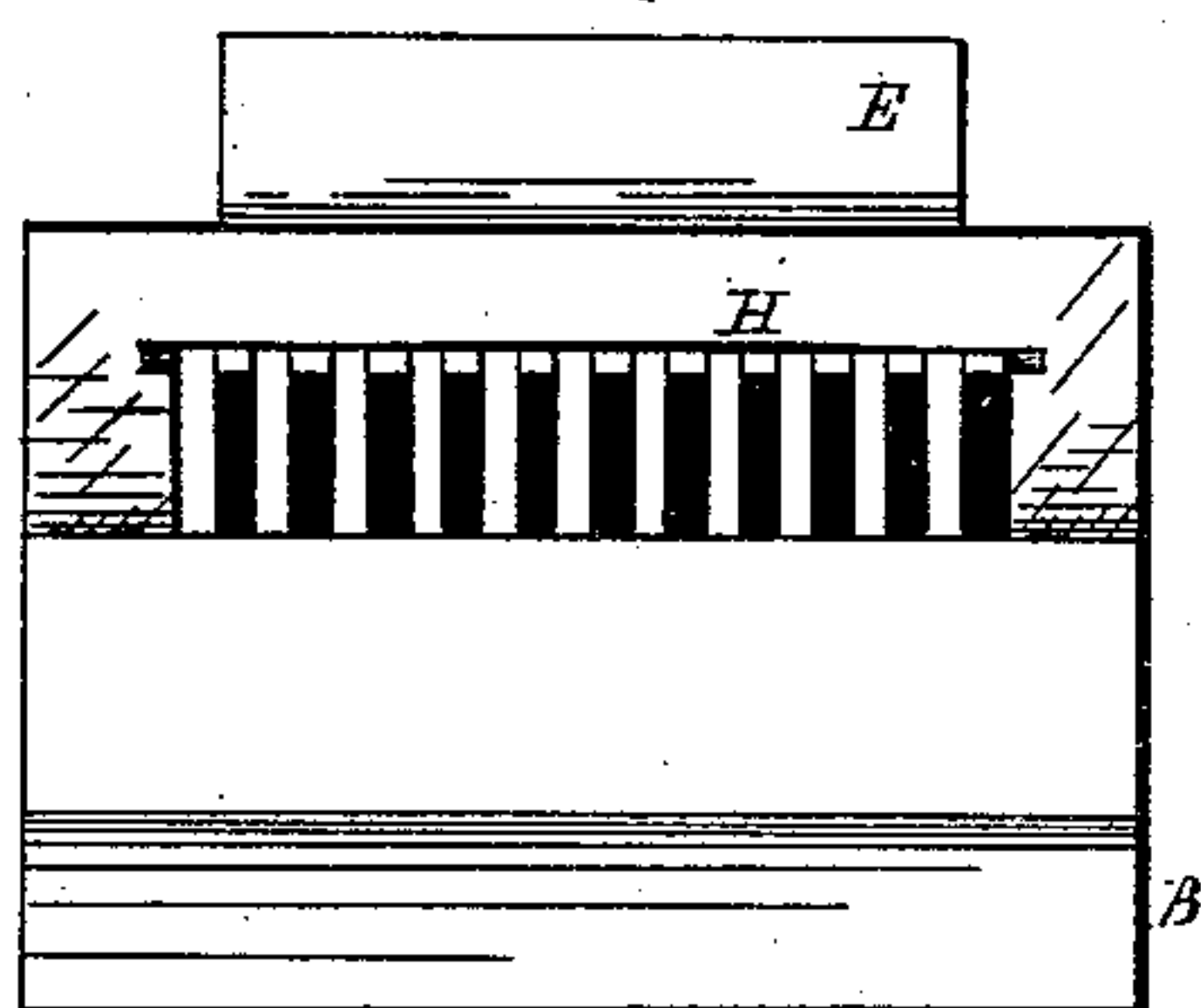
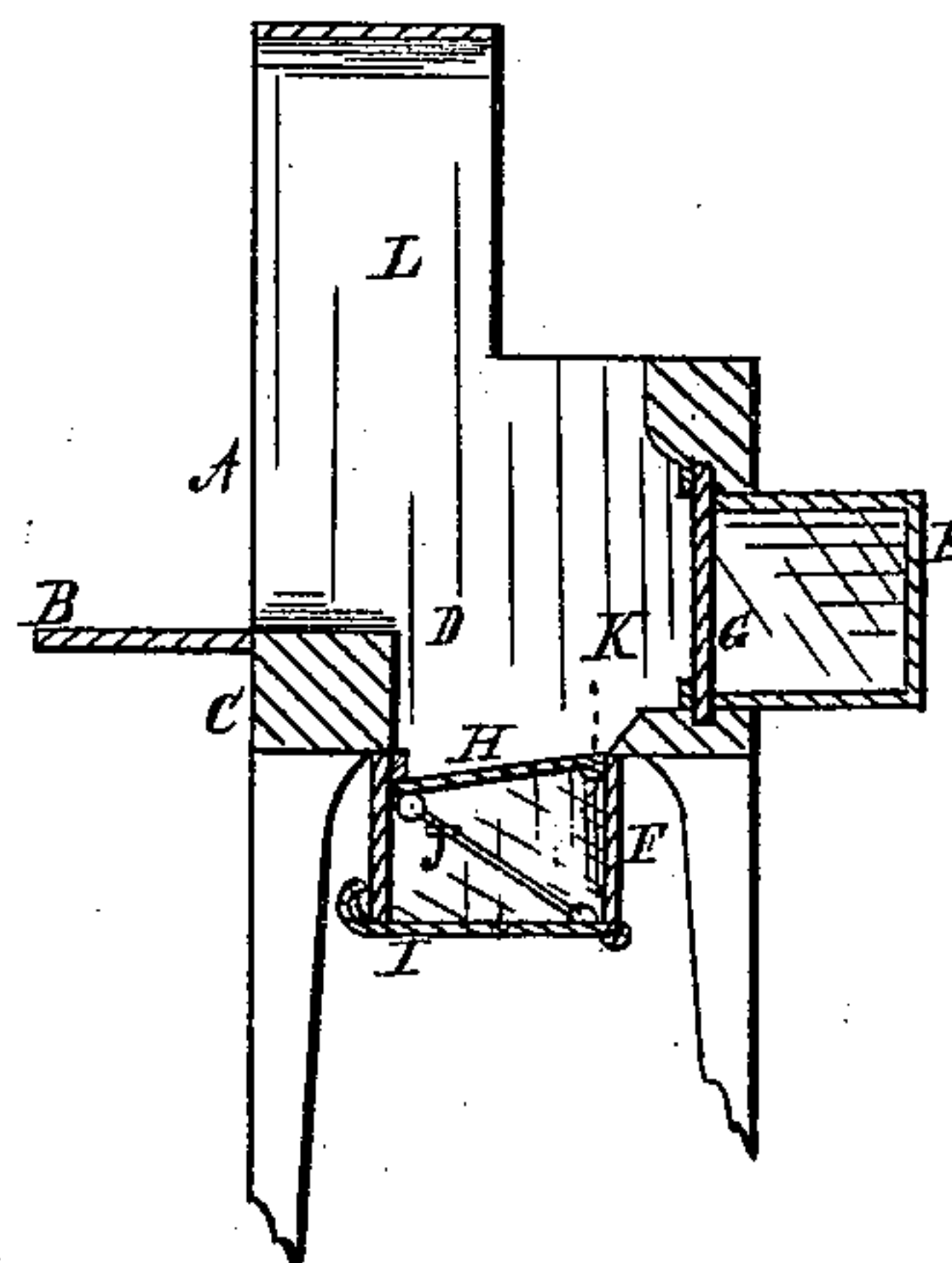


Fig. 4.



Witnesses.
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Attys

UNITED STATES PATENT OFFICE.

AUGUSTUS M. MCGEE, OF CLEVELAND, OHIO.

FURNACE FOR HEATING BOLT-BLANKS.

SPECIFICATION forming part of Letters Patent No. 230,955, dated August 10, 1880.

Application filed April 8, 1880. (No model.)

To all whom it may concern:

Be it known that I, AUGUSTUS M. MCGEE, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and Improved Furnace for Heating Bolt-Blanks, &c.; and I do hereby declare that the following is a full, clear, and complete description thereof.

The nature of this invention relates to a furnace for heating bolt-blanks and for other analogous articles which require heating for upsetting or heading, the object of which is to cause a more rapid and less expensive way of generating heat for the purpose designed than by the usual means; also, to prevent the loss now incurred by the destruction of the blanks by "burning" or overheating, and to arrest the rapid degradation of the furnace by heat, which occurs in those of the usual construction.

The said furnace consists of a fire-place with a bridge-wall in front, in which the blanks are placed to be heated for heading or upsetting. In the back is a grated air-chamber, and one also below the fire-place. To these air-chambers currents of air are carried, so as to be discharged, respectively, into the furnace.

The furnace is so arranged in relation to the blasts or currents of air that they meet in the fire-place. The result of this arrangement is to produce a greater degree of heat from a given quantity of fuel than by a furnace as ordinarily constructed, a more uniform and general distribution of heat on the blanks is produced, and less destruction of blanks and injury to the furnace is the result than by the usual means.

For a more full and complete description of the said furnace reference will be had to the following specification, and to the annexed drawings, making a part of the same, in which—

Figure 1 is a front view of the furnace; Fig. 2, a side view; Fig. 3, a top view; Fig. 4, a vertical section.

Like letters of reference refer to like parts in the several views.

The general form of the furnace is represented in the drawings, in which A, Fig. 1, is the opening into the fire-place, and B, Figs. 2 and 3, the table connected with the bridge-

wall C, Fig. 4. In the rear of the fire place or box D is an auxiliary air-chamber, E, one also being below, at seen at F, Figs. 2 and 4. In front of the air-chamber E are placed gratings G, Figs. 1 and 4, or the equivalent thereof. There is also a grating, H, over the lower air-chamber, F. The latter chamber, however, forms also the ash-box, and the gratings H are the furnace grates or bars, through which the ashes, &c., sift to the ash-box or lower air-chamber.

At the under side of the chamber F is hinged a cover, I, and near the hinge of the cover is jointed a link, J. The other end of the link is hinged to the grate H, which grate is hinged at K. By this means the door I and grate H may be opened simultaneously, more or less, as may be required, in discharging the ashes, &c., from the chamber F, and also for discharging the contents of the fire-place. The link J may be disconnected from either the door or grate, so as to allow the opening and closing of the door for any desired purpose, without disturbing the grate H.

The blanks for bolts, &c., are so piled up on the table B as to allow the ends to extend over the bridge-wall C more or less in the space A between the jambs or sides L into the furnace.

The furnace is supposed to be charged and ready for use. A blast or current of air is caused to enter the opening M into the air-chamber E, and also in the chamber F through the opening N, from which chambers the air is forced into and through the fire. The two currents of air after passing through the grates meet each other at right angles, or nearly so, in the furnace, which intensifies the heat by causing a more perfect combustion of the fuel and gases than by the ordinary means. At the same time the heat is equally diffused over the ends of the blanks exposed to the furnace heat, which ends are designed to form the head of the bolt by upsetting.

In the use of the furnace as usually constructed and arranged for this purpose the blanks are unequally heated to the extent that a large amount of them are burned, rendering them unfit for heading; hence this amount is wasted, and, further, the walls or sides of the furnace also soon become burned out.

The object of this improved furnace is to avoid these objections and reduce the cost of fuel, which has been attained, as described, by the practical use thereof; also, it being found
5 that the uniform heat of the blanks causes less strain and wear upon the dies for heading.

What I claim as my invention, and desire to secure by Letters Patent, is—

In combination with a furnace for heating
10 bolt-blanks, &c., the air-chamber arranged in

the rear of the fire-place with the air-chamber below the floor or grate-bars of said fire-place operating conjointly, substantially as described, and for the purpose specified.

In testimony whereof I affix my signature 15
in presence of two witnesses.

AUGUSTUS M. MCGEE.

Witnesses:

J. H. BURRIDGE,

A. H. PETTIT.