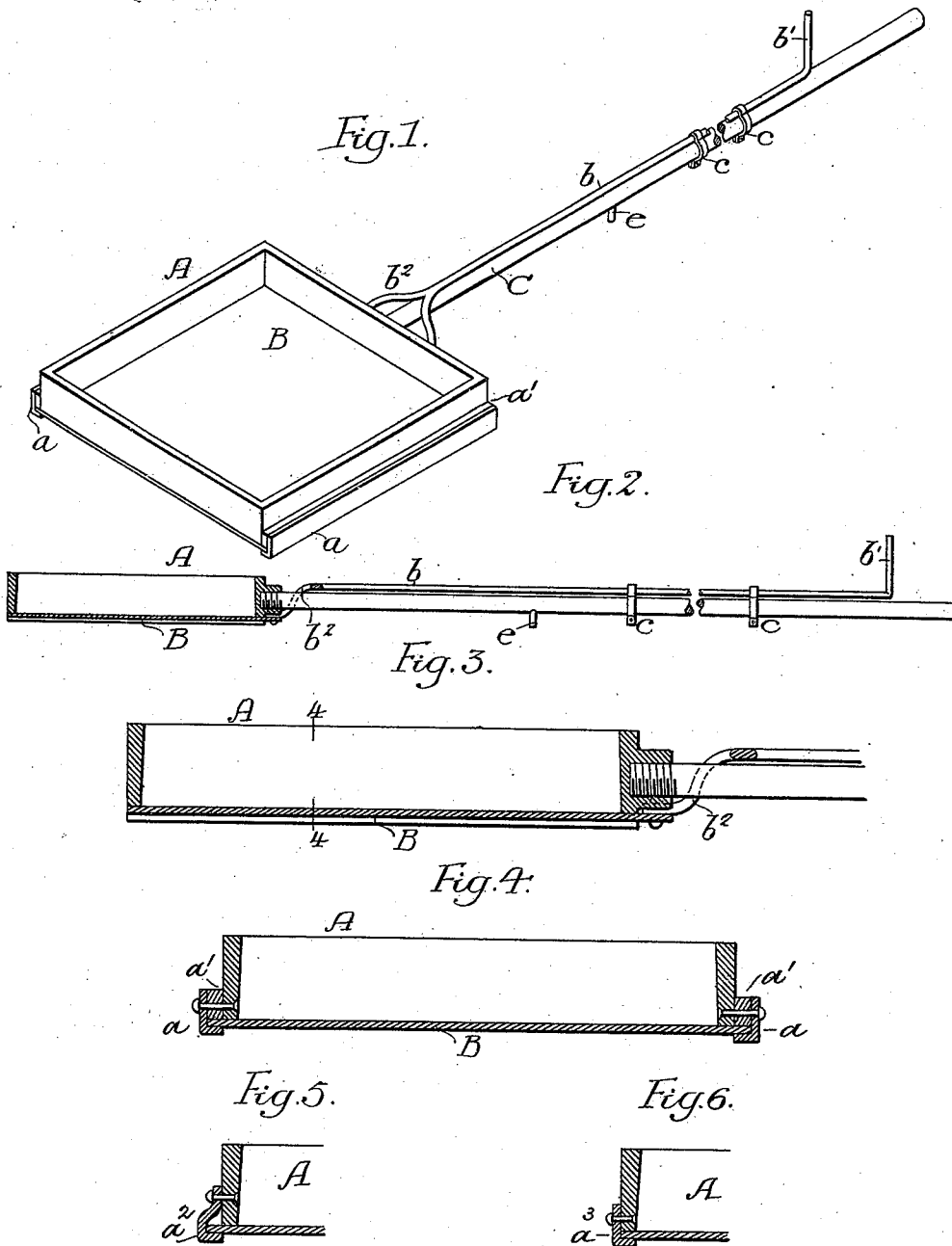


C. W. THOMAS.
CHARGING TOOL.

APPLICATION FILED MAR. 12, 1908. RENEWED SEPT. 3, 1910.

989,444.

Patented Apr. 11, 1911.



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UNITED STATES PATENT OFFICE.

CHARLES W. THOMAS, OF LINDENWOLD, NEW JERSEY.

CHARGING-TOOL.

989,444.

Specification of Letters Patent.

Patented Apr. 11, 1911.

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To all whom it may concern:

Be it known that I, CHARLES W. THOMAS, a citizen of the United States, residing in Lindenwold, Camden county, New Jersey, have invented certain Improvements in Charging-Tools, of which the following is a specification.

My invention relates to certain improvements in charging tools used in handling material of a granular nature and placing the same in a furnace.

The object of my invention is to so design the tool that a mass of material can be held in a frame and carried to a furnace and discharged from the frame by withdrawing the bottom plate, allowing the material to rest undisturbed on the hearth of a furnace so that it can be brought to a proper degree of heat to compress it into a solid homogeneous mass.

In the accompanying drawings:—Figure 1, is a perspective view of my improved charging tool; Fig. 2, is a longitudinal sectional view of the same; Fig. 3, is an enlarged view of part of Fig. 2; Fig. 4, is a transverse section on the line 4—4, Fig. 3; and Figs. 5 and 6, are views of modifications.

A is a quadrangular frame of metal of any size desired, and this frame has a handle C attached in any suitable manner. On each side of the frame are angle plates *a*, one angle on each plate extending below the frame A and placed a sufficient distance from it to form a groove for the reception of a sliding bottom plate B. This bottom plate is attached to the rod *b* which extends parallel with the handle C and is supported by the handle.

In the present instance there are clips *c* on the handle which form guides for the rod and the rod is bent to form a handhold *b'* which can be grasped by the operator. The rod *b* is forked at *b²* and the ends of the forked portion are riveted to the bottom plate B. Depending from the underside of the handle C is a lug *e* which limits the rearward movement of the bottom plate when it is withdrawn to release the mass of material.

I preferably slightly taper the inner walls of the frame A so that when the granular material is placed the frame can be readily lifted clear of the said material.

I preferably secure the angle plates *a*, to the frame A in the manner shown in the enlarged view, Fig. 4, placing a block *a'* between the frame and the angle plate so that the edge of the angle plate will be back of the inner wall of the frame, thus preventing the accumulation of material in the slide-ways.

In Fig. 5, I have shown a modification in which the angle bar *a²* is bent to the shape required, dispensing with the filling block, and in some instances the angle bar may be secured to the frame as at *a²*, shown in Fig. 6, which will bring the inner edge of the angle bar near the inner line of the frame.

The operation of the tool is as follows:— The tool is especially adapted for carrying a quantity of moist granular material to a furnace and the material is formed into a quadrangular mass in the frame; the bottom being closed the material may be compacted if desired. Then the charging tool is carried to the furnace and placed on the hearth and the bottom withdrawn, allowing the material to rest directly upon the hearth of the furnace. The frame is then raised clear of the mass, the material retaining the form of the frame.

I claim:—

1. The combination in a charging tool, of a frame having a slideway on its underside and provided with a handle, a bottom plate adapted to the slideway, and a rod connected to the bottom plate so that on operating the rod the bottom plate can be withdrawn.

2. The combination in a quadrangular frame, of angle bars secured to each side of the frame and underlapping the frame to form a slideway at each side, a bottom plate adapted to the slideway, a handle on the frame, and a rod attached to the bottom plate and running parallel with the handle.

3. The combination in a quadrangular frame, of a handle, angle plates secured to the frame and forming slideways on the underside of the frame, a flat bottom plate adapted to the slideways, a rod attached to the plate, guides on the handle through which the rod extends, and a stop on the handle to limit the outward movement of the bottom plate.

4. The combination in a charging tool, of a frame, angle plates secured to each side

of the lower portion of the frame forming
slideways, a movable bottom plate adapted
to the slideways, the inner edges of the angle
plates being some distance from the inner
5 edge of the frame, substantially as and for
the purpose set forth.

In testimony whereof, I have signed my

name to this specification, in the presence of
two subscribing witnesses.

CHARLES W. THOMAS.

Witnesses:

WM. E. SHUPE,
WM. A. BARR.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
