No. 678,932. Patented July 23, 1901.

J. F. BIRCH, Jr.

ASH SIFTER.

(Application filed Sept. 6, 1900.)

(No Model.) 3 Sheets—Sheet 1.

Fig. 1.

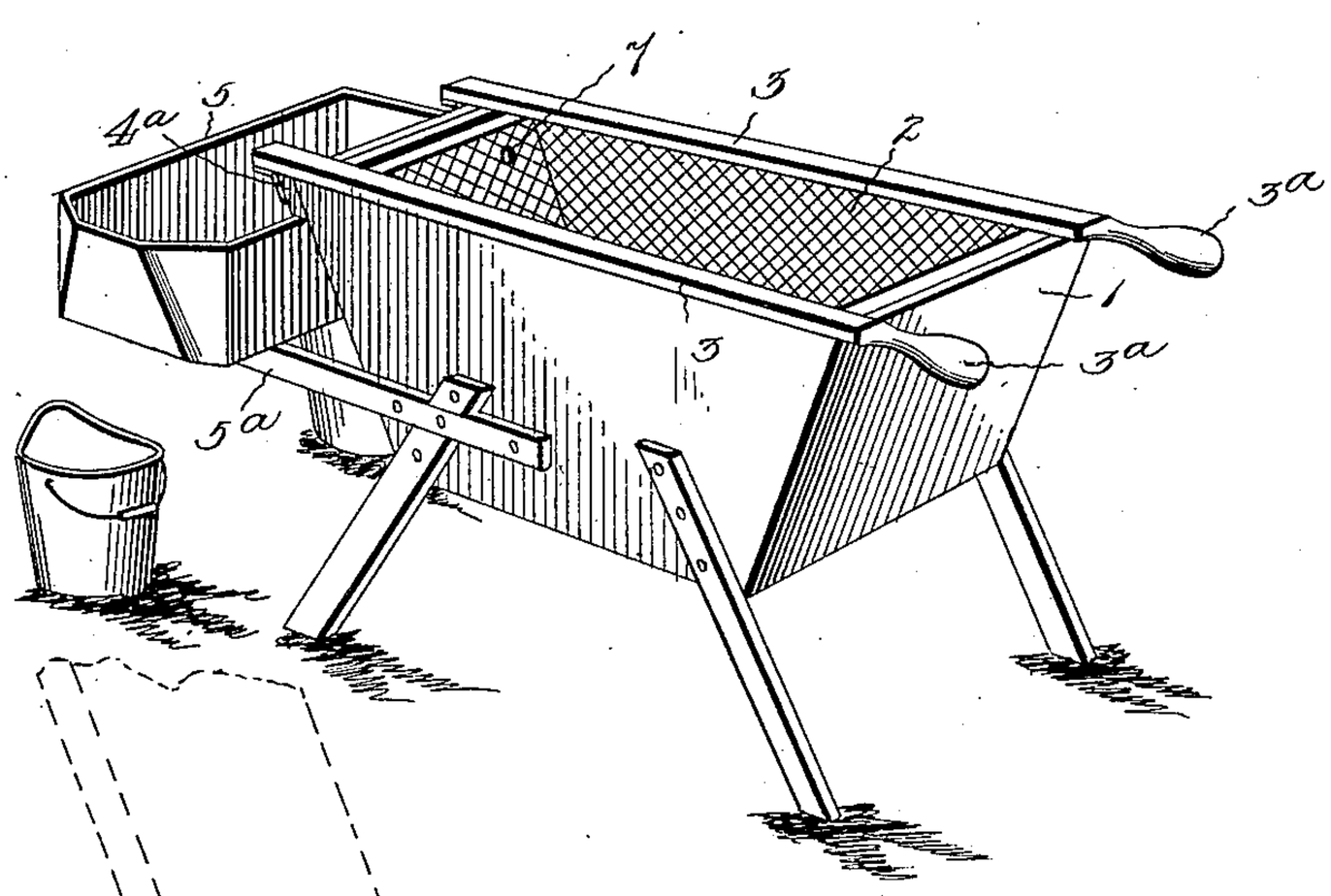
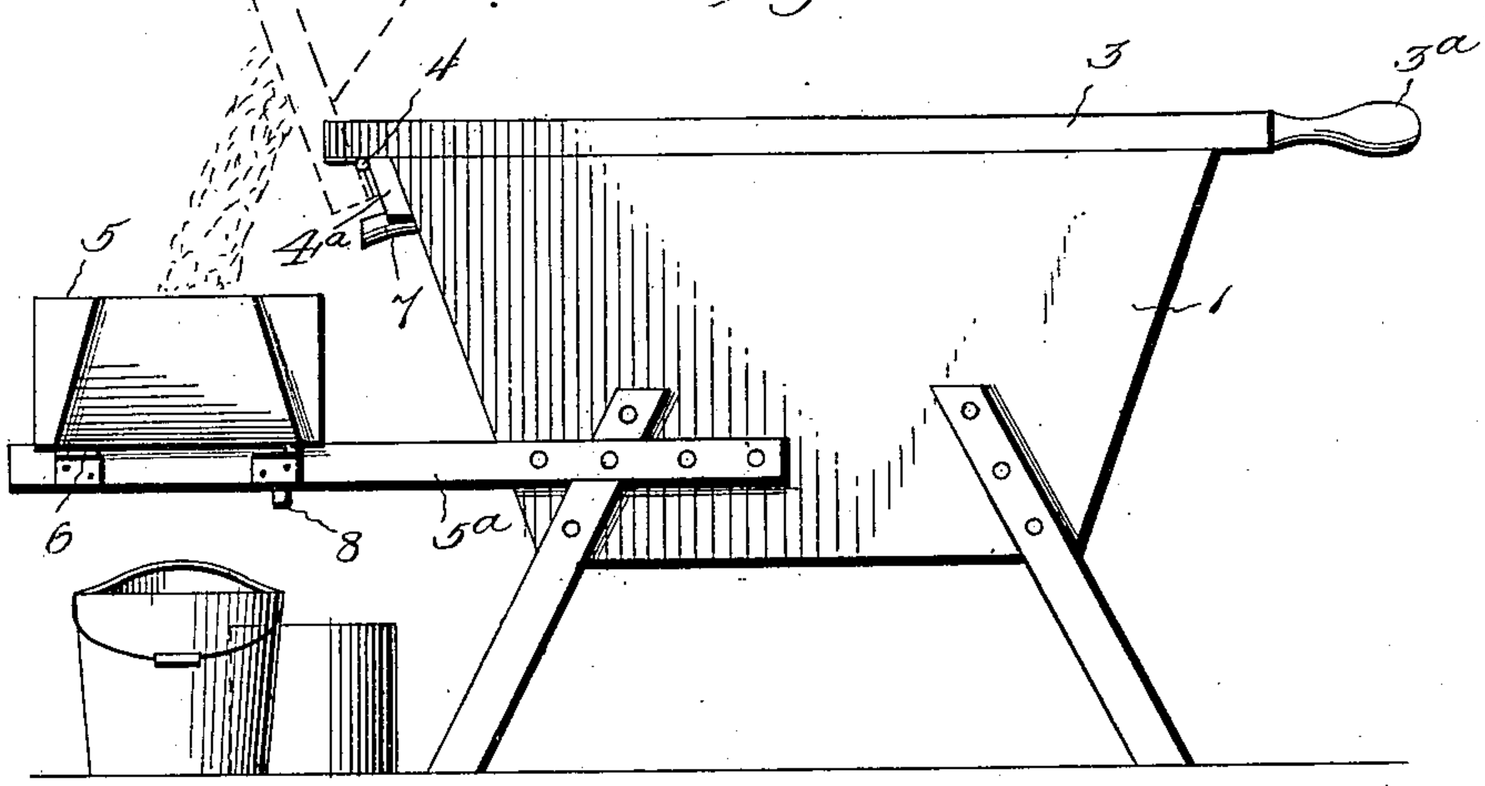


Fig. 2.



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(No Model.) 3 Sheets—Sheet 2.

Fig. 3.

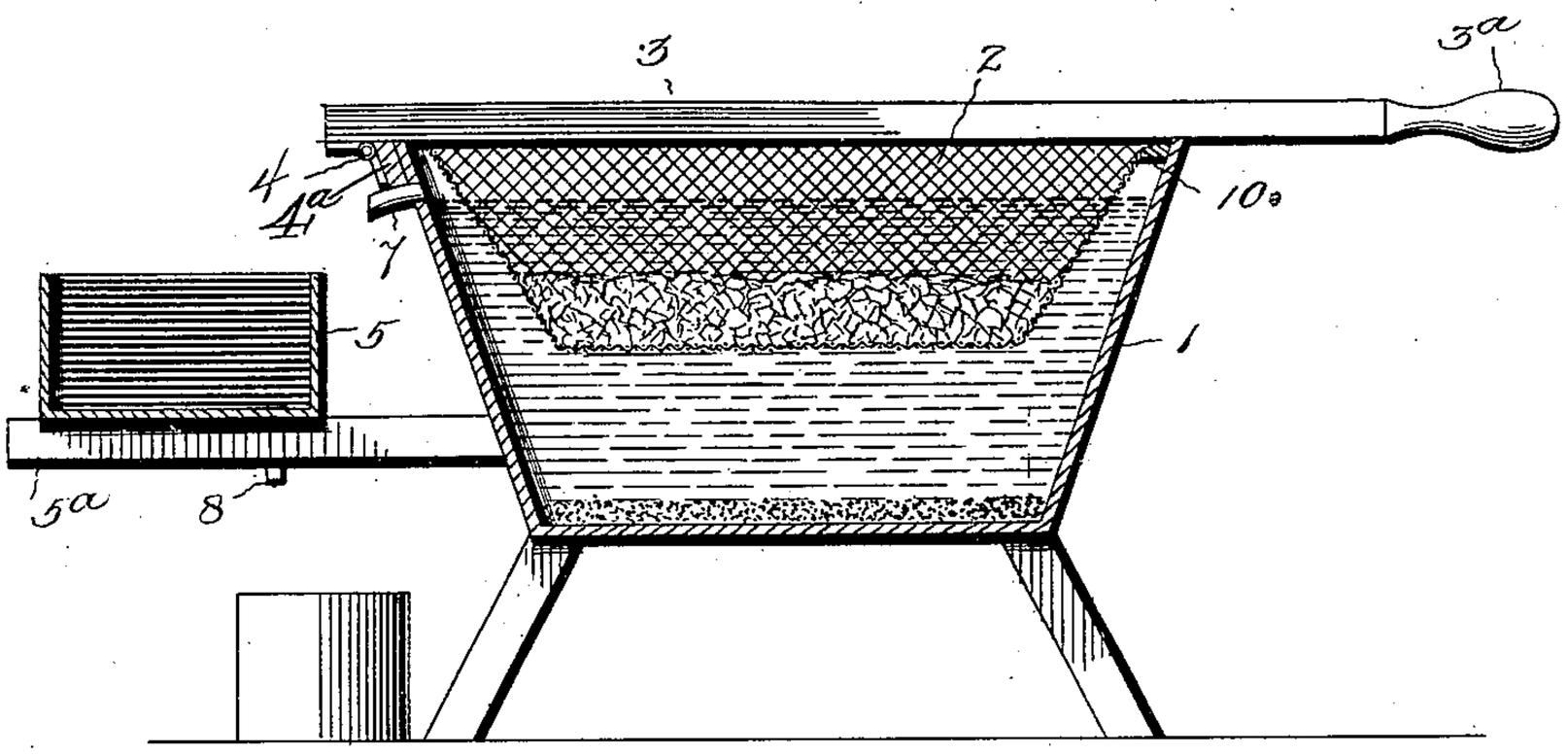

Fig. 4.

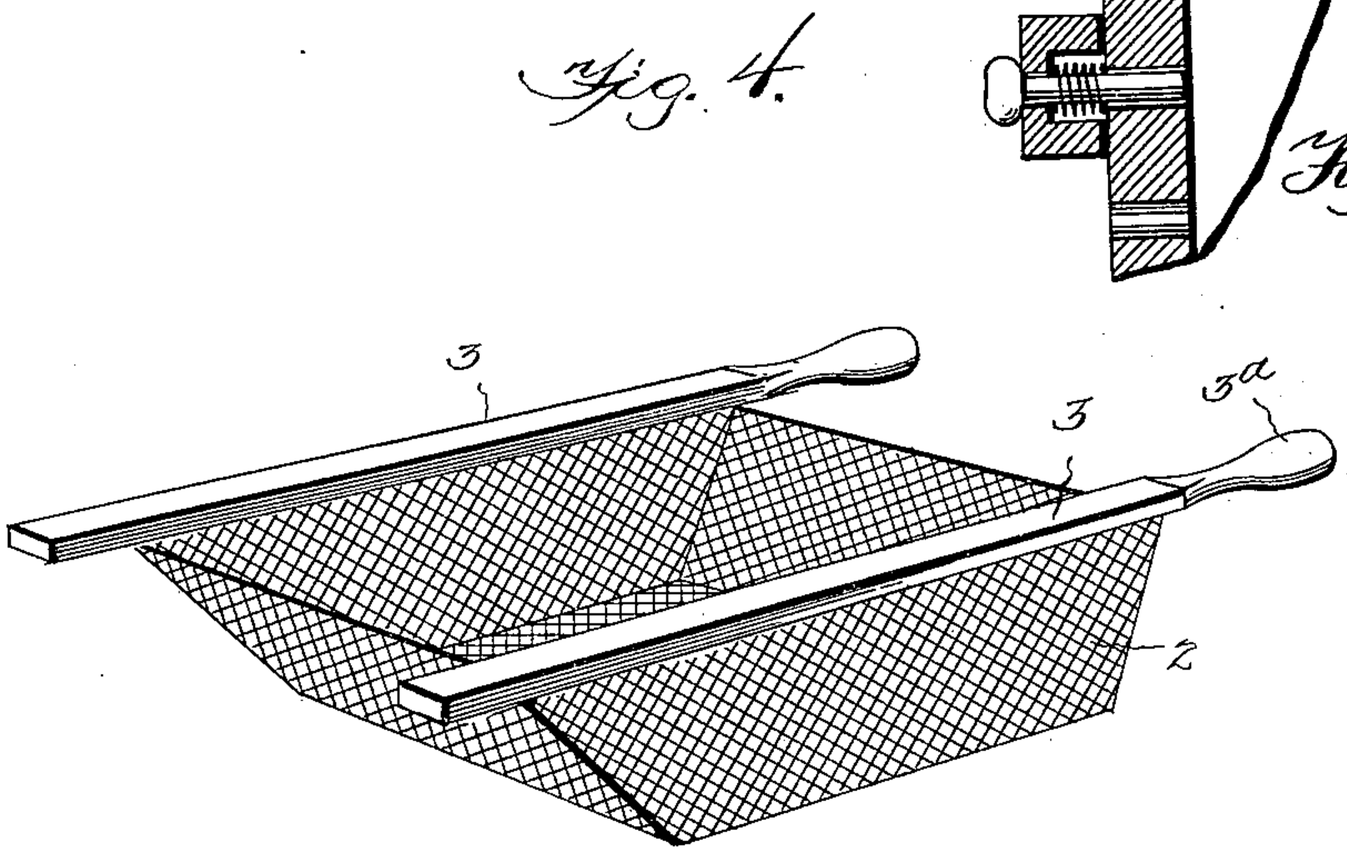

Fig. 7.

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Fig. 5.

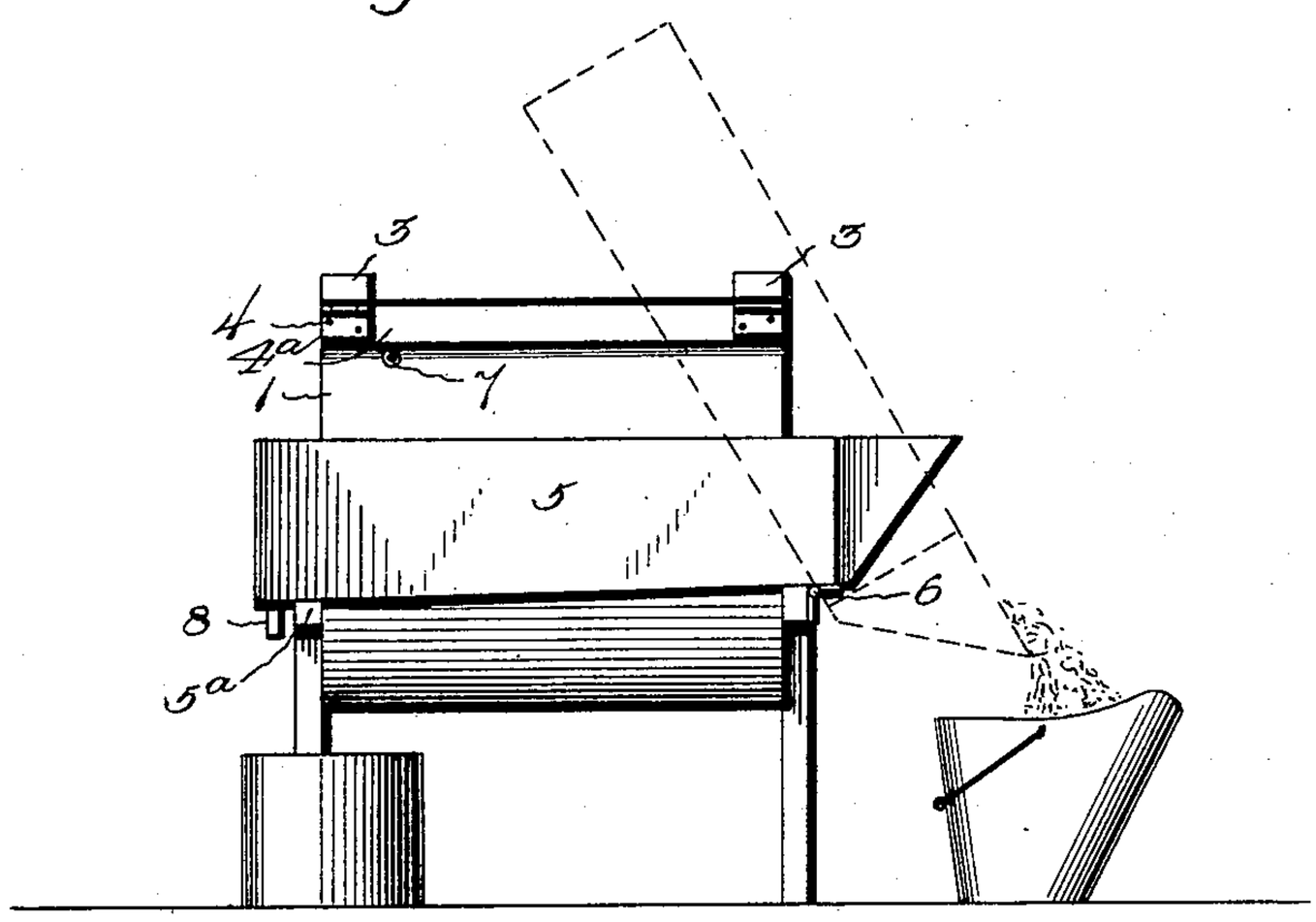
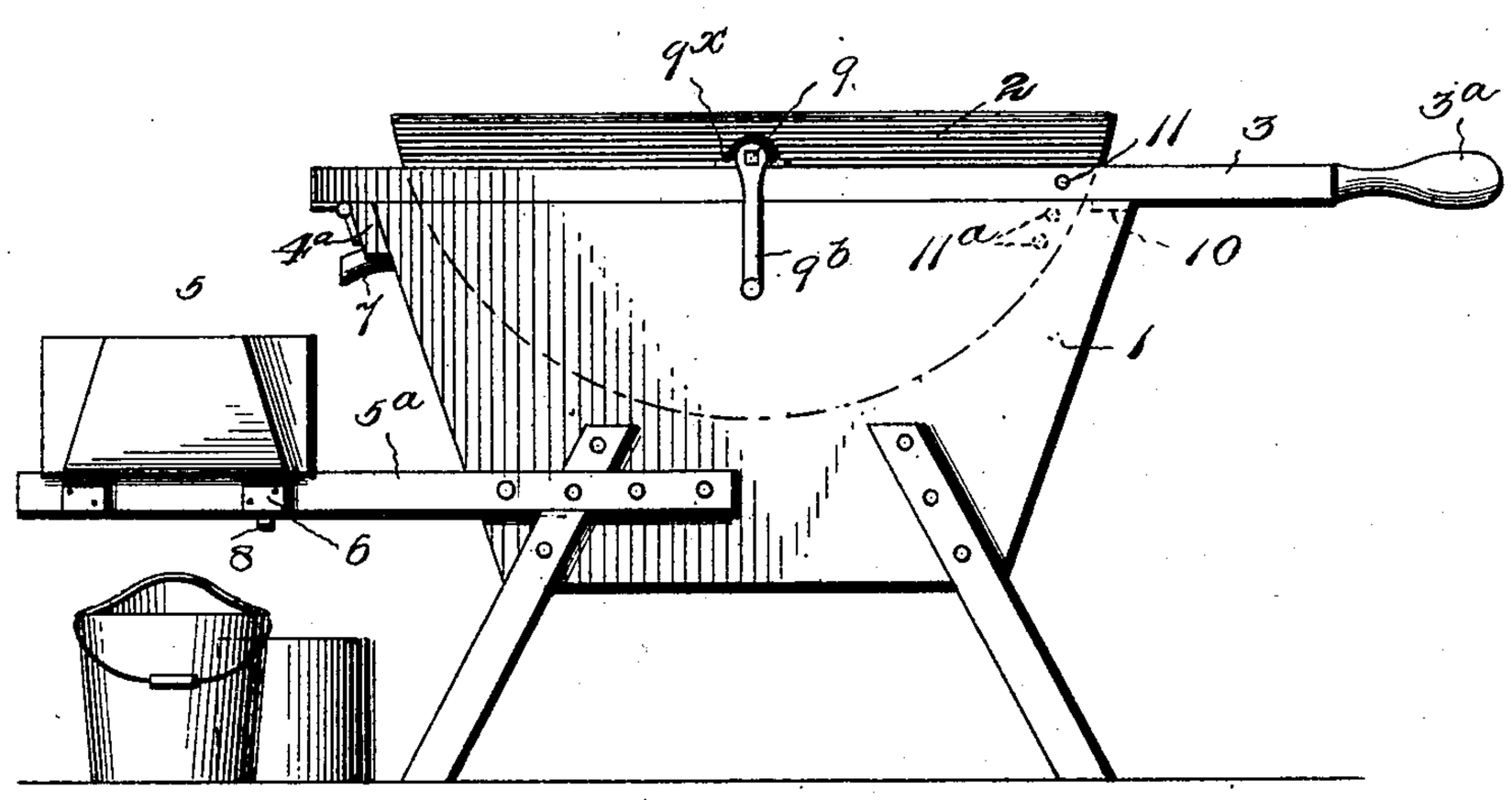


Fig. 6.



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UNITED STATES PATENT OFFICE.

JOSEPH F. BIRCH, JR., OF WASHINGTON, DISTRICT OF COLUMBIA.

ASH-SIFTER.

SPECIFICATION forming part of Letters Patent No. 678,932, dated July 23, 1901.

Application filed September 6, 1900. Serial No. 29,224. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH F. BIRCH, Jr., a citizen of the United States, residing at Washington, District of Columbia, have invented certain new and useful Improvements in Ash-Sifters; 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 appertains to make and use the same.

My invention relates to improvements in sifters, more especially for sifting coal-cinders.

In use my sifter effects the ready and thorough removal, with the minimum expenditure of effort, labor, and time, of the ashes, &c., from the cinders or coal, such removal being aided by the cleansing and buoyant action of a confined body of water, having the effect also to precipitate the ashes and other light substances, thus suppressing or avoiding all dust or flying particles. The invention is also characteristic for simplicity, cheapness of manufacture, and expedition of operation.

It consists, generally stated, of a pivoted or hinged sifter proper, which may be a reticulated or wire vessel or basket, adapted to receive the agglomorate mass of burned coal and ashes as removed from the furnace or stove, directly or otherwise, as usually practiced, and of a water and ash receiving receptacle, said vessel or basket adapted to be oscillated or quickly moved up and down, but wholly out of contact with said receptacle, all substantially as hereinafter more fully described, and particularly pointed out by the claims.

In the accompanying drawings, illustrating the preferred embodiment of my invention, Figure 1 is a perspective view. Fig. 2 is a side view with the sifter proper shown in dotted lines tilted, as in removing or dumping its contents. Fig. 3 is a vertical longitudinal section. Fig. 4 is a detached perspective view of said sifter proper. Fig. 5 is an end elevation of the apparatus with the pivoted or hinged supplemental receptacle shown tilted, into which is dumped and contained temporarily the contents of the sifter proper after cleaning. Fig. 6 is a side view of a modification which will be fully described later on. Fig. 7 is a sectional view showing the spring-actuated bolt.

Latitude is allowed herein as to details, as they may be changed at will without departing from the spirit of my invention and the same yet remain intact and be protected.

In carrying out my invention I suitably mount or secure upon legs or other means serving in that capacity a receptacle 1, watertight and adapted to contain a quantity of water and to receive the ashes or screenings. The sifter proper, 2, as above intimated, may be a reticulated or wire vessel or basket having, preferably, inward-sloping ends, and to said basket or vessel, along its upper longitudinal or side edges, are suitably fastened parallel bars or pieces 3, with their rear end portions suitably projecting beyond said basket or vessel and the receptacle 1 and adapted to rest upon said receptacle and to form handles 3^a for the convenient grasping of the same and manipulating of the sifter, as presently more fully made apparent. These bars have their opposite end portions also projecting beyond the basket or sifter and said receptacle and adapted to rest upon said receptacle and to provide for the pivoting or hinging thereof, as at 4, preferably to pieces or bars 4^a, secured to the forward end of said receptacle upon the outside, said ends of said bars, together with the sifter, thus being adapted to wholly clear the opposite end of the receptacle in tilting the sifter to provide for the proper dumping of its contents beyond said receptacle. It will also be seen that by means of this arrangement the sifter proper is pivoted or hinged in position and that the sifter is operated by grasping the handles 3^a and oscillating or imparting a slight up-and-down movement to the sifter, but wholly out of contact with the receptacle, whereby, together with the movement of the sifter or its lower portion through the water in said receptacle, the contents of the sifter will be gently agitated and the ashes be held temporarily in suspension by the buoyant action of the water, loosening up the ashes, &c., and permitting the ready removal and precipitation thereof, thus thoroughly cleaning the cinders and suppressing or avoiding all dust or flying particles.

At one end of the receptacle 1 is arranged a supplemental receptacle 5, being supported, preferably, upon bars or a frame 5^a, fastened

to the sides of the former, with its discharging end portion suitably pivoted or hinged to one of said bars, as at 6, to permit the ready tilting thereof as required to discharge the cleaned cinders dumped thereinto from the sifter, as will readily be appreciated, the cleaned cinders being delivered or dumped from said "box" into a hod or other vessel.

The water-receptacle 1 is provided with an overflow outlet or pipe 7, suitably applied at one end thereto, while the supplemental receptacle 5 has a drain pipe or outlet 8 in its bottom near the back end, said additional receptacle being inclined toward that end. It is also observed that the overflow pipe or outlet 7 of the water-receptacle is adapted to discharge into the additional receptacle, thus providing for passing off all overflow water and drippings from the cleaned cinders finally out through a common outlet, where the same are received into a bucket or pail suitably disposed with relation to the discharge 8.

It will be observed that what may be termed a "splash-board" 10 is suitably secured within the receptacle 1 at its rear end to guard against the splashing of the water in said receptacle out upon the operator or the floor when manipulating the sifter. It will also be observed that the sifter instead of being wholly of wire or reticulated may be provided with imperforate sides, as of wood, &c., and the wire bottom may be circular or rounded.

A spring-actuated catch or bolt 11 is applied to the handled side bars, adapted to engage any one of a number or plurality of perforations 11^a, produced in the imperforate side of the sifter, to cause the sifter to maintain the same relative position to said handled bars when lifting the latter with the sifter to dump the contents of said sifter.

In the modification as disclosed by Fig. 6 the sifter proper, 2, may preferably be circular at its bottom and be hinged or pivoted, as at 9, in a line passing therethrough above its center of gravity and have its pivots or trunnions 9 engaging eye-castings 9^x, secured to handled side bars 3^a, pivoted or hinged to the water, &c., receptacle. One of said pivots or trunnions may be adapted to have a handle or crank 9^b applied thereto, by grasping which the sifter may be readily oscillated or moved back and forth in an arc to effect the cleaning of the contents of the sifter.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a sifter of the character described, the combination with a water-receptacle, of a sifter proper adapted to be lowered into said receptacle to a point above its load, said sifter depending from longitudinal bars hinged to one side of said water-receptacle and extending beyond the opposite side of the receptacle, substantially as shown and described.

2. In a sifter of the character described, the combination of a water-receptacle adapted to contain water, a sifter, proper, having handled bars adapted to engage said receptacle, and pivoted or hinged to said receptacle at their forward ends, and a supplemental receptacle pivoted or hinged upon a support secured to said water-receptacle, substantially as set forth.

3. In a sifter of the character described, the combination of a water-receptacle adapted to contain water, a sifter, proper, having handled bars adapted to rest upon the upper edge of said receptacle and pivoted or hinged to said receptacle at their forward ends, and a supplemental receptacle hinged or pivoted upon supports secured to said water-receptacle, and having a drip outlet or pipe, said water-receptacle having an overflow pipe or outlet, adapted to discharge into said supplemental receptacle, substantially as set forth.

4. In a sifter of the character described, the combination, with a water-receptacle, of a sifter proper having longitudinal bars pivoted to the forward end of said receptacle, and a supplemental receptacle hinged or pivoted to tilt at a right angle to the water-receptacle, said supplemental receptacle being located at the forward end of the water-receptacle and supported from said receptacle.

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

JOS. F. BIRCH, JR.

Witnesses:
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