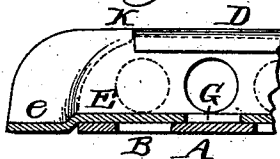
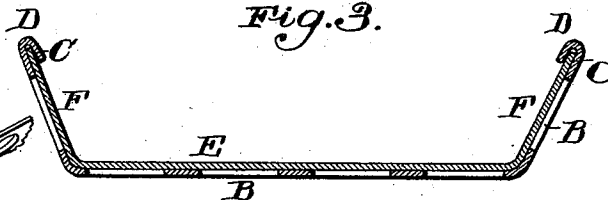
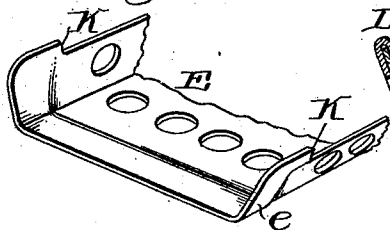
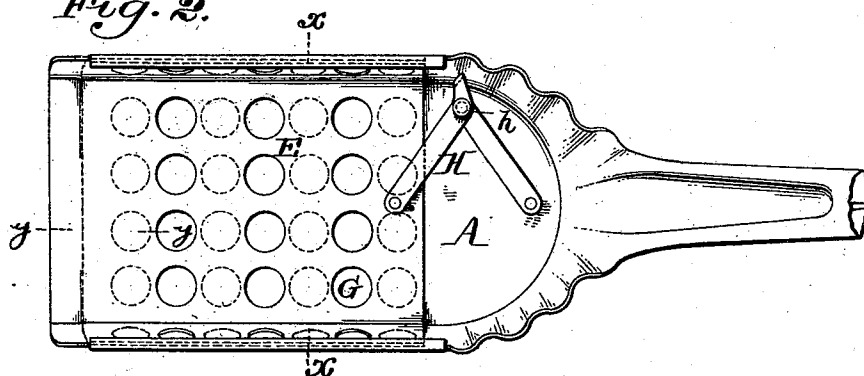
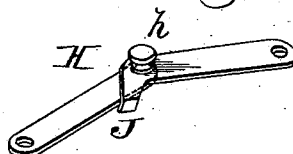
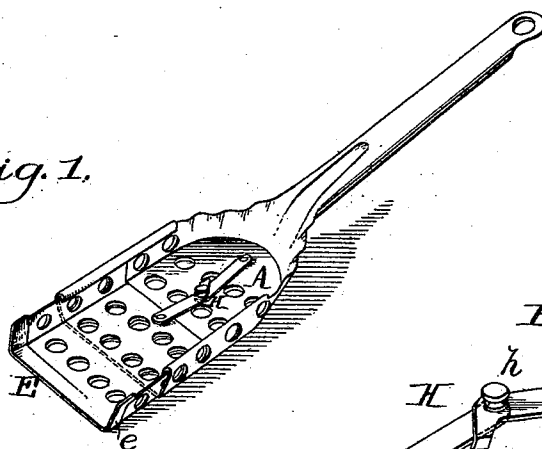


M. L. TATE.
COAL SHOVEL.

Patented July 30, 1895.



Henry Druery
H. C. Barrett

Martin L. Tate

By his atty

John M. Barker

UNITED STATES PATENT OFFICE.

MARTIN L. TATE, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO AMELIA SCHWERIN, EXECUTRIX OF EMANUEL SCHWERIN, DECEASED, OF SAME PLACE.

COAL-SHOVEL.

SPECIFICATION forming part of Letters Patent No. 543,710, dated July 30, 1895.

Application filed November 1, 1894. Serial No. 527,616. (No model.)

To all whom it may concern:

Be it known that I, MARTIN L. TATE, of the city and county of Philadelphia and State of Pennsylvania, have invented an Improvement in Coal-Shovels, of which the following is a specification.

My invention has reference to coal-shovels; and it consists of certain improvements, which are fully set forth in the following specification and shown in the accompanying drawings, which form a part thereof.

This application comprehends certain improvements in coal-shovels, wherein the shovel may be adapted to lift coal or to sift ashes to separate the unburned coal from the dust and cinder.

In carrying out my invention I provide a shovel-blade with apertures upon the floor, and if desired upon the sides. To such shovel-blade I apply an adjustable slide or movable blade, which is adapted to fit upon the floor and sides of the shovel-blade and be moved longitudinally thereupon. This slide is also provided with apertures corresponding to the apertures in the floor and sides, and so that when moved it may open or close the said apertures of the shovel-blade, as well as the apertures formed in itself. A suitable toggle connection may be employed for the purpose of adjusting the movable blade, so as to put the shovel into condition to be used either as a lifting or as a sifting shovel.

In the drawings, Figure 1 is a perspective view of my improved shovel. Fig. 2 is a plan view of same. Fig. 3 is a cross-section of same on line *x x*. Fig. 4 is a perspective view of the end of the movable blade, and Fig. 5 is a sectional elevation on line *Y Y* of Fig. 2. Fig. 6 is a view of the toggle-lever.

A is the blade of the shovel proper and is preferably stamped from a single piece of metal and formed with a handle. The forward part of the floor and sides of the blade are perforated, as at B, and the upper edges of the sides C turn over and form guide-grooves, as at D. Fitting to the interior surface of the floor and sides is the plate E, which is provided with sides F, made to conform to the sides C and adapted to fit into the guide-

grooves D thereof, as clearly shown in Fig. 3. The plate E is provided with apertures G in its floor and sides to correspond to the apertures in the floor and sides of the blade of the shovel proper.

The extreme forward edge of the plate E is slightly enlarged, as at *e*, to form a shoulder, to make the outer surface of said plate correspond in alignment with the outer surface of the shovel-blade, and thereby protect the juncture of the two blades and prevent obstructions passing therein. The forward part of the plate E is also provided with upright shoulders K, which fit against the forward edges of the guide-grooves D and limit the backward movement of said plates E. The plate is moved forward and held in such forward position by the toggle-levers H, which are pivoted together at *h* and provided with a small handle by which said toggle is moved. One end of the toggle-lever is hinged to the plate A and the other end to the plate E. The toggle-lever is provided with a stop J to limit its motion when the plate E is fully thrown forward, and at the same time to lock the side plate against backward movement. It will be seen that when the movable blade is extended the capacity of the shovel is greatly increased, and this is independent of whether the apertures are used or not.

It is evident that the shovel, as indicated in Fig. 2, is in condition to be used as a useful coal-shovel, and in the condition shown in Fig. 1 it is adapted to be used as a sifting-shovel, these two figures showing the extreme adjustment of the movable portion.

While I prefer the construction shown, it is evident that the details thereof may be modified in various ways without departing from my invention.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A combined coal and sifting shovel consisting of the main blade having a handle and provided with apertures, in combination with a movable blade fitting within the main blade and also provided with apertures and having its end projecting beyond the main blade,

and means for adjusting and locking the movable blade upon the main shovel blade to open or close the apertures.

2. In a combined coal and sifting shovel, the combination of the main blade provided with apertures and a handle, with a perforated movable blade movable relatively to the handle and main blade, and a pivoted locking device arranged within the main blade at the rear for locking the movable blade in its adjusted position against backward movement.

3. In a shovel the combination of the main blade having its floor perforated and its sides bent over to form guide grooves, in combination with a movable blade fitting upon the said shovel blade and having its sides guided in the grooves and also provided with apertures, and means to adjust the movable blade upon the shovel blade so as to open or close the said apertures.

4. The combination of the main shovel blade A having apertures B, the movable blade E having apertures G and adjustably supported

upon the said blade A, and a toggle connection H for adjusting the blade E upon the blade A.

5. A combined coal and sifting shovel consisting of a main blade made box shaped and having its sides and bottom provided with apertures and its rear with a handle, in combination with a movable blade having bottom and sides fitted within the main blade and also having apertures in its bottom and sides and having its forward end projecting beyond the main blade, stops to limit the backward movement of the movable blade upon the main blade when the apertures are closed, and a lock to lock the movable blade against backward movement when the apertures are open.

In testimony of which invention I have hereunto set my hand.

M. L. TATE.

Witnesses:

R. M. HUNTER,
ERNEST HOWARD HUNTER.