Nov. 12, 1940. C. I. NELSON 2,221,219

ADJUSTABLE SHOVEL

Filed June 5, 1939

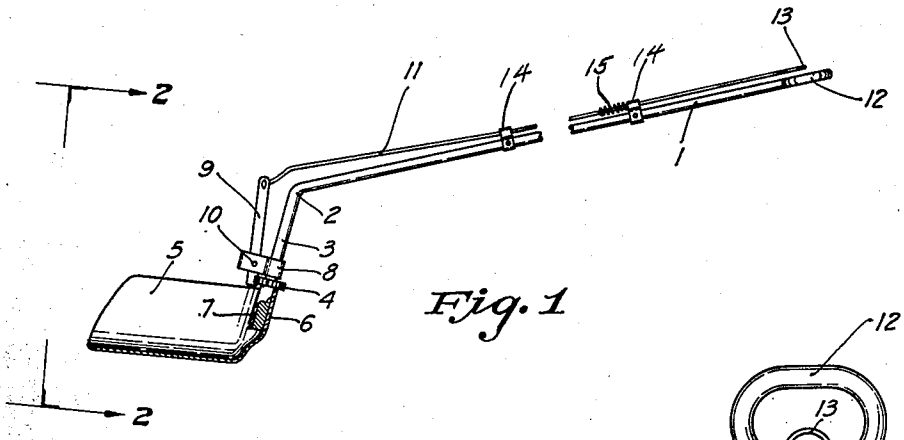


Fig. 1

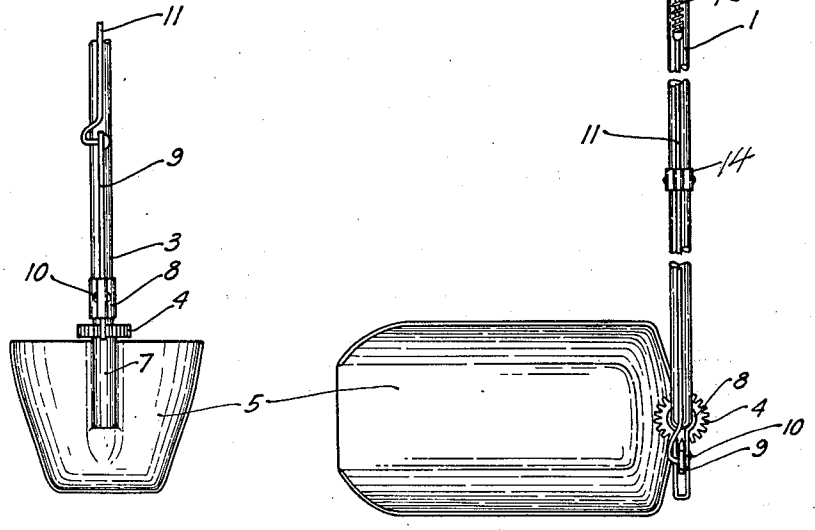


Fig. 2

Fig. 3

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Patented Nov. 12, 1940

2,221,219

UNITED STATES PATENT OFFICE

2,221,219

ADJUSTABLE SHOVEL

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Application June 5, 1939, Serial No. 277,347

4 Claims. (Cl. 294—9)

The present invention relates to shovels intended primarily for use with warm air furnaces which are heated by means of stokers. It is a known fact that when stokers are operated a large part of the ash is fused into clinkers which can be readily removed from the fire pot by means of a pair of tongs. It is also a known fact that some ash spreads out over the sides of the retort and piles up around the inside of the furnace fire pot, thereby interposing heat insulation between the fire pot and the furnace wall. It is customary that the front of the ash-pit is so closed up that it is impossible to get the ashes and small clinkers, which accumulate around the fire pot, with any ordinary shovel, and they are therefore left to accumulate within the furnace. It has been my purpose to provide means whereby the accumulating ashes and small clinkers may be readily removed through the fire door from the furnace fire pot and, to that end, I have provided the adjustable shovel illustrated in the accompanying drawing in which,

Fig. 1 represents a fragmentary longitudinal sectional elevation of a shovel embodying this invention;

Fig. 2 represents a front elevation, partly broken away, taken in the direction indicated by the arrows 2—2, Fig. 1; and

Fig. 3 represents a plan view of this shovel with the scoop thereof turned at an angle of approximately 90° to the handle, the latter being shown partly broken away.

Reference will now be made in greater detail to the annexed drawing for a more complete description of this invention. The handle 1 is bent at 2 and has an angularly extending portion 3 upon which is pivotally mounted a ratchet 4, the latter being secured to the scoop portion 5 of the shovel by being brazed or otherwise metallically secured to the scoop portion 5 or to the cap plate 7 or to both. A channel 6 is formed on the back end of the scoop for the reception of the extreme end of the part 3 of the handle. A curved cap plate 7 is placed over the end of the handle and, with the channel portion 6, forms a compartment or eye in which the end of the handle is received. The scoop 5 and ratchet 4 are rotatable about the axis of part 3 of the handle and, as is readily observed from the drawing, they may be turned as a unit to any angular relation with respect to that part.

A bracket 8 is secured to the part 3 in any suitable manner, as by a rivet passing through the bracket and the handle or by being welded together. The free end portions of the bracket 8 are spaced apart sufficiently to receive between them a lever 9 which serves as a pawl, cooperating with the ratchet 4. This lever is pivotally connected to the bracket 8 by suitable means, such as a rivet 10. A trigger-rod 11 is pivotally connected to the end of the lever 9 and extends along the handle 1 into the vicinity of the hand loop 12 where it is provided with a finger loop 13 in a convenient position for actuation when it is desired to operate the lever so as to release the scoop. A plurality of brackets 14 are secured to the handle 1 and surround the trigger-rod 11 to serve as guides therefor. This trigger-rod is actuated in one direction by the spring 15 to cause the lever 9 to engage in a notch of the ratchet 4 so as to hold the scoop 5 in adjusted position.

From the foregoing it will be apparent that I have provided a shovel which may be adjusted to desired positions for the removal of ashes and small clinkers from the furnace with the least difficulty possible. It will also be apparent that this shovel may be conveniently used in various positions, and that it will be practically universal in its adaptation for the purpose intended.

It will of course be understood that the specific description of structure set forth above may be departed from without departing from the spirit of this invention as set forth in this specification and the appended claims.

Having now described my invention, I claim:

1. A shovel for removing refuse from a furnace heated by a stoker comprising a scoop and a handle, the latter being bent at an angle of nearly ninety degrees a short distance from the scoop, the portion of the handle to be grasped by the user being longer than the portion connected to the scoop, and the connection between the handle and the scoop being such that the latter may be adjusted rotarily around the axis of the shorter portion of the handle.

2. A structure as defined by claim 1 having a ratchet disc surrounding the short section of the handle and secured to the top of the scoop for rotation therewith about the short handle section, and latching means mounted upon the handle in a position to cooperate with the notches in the ratchet disc to hold the scoop and handle in various positions of relative adjustment.

3. In a shovel for the purpose indicated, the combination of a bent handle having a short section and a long section connected by a bend of substantial proportions and a scoop having one end closed and an eye formed in said closed end

for the reception of the end portion of the short section of the handle, the scoop having secured thereto at the top end of the eye a disc having ratchet notches in the edge thereof, and manually actuable means connected to the handle and engageable in one or another of the notches to secure the handle and scoop in relatively adjusted positions.

4. In an ash and clinker shovel, a bent handle comprising a long part and a short part upon opposite sides of the bend, a scoop having a bottom, lateral sides, and a closed end, said closed end having an eye formed therein for the reception of the end portion of the short part of the handle, cooperating latching means on the handle and the closed end of the scoop whereby the latter may be secured in positions of relative adjustment about the axis of the short part of the handle, and means for normally holding the latching means in latching position.

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