April 25, 1950 L. C. HANDLEY 2,505,113

FURNACE SCOOP

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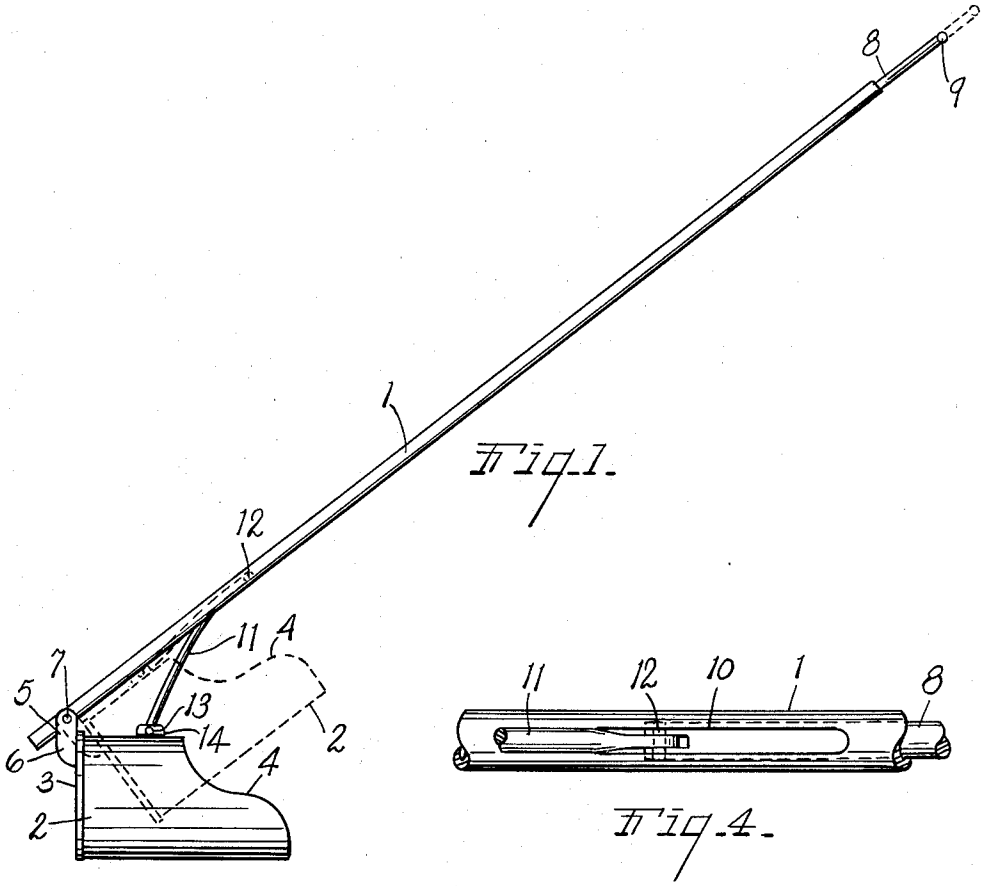


Fig. 1.

Fig. 4.

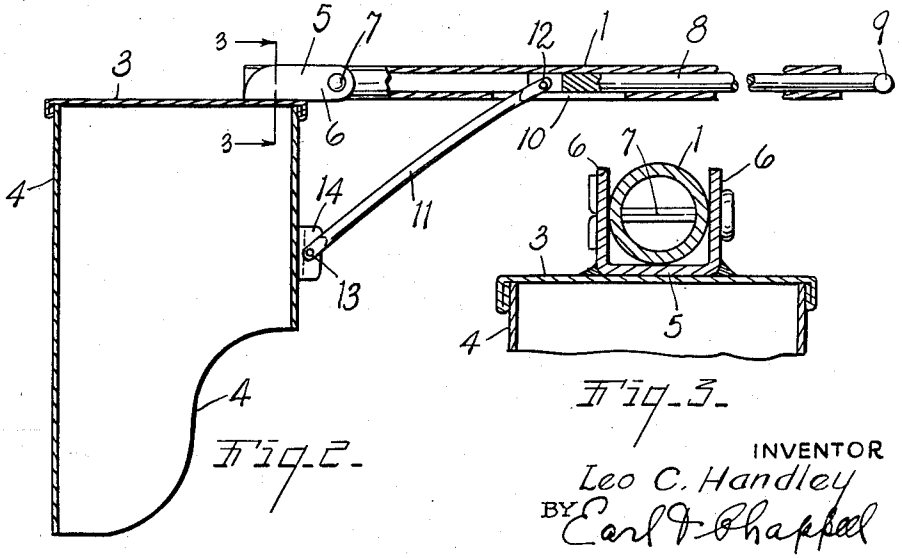


Fig. 2.

Fig. 3.

INVENTOR

Leo C. Handley

BY Earl F. Chappell

ATTORNEYS.

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FURNACE SCOOP

Leo C. Handley, Three Rivers, Mich.

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5 Claims. (Cl. 294—9)

1

This invention relates to improvements in furnace scoop.

The main objects of this invention are:

First, to provide a scoop for cleaning furnaces and the like which may be manipulated as a scraper to scrape the material to be removed into a pile or into position to be picked up by the scoop, the blade of the scoop in pick-up position constituting a receptacle for effectively retaining the contents, the blade of the scoop being adjustable to discharge the contents.

Second, to provide an implement of this character which is very easy to manipulate for removing ashes or slag from the firebox in furnaces equipped with under-feed stokers.

Third, to provide an implement having these advantages which is simple and economical in structure and at the same time strong and durable.

Objects relating to details and economies of the invention will appear from the description to follow. The invention is defined and pointed out in the claims.

A preferred embodiment of the invention is illustrated in the accompanying drawing, in which:

Fig. 1 is a side elevation of a scoop embodying my invention, the blade being shown in an intermediate position by full lines and in fully collapsed position by dotted lines.

Fig. 2 is an enlarged fragmentary view partially in longitudinal section with the blade adjusted as a scraper.

Fig. 3 is an enlarged fragmentary view in section on line 3—3 of Fig. 2.

Fig. 4 is an enlarged fragmentary inverted view showing details of the handle and control rod structure.

The embodiment of my invention illustrated comprises a tubular handle 1 which may be formed of a section of pipe or tubing and of such size as to provide substantial strength and rigidity. The scoop blade 2 is preferably of cylindrical section and provided with a closed end 3, portions of the walls of the scoop being cut away to provide a segmentally curved nose portion 4.

The channel-shaped ear member 5 is rigidly secured to the end 3 of the blade to project laterally therefrom, providing ears 6 offset from the blade. These ears embrace the handle 1 adjacent the ends thereof and are pivotally secured thereto as by means of the pin 7. The blade is supported by this pivot to be swung to a position substantially at right angles to the handle which is the scraping position shown in Fig. 2 or to a collapsed load-carrying position substantially

2

parallel with the handle as is illustrated by dotted lines in Fig. 1.

When the blade is in scraping position as shown in Fig. 2 the ears are parallel with the handle and bracingly engage the same to prevent lateral movement of the handle relative to the blade, and the bottom or web portion of the ear member engages the under side of the handle beneath or rearwardly of the pivot pin 7, thus serving as a stop to limit rearward swinging movement of the blade from its scraper position. The ear member is formed of stock of such character as to sustain the twisting and other thrust to which the blade is subjected when adjusted as a scraper.

The blade is held in this scraper position—that is, it is prevented from collapsing, and it is also collapsed to load-carrying position by means of the control rod 8 which is slidable within the handle and is provided with a grip 9 at the projecting end thereof for convenience in manual manipulation.

The handle has a longitudinal slot 10 on its under side adjacent its outer end receiving the inner end of the link 11 which is pivoted at 12 to the control rod and at 13 to ears 14 provided for the purpose on the inner or upper side of the blade. The link 11 is preferably curved somewhat so that it telescopes somewhat into the handle when the blade is swung to collapsed position, as shown by dotted lines in Fig. 1. It will be understood that the slot could be elongated but it is desired to make the slot as short as practical.

With the parts thus arranged, the blade may be easily adjusted to scraping position as shown in Fig. 2 permitting the loosening and the piling of the material for scooping up, the normal scooping-up position being shown in full lines in Fig. 1, and the blade then swung to removal or load-carrying position as shown by dotted lines in Fig. 1. The contents may be discharged by swinging the blade to the inverted position shown in Fig. 2.

Implements embodying my invention greatly facilitate the cleaning of furnaces and the like and the removal of material from relatively confined spaces.

I have illustrated and described my invention in a highly practical embodiment thereof. I have not attempted to illustrate or describe certain modifications in structural details which I contemplate as it is believed that this disclosure will enable those skilled in the art to embody or adapt my invention as may be desired.

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

1. A scoop for cleaning furnaces and the like comprising a tubular handle, a cylindrical receptacle-like blade open at its outer end and provided with laterally projecting ears at its inner end and pivotally mounted on said handle, a portion of the walls of said blade being cut away on the upper side thereof to provide a segmentally curved nose portion, a blade control rod slidably mounted within said handle to project from the inner end thereof for manual manipulation, said tubular handle being provided with a slot on its under side, and a link disposed through said slot and pivotally connected to the inner end of said rod and to said blade whereby the blade may be swung to a position substantially at right angles to the handle for manipulation as a scraper or into substantially parallel relation to the handle.

2. An implement of the class described comprising a tubular handle, a cylindrical receptacle-like blade closed at its inner end and open at its outer end, said receptacle having a segmental nose-like portion at its outer end, laterally projecting spaced ears on the inner end of said blade pivotally mounted on said handle in spaced relation to the outer end thereof whereby the blade may be swung to a position approximately at right angles to the handle with the ears extending longitudinally at the sides of the handle to support the handle against movement laterally of the blade when the blade is approximately at right angles to the handle, a control rod for said blade slidable within said handle to project therefrom for manual manipulation, said handle having a slot extending longitudinally of the handle through the tubular wall thereof on its under side, and a link disposed through said slot and pivotally connected to the said control rod and to said blade.

3. An implement of the class described comprising a tubular handle, a blade, laterally projecting spaced ears on the inner end of said blade pivotally mounted on said handle in spaced relation to the outer end thereof whereby the blade may be swung to a position approximately at right angles to the handle with the ears extending longitudinally at the sides of the handle to support the handle against movement laterally of the blade when the blade is approximately at right angles to the handle, a control rod for said blade slidable within said handle to project therefrom for manual manipulation, said handle having a slot extending longitudinally of the handle through the tubular wall thereof on its under side, and a link disposed through said slot and pivotally connected to the said control rod and to said blade.

4. An implement of the class described comprising a tubular handle, a blade, laterally projecting spaced ears on the inner end of said blade pivotally mounted on said handle in spaced relation to the outer end thereof whereby the blade may be swung to a position approximately at right angles to the handle with the ears extending longitudinally at the sides of the handle to support the handle against movement laterally of the blade when the blade is approximately at right angles to the handle, a control rod for said blade slidable within said handle to project therefrom for manual manipulation, said handle having a longitudinal slot on its under side, and a link disposed through said slot and pivotally connected to the said control rod and to said blade, said link being upwardly curved to permit it to partially telescope within said handle when the blade is swung to retracted position.

5. A scoop for cleaning furnaces and the like comprising a tubular handle, a receptacle-like blade open at its outer end pivotally mounted on said handle at its inner end, said blade having a projecting nose portion at its swinging end, a blade control rod slidably mounted within said handle to project therefrom for manual manipulation, said tubular handle having a slot extending longitudinally of the handle through the tubular wall thereof on its under side, and a link disposed through said slot and pivotally connected to the inner end of said control rod and to said blade whereby the blade may be swung to a position for manipulation as a scraper or into position to retain material therein.

LEO C. HANDLEY.

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