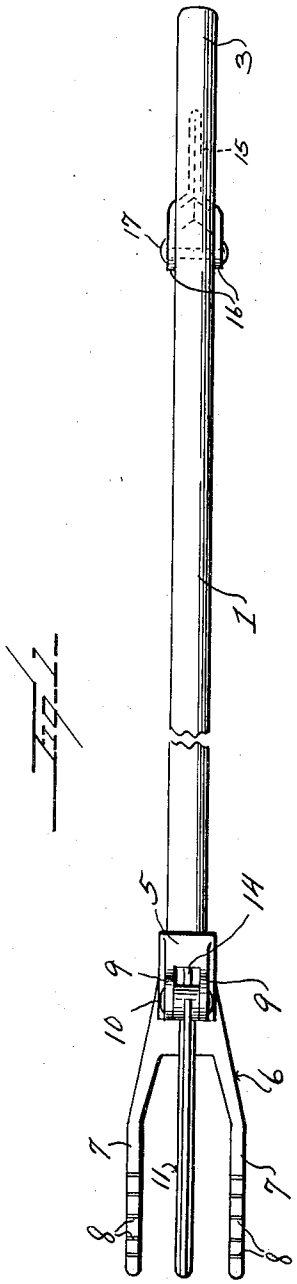
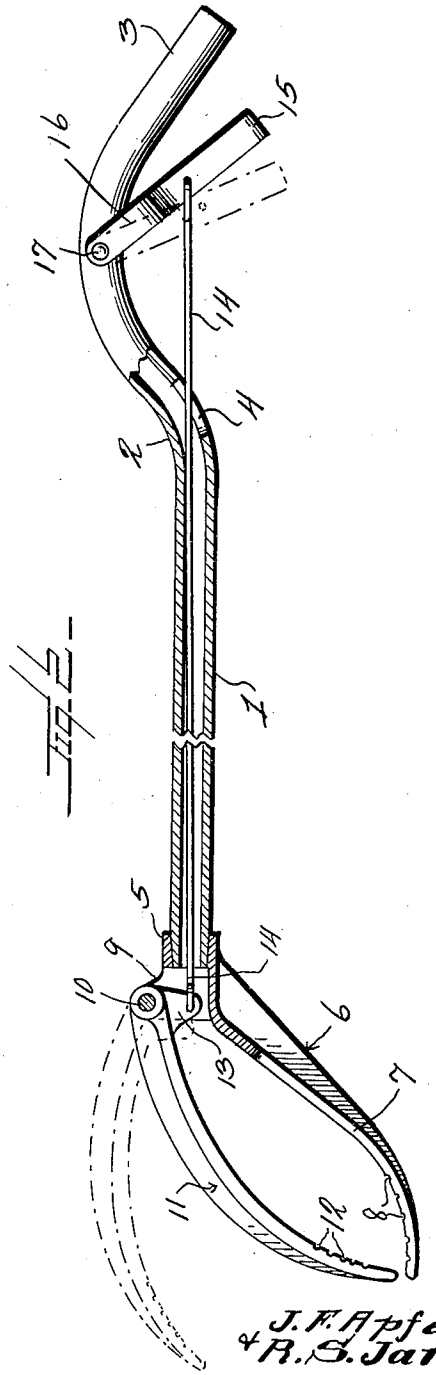
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TONGS

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TONGS

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3 Claims. (Cl. 294—11)

This invention relates to improvements in gripping devices and pertains particularly to an improved tongs for use in removing clinkers from furnaces, more particularly furnaces of the stoker type.

The primary object of the present invention is to provide an improved form of clinker tongs having a novel type of gripping head by means of which it is possible to pick out clinkers which are disposed in the front part of the fire-box and which would ordinarily be difficult to reach with tongs of the usual straight type.

Another object of the invention is to provide an improved tongs in which the means for effecting the movement of a shiftable jaw is so housed as to prevent it becoming damaged through violent contact with a fixed part of the furnace into which the tongs may be extended.

The invention will be best understood from a consideration of the following detailed description taken in connection with the accompanying drawing forming part of this specification, with the understanding, however, that the invention is not confined to any strict conformity with the showing of the drawing but may be changed or modified so long as such changes or modifications mark no material departure from the salient features of the invention as expressed in the appended claims.

In the drawing:

Figure 1 is a view in plan of the tongs.

Fig. 2 is a view in side elevation, a part being in longitudinal section.

Referring now more particularly to the drawing the numeral 1 indicates the shaft or body portion of the tongs which is of tubular formation. At one end this tubular body is bent laterally, as indicated at 2, and terminates in the arcuate hand grip portion 3, the end of which extends back across the center line of the main body of the shaft so that an opening 4 formed through the wall of the body at the convex side of the curved portion 2 will be directed toward the inner side of the handle adjacent the end or rear, for a purpose to be hereinafter described.

At its forward end the tubular body 1 is fixed within a collar 5 which forms an integral part of a cast bifurcated jaw which is indicated generally by the numeral 6. Each of the furcations of this jaw is indicated by the numeral 7 and as shown this bifurcated portion extends obliquely from the part 5 so as to form a forwardly diverging angle with the axial center of the tubular body 1. The forward ends of the furcations or jaws proper which are indicated by the numeral 7 are preferably substantially parallel whereas their rear portions converge toward the collar 5 as shown in the plan view, and these straight forward end portions are slightly reversely curved to be directed back toward the axial center of the body 1 and their concave faces are transversely serrated to form the gripping teeth 8. Formed integral with the collar 5 are the spaced parallel ears 9 which project from the collar oppositely to the inner end portion of the bifurcated fixed gripping jaw 6. These ears are connected by a pivot pin 10 and on this pin is supported the inner end of a single movable jaw finger 11 which is of slightly longitudinal arcuate form and arranged to have its concave side in opposed relation with the concave sides or faces of the furcations 7. In addition this movable jaw 11 is provided adjacent its forward end with teeth 12 upon its inner side for cooperative action with the teeth 8.

At the attached end of the movable jaw 11 there is formed an inwardly extending actuating ear 13 which is disposed between the fixed ears 9 and which lies in the line of the center of the tubular body 1. This actuating ear 13 has attached to it one end of a pull rod 14 which passes through the body 11 and out of the same through the opening 4 at the handle end.

Pivotally attached to the handle 3 is a shiftable grip 15 to which the rear end of the rod 14 is pivotally attached. This grip 15 is divided at its attached end to form the two spaced parallel arms 16 between which the body of the handle 3 positions and a pivot pin 17 passes through these arms and the handle body, as illustrated.

From the foregoing it will be readily apparent that the handle 3 is in the form of a pistol grip so that the shaft or body 1 of the tongs may be extended straight forwardly without the necessity of uncomfortably twisting the wrist and by the use of the fingers engaging the grip 15 the rod 14 may be reciprocated to open or close the movable jaw 11 relative to the fixed jaws 6. It will also be apparent that since the fixed jaws 6 are upon the opposite side of the body 1 from the side from which the handle 3 is bowed, and since these fixed jaws extend obliquely from the body 1, it will be comparatively easy to reach into a furnace fire-box, while standing back from the open front thereof, and pick up clinkers which may be disposed adjacent the front wall of the body. Such an operation would be practically impossible with tongs in which the jaws project straight from the end of the body as it would then

be necessary for the operator to stand close to the open fire-box in order to dispose the shaft or body of the tongs at the proper angle to bring the jaws in close to the front of the fire-box wall.

What is claimed is:

1. A clinker tongs comprising an elongated tubular body portion having near one end a bowed portion merging into a straight terminal portion forming a hand grip which extends obliquely with respect to said body, a finger grip pivotally attached to the said bowed portion of the body, a pull rod attached at one end to the finger grip and extending therefrom longitudinally through the tubular body to protrude out of the end remote from the finger grip, a fixed gripping jaw attached to said remote end of the tubular body, a movable jaw pivotally attached to the said remote end of said tubular body, and a pivoted coupling between the movable jaw and said pull rod.

2. A clinker tongs comprising an elongated tubular body having one end bent to provide a straight terminal portion and an intermediate laterally bowed portion, the straight portion forming a hand grip disposed obliquely of and extending across the long axis of the body, the wall of the body having an aperture formed therethrough which is directed toward the inner side of the straight terminal portion, a finger grip pivotally attached at approximately the transverse center of the bowed portion to extend across the concave side of the same and between the aperture and said straight terminal portion, a pair of spaced ears fixed to the other end of the body, a fixed jaw member projecting laterally from said other end of the body, a movable jaw having one end pivotally mounted between said ears for movement relative to the fixed jaw, an actuating ear forming a part of the movable jaw and disposed between said ears and in front of the adjacent end of the tubular body, and a straight pull rod extending thru the tubular body and having one end attached to said actuating ear and its other end extending thru the opening in the wall of the tubular body and attached to said finger grip.

3. Tongs of the character set forth, comprising a tubular shaft having a forward open end, said shaft being bent adjacent its other end to form an arcuate offset, said arcuate offset merging with and terminating in a straight portion constituting a hand grip which extends obliquely across the long axis of the shaft, the shaft having an opening at the forward side of the arcuate offset which is directed toward the hand grip, a finger grip pivoted to the said offset and extending from the concave side between the hand grip and said opening, a collar encircling the forward end of the shaft, a jaw having a substantially straight part secured at one end to and projecting from the collar obliquely of the shaft and being slightly longitudinally curved at its free other end, an elongated slightly longitudinally arcuate jaw pivotally attached at one end to the collar to be oscillated relative to the first jaw, and a straight actuating rod passing through the length of the shaft and having one end extending through the forward end and pivotally attached to the pivoted jaw and its other end extending through said opening and pivotally attached to said finger grip.

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