

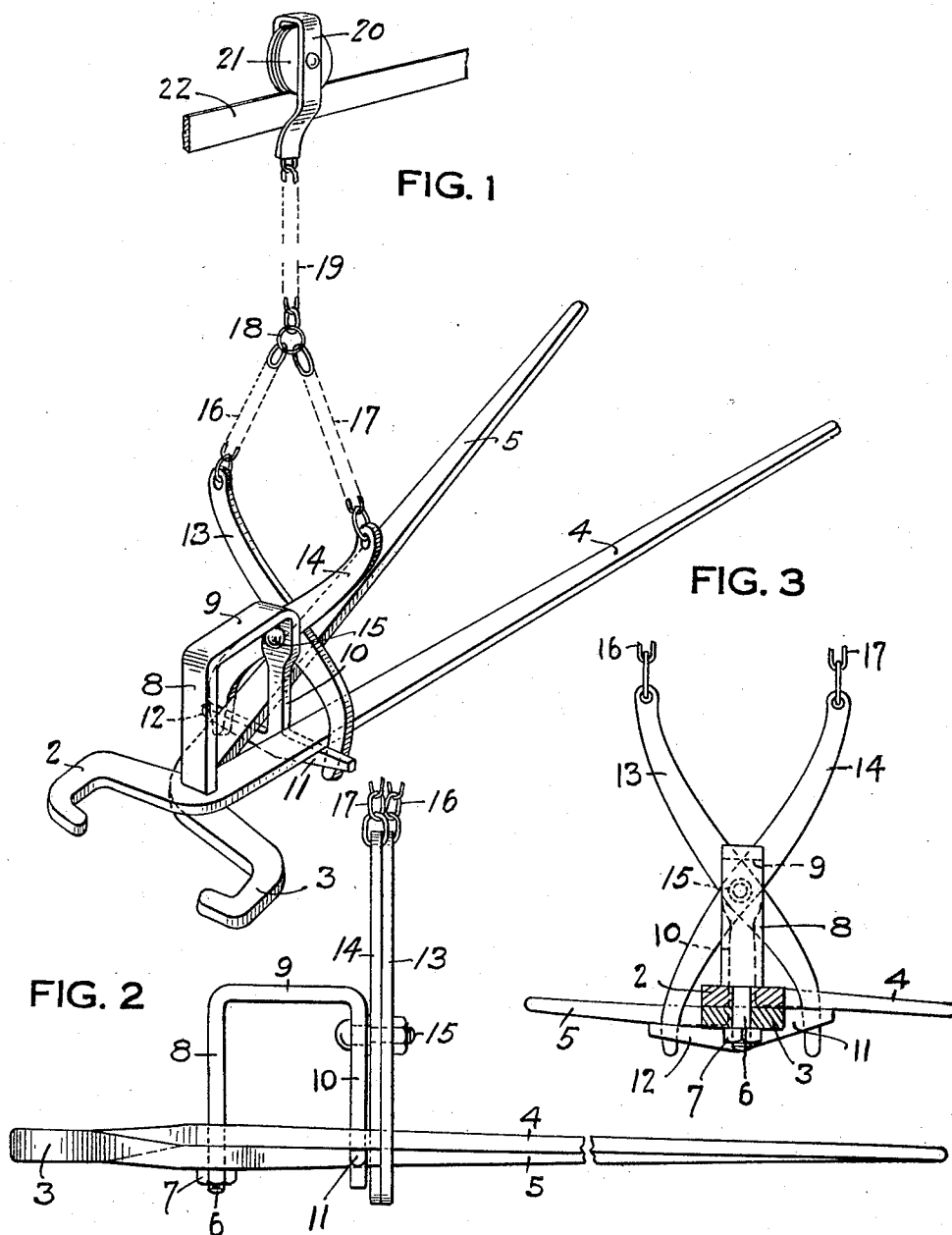
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S. M. HEARD

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TONGS

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INVENTOR

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UNITED STATES PATENT OFFICE.

SAMUEL M. HEARD, OF PITTSBURGH, PENNSYLVANIA.

TONGS.

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To all whom it may concern:

Be it known that I, SAMUEL M. HEARD, a citizen of the United States, and resident of Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Tongs; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to tongs for use in handling hot metal billets, or for other purposes for which it may be found suitable.

The tongs which are commonly used in steel mills for handling hot billets and the like, require that the operator shall not only move the handles of the tongs together for the purpose of gripping the billet, but shall continue to exert pressure on the handles of the tongs while the billet is being lifted and transported. The object of my invention is to eliminate the necessity of such continued pressure on the handles of the tongs after the load is grasped.

I accomplish this result in general by providing the tongs with a set of auxiliary tong members arranged vertically behind the pivot of the main tongs, and so arranged that the jaws of the auxiliary tongs extend below and beside the handles of the main tongs. I suspend the entire device by means of chains or similar hangers, which are attached to the ends of the auxiliary tongs, so that when a load is gripped and lifted by the main tongs, the weight of the load causes the auxiliary tongs to clamp the handles of the main tongs and exert a pressure which keeps the jaws of the main tongs in engagement with the load as long as the load is supported by the tongs.

Other features and advantages of my invention will appear from the following description taken in connection with the accompanying drawing in which Fig. 1 is a perspective view of a pair of billet tongs constructed in accordance with my invention; Fig. 2 is a side elevational view of the construction shown in Fig. 1; and Fig. 3 is a front elevational view of the same construction with parts in vertical section.

In the drawing the numerals 2 and 3 indicate the jaws of a pair of tongs such as are used in steel mills for handling hot billets. The jaws 2 and 3 are formed integral with handles 4 and 5, respectively.

The jaws 2 and 3 are pivoted together by means of a bolt 6 extending through suitable

openings in the jaw members and provided with a nut 7. The bolt 6, as shown, is formed integral with a U-shaped forging having a front vertical portion 8, a horizontal portion 9, and a rear vertical portion 10. Horizontal arms 11 and 12 are formed integral with or attached to the lower end of the member 10, and extend beneath the handles 4 and 5. It will be seen on Fig. 3 that the arm 11 is offset vertically so as to engage the under surface of the handle 4 while the arm 12 extends horizontally and engages the under surface of the handle 5.

A pair of auxiliary tong members 13 and 14 are pivoted together by means of a rivet, bolt, or other suitable fastening 15, which extends through the auxiliary tong members 13 and 14 and also through the vertical member 10. The lower ends of the members 13 and 14 extend downward beside and below the outer edges of the handles 4 and 5, respectively.

Chains 16 and 17 are secured to the upper ends of the auxiliary tong members 13 and 14, their upper ends being connected to a ring 18 which is suspended by means of a chain 19 from a roller carriage 20 having a roller 21 which runs on a track 22.

In operating the tongs described above, the operator grasps the handles 4 and 5 and grips the billet or other weight to be lifted between the jaws 2 and 3. He then presses the handles 4 and 5 downward, thus transferring part or all of the weight of the load to the chain 19 which acts through chains 16 and 17 to close the lower portions of the tong members 13 and 14, thus pressing the handles 4 and 5 together and rendering unnecessary any further work on the part of the operator to keep the tongs closed. When the load is to be released it is lowered upon a support, and the tongs may then be readily opened by spreading the handles 4 and 5, the auxiliary tongs 13 and 14 offering no resistance to the opening of the main tongs provided that the load has been taken from the suspending chains.

I have shown and described herein a construction which is well adapted for carrying out my invention, but it will be understood that various changes in the construction and arrangement of parts may be made without departing from my invention as set forth in the appended claims.

I claim as my invention:

1. Tongs comprising a pair of relatively

movable jaw members, handles for actuating said jaw members, and an auxiliary pair of tongs extending beside said handles and adapted to be actuated in response to a load
5 carried by said jaw members to press said handles toward each other and to thereby press said jaws toward each other.

2. Tongs comprising a pair of relatively movable jaw members, handles for actuating said jaw members, a support carried by
10 said jaw members, a pair of auxiliary tongs carried by said support, and suspension means secured to said auxiliary tong members.

15 3. Tongs comprising a pair of relatively movable jaw members, handles for actuating said jaw members, a pair of auxiliary tong members having their lower ends adjacent to and outside of said handle members,
20 and suspension means secured to the upper ends of said auxiliary tong members.

4. Tongs comprising a pair of relatively movable jaw members, handles for actuating said jaw members, a pivot member connecting said handles, a U-shaped supporting
25 member extending upwardly from said pivot and thence rearwardly and downwardly, supporting arms extending laterally from said U-shaped supporting member and engaging the under surfaces of said handles,
30 a pivot member carried by said U-shaped supporting member, a pair of auxiliary tong members mounted pivotally on said pivot member and having their lower ends extending beside and outside of said handles,
35 suspension members secured to the upper ends of said auxiliary tong members, and a suspension member secured to both of said first-named suspension members.

In testimony whereof I, the said SAMUEL M. HEARD, have hereunto set my hand.

SAMUEL M. HEARD.