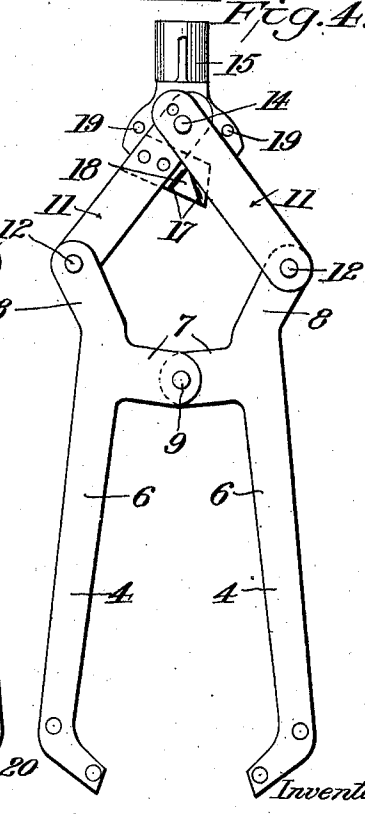
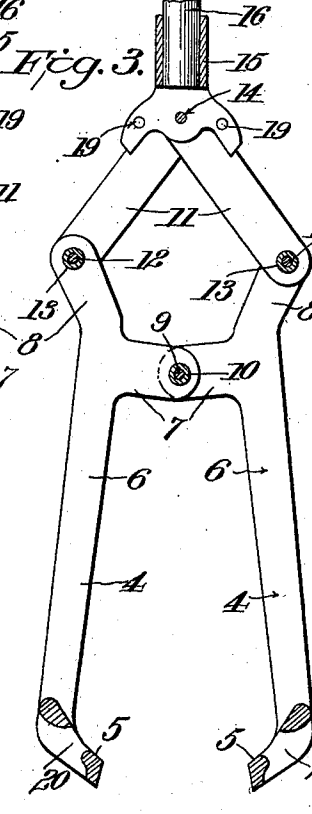
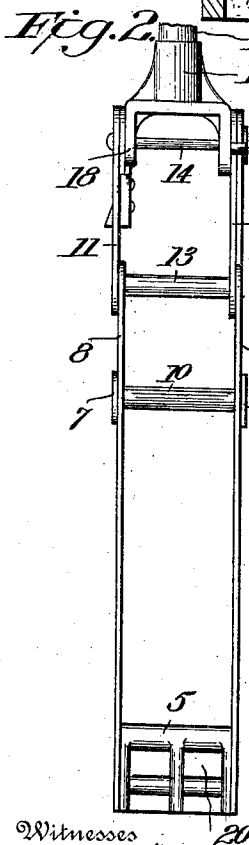
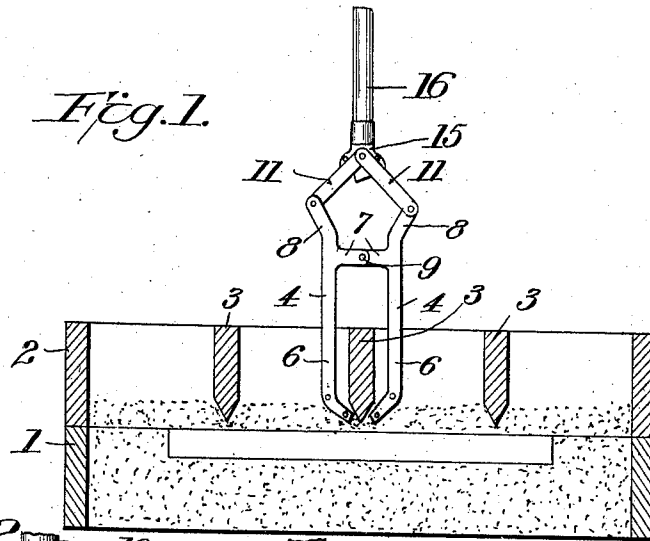


J. WHITEHEAD.
 MOLDER'S TOOL.
 APPLICATION FILED NOV. 15, 1910.

984,985.

Patented Feb. 21, 1911.



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JAMES WHITEHEAD, OF PHILADELPHIA, PENNSYLVANIA.

MOLDER'S TOOL.

984,985.

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Patented Feb. 21, 1911.

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To all whom it may concern:

Be it known that I, JAMES WHITEHEAD, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Molders' Tools; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to molders' tools.

It has for its object to provide a tool whereby the sand may be more rapidly, firmly and easily packed or tamped against and under the bar or bars attached to and forming a part of the cope section of a molder's flask. This operation of packing sand around the bars of the cope, as now generally practiced, is done with the fingers and is very tiresome work, especially in large flasks where the molder is obliged to crawl across the bars on his knees. Furthermore, the molder suffers much with sore fingers as small nails are frequently mixed through the sand. Aside from the injury sustained, the molder's fingers are disfigured by being worn flat at their ends as a result of this work.

It has been my aim to construct a tool which will relieve the molder from the necessity of using his fingers for tamping the sand around the bars of the cope, and which tool will serve the desired purpose more effectively and with a saving of considerable time.

To this end my invention consists of a tool mounted on a vertical handle of such length that it can be conveniently operated by the molder when standing upon the bars of a large cope, said tool comprising two jaws which are automatically spread when raised and which automatically close around and beneath the bars when said tool is forced downward in the act of tamping.

The invention also consists in the features of construction and combinations of parts hereinafter described, illustrated in the accompanying drawing, and specified in the appended claims.

In the accompanying drawing: Figure 1 is a sectional view of a molder's flask showing my tool in the position which it occupies at the end of a downward stroke in the operation of tamping the sand around one of the bars in the cope. Fig. 2 is an edge

view of the tool, the upper portion of the handle being broken away. Fig. 3 is a transverse, vertical, sectional view of the tool, and Fig. 4 is a rear elevation of the tool illustrating the position of the jaws when the tool is raised.

As is generally understood in this art, a molder's flask comprises two parts known as the drag, lower half, and the cope or upper half. In the Fig. 1 of the accompanying drawing, the drag is designated 1 and the cope 2. The drag is a frame without top or bottom and without inner or cross bars. It is rammed up first with the pattern in place, then turned over and the cope placed thereon. The cope is similar to the drag except that it is provided with cross bars 3 placed at regular intervals and located above the lower edge of the cope which joins on to the drag. The purpose of these cross bars is to carry the sand when the cope is lifted off to withdraw the pattern, and to support the sand and prevent it from falling into the mold after it has been replaced in position upon the drag. When the cope is first put in position two or three inches of sand is sifted into it and the tamping with my tool takes place with an up and down stroke.

The tool comprises two jaws 4 similarly constructed and facing one another. Each jaw has an inwardly inclined base portion 5, and two upright rigid strips 6 provided, near their upper ends, with inward extensions 7, the portions of said strips, above said inward extensions, being inclined outwardly, as at 8. The inward extensions 7 of the jaws are pivotally connected by a pin or bolt 9, and the inward extensions of the corresponding strips of the jaws are spaced apart by a sleeve 10 mounted around said pin or bolt. The upper extremities of the jaws are pivotally connected to converging links 11 by means of pins or bolts 12 also provided with spacing sleeves 13. The upper extremities of the links are pivoted together by another pin or bolt 14. Also pivoted on the pin 14 is a socket piece 15 in which the handle 16 is fitted.

By reason of the construction just described, it will be observed that when the tool is raised by the handle, the jaws will be automatically spread apart and, conversely, when the handle is pressed downward, the jaws will be automatically closed. In order to prevent the jaws from spreading apart too far, I provide a stop lug 17 on a plate

18 secured to one of the links and adapted to engage the other link as will be clearly understood from the showing in Fig. 4.

In order to maintain the erect position of the handle upon the tool, I have provided lugs 19 on the socket piece, said lugs extending above the links on the front of the tool and limiting the lateral movement of the tool on the handle. The inwardly inclined lower ends of the jaws are provided with openings 20 which prevent the tool from packing the sand so firmly that when the flask is filled up with more sand, a false parting will not ensue and leave the sand which is tamped without support from the sand above.

It will be readily seen that the impact of the tool or rammer on the sand, with the jaws straddling the bars in the cope, will quickly and firmly tamp the sand under the bars. In other words, the construction of the tool is such that both sides of the bars are rammed at the same time, the tool adjusting itself automatically to any inequality in thickness or form.

Attention has been given to the design of the tool with reference to durability under the most careless and violent use, and it has been found to be a practical and durable implement under ordinary foundry conditions.

I claim:

1. A tool of the character described comprising a pair of intermediately pivoted jaws, upwardly converging links pivotally connected to the upper ends of said jaws, and a handle pivotally connected to the upper ends of said links whereby the raising of the tool by the handle will automatically spread the jaws, and downward pressure upon said handle will automatically close said jaws.

2. A tool of the character described comprising a pair of intermediately pivoted

jaws, upwardly converging links pivotally connected to the upper ends of said jaws, and a handle pivotally connected to the upper ends of said links whereby the tool may be bodily raised and lowered and the jaws correspondingly spread and closed.

3. A tool of the character described comprising a pair of intermediately pivoted jaws, upwardly converging links pivotally connected to the upper ends of said jaws, and a handle pivotally connected to the upper ends of said links whereby the jaws will be automatically spread when the tool is raised and automatically closed when said tool is lowered and pressure is placed upon the handle, and means to limit the outward movement of said jaws.

4. A tool of the character described, comprising a pair of intermediately pivoted jaws, upwardly converging links pivotally connected to the upper ends of said jaws, and a handle pivotally connected to the upper ends of said links whereby the jaws will be automatically spread when the tool is raised and automatically closed when said tool is lowered and pressure is placed upon the handle, and means to limit the lateral movement of the tool on the handle.

5. A tool of the character described comprising a pair of intermediately pivoted jaws, upwardly converging links pivotally connected to the upper ends of said jaws, and a handle pivoted to the upper extremities of said links, the lower ends of said jaws being inclined inwardly and provided with openings therein, all for the purposes specified.

In testimony whereof, I affix my signature, in presence of two witnesses.

JAMES WHITEHEAD.

Witnesses:

R. R. VEASEY,
CHAS. LEHMAN.