

A. KOLVOORD.
SAND HOOK FOR MOLDING FLASKS.
APPLICATION FILED MAY 2, 1908.

904,787.

Patented Nov. 24, 1908.

FIG. 1.

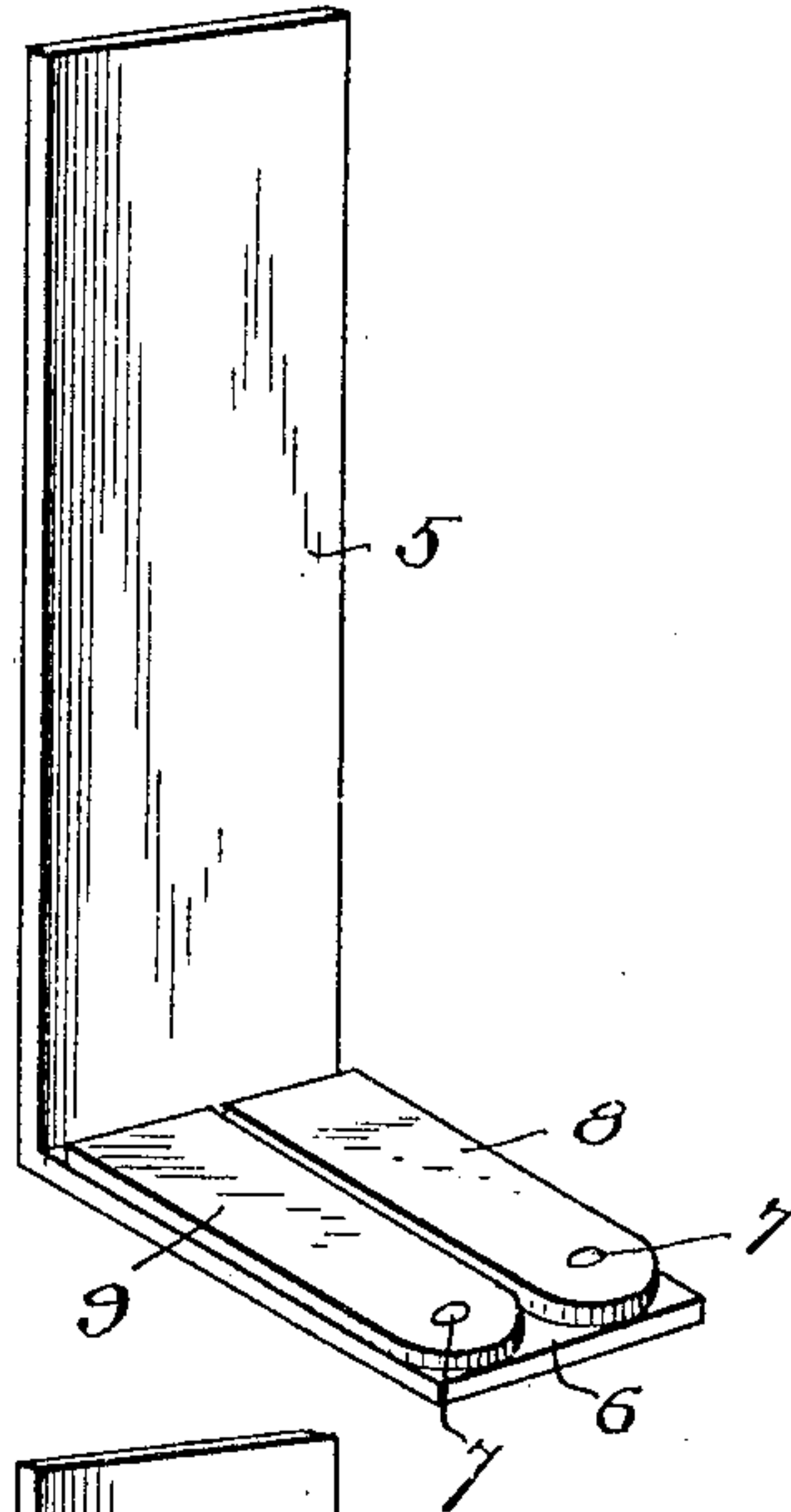


FIG. 2.

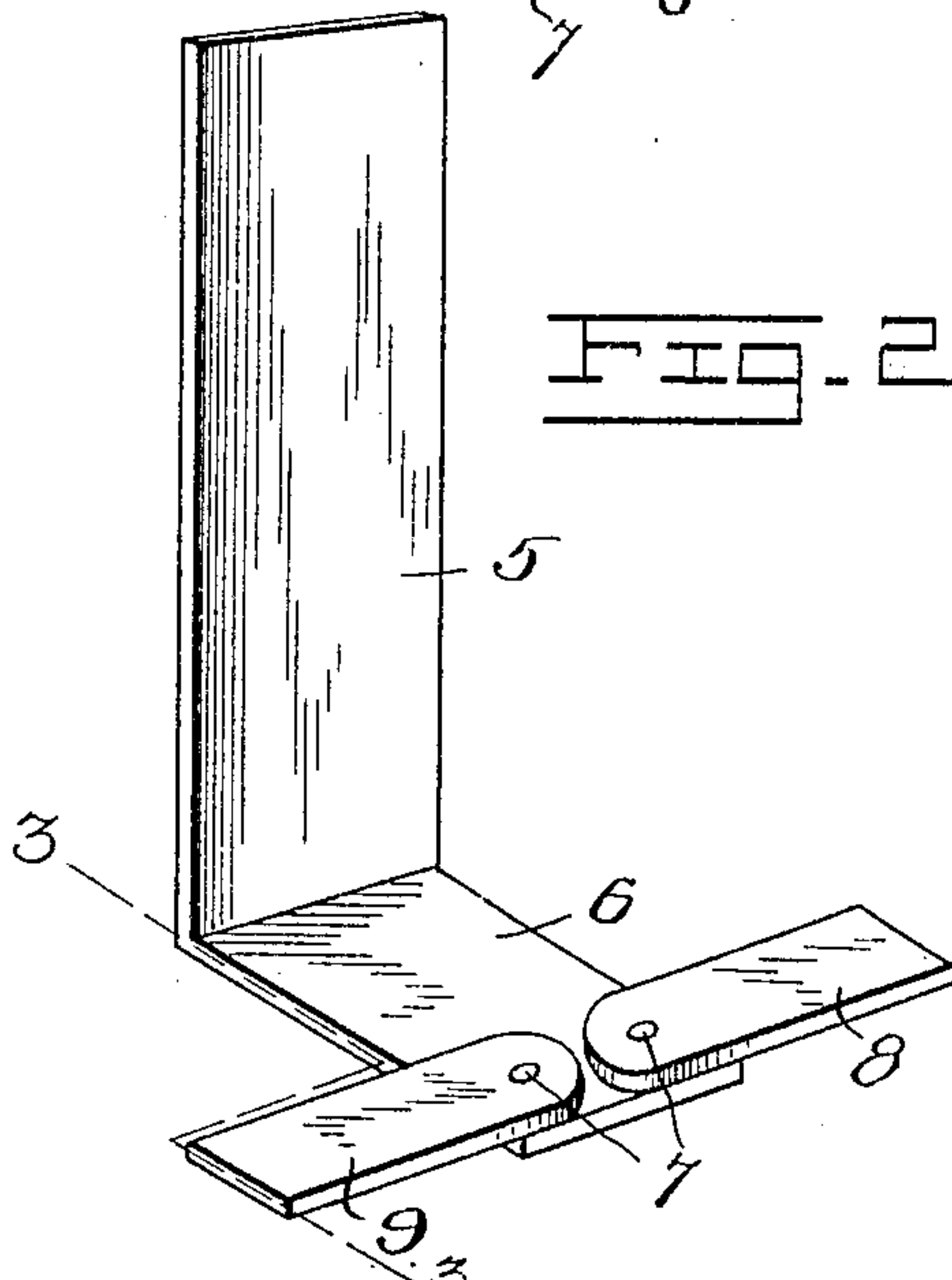
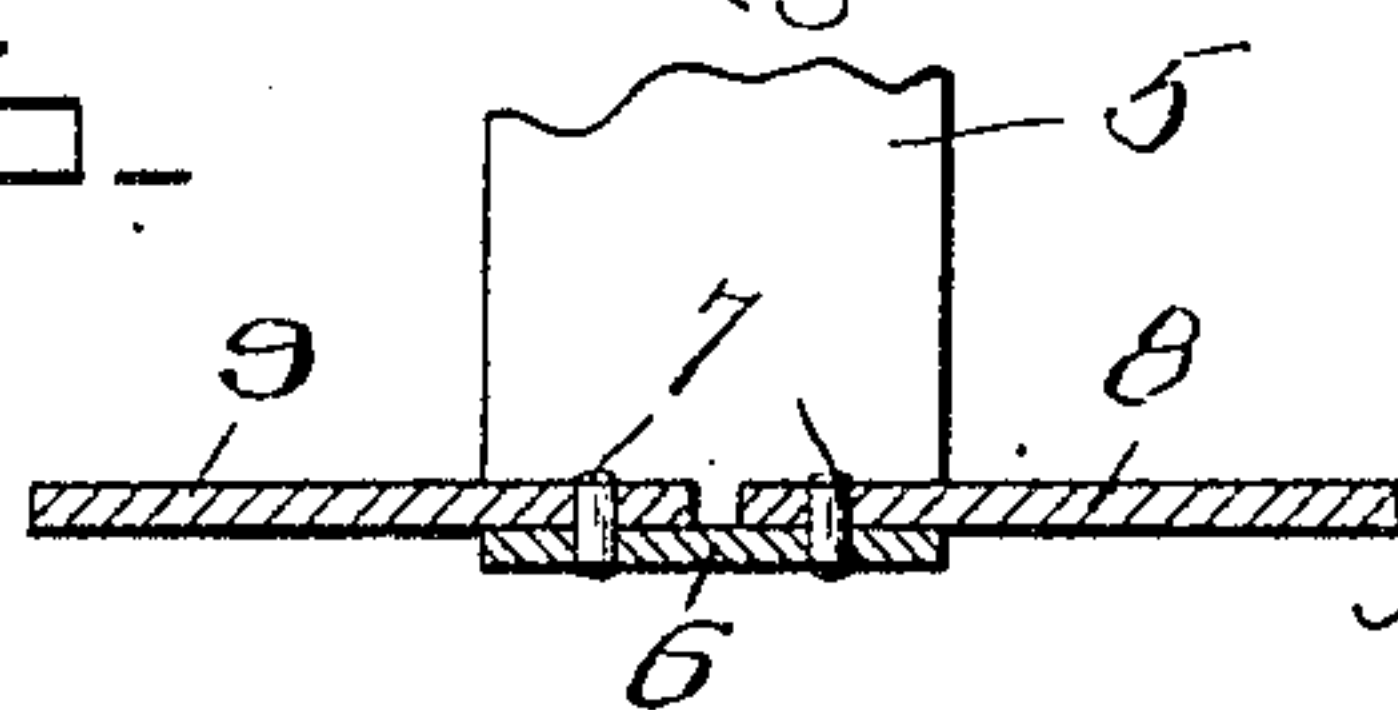


FIG. 3.



Witnesses

L. R. Armstrong

E. L. Chandler

Inventor

Albert Kolvoord

By *Woodward & Chandler*

Attorneys

UNITED STATES PATENT OFFICE.

ALBERT KOLVOORD, OF BATTLE CREEK, MICHIGAN.

SAND-HOOK FOR MOLDING-FLASKS.

No. 904,787.

Specification of Letters Patent.

Patented Nov. 24, 1908.

Application filed May 2, 1908. Serial No. 430,519.

To all whom it may concern:

Be it known that I, ALBERT KOLVOORD, a citizen of the United States, residing at Battle Creek, in the county of Calhoun and State of Michigan, have invented certain new and useful Improvements in Sand-Hooks for Molding-Flasks, of which the following is a specification.

This invention relates to molds, and has for an object to provide a sand hook for molding flasks whereby the sand may be firmly held together.

A further object of this invention is to provide a sand hook for molding flasks which will be simple in construction, inexpensive to manufacture, light, durable, strong, and which will be so constructed whereby all of its parts may be stamped from sheet steel or other suitable metal.

Other objects and advantages will be apparent from the following description and it will be understood that changes in the specific structure shown and described may be made within the scope of the claims without departing from the spirit of the invention.

In the drawings forming a portion of this specification and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a perspective view of the present invention, Fig. 2 is a similar view showing the arms swung to an operative position, Fig. 3 is a transverse sectional view on the line 3—3 of Fig. 2.

It is common in the class of molds to provide hooks formed of cast iron and comprising right angularly disposed members adapted for insertion within a molding flask for engagement in the sand for holding the same together to present a firm body, but these devices have been found extremely expensive, are heavy and easily become broken.

It is therefore an object of my invention to provide a device which may be made of wrought iron or stamped from sheet steel combining lightness with strength, which will be durable and simple, and which includes a vertically disposed member 5 and a right angularly or horizontally disposed member 6. Adjacent to the outer end of the member 6, and pivotally connected as shown at 7 thereto there are shown arms 8 and 9 respectively which are preferably somewhat shorter than the length of the member 6, and which are thus arranged to lie normally

in parallel relation to each other upon said member 6 as shown in Fig. 1 of the drawings. It will thus be seen that a simple and light article is provided, and by means of the arms 9 and 8 respectively it is obvious that they may be swung away from the member 6 to lie at right angles at times thereto, or these arms may be swung to lie in line with the member 6 or at other various angles thereto.

Heretofore it required a great many of the common hooks having simply the right angularly disposed arms to accomplish the desired results, and it will thus be understood that a device as herein set forth and described by means of its pivotal arms will be greatly effective, and may be used in small quantities to produce beneficial results.

What is claimed is:

1. A device of the class described comprising a right angularly disposed member having movable elements arranged to lie angularly at times to one of said members.

2. A device of the class described comprising a member having right angularly disposed portions, and pivotally mounted arms carried by one of said portions.

3. A device of the class described comprising right angularly disposed metallic members, and arms carried by one of said members, and arranged to lie at times in a lateral position.

4. A hook for molding flasks comprising a right angularly disposed member, and swinging arms carried by said member.

5. A device of the class described comprising a metallic member having a vertically disposed portion and a horizontally disposed portion, and pivotally mounted arms normally disposed to lie upon said horizontally disposed portion and arranged for movement whereby they may lie angularly of said horizontally disposed portion.

6. A device of the class described comprising a plurality of laterally movable bodies arranged for operation to lie at times in parallel relation.

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

ALBERT KOLVOORD.

Witnesses:

HOWARD H. BATDORFF,
JOHN C. DAVIS.