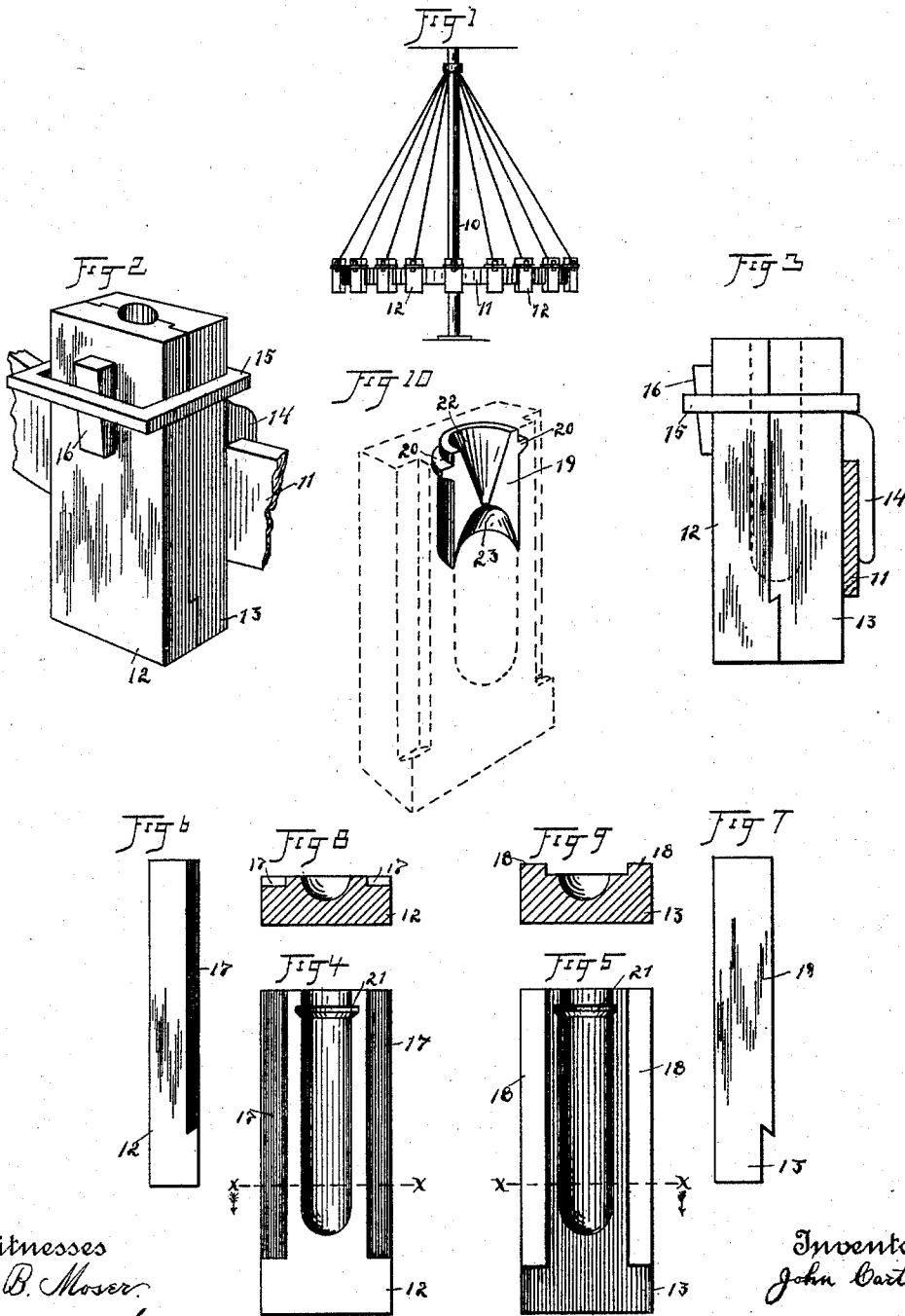


(No Model.)

J. CARTER.
SASH WEIGHT CASTING APPARATUS.

No. 483,208.

Patented Sept. 27, 1892.



Witnesses
R. B. Moser.
Victor Schneider

Inventor
John Carter.
By his Attorney
A. F. Fisher.

UNITED STATES PATENT OFFICE.

JOHN CARTER, OF NILES, OHIO.

SASH-WEIGHT-CASTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 483,208, dated September 27, 1892.

Application filed December 15, 1890. Renewed October 31, 1891. Serial No. 410,413. (No model.)

To all whom it may concern:

Be it known that I, JOHN CARTER, a citizen of the United States, residing at Niles, in the county of Trumbull and State of Ohio, have invented certain new and useful Improvements in Machines and Molds for Casting Sash-Weights; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in machines and molds for casting sash-weights; and the invention consists in the construction and combination of parts, substantially as shown and described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of a machine as it appears in operation with the molds attached and in carrying position. Fig. 2 is a perspective view of a mold considerably enlarged over what is shown in Fig. 1, and showing also a section of the flat carrying rim or band upon which the mold is temporarily hung as it is carried from one position to another in the process of casting. Fig. 3 is an edge view of one of the molds and a cross-section of the carrying rim or band to which it is attached. Figs. 4 and 5 are inside views of the respective sections of the molds. Figs. 6 and 7 are edge views of the sections shown in Figs. 4 and 5, and Figs. 8 and 9 are cross-sections of Figs. 4 and 5 on lines *x x* on said figures, respectively. Figs. 4, 6, and 8 relate to one section, and Figs. 5, 7, and 9 to the other section. Fig. 10 is a perspective view of one of the sections of the mold in dotted lines, in which is shown a section of a gage-collar occupying the upper portion of the mold-chamber and designed to utilize a given size of mold to cast different sizes of weights.

In the drawings I have illustrated one form of carrying frame or support for the molds by which the molds are conveyed from one place to the other in a circuit to be filled and discharged in rotation. For this purpose I prefer a carrier of the variety shown with a central shaft 10, adapted to rotate in fixed bearings and provided with a carrying band or rim 11, suitably supported from said shaft. The band or rim 11 is purposely constructed

with flat surfaces and made narrow in cross-section like the tire of a wheel, so as to adapt it to the convenient removal and replacement of the molds. This change of molds occurs continually during the process of casting and represents one of the essential steps therein, for the reason that each mold must be taken off to unload its contents and then be replaced to be carried around and filled. Furthermore, it is desirable to have a number of extra molds on hand, so that some may be cooling while others are in use, and at the same time have the carrier filled with molds, so that there will be no delay in the work while the cooling occurs and the full capacity of the machine be at all times obtained. This of course renders a removable mold necessary, and my invention involves the idea of using removable molds in contradistinction of molds which are fixed to the carrier-frame and are filled and emptied in permanently-attached positions.

As here shown, each mold is formed in two sections 12 and 13, and one of said sections has on its back a hook 14, adapted to engage the carrier-rim 11 and support the mold on the carrier. These molds are not designed to be operated automatically, but are removed bodily from the carrier when their contents are to be discharged and are bodily replaced when they are to be refilled. This work is done wholly by hand, and the sections are locked together by means of a tie-band 15 and a wedge or key 16.

In order that the sections shall always exactly match when put together and that this matching or exact fitting shall occur naturally and without special effort or care when the sections are brought together, I form longitudinal rabbets or recesses 17 along the edge of one section—in this instance section 12—and corresponding projections 18 along the edges of the opposite section which exactly fit the said recesses. At their lower ends the said recesses are cut at a slight inclination inward and downward, and a similar cut is given to the projections 18, thereby forming something like a dovetail joint which makes a close fit of the sections by the mere force of gravity when section 13 is put in position. In all cases, however, one-half of the mold-chamber is formed in each section, and the division-

line in said chamber comes at the longitudinal center thereof.

In Fig. 10 I illustrate a section of the mold with a section 19 of a gage-collar placed therein and occupying the upper portion of the mold-chamber. This gage-collar filler has a rim 20 about its upper portion, adapted to rest in the groove 21 in the mold-sections, and a funnel-shaped opening 22, through which the metal is poured, and a cavity 23 in its bottom corresponding to the rounded end of the casting. These fillers may be of different lengths, according to the length of sash-weights wanted, and a variety of sizes may be kept on hand, so that by their use weights of different lengths may be cast in the same molds.

I do not limit myself to the exact form of carrying-frame, nor to the exact means of uniting the mold-sections here shown, but these are rather the preferred ways and admirably serve my purpose.

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

25 1. A mold for sash-weights, having a circumferential groove in the mold-chamber near its top, and a gage-collar supported in said groove, substantially as described.

2. A gage-collar for sash-weight molds, having a projection about its outside to enter a groove or recess in the mold-sections, and a central opening through which the metal is poured, in combination with a two-part mold having a groove or recess near its top to receive the projection on the said gage-collar, substantially as described.

3. A circular revolving frame having a flat supporting-band and molds having hooks on their backs constructed to engage said band, substantially as described.

4. A mold formed in longitudinal sections, one of said sections having a recess on its meeting face below its center and the other section having a projection to engage said recess, in combination with a gage-collar locked between said sections at their upper ends and a band about the upper portion of the mold binding said parts closely together, substantially as described.

Witness my hand to the foregoing specification this 21st day of November, 1890.

JOHN CARTER.

Witnesses:

H. T. FISHER,
NELLIE L. McLANE.