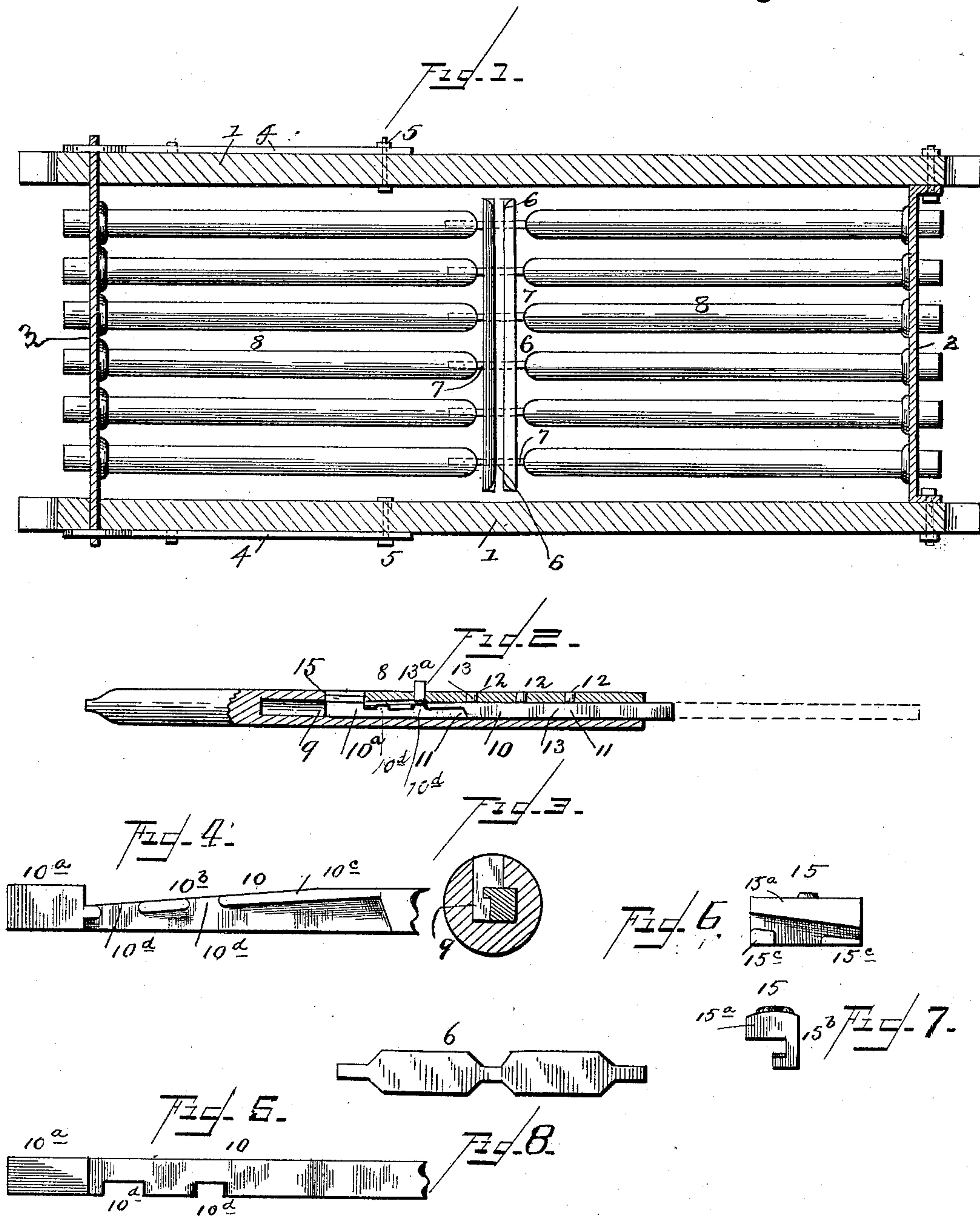


(No Model.)

W. P. CAHILL.
SASH WEIGHT CASTING APPARATUS.

No. 435,205.

Patented Aug. 26, 1890.



WITNESSES:

H. L. Oursand.
Bennett Jones.

INVENTOR:

William P. Cahill
J. Saus Daggert
Attorney.

UNITED STATES PATENT OFFICE.

WILLIAM P. CAHILL, OF CHATTANOOGA, TENNESSEE.

SASH-WEIGHT-CASTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 435,205, dated August 26, 1890.

Application filed December 10, 1889. Serial No. 333,189. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM P. CAHILL, a citizen of the United States, and a resident of Chattanooga, in the county of Hamilton and State of Tennessee, have invented certain new and useful Improvements in Apparatus for Casting Window-Sash Weights; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in patterns for casting window-sash weights, and is designed more particularly for use in connection with apparatus in which the weights are cast in tiers, by which a large number can be cast at one time.

The invention consists in the novel construction and combination of parts herein-after fully described, and specifically pointed out in the claims.

In the accompanying drawings, Figure 1 represents a horizontal section of a flask, showing the patterns arranged in tiers. Fig. 2 is a sectional view of one of the patterns. Fig. 3 is a cross-section of the same. Fig. 4 is a side elevation of a portion of the reciprocating bar which actuates the plate for designating the weight of the article cast. Fig. 5 is a plan view of the same. Fig. 6 is a side view of the plate which designates the weight of the article cast. Fig. 7 is an end view of the same. Fig. 8 is a top view of the gate-pattern.

In the said drawings, the reference-numeral 1 designates the sides of the flask, which may be constructed of wood, and 3 the end plates, of iron or other suitable material.

4 4 designate hooks pivoted at 5 to the side of the flask, which engage with projecting lugs on the end plates and hold them firmly in place.

In Fig. 1 the patterns are shown in place ready for the sand to be packed in. These patterns are arranged in vertical tiers, with the gate 6 interposed between their adjoining ends.

7 indicates a round iron bar secured to the ends of the patterns of one tier, which passes through holes in the gate 6 and into the adjoining ends of the opposite tier or section. The molds are formed by putting down the

flask, filling in sand, and ramming until level with the bottom of the lower holes, then by placing the gate and inserting patterns through holes in the end of the flask and also through the small holes in the gate. The sand is filled in and rammed up to the bottom of the holes in the second tier and the patterns inserted as before. This process is carried on until the requisite number has been placed in the flask. The patterns and gates are then drawn out, and after inserting the eye and stop-chills, as usual, the mold is ready for casting.

The numeral 8 designates one of my improved patterns, whereby articles of different weights may be produced. It consists of a cylindrical bar or body of wood or metal of a length suitable for the heaviest weight manufactured. This cylinder is provided with a slot or recess 9 extending from one end to near the middle thereof. In this slot or recess works a bar 10, having a head 10^a. From this head the bar is beveled on its upper face, as seen at 10^b, and its lower face is provided with a corresponding beveled recess, by which is formed the inclined flange 10^c. Near its inner end this flange is provided with two recesses 10^d.

The numeral 15 designates a plate, which carries on its face in relief a number designating the weight of the article to be cast. It fits and works in an opening in the cylinder communicating with the slot 9. This plate consists of a horizontal portion 15^a and a vertical portion 15^b, the under side of the portion 15^a being beveled to correspond with the inclination of the flange 10^c. The portion 15^b is provided with two projecting lugs 15^c, which are also beveled, and which pass through the recesses 10^d in the flange 10^c. The plate 15 is movable up and down in the opening in the cylinder by means of bar 10, and may be removed and replaced by another one when an article of different weight is to be produced.

The cylinder 8 is provided with a number of openings or perforations 12, arranged horizontally therein. These openings are so arranged that the distance between them will represent a difference of one pound in weight in the finished article. Pins 13 are inserted in these openings or holes so as to be flush

with the surface of the cylinder, with one exception, wherein the pin marked 13^a projects from the surface of the cylinder a short distance, and which determines the weight of the article according to the hole in which it is inserted. The object of the shorter pins is simply to prevent entrance of sand in the holes. These pins are held in the holes 12 by frictional contact.

10 The operation is as follows: The bar 10 is inserted in the slot 9 and pushed forward until the recesses in the flange come opposite the opening in the cylinder. The plate 15 is then placed in said opening, the projections or lugs 15^c passing through the recesses 10^d, the space between said lugs and the portion 15^a forming a passage-way for the inclined flange. By pushing the bar into its fullest extent the plate is forced outward until its surface is flush with that of the cylinder, with the numeral designating the weight of it in relief, so that said numeral will be indented or impressed in the sand. When it is desired to withdraw the pattern, the bar 10 will be pulled back, causing the plate to drop down into the opening, when the pattern can be withdrawn without injuring or damaging the impression in the sand made by the numeral on the plate.

As before stated, the plate 15 is removable, and when it is to be inserted in the flask the pin 13^a is inserted in one of the openings of the cylinder corresponding with the weight designated by the numeral on the plate. The

stop limits the distance to which the pattern is to be inserted in the flask. For instance, sup- posing the article to be cast is to be five pounds in weight, then a plate bearing the numeral "5" will be inserted in the opening in the cylinder, and the stop 13^a inserted in the hole nearest to said plate, that being the lowest weight of the article. When heavier weights are cast, the pin or stop is shifted accordingly and a corresponding plate inserted in the cylinder.

Having thus described my invention, what I claim is—

1. A molding-pattern comprising a cylinder having a series of equidistant holes therein and a removable and replaceable stop, substantially as described.

2. The combination, with cylinder 8, having an opening, and a central slot 9, communicating with said opening, of the bar 10, having an inclined flange provided with recesses or openings, and a plate bearing a numeral having a beveled horizontal portion, a vertical portion, and beveled lugs or projections, substantially as described.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

WILLIAM P. CAHILL.

Witnesses:

GEORGE R. PHILLIPS,
JESSE A. HOLTZCLAW.