

(Model.)

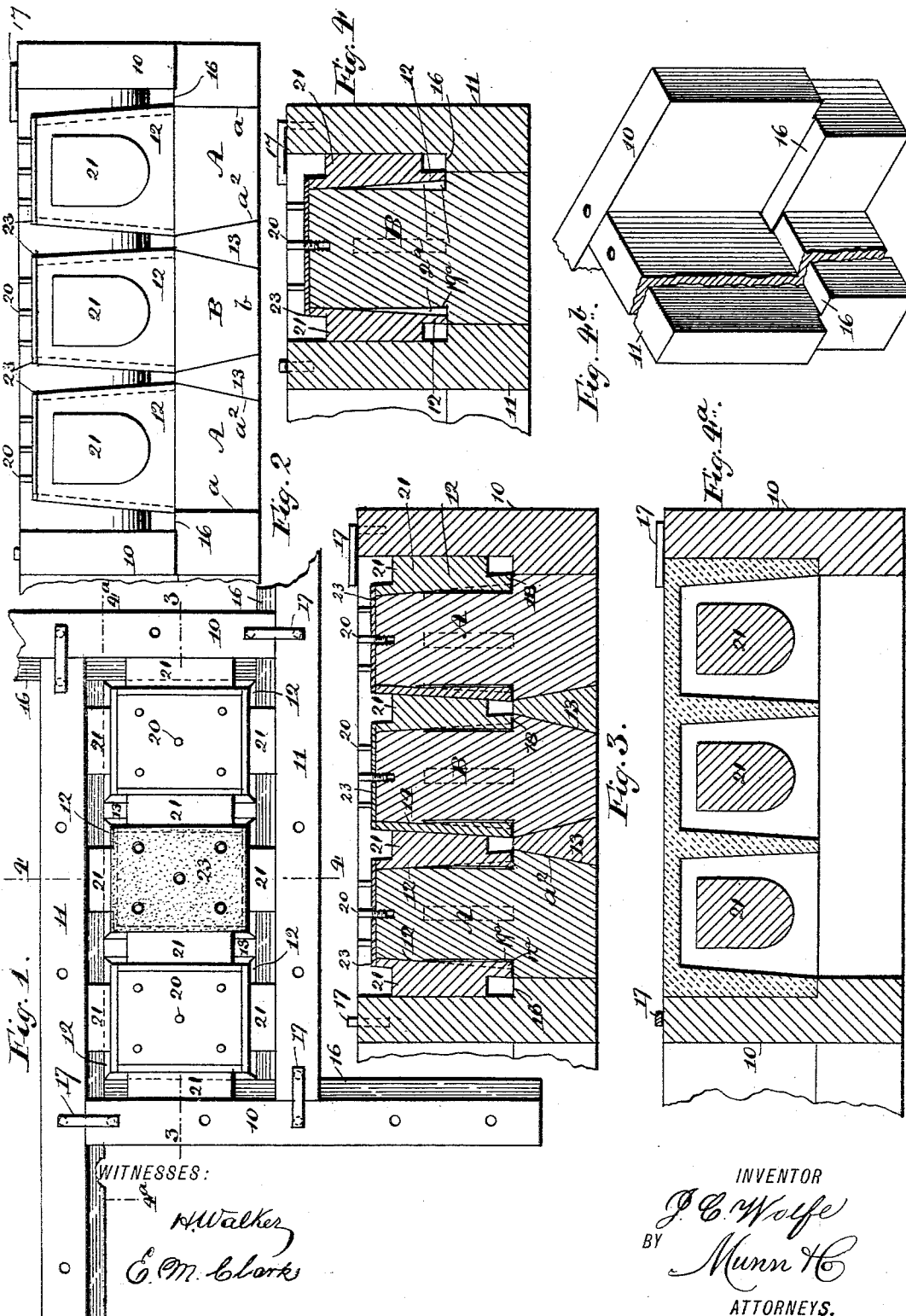
2 Sheets—Sheet 1.

J. C. WOLFE.

MOLD FOR ELECTROTYPE SHELLS AND SIMILAR ARTICLES.

No. 476,717.

Patented June 7, 1892.



(Model.)

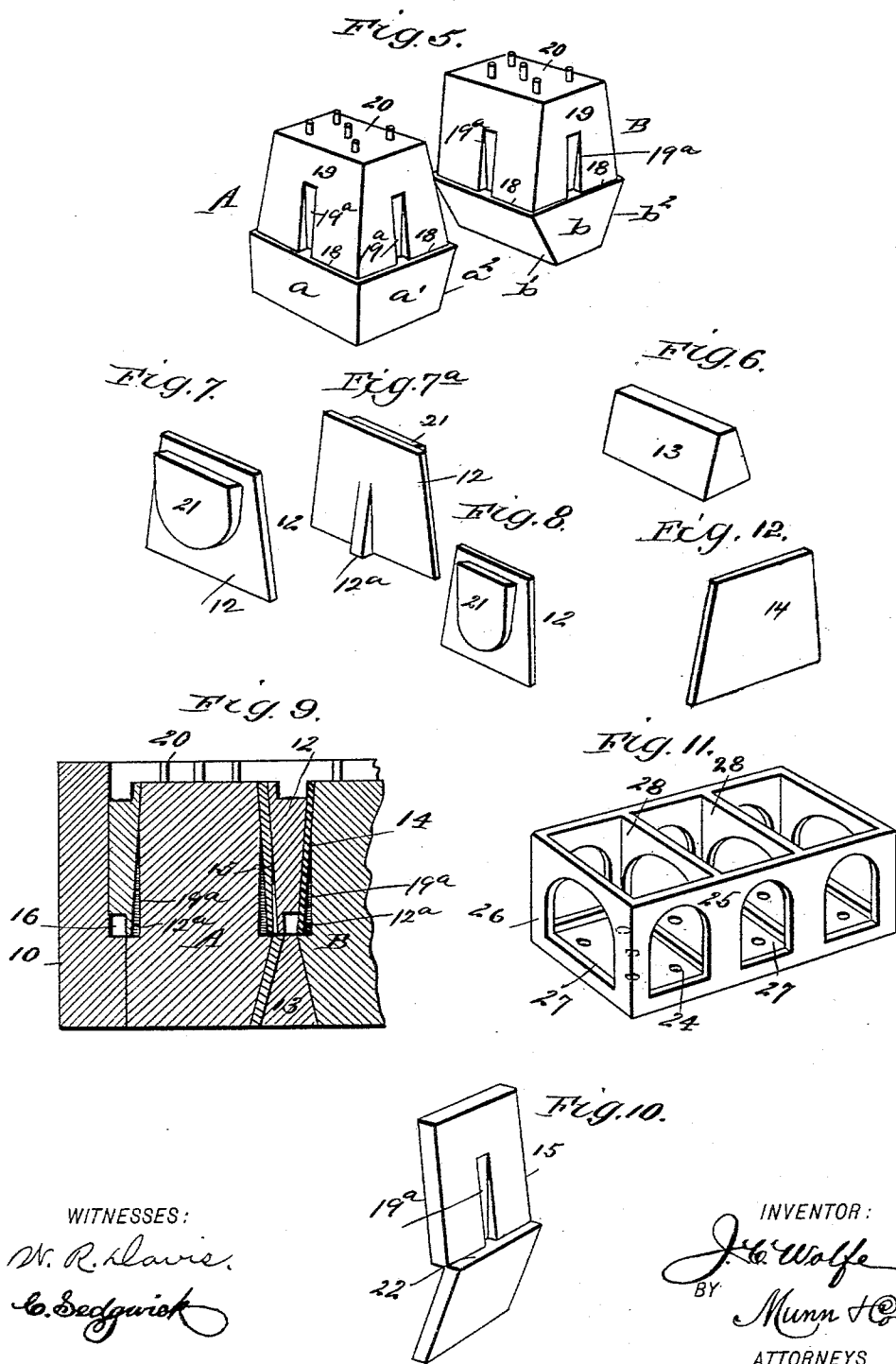
2 Sheets—Sheet 2.

J. C. WOLFE.

MOLD FOR ELECTROTYPE SHELLS AND SIMILAR ARTICLES.

No. 476,717.

Patented June 7, 1892.



UNITED STATES PATENT OFFICE.

JACOB C. WOLFE, OF NEW YORK, N. Y., ASSIGNOR TO THE METAL BASE
ELECTROTYPE COMPANY, OF SAME PLACE.

MOLD FOR ELECTROTYPE-SHELLS AND SIMILAR ARTICLES.

SPECIFICATION forming part of Letters Patent No. 476,717, dated June 7, 1892.

Application filed November 18, 1890. Serial No. 371,805. (Model.)

To all whom it may concern:

Be it known that I, JACOB C. WOLFE, of the city, county, and State of New York, have invented a new and Improved Mold for Electro-
type-Shell and Similar Articles, of which the following is a full, clear, and exact description.

My invention relates to molds for electro-
type or stereotype shells and other articles.

The object of the invention is to provide a
mold for casting such a block capable of being expeditiously and conveniently knocked down or separated in sections, whereby when the block has been cast the mold may be readily disconnected therefrom.

A further object of the invention is to so construct the mold that it may be utilized for casting large or small backings or blocks, as may be desired.

The invention consists of the novel construction of the mold, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters and figures of reference indicate corresponding parts in all the views.

Figure 1 is a plan view of the mold. Fig. 2 is a side elevation of the mold with one of its side plates removed. Fig. 3 is a vertical longitudinal section on line 3 3 of Fig. 1. Fig. 4 is a transverse section on line 4 4 of Fig. 1. Fig. 4^a is a longitudinal section on line 4^a 4^a of Fig. 1, showing the casting in place in the mold. Fig. 4^b is a detail showing the manner of joining the ends and sides. Fig. 5 is a perspective view of two of the core-blocks. Fig. 6 is a perspective view of one of the wedge-shaped spacing blocks or keys. Figs. 7 and 8 are perspective views of the core-plate. Fig. 7^a shows the reverse side of the core-plate from that shown in Figs. 7 and 8. Fig. 9 is a partial longitudinal section through the mold, illustrating the application of spacing-strips adapted to increase the length of the block or backing. Fig. 10 is a perspective view of a spacing-strip detached. Fig. 11 is a perspective view of a complete block or back, and Fig. 12 is a perspective view of a spacing-plate.

The mold consists of an open metallic flask or frame comprising two end plates 10 and

two side plates 11 and a core formed of end core-blocks A, intermediate core-blocks B, core-plates 12, spacing plates or strips 14 15, and wedge-shaped spacing blocks or keys 13. The inner faces of the flask or frame plates are provided below their centers with longitudinal shoulders 16, the distance between the shoulders and upper edges of the plates being essentially the height of the back to be cast. The inner ends of the flask or frame plates 10 11 are rabbeted, so as to rest upon the shoulder 16 of the abutting plate, and said side and end plates are connected by suitable fastenings 17.

The core-blocks A and B (shown in detail in Fig. 5) differ slightly in construction at their base. The outer end face *a* of the end core-blocks A at the base is straight, likewise the two side faces *a'*, but the inner end face *a*² is undercut or beveled downward. The side faces *b* at the base of the intermediate core-block are straight, but both end faces *b'* and *b*² are undercut or beveled downward in opposite directions, as shown to the right in Fig. 5.

The top of the base of each core-block A and B is defined upon each side and end by horizontal shoulders 18, the shoulders being in the same plane, and the height of the base of the core-blocks of the mold corresponds to the vertical measurement of that portion of the flask intervening the base and upper edge of the shoulders 16, as illustrated in the sectional views of the mold.

From the shoulders 18 of the core-blocks their sides and ends taper upward in directions of their centers, as shown at 19 in Fig. 5, whereby their tops, which are preferably rectangular, are of considerable less area than their shouldered portions, and said sides are provided with vertical grooves 19^a, which serve as guides to enable the operator to set up and assemble the mold accurately, corresponding projections 12^a being provided on the core-plates 12 to enter said grooves. In the top of each core-block pins 20 are inserted, said pins being preferably screwed in place (see Figs. 3 and 4) or otherwise adjustably secured.

The core-plates 12 are preferably made in two sizes, as shown in Figs. 7 and 8, as they are adapted to be used at the sides and ends

of the core-blocks, and those for the side faces are ordinarily of less width than those for the end faces of the core-blocks. The core-plates are made of metal and conform to the contour of the side and end faces of the core-blocks above the shoulders 18, upon which shoulders the lower ends of the plates rest, and when so resting their upper ends are flush with the upper faces of the said blocks. Each core-plate has formed integral with one face or attached thereto an offset 21, adapted to serve as a core. The offsets are located between the side edges and top and bottom of the plates, being spaced same distance therefrom, and the outer faces of the offsets are downwardly beveled, the upper portions being considerably thicker than the lower portions.

Two forms of spacing-plates 14 and 15 are employed. The spacing-plate 14 is used at one time in conjunction with the core-plate, intervening the end surfaces of adjacent body-sections and corresponds to the shape of the said core-plates, consisting only, however, of a single piece of metal.

The spacing-plate 15 (illustrated in detail in Fig. 10) is designed, as shown in Fig. 9, to lengthen the back without increasing the number of core-blocks, and in order to accomplish this the spacing-plates 15 are located between opposed surfaces of the core-blocks, extending from their base to the top, and in order that the plates may fit snugly they are made to conform precisely to the inner end surfaces of the core-blocks, and upon their outer faces are provided with shoulders 22, to serve as a substitute for the shoulders 18, covered by the plates.

The spacing blocks or keys 13 are wedge-shaped in cross-section, and one of said blocks or keys fit snugly between the beveled base, surfaces of each two opposed core-blocks, as shown in Figs. 2 and 3.

In the operation of building a mold the flask is adjusted as shown in Fig. 1, and the desired number of core-blocks are then dropped in place within the flask in such manner that the bases of the blocks will touch each other and the bases of the outer core-blocks the base of the flask-plates. A core-plate is now placed between the opposed end surface of the core-blocks, the flat surface of the plates bearing against the end face of the blocks and the bottom of the plate resting upon the shoulder 18. A spacing-plate 14 is next placed in engagement with each core-offset of each inner core-plate, and the core-plates and spacing-plates practically fill the spaces between the end surfaces of opposed core-blocks, as shown in Fig. 3. Prior to placing the core-plates and spacing-plates in position, or after such arrangement, the keys or spacing-blocks 13 are slid in place. This is usually effected before the last side plate of the blocks is set up. Core-plates are also placed between the inner faces of the flask-plates and the opposed faces of the body-sections A and B, the offsets

facing outward, as shown in Fig. 4. These latter core-plates practically fill the space for which they are intended, and no spacing-strip is required.

In order that the metal may not stick to the top of the core-blocks, the core, and spacing-plates, I usually cover the same with suitably-cut paper blanks 23, as illustrated in Figs. 1, 2, 3, and 4.

When the mold has been built up, the flask-plates are bolted together and the metal is poured, and after pouring the flask-plates are removed and the keys or spacing-blocks 13, also, whereupon the core drops to pieces and separates itself from the molded block, which, as shown in Fig. 11, will consist of an apertured base 24, sides and ends 25 and 26, containing openings 27, produced by the core offsets, and webs 28, also provided with the openings 27. It will be observed that the backing or block is exceedingly light and durable, being braced in every direction, and that they are expeditiously, conveniently, accurately, and economically produced.

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

1. A mold for electrotype-shells, consisting in the flask or frame, the separate core-blocks A B in the flask or frame, of less height than the sides and ends thereof and having lower inclined faces, core-plates between the several blocks and between their outer sides and the sides and ends of the flask or frame, and the wedge-shaped keys or spacing-blocks 13 between the inclined faces of the lower ends of the core-blocks, substantially as set forth.

2. An electrotype-mold comprising the flask or frame having a shoulder 16 around its interior, a series of core-blocks A B in the frame and of less height than the frame, each block having an external shoulder around it in the same horizontal plane as the shoulder 16 having their lower adjacent faces inclined, a series of core-plates resting against the faces of each block above its shoulders and against the inner walls of the flask or frame, and the wedge-shaped spacing blocks or keys 13 between the said lower inclined faces of the blocks, substantially as shown and described.

3. The combination, with the flask or frame, of the core-block having an encircling shoulder 18, the core-plates fitting against the faces of the block and resting on its shoulder, and the core 21 on the outer face of each plate and spaced from its marginal edges, substantially as shown and described.

4. The combination, with the flask, of the core-block having an encircling shoulder 18 and provided with a series of recesses 19^a, and the core-plates 12, resting on the shoulder 18, and each having on its inner face a rib or projection entering the said recesses and on its outer face the core 21, spaced from the marginal edges of the plate, substantially as shown and described.

5. A mold comprising a separable flask, ta-

pering core-blocks, spacing blocks or keys inserted between the core-blocks at their base, core-plates intervening between the upper surfaces of the body-sections and between
5 said sections and the flask, and spacing-plates engaging with the core-blocks and core-plates, substantially as specified.

6. In a mold of the character set forth, the core-block having an encircling shoulder 18
10 between its upper and lower faces and inward-inclined faces below the shoulder, the faces of the block above the shoulder being inclined upward and inward, and each having a groove 19^a, in combination with the core-
15 plates and keys or spacing-blocks, substantially as set forth.

7. As a new article of manufacture, the angular spacing-plate 15, having a transverse offset or shoulder on both faces at the juncture
20 of its two inclined portions, substantially as set forth.

8. As a new article of manufacture, the core-plate 12, having a core 21 on one face and a vertically-extending rib or projection

12^a on its opposite face, substantially as shown
25 and described.

9. A mold comprising a rectangular expandible open flask or frame having a shoulder 16 around its inner walls, a series of core-blocks A B therein having encircling shoulders 18
30 in the plane of shoulder 16, the adjacent faces of the blocks below the shoulder being inclined to form wedge-shaped spaces, the smaller ends of which are uppermost, and the blocks above the shoulders having their faces
35 inclined upward and inward, the wedge-shaped spacing blocks or keys 13 in said wedge-shaped spaces, the plates 12, having cores 21 and resting on the several shoulders 18, the spacing-plates 14 between the adjacent
40 faces of cores 24 and the core-blocks, and the pins 20 in the upper faces of the core-blocks, substantially as set forth.

JACOB C. WOLFE.

Witnesses:

GEORGE A. WHITE,
HENRY E. STUBRUG.