

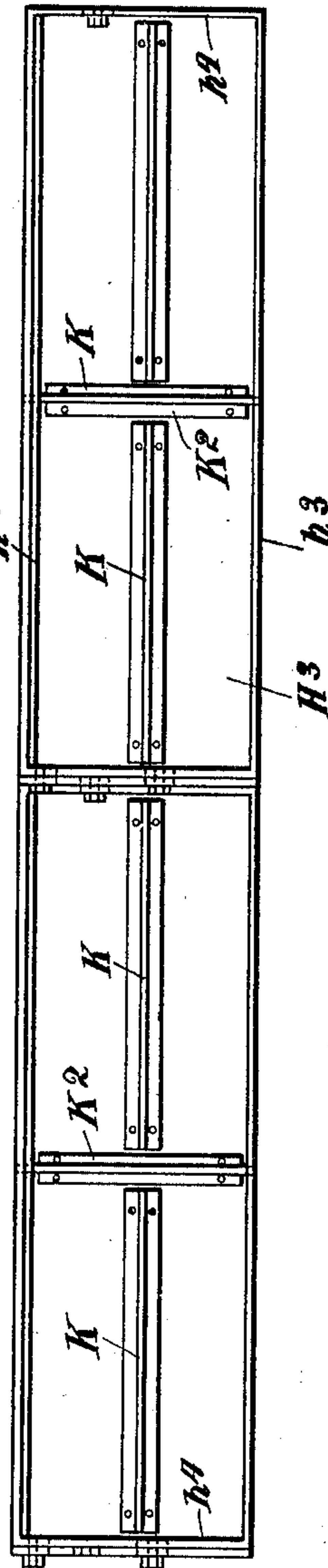
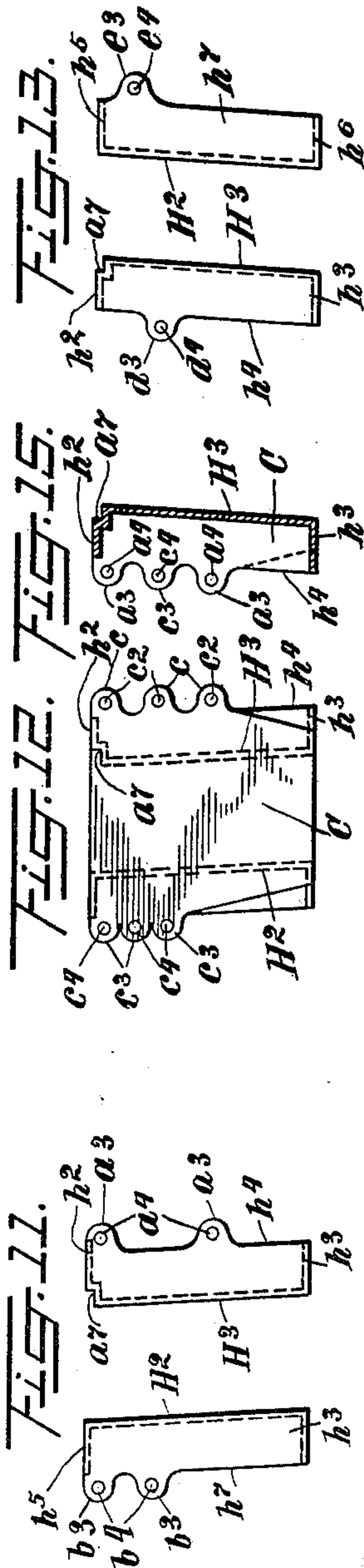
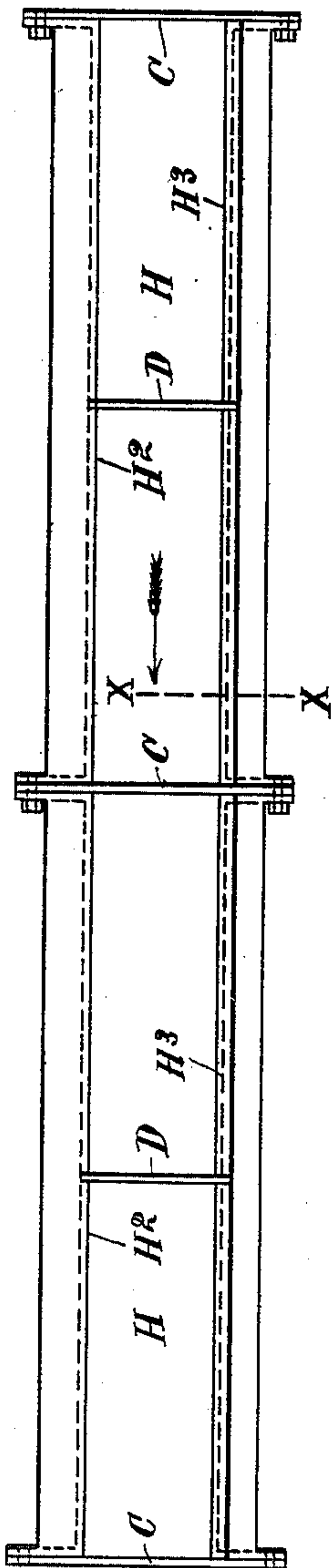
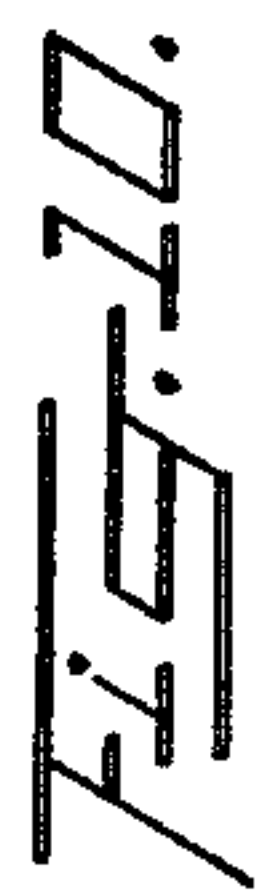
**J. T. HARROP.**

**MOLD FOR CEMENT OR CONCRETE CURBS.**

(Application filed Sept. 25, 1901.)

(No Model.)

2 Sheets—Sheet 2.



**WITNESSES**

H. A. Stewart  
 F. F. Teller

BY

John J. Harrop INVENTOR

*Edgar Tate*  
ATTORNEYS

**No. 706,410.**

**Patented Aug. 5, 1902.**

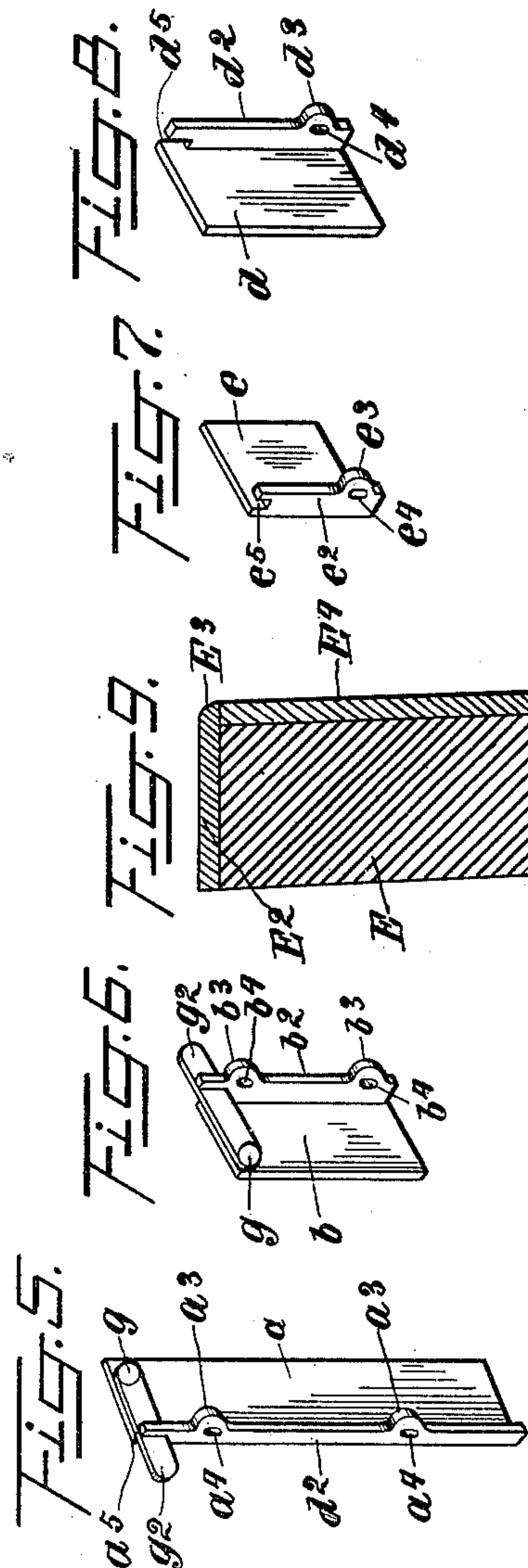
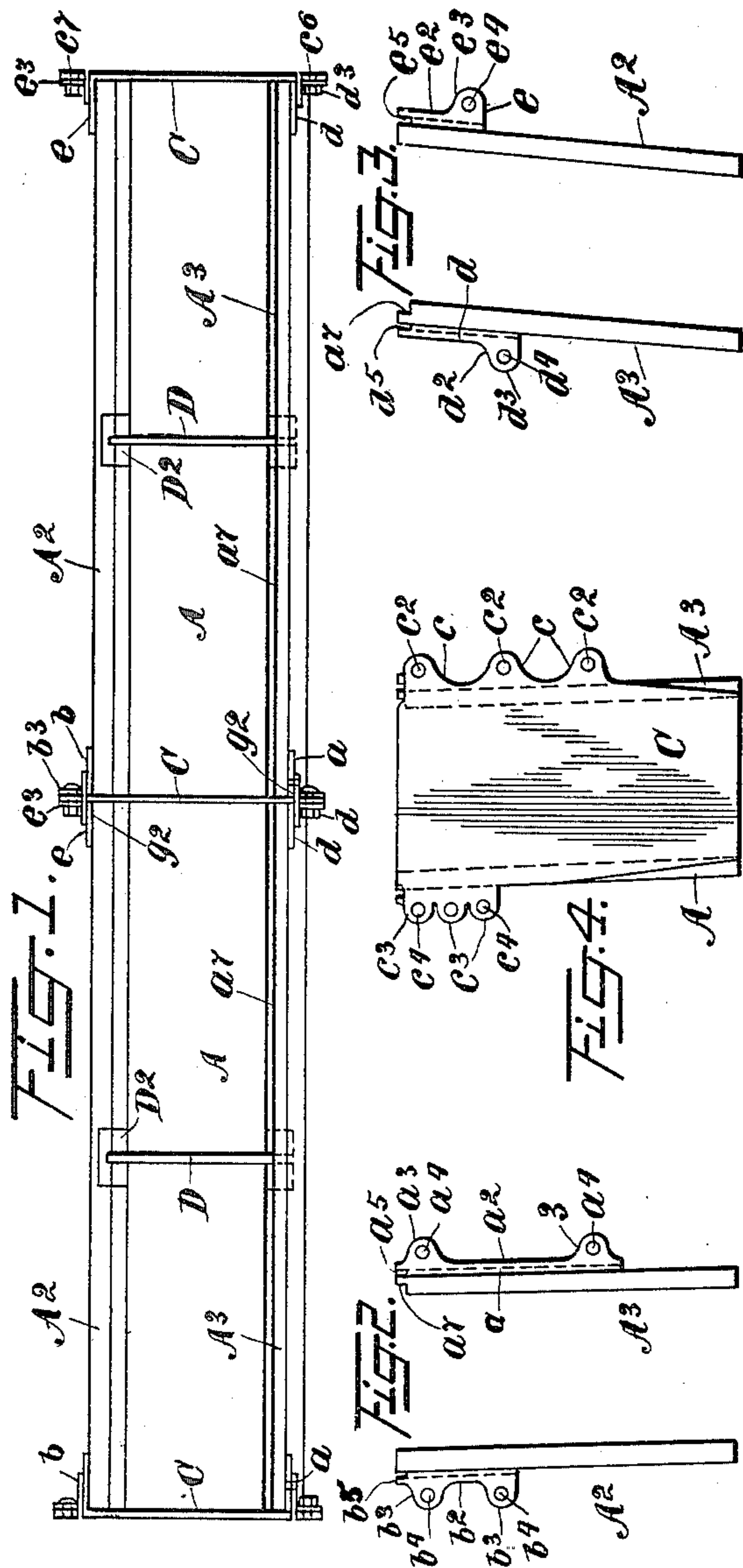
**J. T. HARROP.**

**MOLD FOR CEMENT OR CONCRETE CURBS.**

(Application filed Sept. 25, 1901.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES

H. A. Stewart  
 T. F. Fuller

F. F. Fuller

BY *John T. Harrop* INVENTOR  
*Edgar Latch* ATTORNEYS

**INVENTOR**

*Edgar Latcho*  
ATTORNEYS

~~ATTORNEYS~~



# UNITED STATES PATENT OFFICE.

JOHN T. HARROP, OF GARFIELD, NEW JERSEY.

## MOLD FOR CEMENT OR CONCRETE CURBS.

SPECIFICATION forming part of Letters Patent No. 706,410, dated August 5, 1902.

Application filed September 25, 1901. Serial No. 76,444. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN T. HARROP, a citizen of the United States, residing at Garfield, in the county of Bergen and State of New Jersey, have invented certain new and useful Improvements in Molds for Cement or Concrete Curbs, of which the following is a full and complete specification, such as will enable those skilled in the art to which it appertains to make and use the same.

The object of this invention is to provide an improved mold for cement or concrete curbs which is composed of separate similar sections adapted to be moved forwardly as the work progresses, whereby a curb of any length may be made from a single set of mold-sections, a further object being to provide a curb-mold of the class specified which is so formed as to facilitate the crowning and facing of the top portion of the curb and also to provide the same with sand joints; and with these and other objects in view the invention consists in a curb-mold constructed as hereinafter described and claimed.

In the drawings forming part of this specification, in which the separate parts of my improvement are designated by suitable reference characters in each of the views, Figure 1 is a plan view of my improved curb-mold, which is given a slight backward inclination; Fig. 2, a view of the left-hand end thereof with the end plate removed; Fig. 3, a view of the right-hand end thereof with the end plate removed; Fig. 4, a view of the left-hand end with the end plate in position. Figs. 5, 6, 7, and 8 are perspective views of details of the construction; Fig. 9, a cross-section on the complete curb formed from my improved mold; Fig. 10, a view similar to Fig. 1, showing a modification; Fig. 11, a view of the left-hand end of the mold shown in Fig. 2; Fig. 12, a view of said end of the mold with the end plate in position; Fig. 13, a view of the right-hand end of the mold with the end removed; Fig. 14, an outside view of one side of the mold, and Fig. 15 a transverse section of the front side of the mold on the line  $x-x$  of Fig. 10.

In the practice of my invention, as shown in Fig. 1, I provide a mold for the purpose specified which is composed of a plurality of sections A, two of which are shown in the

drawings, and these sections in practice are separated and closed by end plates C, and each section is also composed of a back plate  $A^2$  and a front plate  $A^3$ , said plates being composed of wood in the form of boards of suitable thickness and strength.

The boards  $A^2$  are provided at their right-hand ends, as shown in the drawings, with fastening devices  $e$ , composed of a piece of angle-iron, which is secured thereto and which is provided at its outer edge with a flange  $e^2$ , having a projecting lug  $e^3$ , in which is formed a bolt-opening  $e^4$ , and at the top of the flange  $e^2$  is a slot or opening  $e^5$ , and said boards  $A^2$  are also provided at their left-hand ends with fastening devices  $b$ , consisting of a piece of angle-iron provided at its outer edge with a right-angle flange  $b^2$ , having two projecting lugs  $b^3$ , in which are formed bolt-openings  $b^4$ , and at the top of the flange  $b^2$  is a slot or opening  $b^5$ .

The plates or boards  $A^3$  are provided at their right-hand ends with fastening devices  $d$ , consisting of a plate of angle-iron having an outwardly-directed flange  $d^2$ , provided with a projecting lug  $d^3$ , in which is formed a bolt-opening  $d^4$ , and in the top of the flange  $d^2$  is a slot or opening  $d^5$ , and said boards  $A^3$  are also provided at their left-hand ends with a fastening device  $a$ , consisting of a plate of angle-iron provided at its outer edge with a flange  $a^2$ , having two projecting lugs  $a^3$ , in each of which is formed a bolt-opening  $a^4$ , and the flange  $a^2$  is provided in the top thereof with a slot or opening  $a^5$ .

In practice the right-hand end of the mold at the point where the curb is begun is closed by a plate C, which is provided at its right-hand side with three projecting lugs  $c$ , having bolt-openings  $c^2$ , and said plate is also provided at its left-hand side with three projecting lugs  $c^3$ , having bolt-openings  $c^4$ , and it will be observed that the lugs  $c^2$  on one side of the plate  $c$  are much farther apart than the lugs  $c^3$  on the other side of the plate. It will also be observed that the lugs  $a^3$  of the fastening device  $a$  are much farther apart than the lugs  $b^3$  of the fastening device  $b$  and that the lug  $e^3$  is not as far from the top of the plate  $A^2$  as the lug  $d^3$  is from the top of the plate  $A^3$ , and in connecting the plate C with the fastening devices  $d$  and  $e$  a bolt is passed



through the lug  $d^3$  of the fastening device  $d$  and the middle lug  $c^2$  of the plate C, as indicated at  $c^6$  in Fig. 1, and another bolt is passed through the lug  $e^3$  of the fastening device  $e$  and with the middle lug  $c^3$  of the plate, as indicated in Fig. 1 at  $c^7$ .

The fastening devices  $a$ ,  $b$ ,  $d$ , and  $e$  are shown in detail in Figs. 5, 6, 7, and 8, respectively, and also in Figs. 2 and 3, where they are attached to their respective boards  $A^2$  and  $A^3$ , and the plate C is shown in Fig. 4, and three of said plates are shown in Fig. 1. Another plate is also secured to the left-hand end of the first section of the mold, so as to separate the sections, and this plate is bolted to the boards  $A^2$  and  $A^3$  of the first section, the fastening devices  $a$  and  $b$  being used for this purpose, and in this operation the bolts are passed through the lugs  $a^3$  of the fastening device  $a$  and the upper and lower lugs  $c^2$  of the plate C and also through the lugs  $b^3$  of the fastening device  $b$  and the upper and lower lugs  $c^3$  of the plate C. By means of this construction it will be seen that the right-hand section A of the curb-mold may be detached from the right-hand end of the left-hand section A of the curb-mold and reconnected with the left-hand end of said last-named section whenever desired, and the curb may thus be continued from right to left to any desired extent, and it will also be apparent that this operation may be reversed and the curb may be continued from left to right to any desired extent.

The fastening devices  $a$ ,  $b$ ,  $d$ , and  $e$  and the plates C and the lugs or projections of said fastening devices and said plates are so formed that the boards  $A^2$  and  $A^3$  of the mold are always held in exactly the same relative position, the tops thereof being even, and in practice I preferably pivot to one of the fastening devices, as shown at  $g$  in Figs. 5 and 6, a catch  $g^2$ , which is adapted to be dropped down into the recess at the top of the flanges of the adjacent fastening devices, so as to more securely hold the parts of the mold together, and these catches are shown in position in Fig. 1.

Each section of the mold is also provided centrally with a removable transverse partition-plate D, and these partition-plates are set into the grooves formed in the plates  $D^2$ , set into the opposite sides of the boards  $A^2$  and  $A^3$ , and the object of these partition-plates is to provide means for forming sand joints midway of each section of the mold, and the plates C also when removed provide means for forming a sand joint.

In practice the separate sections A of the mold are preferably made ten feet long and the removable partition-plates D are placed midway thereof, and the front board  $A^3$  of the mold is also provided at the top with a rabbet-groove  $a^7$ , the object of which is to facilitate the facing and crowning of the body portion of the curb.

In practice in making concrete curbs the

body portion of the mold is filled in with the material from which the curb is formed, and the top thereof is afterward crowned and the front provided with a facing of different material, and in Fig. 9 I have shown at E the body portion of the curb, and in practice after the body portion of the curb has been filled in and allowed to harden the crown of different material is placed thereon, and the front portion thereof projects into the groove  $a^7$  and over the body portion of the curb, as shown at  $E^3$  in Fig. 9, and after the front board of the curb box or mold has been removed the facing  $E^4$  is placed on the body portion of the curb.

The construction shown in Figs. 10 to 14 is the same as that shown in Figs. 1 to 9, with the exception that the mold is made of sheet metal, the separate parts thereof being stamped from steel plates or other suitable material, and in this form of construction the end plates C are the same as hereinbefore described, as are also the partition-plates D, with the exception that the partition-plates D are set into the grooves formed in the side pieces of the mold instead of in plates set into said side pieces. In this form of construction H represents the separate sections of the mold,  $H^2$  the back plates or boards thereof, and  $H^3$  the front plates or boards thereof. The front plate or board  $H^3$  is provided with an outwardly-directed top flange  $h^2$ , a bottom flange  $h^3$ , and end flanges  $h^4$ , and the groove  $a^7$  is formed in the top flange  $h^2$ . The back plate or board is provided with a backwardly-directed top flange  $h^5$ , a bottom flange  $h^6$ , and end flanges  $h^7$ , and these flanges on the front and back boards of the mold are intended to give strength and rigidity thereto, and I also secure to the front and back plates or boards of the separate section of the mold, as shown in Fig. 14, which is a front view of two sections of the mold, horizontal strips K and vertically-arranged strips  $k^2$ , which are intended for a similar purpose. The operation of this form of construction will be exactly the same as that shown in Figs. 1 to 8, inclusive, the fastening lugs or projections at the ends of the front and back plates of the separate sections of the mold being formed of the end flanges of said plates or boards and in exactly the same relative position as in Figs. 1 to 8, and said lugs or projections being designated, in the construction shown in Figs. 10 to 14, by the same reference characters as in the construction shown in Figs. 1 to 8.

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

1. A curb-mold composed of separate similar sections each of which is composed of a front and back plate and detachable end plates and a central detachable partition-plate, one end of the front and back plates of each section being provided with two fastening-points arranged at different distances apart, and the other end of the front and back



plates of each section being provided with a single fastening-point at different distances from the tops of said plates, and the end plates being each provided at its opposite sides with three fastening-points, the fastening-points at one side being farther apart than those at the opposite sides, substantially as shown and described.

2. A curb-mold composed of front and back plates each of which is provided at its opposite ends with fastening devices differently arranged, and an end plate provided at its opposite sides with fastening devices differently arranged and adapted to be connected with either end of the mold, whereby a plurality of separate molds may be connected, substantially as shown and described.

3. A curb-mold composed of separate sections, each of which is composed of a front plate provided at the top thereof and at the inner edge with a longitudinal groove, each of said plates being also provided at their opposite ends with fastening devices differently arranged, and end plates having fastening devices at their opposite sides which are differently arranged, whereby a plurality of said sections may be connected, substantially as shown and described.

4. A curb-mold composed of separate sections, each of which is composed of a front plate provided at the top thereof and at the inner edge with a longitudinal groove, each of said plates being also provided at their opposite ends with fastening devices differently arranged, and end plates having fastening devices at their opposite sides which are differently arranged whereby one of said sections of the mold may be connected with either end of the other section, and said end plates be secured between said section and at either end thereof, each of said sections being also provided centrally with a removable partition-plate, substantially as shown and described.

5. A curb-mold composed of separate sections, each of which is composed of a front and back plate, the front plate being provided at one end with fastening lugs or projections

$a^3$  and at the opposite end with fastening lugs or projections  $d^3$  and the back plate being provided at one end with a fastening lug or projection  $e^3$  and at the opposite end with fastening lugs or projections  $b^3$  and an end plate provided at one side with fastening lugs or projections  $c^3$  and at the opposite side with fastening lugs or projections  $c^3$ , substantially as shown and described.

6. A curb-mold composed of separate sections, each of which is composed of a front and back plate, the front plate being provided at one end with fastening lugs or projections  $a^3$  and the opposite end with fastening lugs or projections  $d^3$  and the back plate being provided at one end with a fastening lug or projection  $e^3$  and at the opposite end with fastening lugs or projections  $b^3$  and an end plate provided at one side with fastening lugs or projections  $c^3$ , said front plate being also provided in the top thereof with a longitudinal groove, substantially as shown and described.

7. A curb-mold composed of separate sections, each of which is composed of a front and back plate, the front plate being provided at one end with fastening lugs or projections  $a^3$ , and the opposite end with fastening lugs or projections  $d^3$  and the back plate being provided at one end with a fastening lug or projection  $e^3$ , and at the opposite end with fastening lugs or projections  $b^3$ , and an end plate provided at one side with fastening lugs or projections  $c^3$ , said front plate being also provided in the top thereof with a longitudinal groove, and the separate sections of the mold being provided with central transverse removable partition-plates, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 18th day of September, 1901.

JOHN T. HARROP.

Witnesses:

F. A. STEWART,  
F. F. TELLER.