

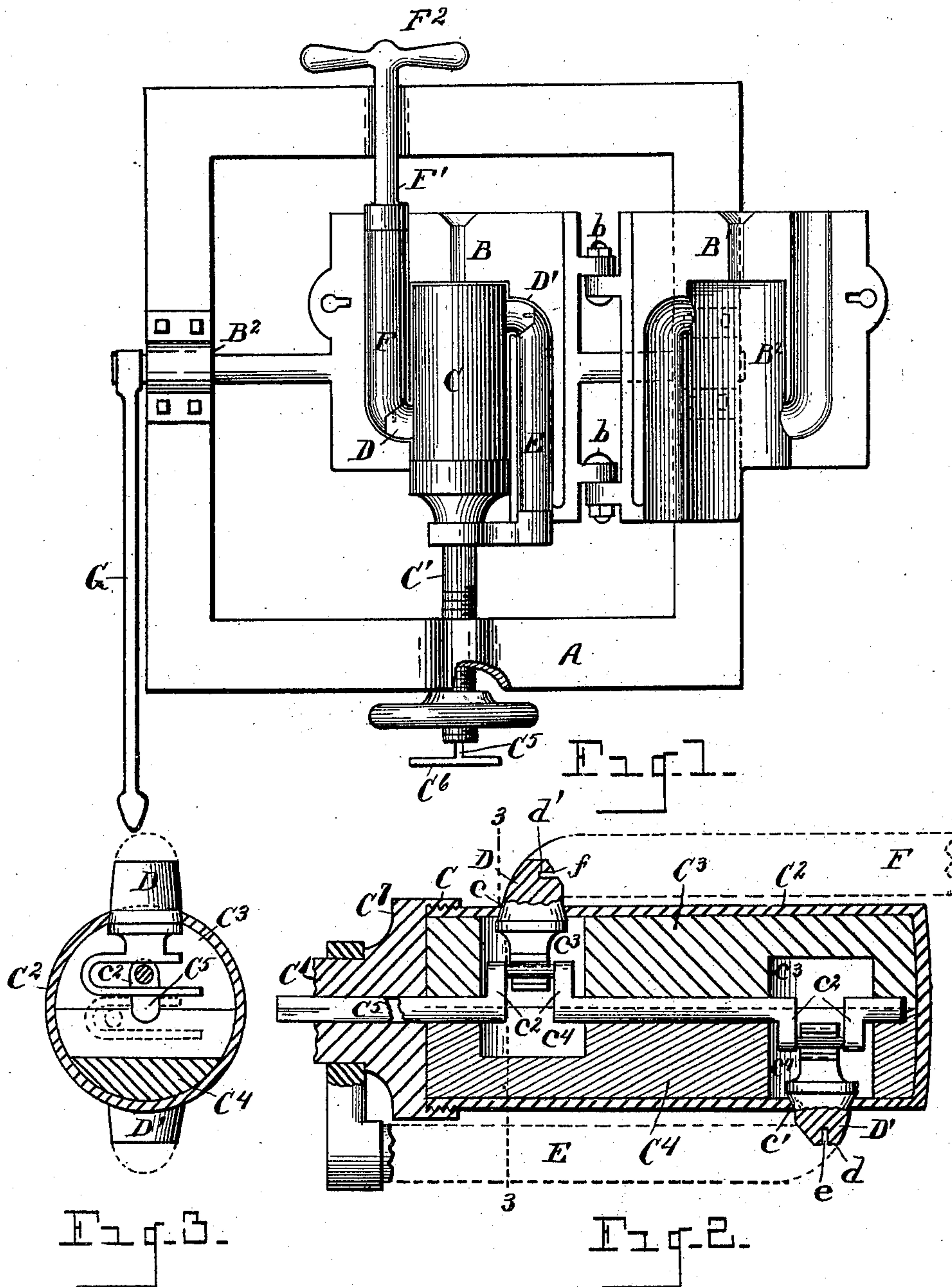
No. 617,396.

Patented Jan. 10, 1899.

P. D. HAY.  
MOLD FOR CASTING WASTE TRAPS.

(Application filed Jan. 27, 1897.)

(No Model.)



WITNESSES

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# UNITED STATES PATENT OFFICE.

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## MOLD FOR CASTING WASTE-TRAPS.

SPECIFICATION forming part of Letters Patent No. 617,396, dated January 10, 1899.

Application filed January 27, 1897. Serial No. 620,886. (No model.)

*To all whom it may concern:*

Be it known that I, PETER DAVID HAY, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Molds for Casting Waste-Traps; and I declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention has for its object an improved mold for casting waste-traps; and it consists of the construction, combination, and arrangement of devices hereinafter described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a plan view showing the mold opened. Fig. 2 is a detail view of the main core in longitudinal section, showing parts in plan, with the elbow-cores connected therewith and the mechanism for operating the elbow-cores. Fig. 3 is a cross-section on the line 3 3, Fig. 2.

My invention is designed to provide an apparatus of simple and efficient construction and which may be readily and economically operated for the manufacture of waste-traps.

I carry out my invention as follows:

In the drawings, A denotes any suitable support or frame.

B B' denote the counterparts of a two-part mold, hinged together, as indicated at b.

C is the main or body core, removably engaged in said mold to form the body of the trap. This core may be actuated in any desired manner, as by a threaded stem C'. This core C is preferably formed with a shell C<sup>2</sup>, inclosing two chambered bodies C<sup>3</sup> and C<sup>4</sup>, within which is located a rotatable shaft C<sup>5</sup>, with which are connected two elbow-cores D and D'. These elbow-cores are engaged with the shaft C<sup>5</sup> in any suitable manner to secure their advancement and retraction through the shell C<sup>2</sup> of the core C, said shell being constructed with suitable orifices therefor, as indicated at c and c'.

As shown in the drawings, the shaft C<sup>5</sup> is formed with crank-arms, as indicated at c<sup>2</sup>, with which the elbow-cores are eccentrically

connected, respectively. Said elbow-cores might be eccentrically connected with said shaft in any suitable manner to secure their advancement and retraction. The bodies C<sup>3</sup> and C<sup>4</sup> are chambered, as indicated at c<sup>3</sup> and c<sup>4</sup>, to give room therewithin for the advancement and retraction of the elbow-cores.

The mold is shown constructed with a main chamber to receive the body-core C, with a communicating chamber to receive an auxiliary core to contact with the advanced elbow-core D, and with a communicating chamber to receive another auxiliary core to contact with the advanced elbow-core D'. Thus to form the main portion of the outlet-passage of the trap I provide an outlet-core E, contacting with the advanced elbow-core D' at its inner extremity, the opposite end being connected with the stem C', so as to be simultaneously removable with the main core C.

The core D' may be formed with a socket at d to receive a pin e on the core E to hold the parts together while the mold is being used.

The shaft C<sup>5</sup> may be actuated in any proper manner. As shown, the stem C' is made hollow, and the outer end of the shaft is sleeved therethrough to be actuated by a hand-wheel C<sup>6</sup> to rotate said shaft.

To form the inlet-passage of the trap, I provide an inlet-core F, having a stem F' and operating-handle F<sup>2</sup>. The inner end of the core F contacts with the advanced elbow-core D. Said latter core may be constructed with a socket at d' and the core F with a pin f to engage the socket and hold the parts in firm engagement.

The mold is journaled, as indicated at B<sup>2</sup>, upon the support A, so as to be swung thereupon to actuate the mold.

The operation of the device is as follows: The main core C having been advanced into the mold with the outlet-core E, the shaft C<sup>5</sup> is actuated to advance the elbow-cores D D'. The mold is then closed and swung upon its journals to bring the mold into position for filling. This may be done by a lever G. The inlet-core F is then engaged in place. When the mold has been filled and the metal is properly cooled, the core F is withdrawn, and the mold is then swung into horizontal position



and the elbow-cores retracted, when the main core and core E may be withdrawn. The mold may then be opened and the trap removed.

5 The core C being made with the shell inclosing the chambered bodies C<sup>3</sup> C<sup>4</sup>, it is evident that the shaft C<sup>5</sup> and the elbow-cores may readily be engaged within said chambered parts before their engagement into the  
10 shell, when by retracting the elbow-cores the bodies may be engaged in the shell, said shell being held in place by the cap C<sup>7</sup> at the inner end of the stem C<sup>5</sup>.

It is evident that this mold may be operated  
15 by a single attendant. The stem F<sup>7</sup> of the core F rests upon the upper edge of the frame A, while the stem C<sup>7</sup> contacts with the under surface of said frame. When the cores C and E have been entered into the mold, the mold  
20 may then swing downward upon its journals, when the core F may readily be entered. When the mold has been filled with metal, the core F may readily be removed by the attendant before the mold is swung back into hori-  
25 zontal position. By this mold one attendant can do the work which it has heretofore required the services of two men to perform.

It is evident that inasmuch as the main core and the elbow-cores remain in the mold and  
30 form a part thereof in the act of casting the elbow-core must have a tight joint when in advanced position with the adjacent portions of the main core through which it is advanced. By making the elbow-cores tapering they will  
35 seat closely when advanced, so as to effectually prevent the molten metal flowing into the chambers of the main core. As shown, the elbow-cores are engaged on different sides of the shaft and toward opposite ends thereof.

40 What I claim as my invention is—

1. In an apparatus for the purpose set forth, the combination of a two-part hinged mold, a main core, an outlet-core, means extending to the exterior of the mold for supporting and  
45 simultaneously actuating the outlet-core with the main core, an inlet-core, and elbow-cores carried by said main core, and means for advancing and retracting said elbow-cores, substantially as set forth.

50 2. In an apparatus for the purpose set forth, the combination of a two-part hinged mold, a main core, an outlet-core, an inlet-core, a shaft carried by the main core, and elbow-cores connected with said shaft toward opposite ends  
55 of said shaft, said elbow-cores retractable within the main core and advanceable therethrough by the operation of said shaft, substantially as set forth.

3. In an apparatus for the purpose set forth,  
60 the combination of a two-part hinged mold, a chambered main core, an outlet-core, an inlet-core, a shaft carried by the main core and projecting therewithin, and elbow-cores eccentrically connected with said shaft, said elbow-cores retractable within the main core  
65 and advanceable therethrough by the operation of said shaft, substantially as set forth.

4. In a mold for a casting with several communicating cavities, in combination with the mold for the exterior of the casting, a core  
70 for each cavity, an elbow-core for each communicating passage between the cavities, an actuating device adapted to actuate the elbow-cores, and couplings between the several elbow-cores whereby they move simultaneously,  
75 the elbow-cores being located in one of the main cavity cores and being arranged to be projected therefrom and retracted thereinto, substantially as described.

5. In an apparatus for the purpose set forth,  
80 the combination of a two-part hinged mold, a main core, an outlet-core, an inlet-core, a shaft carried by the main core and projecting therewithin, and elbow-cores connected with said shaft, said elbow-cores retractable within the  
85 main core and advanceable therethrough by the operation of said shaft, said main core constructed with an inclosing shell, and chambered bodies to embrace said shaft and to receive the elbow-cores, substantially as set  
90 forth.

6. In a mold for the purpose set forth, the combination of a two-part hinged mold, a main core, inlet and outlet cores, and means  
95 extending to the exterior of the mold for supporting and simultaneously advancing and withdrawing one of said last-named cores with the main core from the mold, substantially as set forth.

7. In an apparatus for the purpose set forth,  
100 the combination of a main core, an outlet-core, an inlet-core, a shaft carried by the main core and projecting therewithin, and elbow-cores connected with said shaft on different sides thereof, said elbow-cores retractable and  
105 advanceable by the operation of said shaft to contact with adjacent extremities of the outlet and inlet cores, respectively, when in advanced position, substantially as set forth.

8. In an apparatus for the purpose set forth,  
110 the combination of a mold formed with a main chamber opening at one end through the mold, and with communicating chambers opening at one end through the mold, a main core removably located in said main chamber, auxiliary  
115 cores removably located in the communicating chambers, elbow-cores in said main core, and means extending to the exterior of the mold and carrying both said elbow-cores to simultaneously advance said elbow-cores into  
120 the said communicating chambers to contact with the auxiliary cores and to retract the elbow-cores from said communicating chambers, for the purpose described.

9. In an apparatus for the purpose set forth,  
125 the combination of a mold formed with a main chamber and with two communicating chambers, a main core removably located in said main chamber, auxiliary cores removably located in said communicating chambers, elbow-  
130 cores in said main core, and means extending to the exterior of the mold and carrying both said elbow-cores to advance both said elbow-cores into the communicating chambers and



to retract the elbow-cores therefrom, one of said auxiliary cores removable from the mold independently of the main core, for the purpose described.

5 10. In an apparatus for the purpose set forth, the combination of a mold formed with a main chamber and with auxiliary chambers communicating therewith toward opposite ends thereof, a main core removably located 10 in the main chamber, auxiliary cores removably located in the communicating chambers, elbow-cores in said main core toward its opposite ends, and a shaft carried by the main core engaging both said elbow-cores and extending to the exterior of the mold to simultaneously advance and to retract said elbow-cores, substantially as set forth.

15 11. In an apparatus for the purpose set forth, the combination of a mold formed with

a main chamber and with auxiliary chambers 20 communicating therewith toward the opposite ends thereof on different sides of the main chamber, a main core, auxiliary cores removably located in the communicating chambers, elbow-cores carried by said main core toward 25 opposite ends thereof, and on different sides thereof, and means engaging both said elbow-cores and extending to the exterior of the mold to simultaneously advance said elbow-cores into the corresponding communicating 30 chambers and to retract said elbow-cores, substantially as set forth.

In testimony whereof I sign this specification in the presence of two witnesses.

PETER DAVID HAY.

Witnesses:

N. S. WRIGHT,  
JOHN F. MILLER.