

No. 697,115.

Patented Apr. 8, 1902.

E. D. TUCKER.
CASTING MOLD.

(Application filed Mar. 18, 1898.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

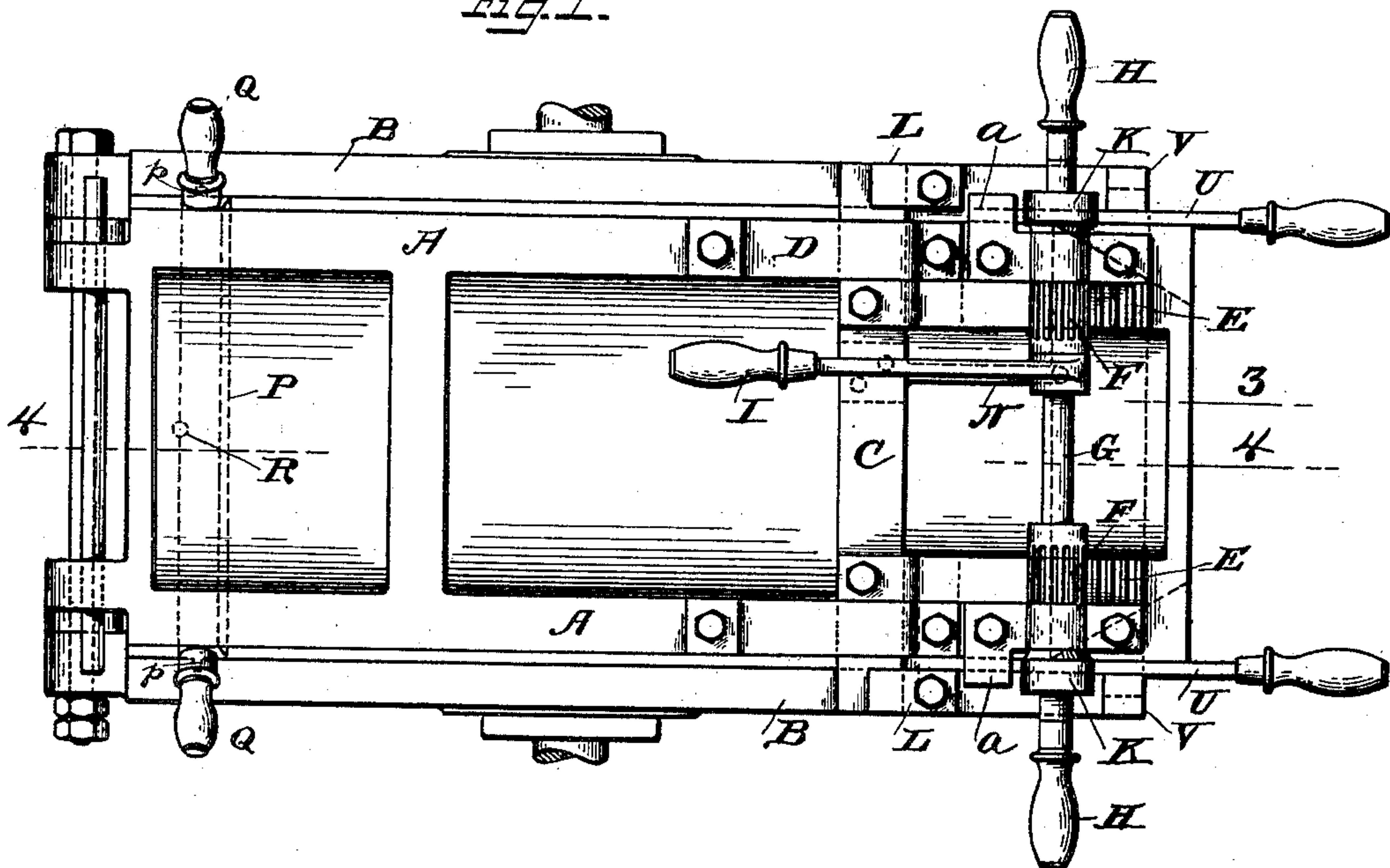
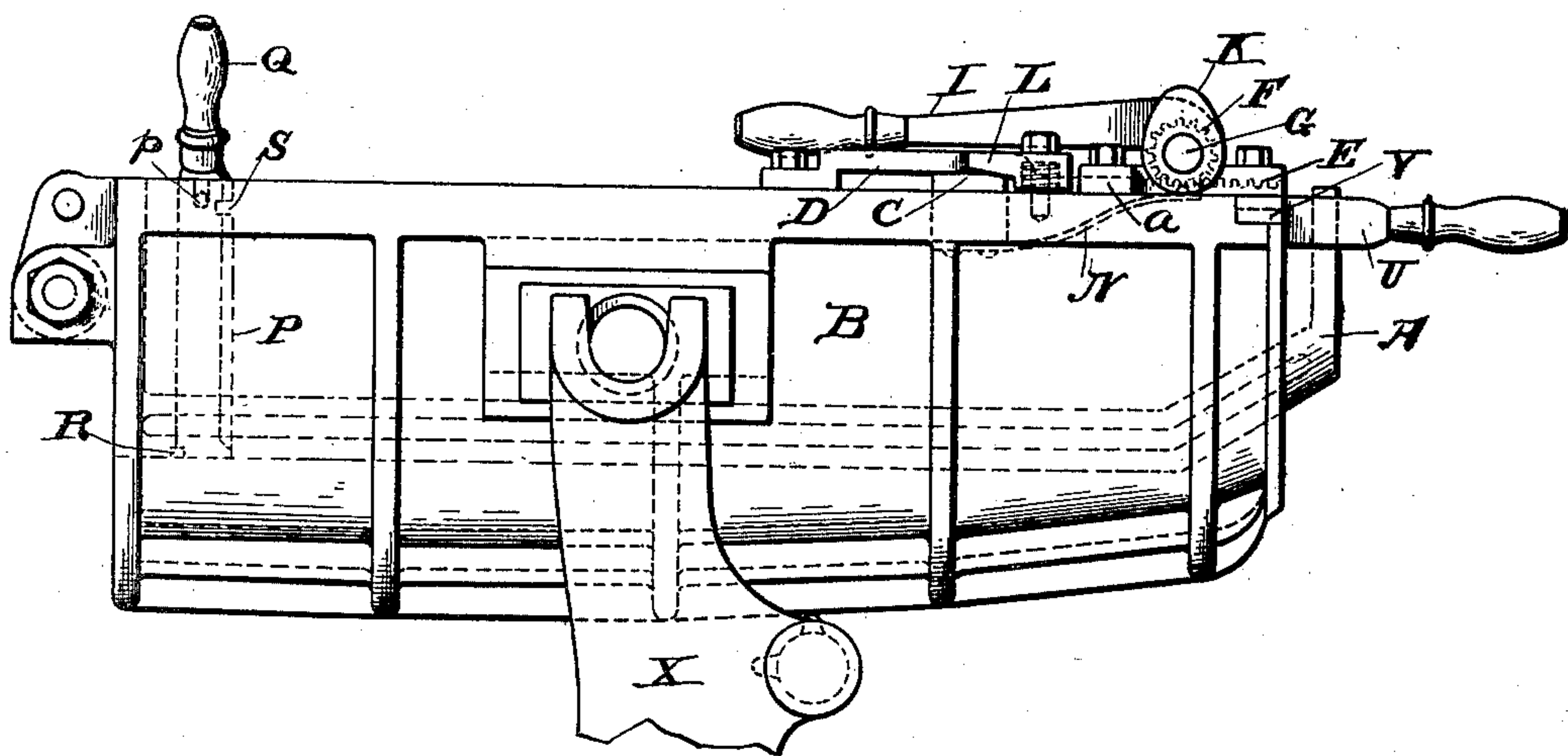


Fig. 2.



Attest
W. A. Smith
A. D. Bourke

Inventor
Edwin D. Tucker
by
Philip Phelps & Sawyer
Attys

No. 697,115.

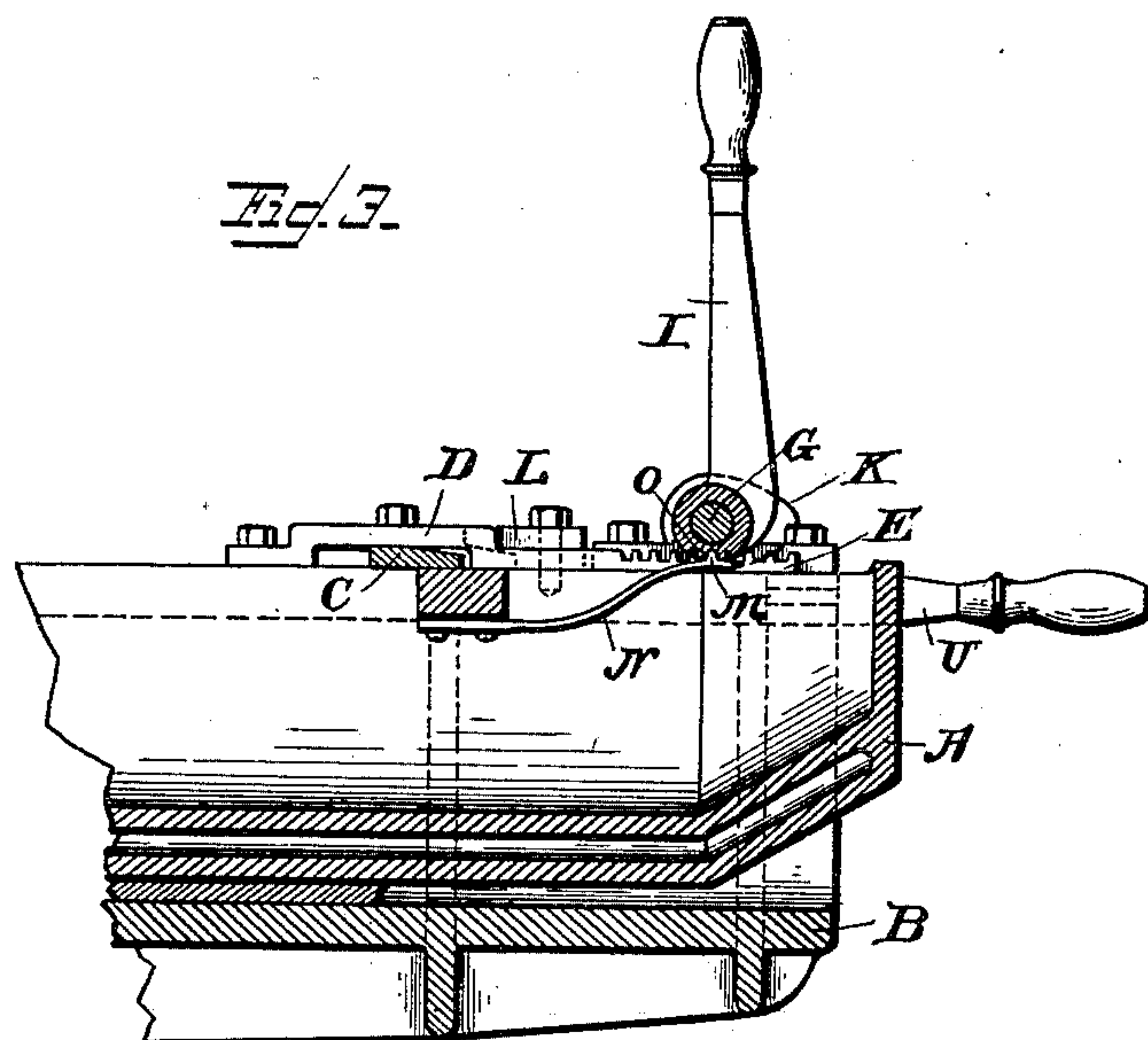
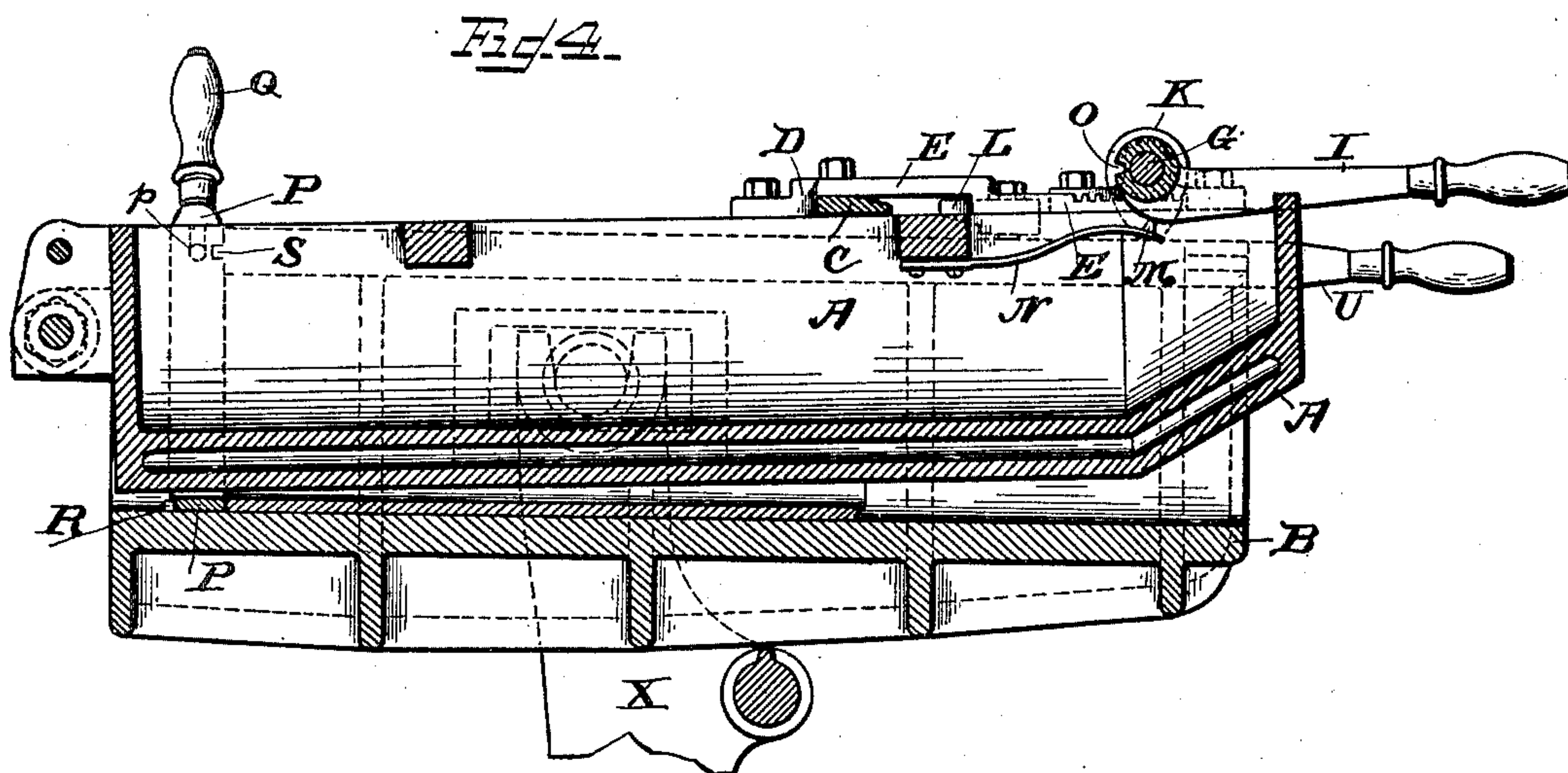
Patented Apr. 8, 1902.

E. D. TUCKER.
CASTING MOLD.

(Application filed Mar. 18, 1898.)

(No Model.)

2 Sheets—Sheet 2.



Attest,
W. A. Smith
A. V. Bourke

Inventor
E. D. Tucker
by Philip Phelps Lawyer
Atty's

UNITED STATES PATENT OFFICE.

EDWIN D. TUCKER, OF NEW YORK, N. Y., ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO ROBERT HOE AND CHARLES W. CARPENTER, (COPARTNERS UNDER NAME OF R. HOE AND COMPANY, OF NEW YORK, N. Y.)

CASTING-MOLD.

SPECIFICATION forming part of Letters Patent No. 697,115, dated April 8, 1902.

Application filed March 18, 1898. Serial No. 674,356. (No model.)

To all whom it may concern:

Be it known that I, EDWIN D. TUCKER, a citizen of the United States, residing at New York, county of New York, and State of New York, have invented certain new and useful Improvements in Casting-Molds, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

My improvements relate to molds for casting stereotype-plates for printing or other purposes, and has for its object to provide a device which shall both clamp the cover and the bottom portion of the mold together and effect the separation thereof, which is operated by a single lever, thereby simplifying the construction usually employed and economizing time and labor.

In the accompanying drawings, Figure 1 is a top plan view showing the cover of the mold and the edges of the bottom portion of the mold with the clamping and separating devices attached. Fig. 2 is a side elevation of Fig. 1, showing the mold-cover and bottom clamped together. Fig. 3 is a vertical section on the line 3 3 of Fig. 1, showing the parts in a different position; and Fig. 4 is a vertical section on the line 4 4 of Fig. 1, showing the cover separated from the bottom by the operation of the separating device.

Referring to said drawings, the cover A of the mold is hinged in the ordinary manner to the bottom portion B and is provided with the lugs *a*, which, when the mold is in position to receive the molten metal, rest upon the edges of the bottom portion. The clamping-bar C reciprocates under U-shaped guides D, attached to the cover of the mold. To the clamping-bar are bolted two rack-bars E, mounted so as to slide in the cover and gearing with pinions F, keyed upon shaft G, journaled to the cover and provided with a handle H at each end. To the shaft G is also fixed a handle I and two eccentrics K, one at each end and placed so as to bear upon the edges of the bottom portion of the mold. Lugs L are bolted to the bottom portion on either side, under which the locking-bar is received to lock the cover to the bottom.

When the parts are in the position shown in Figs. 1 and 2, the rack-bars E are drawn to their extreme right-hand position, carrying the locking-bar C under the lugs L and locking the bottom and the cover together. In this position of the handle I the protruding portions of the eccentrics K are away from the bottom portion of the mold, as shown in Fig. 2. In the position of the handle I (shown in Fig. 4) the rack-bars E are moved to their extreme left-hand position and the locking-bar C is withdrawn from the lugs L. In the intermediate position of the handle I—that shown in Fig. 3—the locking-bar is also out of engagement with lugs L and the handle is held in this position by a lug M, mounted upon a spring N, which takes into a notch O, formed in the shank of the handle I.

The inner end of the mold-cavity is closed by a semicircular or "head-gage" strip P, having a handle Q at each end. This head-gage is pivoted near each end at *p* to the bottom of the mold and when in position rests at its center against the stop-pin R, set in the bottom portion of the mold. This strip P has at either end a notch S, each of which notches is adapted to receive a nipple on the end of a side bar U, which bars close one side of the mold-space. The bars U at their outer ends are provided with lugs V, which rest upon the top edges of the bottom portion of the mold. The bottom of the mold is mounted in the usual manner upon forked uprights X.

When the apparatus is to be used, the handle I is placed as shown in Figs. 1 and 2, the mold is tipped to a vertical position, and the molten metal poured in. When the metal has cooled and hardened, the mold is returned to a horizontal position and the handle I is pulled forward a half-revolution to the position shown in Fig. 4, thereby causing the cams K to bear upon the body portion of the mold and separate the cover from the casting, as shown in Fig. 4. The handle I is now swung to its intermediate position—that shown in Fig. 3—and the cover swung back. The cast plate can now be loosened from the body portion of the mold by pushing upon

the handles Q, causing the head-gage P at its center to move to the right of the position shown in Fig. 4 and in so doing throwing forward the cast plate and exposing the front edge for the operator to grasp in lifting out.

The purpose of moving the handle I to the intermediate position before swinging back the cover is that if the handle were left in the position shown in Fig. 4 the eccentrics would strike the bottom portion of the mold when the cover was swung back after removing the cast plate. On the other hand, if the handle I were swung to the position it occupies in Fig. 2 the locking-bar would strike against the tops of the lugs L when the cover was closed. Consequently it is desirable to provide for an intermediate position, as stated.

The lugs L are, as shown, preferably spring-mounted—that is, they are pressed upward by springs and have a slight amount of play upon the bottom portion of the mold, so as to permit the wear upon their under surfaces and the upper surface of the locking-bar to be compensated for by screwing up the nuts which hold them to the mold.

What I claim is—

1. In a stereotype-plate-casting box, the combination with the body and cover of locking devices comprising separate locking members at each side of the box carried by one of said parts, cooperating locking means carried by the other part, said means including devices which separately engage the separate locking members, means independent of the locking devices for separating the cover from the bottom portion when the parts of the locking devices are disengaged, and a single instrumentality for operating the separating means and causing the disengagement of the locking devices, substantially as described.

2. In a stereotype-plate-casting box, the combination with the body of a cover pivoted thereto, locking devices comprising separate locking members at each side of the box carried by one of said parts, cooperating locking means carried by the other part, said means including devices which separately engage the separate locking members, means independent of the locking devices for separating the cover from the bottom portion when the parts of the locking devices are disengaged, and a single instrumentality for operating the separating means and causing the disengagement of the locking devices, substantially as described.

3. In a casting-box, the combination with the bottom portion, of a cover pivoted thereto, cooperating locking members between the cover and the bottom portion, one of said members having a reciprocating movement, releasing means for turning the cover slightly on its pivot to free it from the bottom portion after the cast has been made, and a single instrumentality for reciprocating the locking member and operating the releasing means, substantially as described.

4. In a casting-box, the combination with

the bottom portion, of a cover pivoted thereto, cooperating locking members between the cover and the bottom portion, one of said members having a reciprocating movement, releasing means for turning the cover slightly on its pivot to free it from the bottom portion after the cast has been made, a shaft, and means whereby the operation of the shaft reciprocates the locking member and operates the releasing means, substantially as described.

5. In a casting-box, the combination with the bottom portion, of a cover pivoted thereto, a locking-bar carried on the cover, lugs adjustably mounted on the bottom portion whereby wear may be compensated for, separating devices whereby the cover is slightly lifted from the bottom portion, and a single instrumentality for operating both the locking-bar and the separating devices, substantially as described.

6. The combination of the bottom portion of a mold, of a cover pivoted thereto, locking-bar C, a shaft, means operated by the shaft for moving the bar to and fro, and eccentrics K mounted upon the shaft, for turning the cover slightly on its pivot and thus separating it from the bottom portion of the mold, whereby the two portions of the mold may be locked or separated by rotation of a single shaft, substantially as described.

7. The combination of the bottom portion and cover of a mold, means for locking them together, a shaft mounted upon the cover and adapted to operate the locking means, means for separating the cover from the bottom, also operated by the shaft, and means for fixing the shaft in a position intermediate between the position in which it causes the parts to be locked together and the position in which it causes them to be separated, substantially as described.

8. The combination of the bottom portion of a stereotype-mold and the cover therefor pivoted together, with the locking-bar C, a shaft, means operated by the shaft to draw the locking-bar into its locking position when rotated in one direction, eccentrics mounted upon said shaft and adapted to force the cover from the bottom when the shaft is rotated in another direction, and means for holding the shaft in an intermediate position, substantially as described.

9. In a casting-box, the combination with the bottom portion of a cover pivoted thereto, cooperating locking members carried by the bottom and the cover, a shaft, a rack-and-pinion connection between one of the locking members and the shaft, cams on the shaft for separating the cover from the bottom portion, by turning it slightly on its pivots, and means for operating the shaft, substantially as described.

10. In a casting-box, the combination with the bottom portion, of a cover pivoted thereto, a sliding locking-bar carried by the cover, cooperating locking devices on the bottom por-

tion, a shaft mounted in the cover, a rack-and-pinion connection between the bar and the shaft, cams on the shaft for separating the cover from the bottom portion by turning it slightly on its pivots, and means for rocking the shaft, substantially as described.

11. In a casting-box, the combination of a case, a core pivoted to said case and adapted to fit thereinto, means for lifting the core out of the case, locking devices adapted to secure the core in the case, and means operated by the actuation of said lifting devices for unlocking the core from the case, substantially as described.

12. In a casting-box, the combination of a

case, a core pivoted thereto, locking mechanism adapted to lock the core and case together, core-lifting devices, and connecting mechanism between said locking mechanism and said core-lifting devices which operates to unlock the core when said lifting devices are actuated to lift the core, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

EDWIN D. TUCKER.

Witnesses:

F. W. H. CRANE,
E. L. SPEIR.