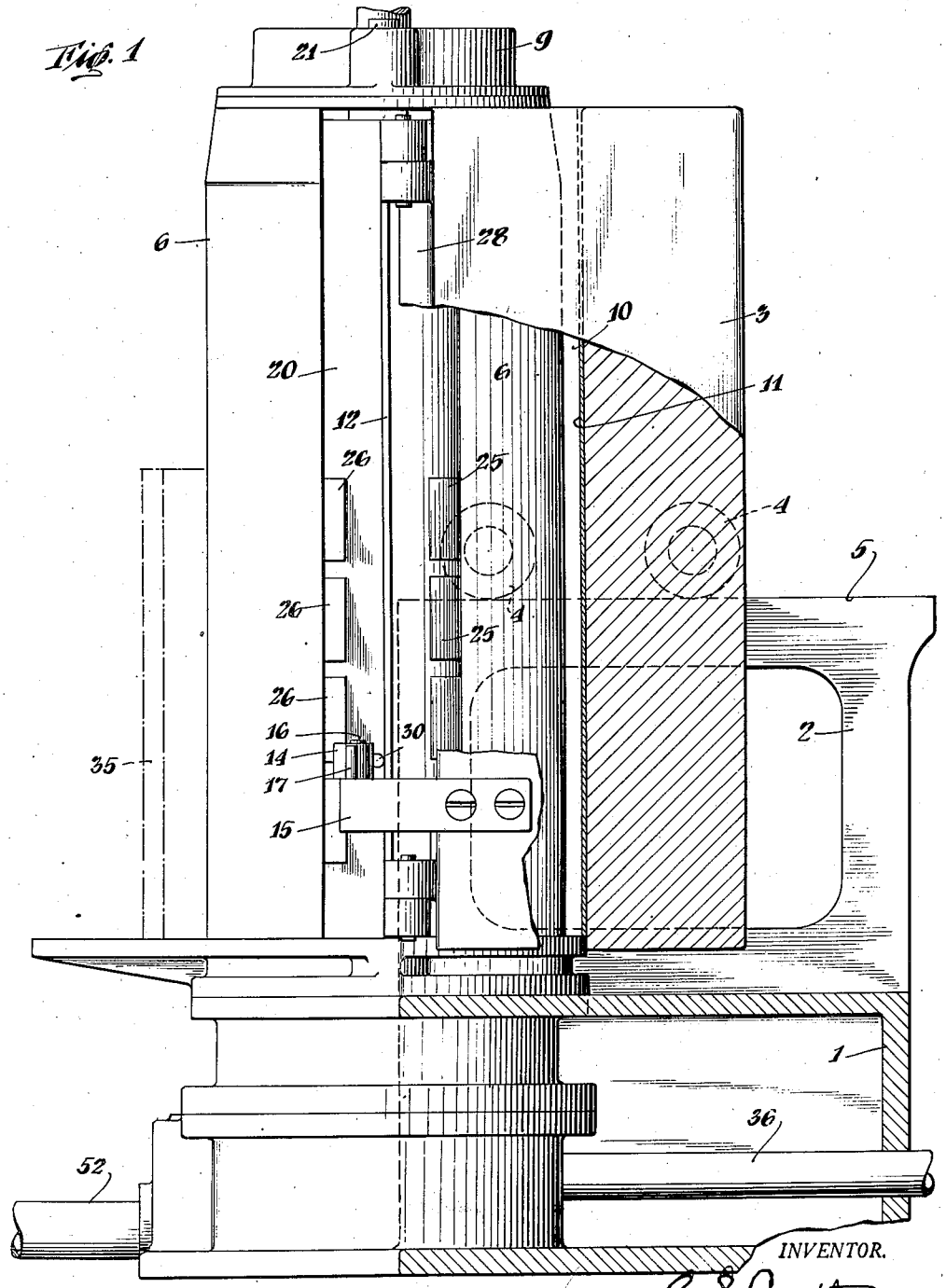
May 17, 1949. C. S. CRAFTS 2,470,146

APPARATUS FOR CASTING STEREOTYPE PLATES

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Fig. 1



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APPARATUS FOR CASTING STEREOTYPE PLATES

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Fig. 2

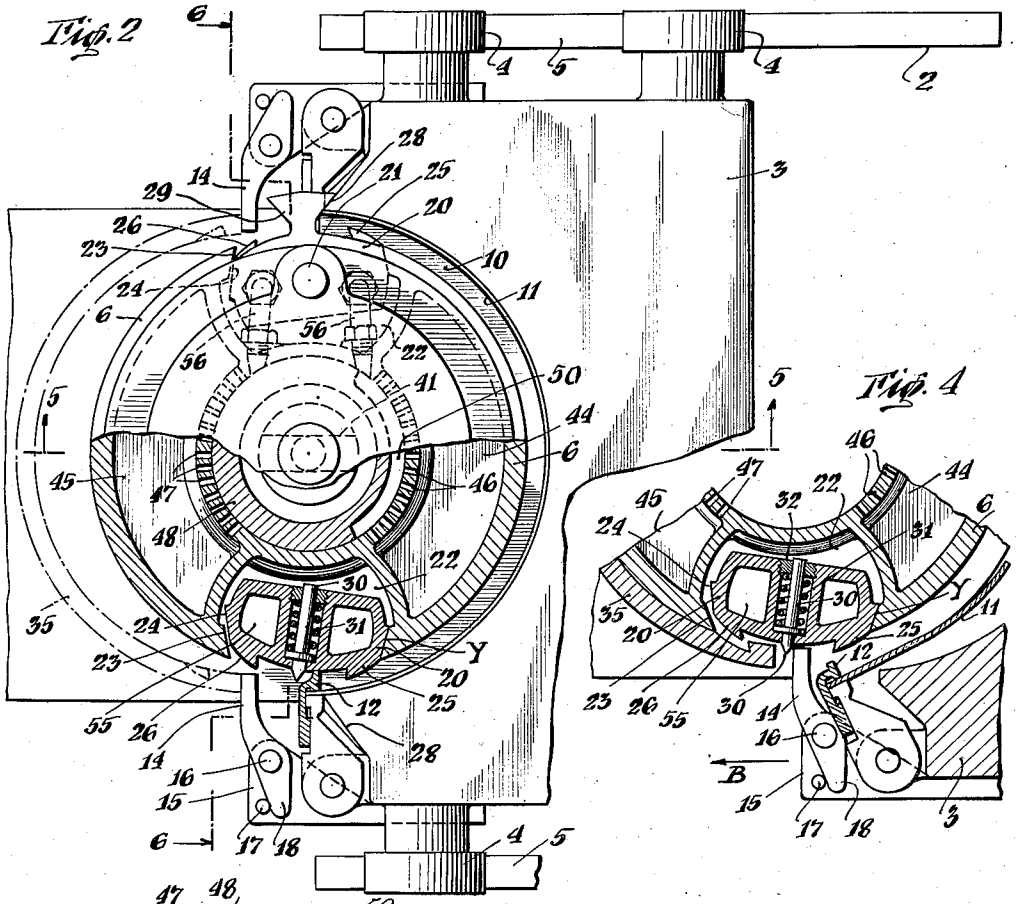


Fig. 4

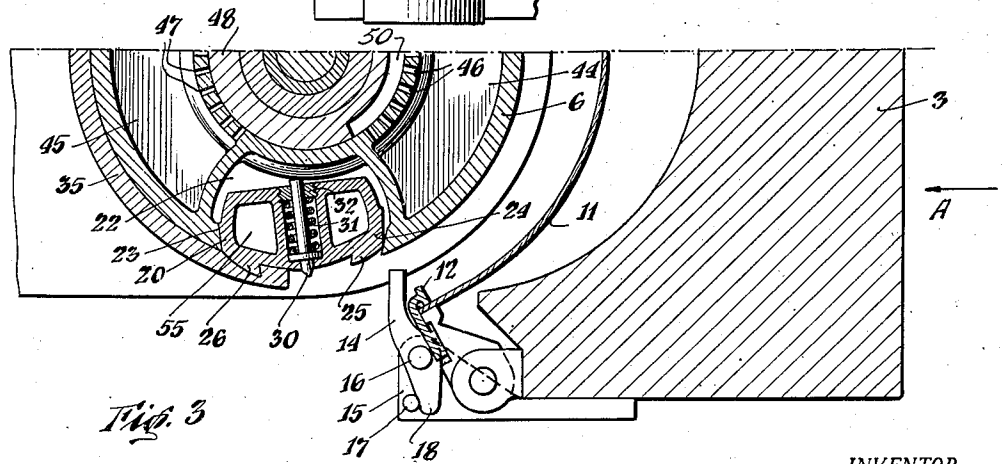


Fig. 3

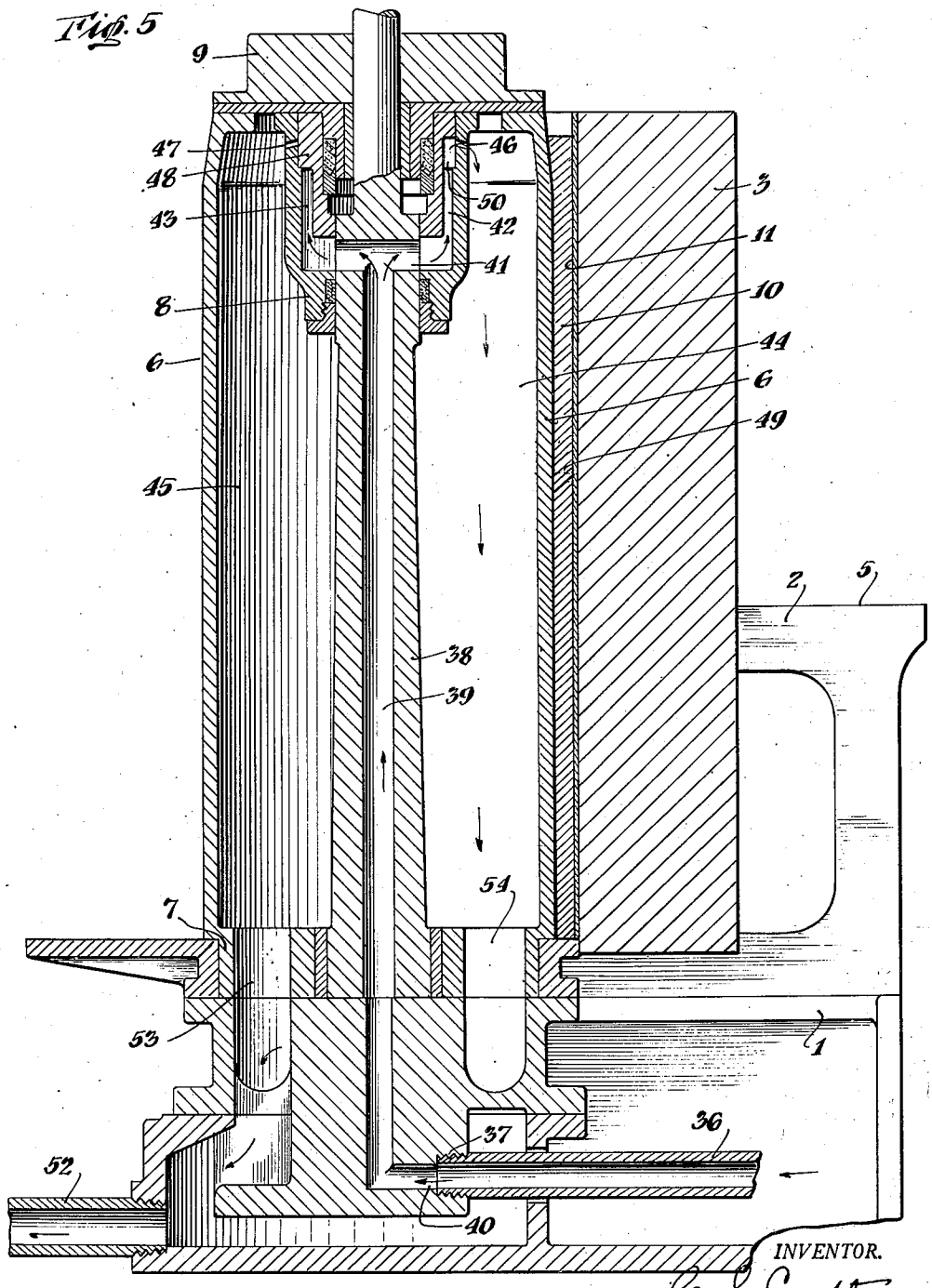
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APPARATUS FOR CASTING STEREOTYPE PLATES

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Fig. 5



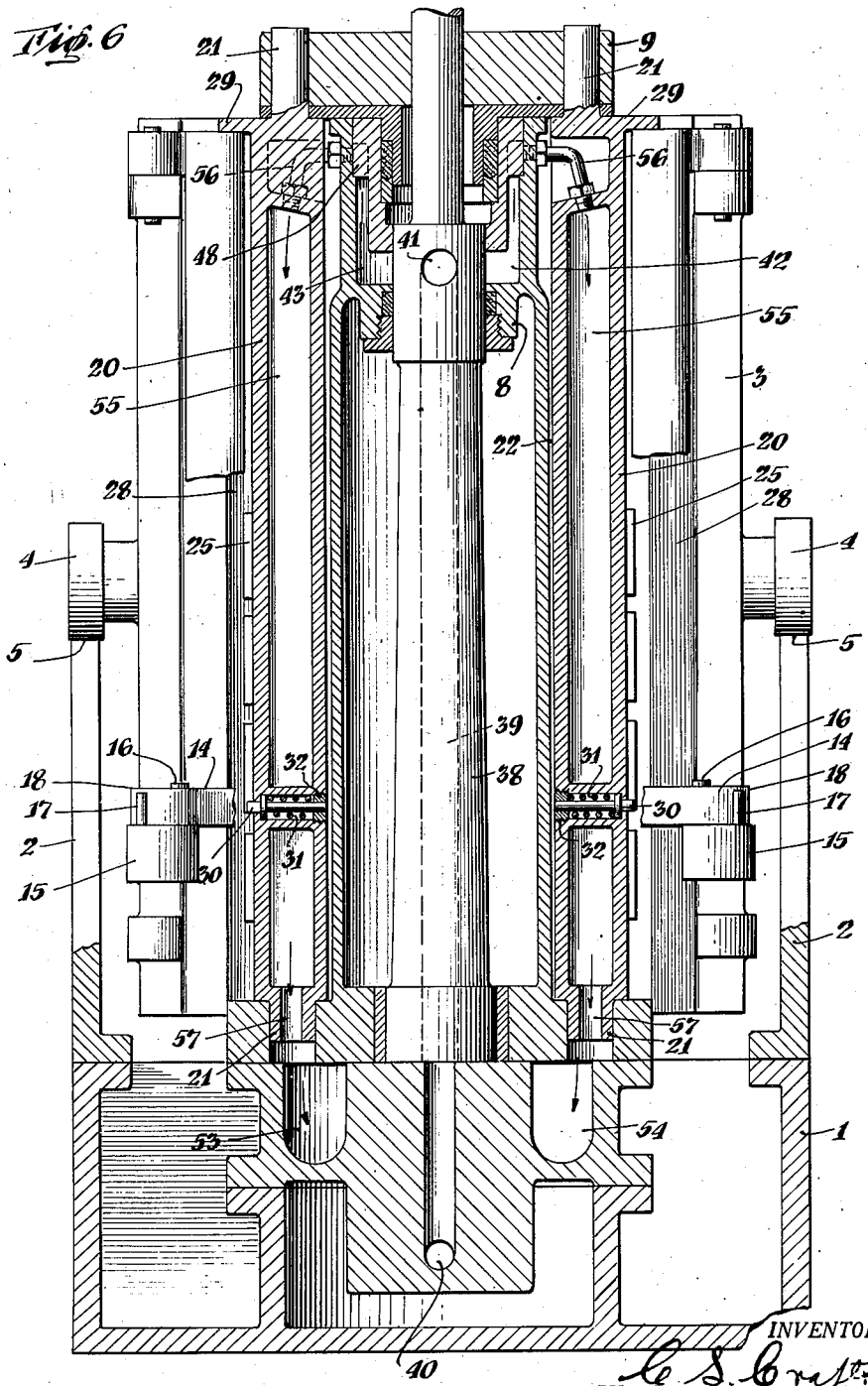
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APPARATUS FOR CASTING STEREOTYPE PLATES

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Fig. 6



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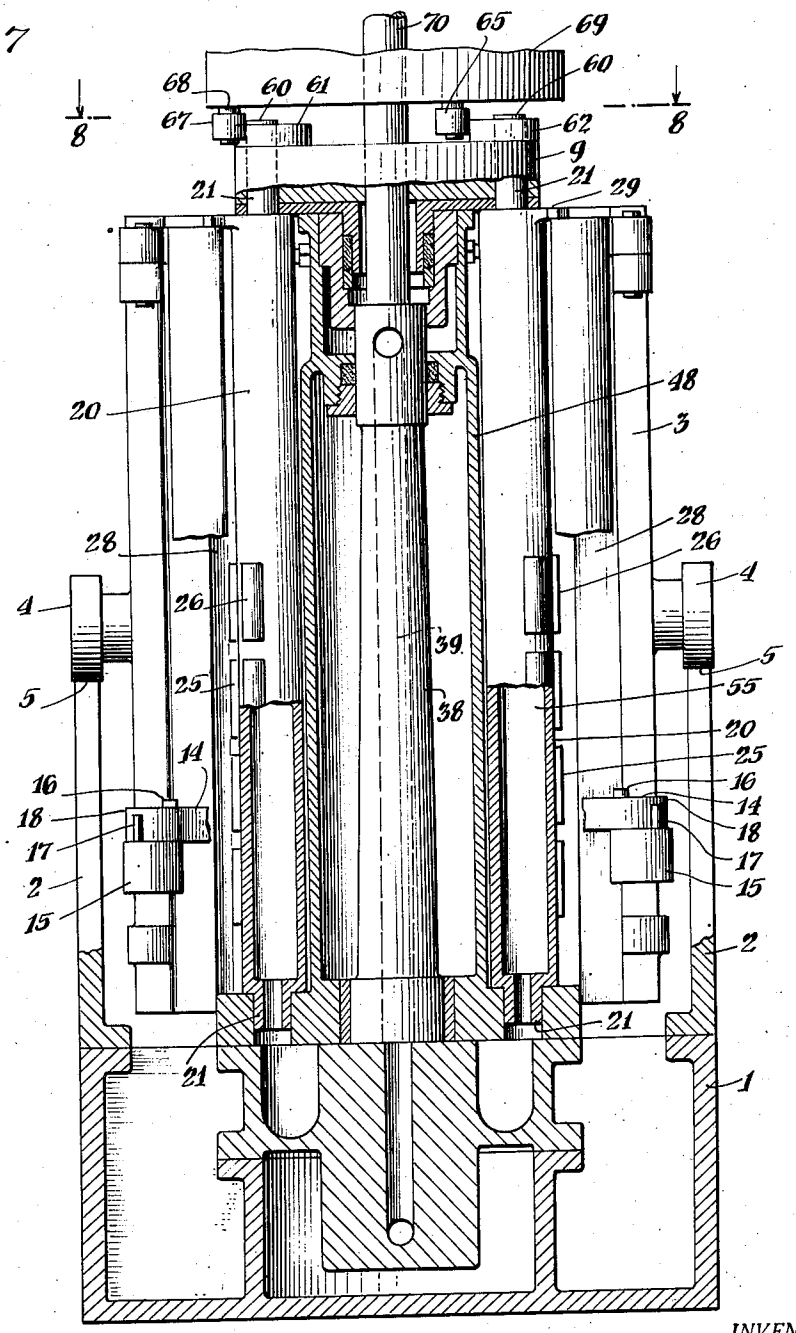
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APPARATUS FOR CASTING STEREOTYPE PLATES

Filed July 15, 1944 6 Sheets-Sheet 5

Fig. 7



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APPARATUS FOR CASTING STEREOTYPE PLATES

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Fig. 8

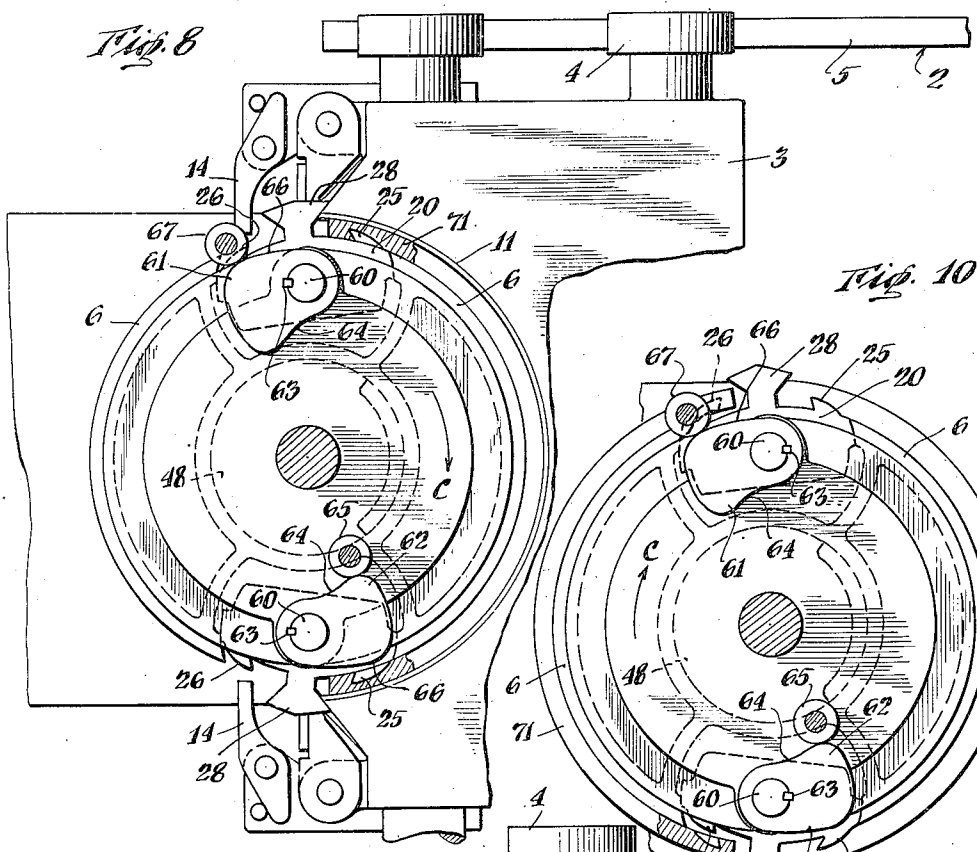
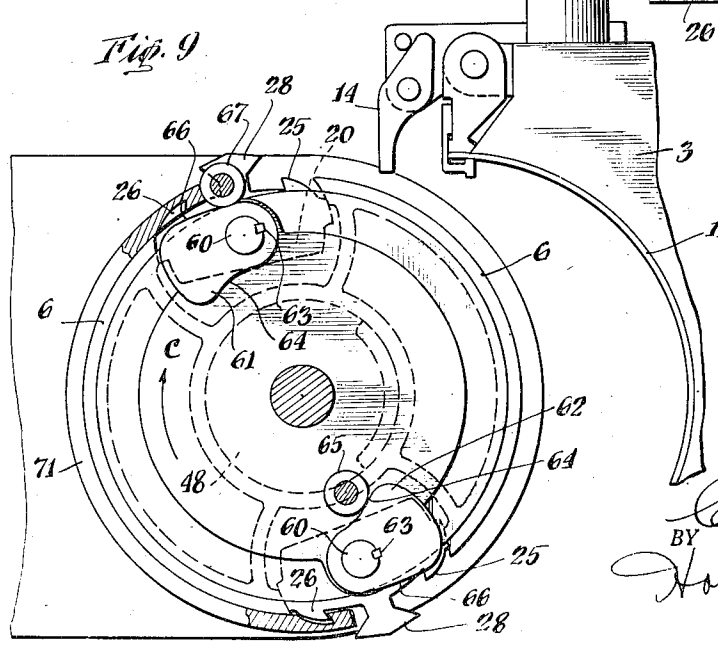


Fig. 10

Fig. 9



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Patented May 17, 1949 2,470,146

UNITED STATES PATENT OFFICE

2,470,146

APPARATUS FOR CASTING STEREOTYPE PLATES

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Application July 15, 1944, Serial No. 545,065

4 Claims. (Cl. 22—2)

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This invention relates to apparatus for casting stereotype printing plates and more particularly to such apparatus for casting semi-cylindrical stereotype printing plates.

Objects and advantages of the invention will be set forth in part hereinafter and in part will be obvious herefrom, or may be learned by practice with the invention, the same being realized and attained by means of the instrumentalities and combinations pointed out in the appended claims.

The invention consists in the novel parts, constructions, arrangements, combinations and improvements herein shown and described.

The accompanying drawings, referred to herein and constituting a part hereof, illustrate embodiments of the invention, and together with the description, serve to explain the principles of the invention.

Of the drawings:

Figure 1 is a side elevation of apparatus embodying the invention, the various parts of the apparatus being in plate casting position;

Figure 2 is a plan view of the apparatus of Figure 1 with parts in section, and in casting position;

Figure 3 is a fragmentary view in plan with parts in section of the apparatus shown in Figure 2 but with the various parts of the apparatus in non-casting position;

Figure 4 is another fragmentary view of the apparatus of Figure 2 showing the various parts in another non-casting position;

Figure 5 is an elevation of the apparatus of Figure 1 with parts in section, as taken on the lines 5—5 of Figure 1;

Figure 6 is an elevation of the apparatus of Figure 1 with parts in section, as taken on lines 6—6 of Figure 1;

Figure 7 is an elevation of a modified form of the apparatus with parts in section being similar to Figure 6, except for these modifications;

Figure 8 is a sectional view of the modified form of apparatus of Figure 7 as taken on lines 8—8 of Figure 7; and,

Figures 9 and 10 are views similar to Figure 8 but showing the apparatus in different relative positions, to illustrate the operation thereof.

It is generally the object of this invention to provide new and improved apparatus for casting stereotype printing plates and more specifically to produce a semi-cylindrical stereotype printing plate which has shaped recesses of predetermined form and arrangement on the inside or concave face of the stereotype plate.

In the practice of printing particularly from stereotype plates of semi-cylindrical form it is now sometimes desirable to have such recesses on the inside face and particularly such recesses may be in the form of slots adapted to receive

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hooks arranged conventionally on the supporting cylinder to which the stereotype plate is attached, these hooks serving to hold the stereotype plate in place on the cylinder and forming the usual lock-up tension device.

Accordingly, it is a further object of this invention specifically to produce a semi-cylindrical stereotype printing plate having recesses on the inside or concave face adapted to receive such hooks and so shaped as to cooperate with said hooks to retain the stereotype plate thus cast upon its supporting cylinder.

The invention may be applied to a conventional form of stereotype casting machine and the machine may operate in its usual manner, either manually or automatically, the only modifications being to part of the apparatus of the machine, these modifications being such they do not interfere with the normal procedure of casting once they have been incorporated in the machine.

The conventional automatic stereotype casting machine to which the invention may be applied may be of the type where a movable carriage carrying the matrix mounted upon a casting member is moved into a casting position relative to a cylindrical casting core, preferably automatically. The metal is poured into a space between the casting member and the casting core, and thereafter the carriage and matrix are automatically backed away and the cylindrical core is rotated 180° to present the cast plate for removal and to present a further casting face of the cylindrical core for cooperation with the matrix as the carriage is moved back automatically into casting position, the tail of the plate being cut off during this rotation. This conventional means of casting stereotype plates continues in a cyclic manner to cast, rotate the cylindrical core for presentation of the cast plate for removal, and cut-off of the tail, and to position the other half of the cylinder core for the next casting operation, the carriage carrying the casting member and matrix moving inwardly and outwardly with respect to the cylinder, also in a cyclic operation.

In accordance with the present invention the said casting core is modified by the introduction therewithin of a pair of auxiliary core elements each trunnioned within the core and adapted for limited rotational movement. Means are provided to rock said elements to present within the space between the matrix and the core face suitably shaped abutments whereby when molten metal is poured into said gap recesses equivalent to the shape of the abutments will be molded on the inside or concave face of the plate thus cast. It is obvious that the abutments will cause some difficulty of removal of the plate after casting, and this will be particularly emphasized should each abutment be so shaped as to present

an angular recess in the plate such as a recess for embracing a hook and, accordingly, in the present invention means are provided for also rocking the auxiliary core elements about their pivots after the cast plate has been rotated upon the cylindrical core member to a take-off position whereby the abutments will be removed from engaging position within the recesses molded within the cast plate.

Furthermore, the auxiliary core elements are preferably provided with two of said abutments spaced on either side of the pivot of each element whereby when one abutment is rocked about the pivot out of engagement with the cast plate the other abutment of the pair will be rocked by said same movement into an operative position within the gap between the matrix and the cylindrical core surface, so that the subsequent plate cast will equally have the abutments cast thereon.

The abutment in each instance may comprise a single member extending the whole length of the plate or a part of the length thereof as desired or it may comprise a plurality of smaller sections spaced along the plate. The abutments equally may be formed integrally with the auxiliary core members or be separate therefrom to permit replacement due to wearing or for the purpose of supplying a differently contoured recess in the inside of the cast plate.

Conventionally, the cylindrical core of the machine may be cooled at least on one side, and in accordance with another feature of this invention, the auxiliary core elements may also be cooled by suitable connections to the main cooling system of the cylindrical core.

Any means of rocking the auxiliary core elements about their pivots, for the purpose described, may be employed but inasmuch as it is usual to provide knock-off fingers on the type of stereotype printing plate-casting machine specifically referred to, which are adapted to force the cast plate away from the core under urge of movements of the carriage into casting position, it is one specific feature of this invention to modify these knock-off fingers whereby prior to carrying out their normal function they will first cause the rocking of the auxiliary core members to non-engaging position with respect to the cast stereotype plate.

In another specific form of carrying out the invention the knock-off fingers mentioned are utilized conventionally to act solely to remove the cast plate when the carriage is moved into casting position and, in order to rock the auxiliary core elements about their pivots, cam means are fixedly associated with the core elements and are caused to take up one or another of two positions by fixed cam followers, preferably in the form of rollers attached to any suitable part of the fixed frame within which the cylindrical core of the machine is rotated. Preferably the cams are keyed or otherwise fixedly associated with the trunnions utilized for mounting the axiliary core elements within the cylindrical core, and these cams may be double faced or have two tracks one of which is adapted to cooperate with one cam follower, for instance on the outside of the path of movement of both the cams, and the other of which faces is adapted to cooperate with another cam follower, for example, on the inside face of both of the cams, whereby two cam followers in the form of rollers, for example, can operate on both the cams to cause them to take up one of the alternative positions possible for them, to present the core elements with their

abutments either within the space where casting is to take place or remove the abutments from the already cast recesses in a plate just formed.

It will be understood that the foregoing general description and the following detailed description as well are exemplary and explanatory of the invention but are not restrictive thereof.

Referring now specifically to the embodiment of the invention illustrated in the drawings as specifically shown in Figures 1 to 6 there is provided a main frame 1 upon which is mounted an upper frame 2, this frame 2 supporting a concave casting member 3 which is mounted on a carriage supported by rollers 4 on a trackway 5, formed as another part of the frame 2. Carried by the frames 1 and 2 in fixed position relative thereto but rotatively mounted therein is a cylinder 6 which forms the core upon which a stereotype plate when cast is carried.

As better shown in Figures 5 and 6, the cylinder 6 is rotatively mounted within the frame 2 by bearings 7 at the lower end, and at the upper end by bearings 8 and 9. Cylinder 6 is adapted to be rotated within its bearings 7, 8 and 9 by any desired means which conventionally comprises a Geneva movement (not shown) whereby rotation through 180° is performed in a predetermined cyclic operation to first present one half and then the other, of the cylindrical core 6, to a plate take-off position.

The concave casting member 3 carrying the matrix is moved toward and away from the cylinder 6 by suitable power means (not shown) this movement being also part of the predetermined cycle above mentioned. Conventionally, when utilizing a casting machine of the type illustrated and described, the concave casting member 3 is moved forwardly supported by the rollers 4 on the trackway 5 into operative casting position as illustrated in the plan view of Figure 2, whereby a suitable gap 10 is preserved between the concave face of the member 3 and the convex face of half of cylinder 6 and into this space or gap 10 molten metal will be poured to cast a plate.

A suitable matrix 11 is carried on the concave face of casting member 3 being held in place by the conventional mat clamps 12, these clamps also forming the finish or end facing of the plate case in gap 10.

The molten metal is poured into space 10, and after a suitable period of cooling the casting member 3 is backed away from the core 6 by means of the rollers 4 on trackway 5, the mat 11 being carried away from the cast plate by this movement. Thereafter the cylinder 6 is rotated through a half circle to present the finished plate 12 for removal from the half of the periphery of the cylinder 6 thus exposed. The plate 12, already formed by the first casting operation is knocked off conventionally from its half of the cylinder 6 by means of knock-off fingers 14 which are carried by the convex core member 3 upon an extension plate 15 as the casting member 3 approaches the cylinder 6 in its movements toward casting position.

In one embodiment of the present invention, as illustrated in Figures 1-6, the location of the knock-off fingers 14 and the shape and mounting thereof upon the plate 15 have been modified to perform an additional function as hereinafter brought out, and fingers 14 are thus pivotally mounted at 16 and can move only in one direction because a stop pin 17 is mounted on the plate 15 to abut against an extension on 18 of the fingers 14. Thus, except for the modification of

the fingers 14, the apparatus hereinbefore specifically described is conventional in its actions and in its functions and provides a cyclic method of casting stereotype printing plates.

In another embodiment of the present invention, as specifically illustrated in Figures 7 to 10, the knock-off fingers 14 are conventionally used solely for removal of the cast plate but movement of the member 3 on its trackway and additional cam operated means are provided for the stated additional function, as hereinafter described.

In accordance with the present invention means are provided for causing a recess or a group of recesses to be molded in each stereotype printing plate cast, as and for the purpose described, and as embodied such means are adapted to be carried by the cylinder 6 and in no way alter the performance or operation just described with respect to the apparatus. To this end there is mounted in the cylinder 6 a pair of auxiliary core elements 20, each element 20 being carried in trunnions 21 within parts of the cylinder 6 whereby the elements 20 may rotate relative to the cylinder 6. In order that the elements 20 may be accommodated within the body of the cylinder 6, it is fashioned with longitudinally arranged recesses, 22, and limit of rotation of the elements 20 within these recesses 22 is obtained by the associated shape of the operative faces of the elements 20 and of the recesses 22.

Thus, at the extreme or open side of recesses 22 angular faces 23 are arranged and a cooperating face 24 is placed upon each side of the elements 20 whereby, upon rotation of the elements 20 in one direction or the other, the faces 23 and 24 will contact, and as hereinafter described, will be forced into close sealing off contact as at Y in Figure 2. When the faces 23 and 24 are in such contact it will be seen that each recess 22 is sealed off from the space or gap 10 on the operative side of the casting cylinder whereas on the inoperative side the faces 23 and 24 will be spaced apart, but with no deleterious effect.

Auxiliary core elements 20 are adapted to carry on their outwardly exposed faces suitably shaped abutments which are illustrated as hooked shaped members 25 and 26. When the faces 23 and 24 are in contact as at Y in Figure 2, the hook 25 will be projected into the gap 10 into which metal will be poured when the parts are in operative casting position, and accordingly when such metal is poured the cast plate will have upon its inside or concave face, recesses corresponding to the shape of the hooks 25, these recesses being preferably suitably arranged at or near the edges of the casting plate. The hooks 25 and 26 may comprise one continuous length in the form of a single abutment on each side of each element 20 or, as illustrated, they comprise a plurality of hooked shaped members 25 or 26 longitudinally spaced from each other and extending substantially for the width of the plate to be cast, this being specifically shown in Figure 1.

The plan view of Figure 2 illustrates clearly the relative position of the various operating parts when ready for the pouring of casting metal into the space of gap 10 and in this position it will be seen that the plate as it will be cast will have the mentioned recesses formed by the hooks 25.

In order to obtain the desired sealing off pressure between surfaces 23 and 24 a suitable cam shaped end 28 is arranged on each end of the concave casting member 3, these cams pressing

into a cam follower 29 attached to each element 20 and forcing the elements 20 about their pivots into the operative position shown in Figure 2 at Y. With the parts in the position of Figure 2, the metal is poured in the gap 10 thus forming therein a stereotype printing plate. After the pouring and a period for cooling, as is usual, the concave casting member 3 is withdrawn from the position shown in Figure 2 and the cylinder 6 rotates to present the finished plate for withdrawal as previously described.

It will be obvious that until further action takes place the hooks 25 will still be imbedded within the cast plate, and consequently withdrawal of the finished plate from the exposed half of cylinder 6 will be difficult and, depending upon the contour of the hooks 25, 26 will be impossible in some instances. Furthermore, in this position the hook 26 which is retracted or below the level of the periphery of the cylinder 6, is in an inoperative position to form its recess within the next plate to be cast in the cyclic operation of the machine.

The concave casting member 3 is now moved back toward its operative casting position as shown in Figure 2 and the fingers 14 already described and stated to be primarily the knock-off fingers for removing the cast plate are now adapted in accordance with one embodiment of the invention to act upon the elements 20 to simultaneously rotate these into a position where hooks 25 are disengaged from the already cast plate and hooks 26 are thrown into an operative position within the gap 10 for the next casting. To this end, as shown in Figures 1–6, each of the elements 20 is provided with a plunger 30 mounted to move bodily relative to its element 20 and spring urged outwardly by a spring 31 acting against the retaining collar 32.

As shown in Figures 3 and 4 the fingers 14 are adapted to contact the pins 30 to first cause rotation or rocking of the elements 20. Figure 3 shows a position of a finger 14 as it approaches a pin 30 the hook 25 being still imbedded within the recess it has formed in the plate 35. In the direction of movement which is indicated by arrow A it will be seen that the finger 14 is held in a rigid position by the pin 17 which is in contact with the extension 18 of the finger 14 and thus finger 14 is unyielding. In Figure 4 the arrow B shows the continued movement in the same direction and the finger 14 is now in operative contact with the pin 30 and has rotated the element 20 about its pivot to withdraw hook 25 from the plate 35 and swing hook 26 into operative casting position for molding the recess in the next plate to be cast.

Further movement in the same direction of the concave casting member 3 will cause the finger 14 to contact an edge of the plate 35, which has already been cast, and push it to the dotted-line position shown in Figure 2, so that the apparatus is again in the operative casting position of Figure 2, with the plate 35 knocked off at each end by the fingers 14 arranged on either side of the member 3. This movement will be cyclic as previously defined and the movements of the concave core member 3 will cause the operation of the fingers 14 first with respect to the pins 30 and then with respect to the ends of the cast plate, as plate 35.

Obviously any rotation of the cylindrical core 6 which may take place while fingers 14 are in any position whereby they may contact the pins 30 will not cause any co-action between fingers

14 and pins since any movement of this nature will be in an opposite direction to that shown as A and B in Figures 3 and 4. The fingers 14 will thus swing about their pivots 16 and the springs 31 will allow the pins 30 to ride over the fingers 14.

According to this feature of the invention, there has thus been provided means to form a recess or a group of recesses in a stereotype printing plate during its normal casting as well as means to remove the forming parts from such recesses to permit removal of the plates as they are cast and the only modification needed with respect to a conventional casting machine is the removal of the usual cylinder equivalent to cylinder 6 and the replacement thereof by the illustrated cylinder 6 carrying auxiliary core elements 20. The modification necessary to fingers 14 is minor and only necessitates suitable elongation to permit them to operate equally on the plate ends and upon the pins 30 of the elements 20.

Conventionally, the core cylinder equivalent to cylinder 6 in stereotype plate casting machines is arranged to be cooled by a suitable cooling fluid, such as water, and in accordance with a further feature of this invention means are provided whereby the cooling fluid so used is also passed to the auxiliary core elements 20. In order to accomplish this reference is made to Figures 5 and 6 of the drawings, which illustrate the usual cooling means as well as the means whereby the cooling medium is adapted to be passed onward to cool the elements 20.

The cooling fluid is admitted to the center of the cylinder 6, which is hollow, through a conduit or pipe 36 which is screw-threaded at 37 in a bore 40 in a frame 1. The cylinder 6 is so constructed that it has a stationary center supporting column 38 through which a conduit 39 passes this conduit communicating with the bore 40 and thus with the pipe 36. At the upper end of the column 38 there is provided a cross bore 41 which communicates with passages 42 and 43 on either side of the cylinder 6. In order that cooling fluid shall only be applied to one-half of the cylinder 6 at one time, because it is not desired to cool excessively the exposed side upon which a cast plate is held but only to cool that half of the cylinder which is in operative casting position only, one of the passageways 42 or 43 communicates with the hollow bore 44 or 45 within the confines of cylinder 6. To that end, passage 42 communicates with space 44 through an opening 46, and an equivalent opening 47 connects passage 43 with space 45. Means are provided to seal off either opening 46 or 47 and, as shown in Figure 5, only space 44 will receive cooling fluid when in the operative position illustrated, this being that half of the cylinder space which is to be cooled, because it is adjacent to the plate 49 which has just been cast.

To accomplish this one sided feeding of cooling fluid to either space 44 or 45 a portion 50 of the ring 48 forming part of the trunnion head supporting the cylinder 6, is cut away substantially in a semi-circle, as shown in Figure 2. This portion 50 is the means whereby passage 42 communicates with space 44 through opening 46, as shown in Figure 5 and upon rotation of cylinder 6 through 180°, the portion 50 will cause communication of passage 43 with space 45 through opening 47, opening 46 being then sealed off by the rest of ring 48.

The cooling water is adapted to be led away from the machine by a conduit 52 through exit ports 53 and 54 which pass through the lower trunnioned mounting of the cylinder 6 and communicate with spaces 45 and 44, respectively.

The above description of cooling of one side of the cylinder 6 is substantially conventional and in accordance with this invention means are provided whereby the auxiliary core elements 20 shall receive part of the cooling water. To this end, each of the elements 20 have hollow spaces 55 therewithin each space communicating through a flexible conduit 56. These conduits 56 are adapted to communicate directly with the passageways 42 and 43 already referred to, thus receiving cooling fluid through the medium of bore 39, whereby cooling fluid will flow within the hollow spaces 55 of the elements 20.

In order to allow the exit of the cooling fluid the lower trunnions 21 supporting the elements 20 within cylinder 6 are cores as at 57 and these bores communicate with the exit ports 53, 54 already referred to so that the cooling fluid flows out from the same exit conduit 52 as that used for the main cooling fluid.

In accordance with this feature of the invention therefore it will be seen that at all times the auxiliary core elements 20 are cooled by receiving part of the same cooling medium as that conventionally supplied for cooling the main core member 6. The cooling of the elements 20 will obviously assist in the easy removal of the teeth 25 and 26 from the cast plate when this becomes necessary, as previously defined.

In accordance with a further embodiment of the present invention the fingers 14 are conventionally used solely for the purpose of knocking off the cast plate 35 of Figures 2, 3 and 4 and auxiliary cam means are provided for the purpose of rotating the core elements 20 about their pivots to cause disengaging of the hooks 25 or 26 from the cast plate, this function having been obtained in the form illustrated in Figures 2, 3 and 4 by the spring urged pin 30 which contacted the knock-off fingers 14. As embodied the trunnions 21 supporting the core elements 20 are extended as shown in Figure 7 to above the bearing member 9 and the extensions 60 each having mounted thereon similarly shaped cams 61 and 62. Each of the cams 61 and 62 are keyed or otherwise securely fixed to the extensions 60 of the trunnions 21 by keys 63 and thus as the cams are swung by means to be described, the core elements 20 are carried therewith.

The cam members 61 and 62 are provided with two operating faces, the inside face of each cam being similarly shaped and adapted to engage during their rotation with a roller 65, this roller acting only on the set inside face 64 as each of the cams is presented to the roller during rotation of the cylinder 6 as previously described. In a similar manner the outside face 66 of each of the cams is similarly shaped and adapted to engage a roller 67 which only operates on these outside faces 66 and contacts either the cam 61 or the cam 62 during the rotation of the cylinder 6.

The rollers 65 and 67 are fixedly mounted for rotation on spindles 68 within a stationary head member 69, this head member serving to receive the stationary main shaft 70. The head 69 can be of any conventional form and is a usual part of general casting apparatus of the kind referred to. The operation of the cams 61 and 62 in cooperation with the rollers 65 and 67 will be clearly

understood from a consideration of the relationship between Figures 9 and 10.

In Figure 9 the rollers are shown in a position where they are ineffective with respect to their associated cams. In this position a plate has just been cast identified as 71 and the abutments 26 of the elements 20 are imbedded in the plate 71 as previously. The rotation of cylinder 6 is shown by the arrow C in Figure 9 and as cam 61 approaches the roller 67 its outside face 66 will be contacted thereby and due to the shape of this face 66 the cam 61 now in the position shown in Figure 10 will be depressed progressively by the roller 67 to rock the element 20 about its trunnions 21 and release hooks 26 from the plate 71.

Simultaneously, the cam 62 will have contacted the roller 65 on its inside face 64 and due to the shape of this inside face 64 the fixed roller 65 will depress the cam 62 thus swinging the element 20 about its trunnions 21 to lift the hooks 26 on this side also out of the recesses in plate 71. Thus by this cam and roller action simultaneously operating on the inside face of one cam and the outside face of another cam the hooks 26 will be swung out of their recesses in the plate 71 and the hooks 25 will be thrown into the now empty space between the matrix 11 and the cylinder 6. Upon subsequent casting the hooks 25 will now be imbedded in the new plate cast and upon the next rotation of the cylinder 6 the cams 61 and 62 will again have their one-sided contact with rollers 65 and 67 to reverse the relative position of hooks 25 and 26 with respect to the cast cylinder. Thus there is provided by this modification a strong and rugged means for positively operating upon the elements 20 to swing these on their pivots when needed whereby plates even of very large sizes can have the hooks 25 or 26 positively disengaged from the recesses formed thereby on the inside face of the plate.

The shape of the teeth 25 or 26 on the auxiliary core elements 20 and the number of these can be selected to suit the required recess shape within the plate edge, and as illustrated in the drawings the recesses made would form adequate tension lock-up grooves in the plate for holding a cast plate around a printing cylinder by means of suitable teeth or lugs such as are known in the art.

What is claimed is:

1. In a machine for casting semi-circular stereotype printing plates, the combination of a concave casting member adapted to support a matrix, a convex core casting member adapted to be associated therewith to provide a molding space between the concave and convex surfaces of the casting members, auxiliary core elements movably carried by said convex casting member, means for periodically moving said elements into said molding space prior to molding the stereotype plate, whereby to form recesses on the concave face of said plate, and means for periodically removing said elements from the recesses formed thereby, said means for moving the auxilary core elements into the molding space including a cam fixedly associated with each auxiliary core element and moving therewith, and a pair of rollers fixed with respect to the movement of the cams and operating thereon at a predetermined area in the path of the movement of the cams to simultaneously rock the cams and the associated auxiliary core elements between operative and inoperative cast positions.

2. In a machine for casting semi-circular stereotype printing plates, the combination of a concave casting member adapted to support a matrix, a convex core casting member adapted to be associated therewith to provide a molding space between the concave and convex surfaces of the casting members, auxiliary core elements movably carried by said convex casting member, means for periodically moving said elements into said molding space prior to molding the stereotype plate, whereby to form recesses on the concave face of said plate, and means for periodically removing said elements from the recesses formed thereby, said means for moving the auxiliary core elements into the molding space including a cam fixedly associated with each auxiliary core element and moving therewith, and a pair of rollers fixed with respect to the movement of the cams and operating thereon at a predetermined area in the path of movement of the cams to simultaneously rock the cams and the associated auxiliary core elements between operative and inoperative cast positions, said cams being double-faced and being operated upon alternatively by each of said rollers by first one face and then by the other face in cyclic order.

3. In a machine for casting semi-circular stereotype plates, in combination, a concave casting member for supporting a matrix, a convex core member cooperating therewith to provide a molding space between said members, means for rotating said convex core member, a pair of trunnions carried by said convex core member and projecting from one end thereof, double ended hooks operated by said trunnions, a cam carried at the outer end of each trunnion, a fixed head at one end of the machine, and cam operating means carried by said head for operative engagement with the respective cams, whereby said hooks are rocked alternately into and out of said molding space by their respective cams.

4. In a machine for casting semi-circular stereotype plates, in combination, a concave casting member for supporting a matrix, a convex core member cooperating therewith to provide a molding space between said members, means for rotating said convex core member, a pair of trunnions carried by said convex core member and projecting from one end thereof, double ended hooks operated by said trunnions, a cam carried at the outer end of each trunnion, a fixed head at one end of the machine, and cam operating members carried by said head and positioned in the path of movement of said cams, said cam operating members being positioned, respectively, for engagement with the outer and inner edges of said cams, whereby said hooks are rocked alternately into and out of said molding space.

CURTIS S. CRAFTS.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,048,667	Egli	Dec. 31, 1912
1,623,991	Wood	Apr. 12, 1927
1,748,268	Wood	Feb. 25, 1930
2,110,154	Huck	Mar. 8, 1938
2,173,990	Wood et al.	Sept. 26, 1939
2,304,785	Durham	Dec. 15, 1942