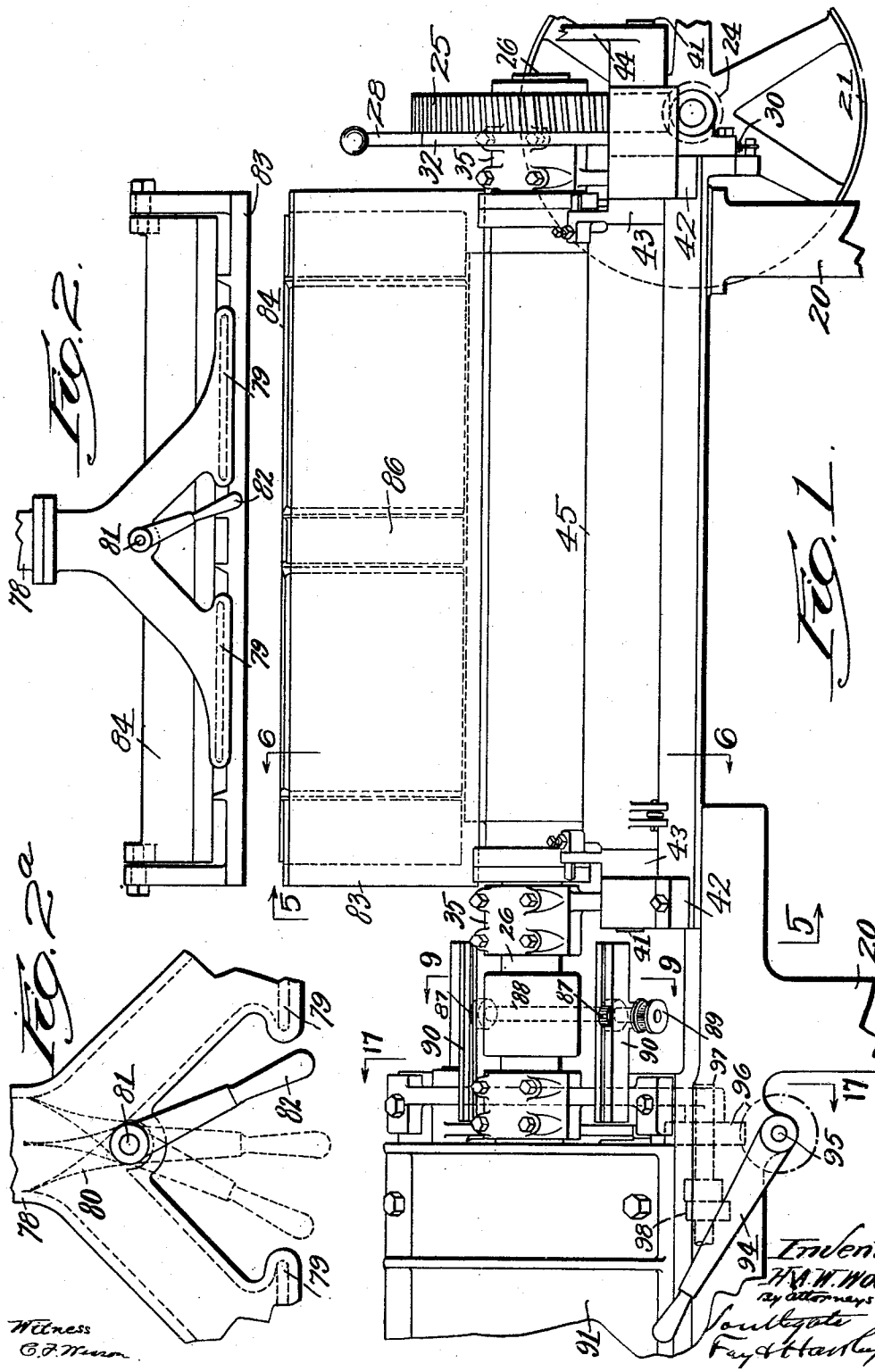
May 5, 1931. H. A. W. WOOD 1,803,374

STEREOTYPE PLATE CASTING AND FINISHING MACHINE

Original Filed July 2, 1926 7 Sheets-Sheet 1



May 5, 1931. H. A. W. WOOD 1,803,374

STEREOTYPE PLATE CASTING AND FINISHING MACHINE

Original Filed July 2, 1926 7 Sheets-Sheet 2

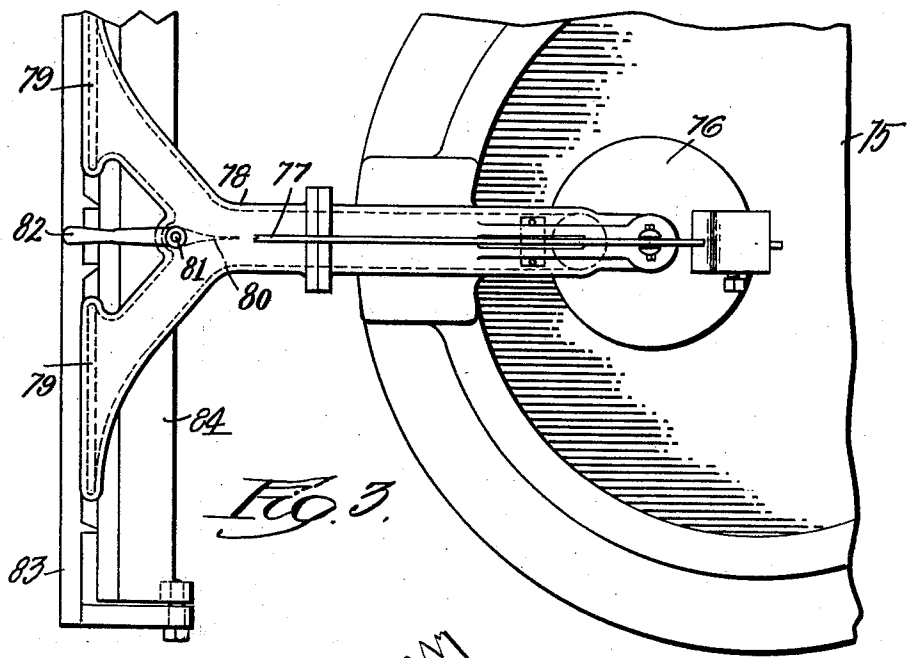


Fig. 3.

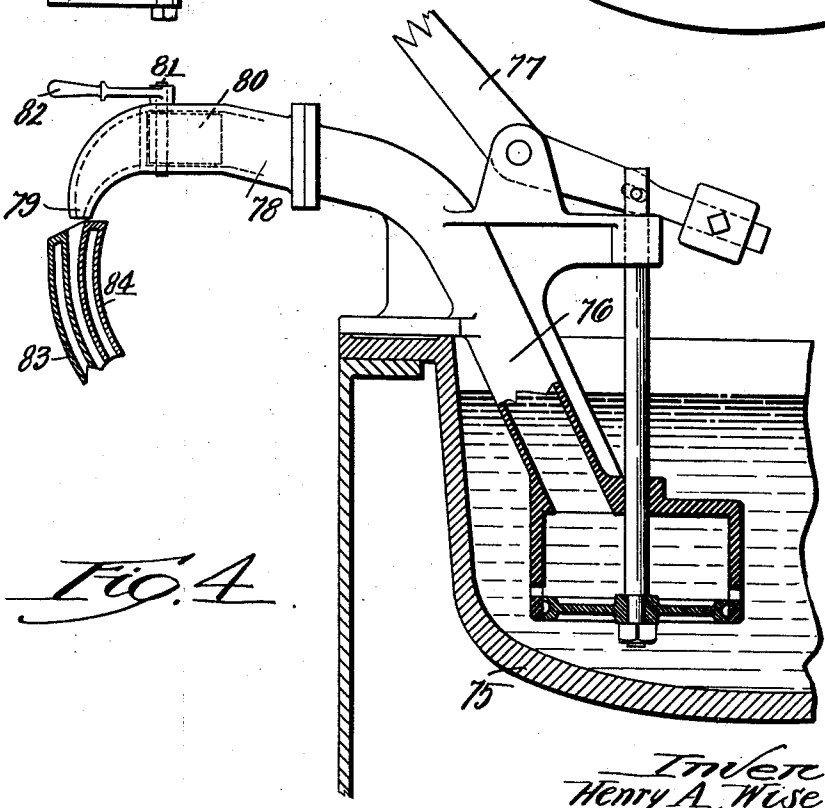


Fig. 4.

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STEREOTYPE PLATE CASTING AND FINISHING MACHINE

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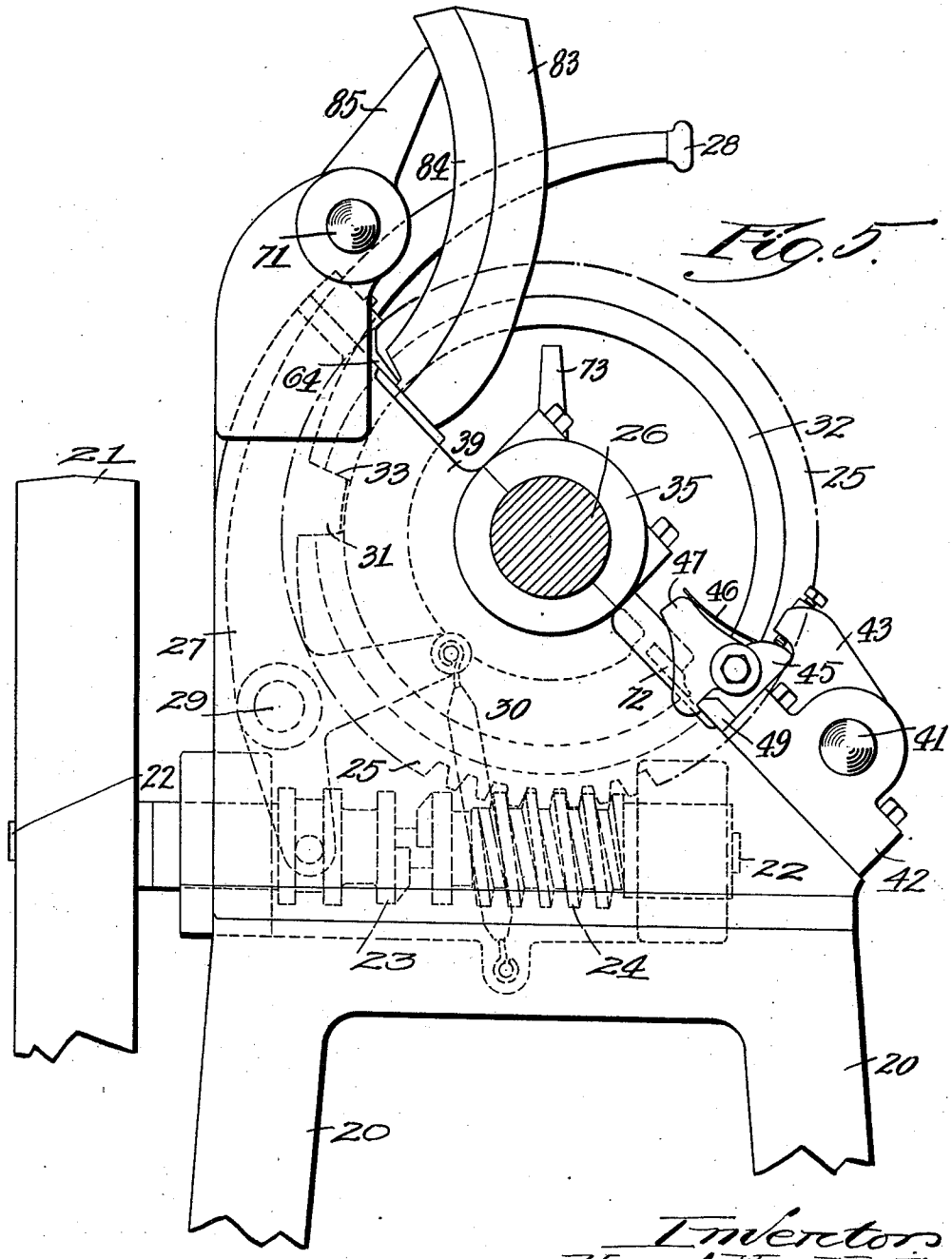


Fig. 5.

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STEREOTYPE PLATE CASTING AND FINISHING MACHINE

Original Filed July 2, 1926 7 Sheets-Sheet 4

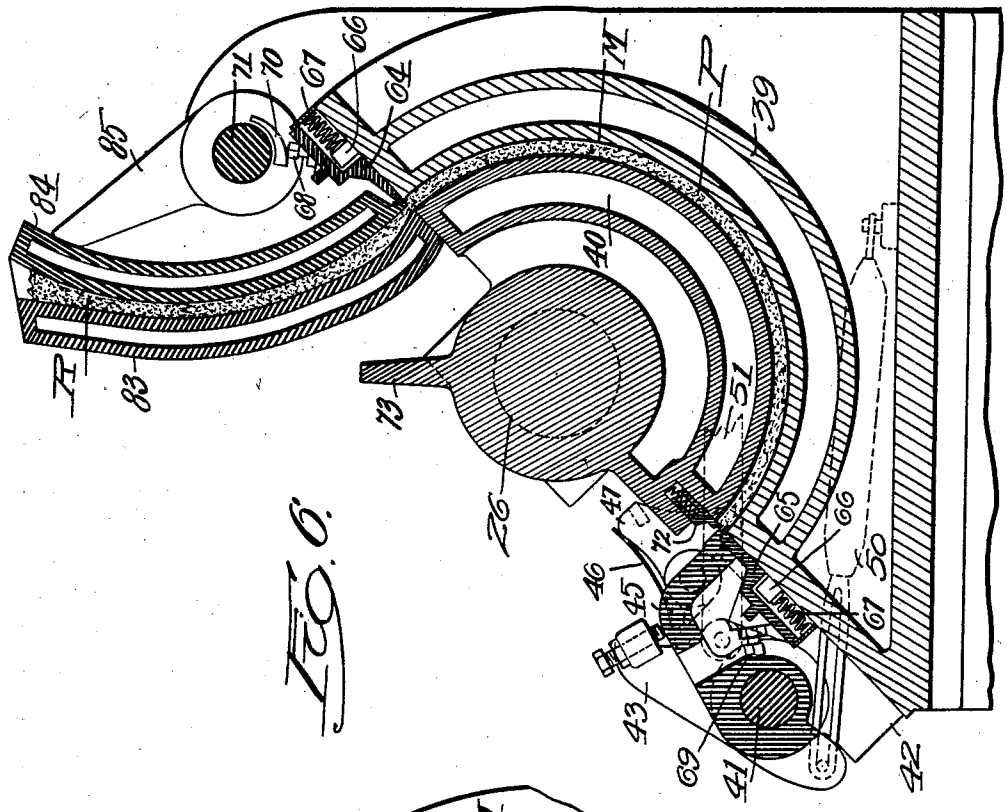


Fig. 6.

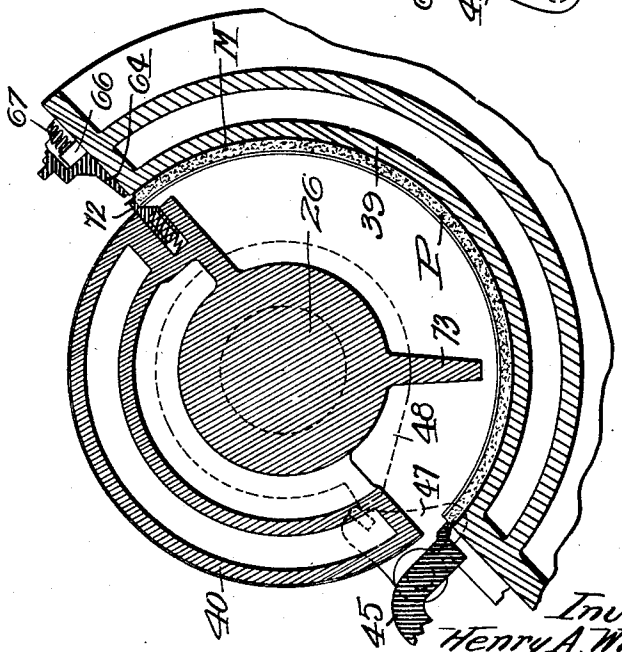


Fig. 7.

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STEREOTYPE PLATE CASTING AND FINISHING MACHINE

Original Filed July 2, 1926 7 Sheets-Sheet 5

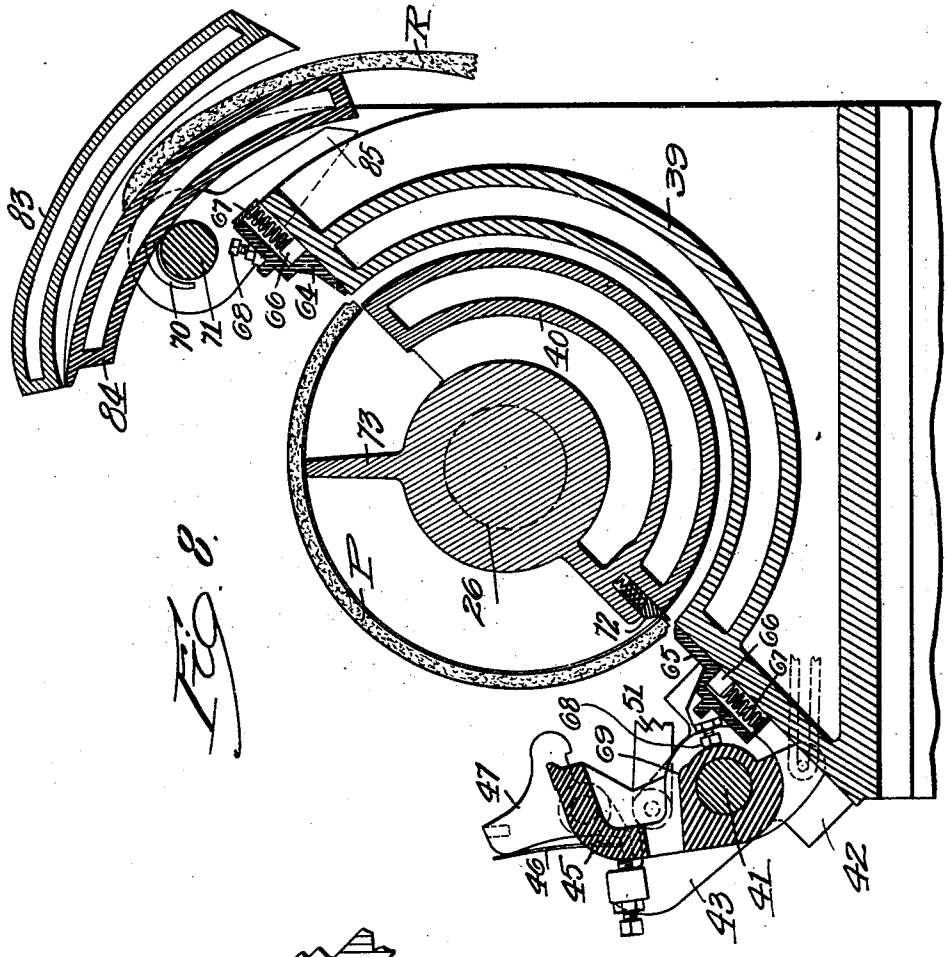


Fig. 8.

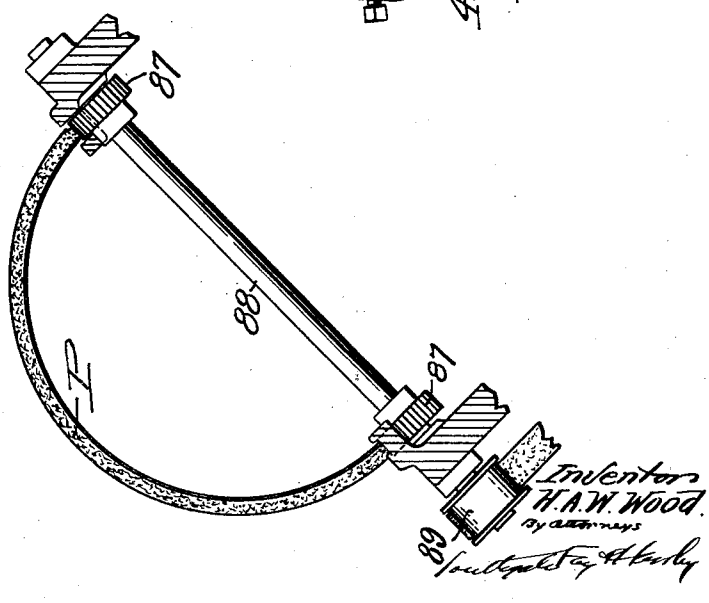


Fig. 9.

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STEREOTYPE PLATE CASTING AND FINISHING MACHINE

Original Filed July 2, 1926 7 Sheets-Sheet 6

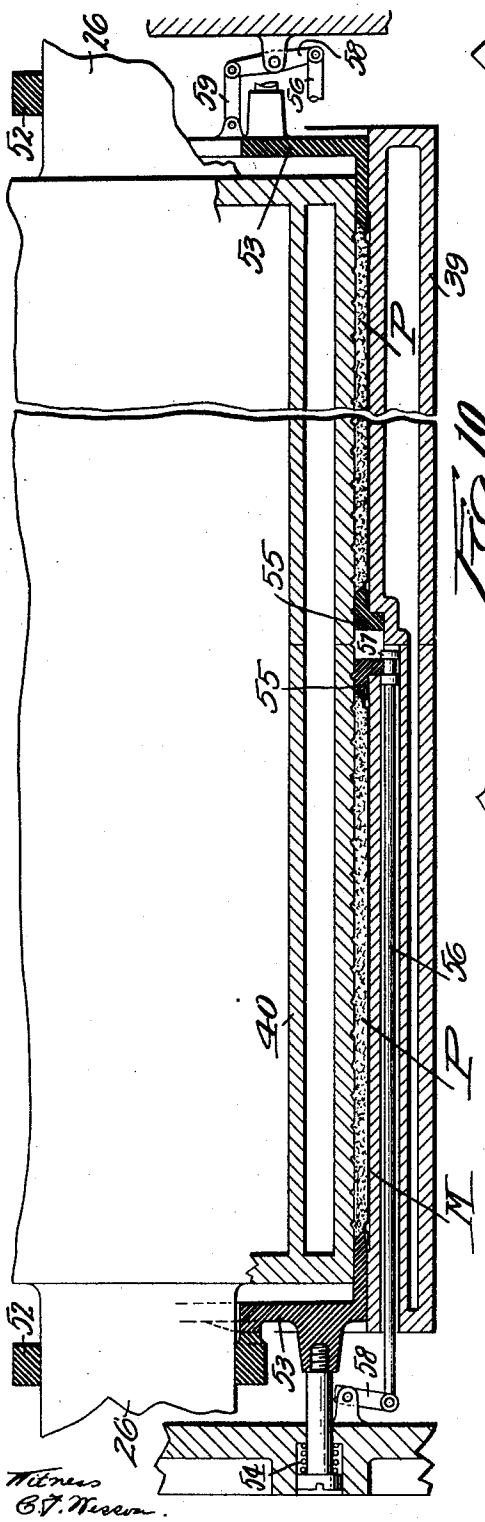


Fig. 10.

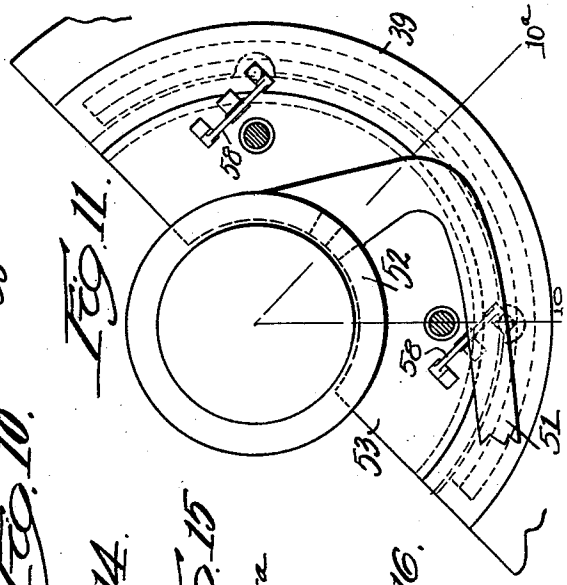


Fig. 11.

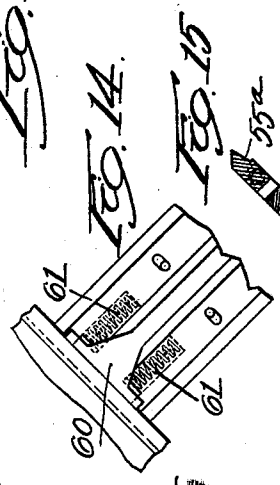


Fig. 14.



Fig. 15.

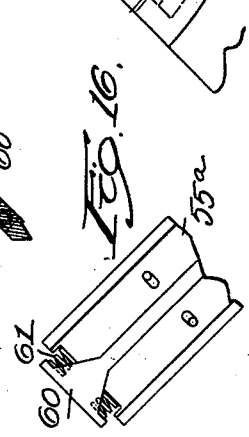


Fig. 16.

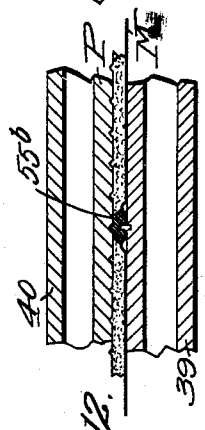


Fig. 12.

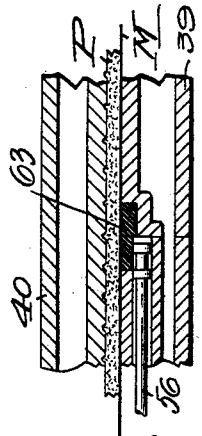


Fig. 13.

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STEREOTYPE PLATE CASTING AND FINISHING MACHINE

Original Filed July 2, 1926 7 Sheets-Sheet 7

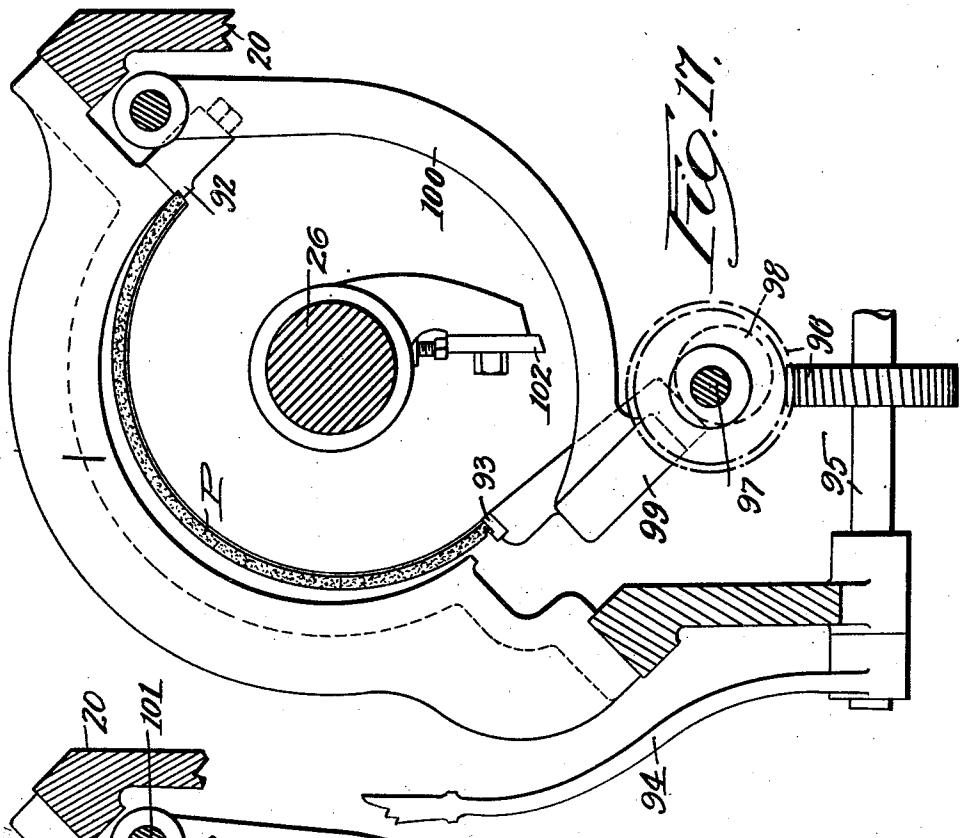


Fig. 17.

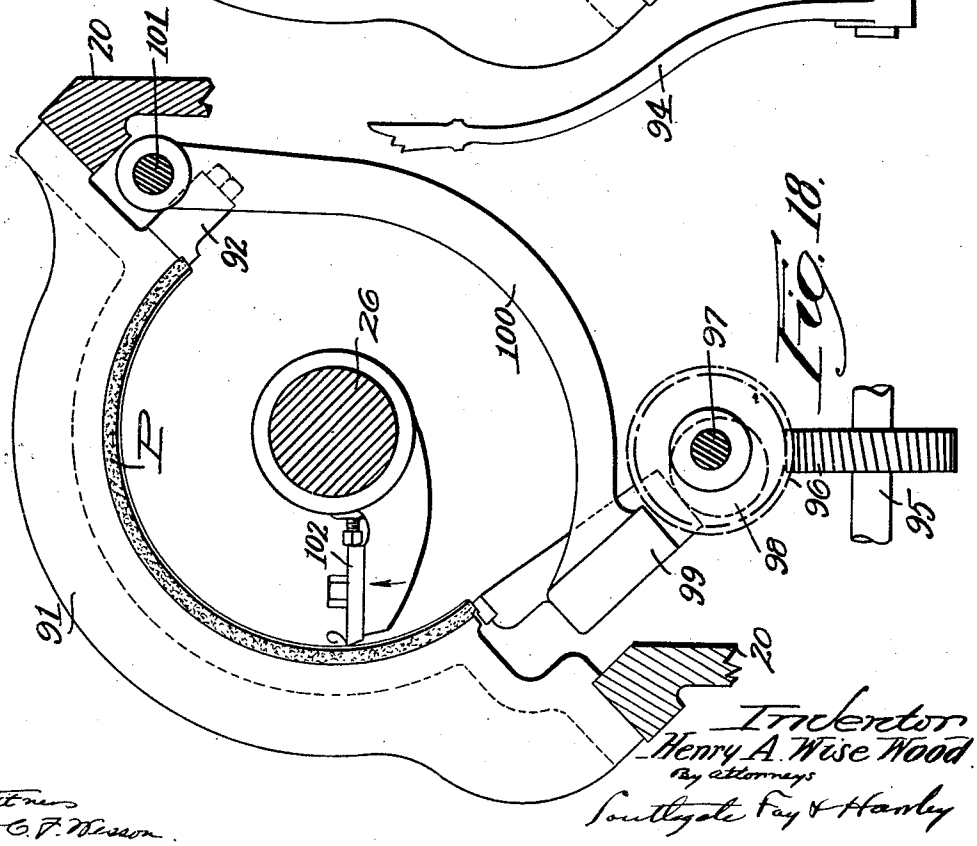


Fig. 18.

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Patented May 5, 1931 1,803,374

UNITED STATES PATENT OFFICE

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STEREOTYPE PLATE CASTING AND FINISHING MACHINE

Application filed July 2, 1926, Serial No. 120,096. Renewed September 11, 1930.

This invention relates to a machine for casting stereotype printing plates.

The objects of the invention are to provide means whereby a pair of plates can be cast end to end in a horizontal casting box of a type similar to those now in use, or a double truck plate can be cast therein if desired, or either one of the single plate mold spaces can be used for casting a single plate repeatedly without using the other. The invention also involves means for separating the flow of metal from a pump so as to deliver it to the two mold spaces or to two widely separated points in a long thin mold space; improved means for sealing the lower edge of a semi-cylindrical mold mounted at an incline, and for automatically opening said edge when it is desired to rotate the core out of the mold; simple means whereby the rotation of the core out of the mold and then back into it will free the core from the plate and then deliver the plate loose on the back of the core; simple improved means for stopping the rotation of the shaft of the core after a complete rotation is finished; means for automatically releasing the end rings from the cast plate and matrix; means combined therewith for releasing the center rings when two plates are cast, and other features of the casting device cooperating to produce either a double truck plate or one or two single plates and automatically deliver the same from the mold and get the mold ready for the next cast; and also to provide improved means for seating the cast plate in the arch ready for shaving.

Other objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawings, in which—

Fig. 1 is a side view of a casting machine with the end of a finishing arch in alignment therewith;

Fig. 2 is a plan of the double nozzles for delivering the metal into the mold and showing the gates for receiving the metal;

Fig. 2^a is an enlarged fragmentary view of the same showing the deflecting device for controlling the direction of the streams of metal;

Fig. 3 is a plan like Fig. 2 showing the pump and melting pot in addition;

Fig. 4 is a sectional view of the same taken radially;

Fig. 5 is a sectional view on the line 5—5 of Fig. 1 constituting practically an end view of the whole casting machine;

Fig. 6 is a sectional view on the line 6—6 of Fig. 1 looking in the other direction and showing the mold just filled with metal and ready for the next operation;

Fig. 7 is a similar view showing the core rotated a half revolution to release it from the plate which is held in fixed position during that motion;

Fig. 8 is another similar view showing the core rotated back into the back and the plate delivered thereby ready to be pushed off into the shaving apparatus and also illustrating the delivery of the fractured riser;

Fig. 9 is a sectional view on the line 9—9 of Fig 1 showing the edge trimming apparatus.

Fig. 10 is a longitudinal sectional view of the back and core with two plates cast in position, the left half of the figure being taken on the radial line 10 of Fig. 11, and the right half on the radial line 10^a in that figure;

Fig. 11 is an end view of the same;

Fig. 12 is a view similar to a part of Fig. 10 showing the use of a single center ring instead of two in producing two plates;

Fig. 13 is a similar view showing the construction used in casting a double truck plate;

Fig. 14 is a face view showing a modification of the end rings and the means for operating them;

Fig. 15 is a sectional view crosswise through the same;

Fig. 16 is a view similar to Fig. 14 but with the parts in a different position;

Fig. 17 is a sectional view on the line 17—17 of Fig. 1, which is virtually an end view of the finishing machine showing only the frame and shafts in section and showing the plate as it enters the arch; and

Fig. 18 is a similar view showing the position of the parts as they have pushed the plate

up into a firm seat in the arch and the shaving knife is commencing to operate.

I have shown the machine in Fig. 1 with the casting part of it at the right and the shaving part at the left and illustrated the invention as applied to a machine for casting and shaving a semi-cylindrical stereotype printing plate with the casting box in a position in which its upper flat side is on an incline, all supported on a frame 20.

Referring particularly to Figs. 1 and 5, the machine is operated through a belt on a pulley 21 which is fixed to a shaft 22. On this shaft is a sliding clutch 23 for positively connecting the shaft with a worm 24 which otherwise is free on the shaft. This worm drives a worm gear 25 fixed on the main shaft 26 of the machine. The clutch is operated by a lever 27 having a handle 28 and normally held in the position shown in Fig. 5 by a spring 30. It swings on a stud 29. This lever is provided with a projection 31 which during the rotation of the shaft 26 rests on a cylindrical guide 32 carried by the gear 25. This cylindrical guide 32 has a notch 33. It will be understood that the spring 30 is always tending to pull the lever 27 over toward the shaft 26 and that whenever the gear rotates into such position that the projection 31 registers with the notch 33, the lever will be swung over by the spring and the clutch 23 disconnected. In this way the shaft 26 rotates through a complete revolution after being connected by pushing back the handle 28 and stops automatically at the end thereof without further attention.

The shaft 26 is mounted in bearings 35 arranged at suitable intervals throughout the machine. On this shaft is mounted the usual semi-cylindrical water-cooled core 40 and concentric with the shaft is the usual stationary semi-cylindrical concave water-cooled back 39. These are so arranged that when in the casting position shown in Figs. 5 and 6, the plane of their top surface is at an incline shown in the drawings as about 45°, but any convenient incline will do. In fact features of this invention will operate with a horizontal top surface construction. Carried on the frame are supports or bearings 42 in which a longitudinal shaft 41 is located. This shaft has a handle 44 at the end for turning it. It extends throughout the length of the casting box. It has keyed to it two arms 43 which engage a casting bar 45 extending throughout the length of the back at the lower side and constituting means for closing the mold at that point with the help of certain features as will appear. These arms 43 are normally moved upwardly to the position shown in Fig. 8 by springs 50 and carry with them the bar 45 which is adjustably connected to the arms 43.

In getting ready for casting, the handle 44 has to be turned to bring these parts down to the position shown in Fig. 6. When that is done, a pair of locking hooks 47 engage under a pair of projections 49 at the two ends of the machine and are held there by springs 46 carried by the bar 45. This construction holds these parts down in casting position for the time being.

On the shaft 26 at both ends of the core there are cams 48 circular throughout most of their peripheries and having one projection each. At the proper time these projections engage side projections on the hooks 47 and swing these hooks back out of engagement with the projections 49. Now the springs 50 pull these arms 43 back to the position shown in Fig. 8.

Connected with the shaft 41 are links 51 which at the other end engage cams 52 surrounding the shaft of the core at both ends. These cams operating the links 51 control a pair of end rings 53. These end rings are of usual semi-circular character projecting into the mold space and holding the edge of the matrix or matrices M. In the case illustrated in Fig. 10 especially, they hold the opposite ends of two different matrices. Springs 54 normally pull these end rings back out of matrix-engaging position, but the cams 52 hold them in that position during part of the rotation of the core and at the time of casting. When released, they draw back and release the matrices at their opposite ends.

In Fig. 10 I have also shown two center rings 55 for engaging the inner ends of the two matrices and closing the two mold spaces at that point. As shown at the left in this figure, each of these rings 55 is connected with the rod 56 by a collar construction 57 on the rod. The rod 56 is operated by a lever 58 pivoted at the center and having its end opposite the rod 56 connected by a link 59 with the adjacent end ring 53. Therefore when the end ring moves out as above indicated, the center ring moves in by this simple construction. Of course, this arrangement is provided at both ends of the core and two or more rods 56 and corresponding parts are located at each end. The back itself is provided with passages in which the rods 56 are located.

It might be stated at this point that in Figs. 14, 15 and 16 I have shown a modification of this center ring arrangement in which both rings 55ª are formed with wedge-like projections and are held toward the matrix by means of a wedge segment 60. This is operated around the curvature of the box by the action of the gauge at the upper side of the mold, the connections not being shown herein. Small springs 61 between the rings and the wedge cause the latter to project from the box normally as shown in Fig. 16. This permits the two rings to recede from the matrix. The closing of the mold, however,

brings the upper gauge into contact with the projections of the arch, forcing it between the two rings and causing them to spread out and engage the matrix.

In Fig. 12, I have shown a narrow center ring 55[b]. This can be used where it is not considered necessary to loosen the inner edges of the matrix. In this case, the operator has to depend entirely on the loosening of the outer edges for preparing it for ejection from the casting box.

In Fig. 13 a construction is shown for using the same back as in Fig. 10 for casting a single double-truck plate with a provision at the center for using a single matrix. This is done by removing the center rings and substituting for them a filling ring 63 of the same curvature as the casting box and filling whatever space there is to be filled at this point. The rod 56 can be removed or not but it is of course not used with this construction.

It is to be noted that there are two side bars 64 and 65, each one of which is adapted to come up against a stop 66. Each has a spring 67 for pushing it back against said stop and each has an adjustable screw 68 which is mounted on a projection at its back and at each end. As shown in Fig. 6, these two bars are pushed forward toward the mold to cover a small portion of the edge of the mold space by means of two cams 69 and 70. The cam 69 swings with the bar 45 and the cam 70 swings with a shaft 71 which will be referred to later. They are both pushed in together and pulled out together as will be seen from from comparison of Figs. 6 and 8. It will be observed that the bar 45 is shaped to fit the bar 65 at its edge and projects over it to form the edge of the mold space at that point, but even these two members do not extend clear across the space. The rest of it is covered by a spring-pressed ejecting bar 72 which extends radially from the core and is mounted in a recess therein. These three elements close the lower edge of the casting space for casting purposes.

When the shaft has turned to bring the core 40 up out of the casting box to the position shown in Fig. 7, the hooks 47 are just on the point of being released by the cam 48. This allows the bar 45 to rise to the position shown in Fig. 8, taking with it these hooks. The cam 69 releases the bar 65 so that the spring can move it backwardly out of the way of the plate P which has been cast in the mold. In the same position, this bar 72 has engaged the plate P on the other side and as the core continues to rotate through another half of a revolution, it will eject the plate as shown in Fig. 8. The plate rests on the bar 72 and a long projection 73 on the core. This leaves the plate exposed over the core so that the matrix which is removed with it can be stripped off and the plate pushed into the shaving machine.

The method of introducing the metal into the mold is all old except as to one feature. The usual melting pot 75 is employed with a pump 76 operated by a handle 77. This is provided with a discharge spout 78 which is divided and delivers through two nozzles 79 spaced from each other along the top of the mold space so as to deliver into both of the metal spaces of the mold separately. Where the spout divides, a valve or deflector 80 is pivoted on a shaft 81 and operated by a handle 82. This handle can be turned to three different positions as shown in Fig. 2[a] to deflect all the metal into either nozzle 79 or, when left in central position, to allow the metal to flow out through both. This is to provide for casting single plates at either end of the mold or a plate in each end or a double truck plate extending throughout the mold.

The nozzle 79 delivers to the mold through a gate composed of two members 83 and 84 adapted to be swung about the bearings of the shaft 71. This shaft is provided with a gate support 85 which carries the cam 70 above mentioned. It is not necessary to describe the details of this form of gate except for the fact that it is divided at the center by a partition 86. Otherwise it is like the one shown in the prior application for patent filed by Hans C. Jordhoy, Serial No. 108,632, filed May 12, 1926. This gate is operated for breaking the riser R off the casting plate and delivering it over backwards as shown in Fig. 8.

Now the two plates are pushed out of the position shown in Fig. 8 in a longitudinal direction over a pair of edge trimming saws 87 on a shaft 88, which shaft is operated by a belt and pulley 89. The plates are guided one after the other along longitudinal guides 90 for this purpose and the edges trimmed as is well understood.

The plates then go directly into the shaving arch 91 which is supported on the frame 20. They run on a stationary rail 92 at one side and a movable rail 93 at the other. When the plates have been moved far enough into the arch, the operator swings a handle 94 on a shaft 95. Through gearing 96 this turns a longitudinal shaft 97 which has cams 98 at each end operating a support 99 which is carried by arms 100 pivoted on a longitudinal shaft 101 extending along the finishing arch. This action swings the plates up into the arch and firmly seats them therein. Now the shaft 26 comes around while the next pair of plates are being ejected in accordance with the actions above described. The shaving blade 102 thereon shaves out the interior of both plates in the usual manner. This blade is as long as the core 40 so that it will shave two single width plates or a double truck plate.

It will be seen therefore that while this machine is a complete casting and finishing machine involving the introduction of the metal into the mold, cooling it, ejecting the cast plates, trimming the edges of the plates and shaving out the back, the principal features of the invention relate to the casting mechanism. These features have been fully described in detail and the objects and operation already described in full. However, it may be stated that the operation of the casting mechanism without reference to the other parts is as follows: The handle 28 is moved back from the position shown in Fig. 5 to close the clutch 23. Then the projection 31 rests on the guide 32 as soon as the shaft 26 is moved at all. The mold having been closed previously and the parts being in the position shown in Fig. 6, the first action is to turn the core 40 from that position to the position shown in Fig. 7. This can be done without moving any of the parts that keep the metal from flowing out of the mold at its bottom because the plate 72 is part of this mechanism and it moves backwardly with the core. Of course, the gate for introducing the metal at the top has to be moved out of the way, which is done in the manner indicated in the Jordhoy application above referred to. At the instant illustrated in Fig. 7, the cams 48 release the hooks 47 and the springs 50 turn the shaft 41 up to the position shown in Fig. 8. This releases the edge plate 65 so the spring pulls it back out of the way of the cast plate where it has previously remained. It should have been stated that in moving the gate for introducing the metal, the cam 70 is moved out of contact with the screw 68 and the upper edge plate 64 is also moved back by its spring. The shaft 26 continues to turn and the plate 72 pushes the cast plates P and their matrices around out of the casting box to the position shown in Fig. 8. The parts at the left occupy the position shown in that figure at the beginning of this movement and at its end. In the position shown in Fig. 8 the plates are ready to be pushed off either by hand or mechanically in a longitudinal direction on to the saws 87 and the rest of the operation is performed as previously described.

This forms a very simple machine for casting and finishing two stereotype printing plates or a double truck plate at each operation. It is strong and durable and does not readily get out of order. Each operation is automatic as the operator merely has to start the machine by means of the handle 28 and then has to pay no further attention to that handle except to start it again. He also has to operate the handle 44 once before each rotation for the purpose of bringing the bar 45 down into closed position against the edge of the mold cavity and in opposition to the springs 50. He does this immediately after the plates are pushed off into the finishing apparatus. In the finishing machine, the handle 94 has to be operated to force the plates up into the arch, of course the handle 77 has to be operated to force the metal into the mold and the upper gates have to be operated in the manner shown in Mr. Jordhoy's application above identified.

Although I have illustrated and described only a single form of the invention I am aware of the fact that modifications can be made therein by any person skilled in the art without departing from the scope of the invention as expressed in the claims. Therefore, I do not wish to be limited to all the details of construction herein shown and described, but what I do claim is:—

1. In a mold for casting semi-cylindrical stereotype printing plates, the combination with a curved back and a core rotatable therein on a horizontal axis, of a pair of center rings for dividing the mold cavity into two parts to cast two printing plates therein, and means for moving said center rings and releasing the inner edges of the matrices thereby.

2. A casting box comprising a concave back and a core mounted to turn on a horizontal axis, means for holding the matrix in the back, and means whereby the mold space between the core and back can be divided to produce a plurality of plates and can be made continuous to produce one large plate at will.

3. In a casting box, the combination with a curved back located with its outer edges at an inclination but with its axis horizontal and a semi-cylindrical core rotatable on said horizontal axis, of a pair of end rings for holding the edges of the matrices, means intermediate between the end rings for dividing the mold space into a plurality of parts and holding the inner edges of a plurality of matrices for the production of a corresponding number of plates, and means for moving the intermediate means to release the matrices as the core rotates.

4. A casting box for stereotype printing plates comprising a stationary back and a core rotatable therein on a horizontal axis, end rings slidably mounted in the back for holding the edges of the matrices and closing the ends of the mold, and means between the ends of the mold for dividing the mold into two sections whereby two plates can be cast at once horizontally.

5. In a mold for casting semi-cylindrical stereotype printing plates, the combination with a curved back and a core rotatable therein on a horizontal axis, of a pair of end rings at the ends of the back, means for withdrawing said rings longitudinally and in opposite directions when the core rotates to a certain position comprising cams rotatable with the

core, a pair of center rings for dividing the mold cavity into two parts to cast two printing plates therein, and means operated by the movement of said end rings for moving said center rings inwardly and releasing the inner edges of the matrices thereby.

6. In a casting box, the combination with a core, of clamps for holding the inner edges of two matrices located in the back, and means carried on the back for engaging said clamps and moving them to clamp the matrices.

7. In a casting box, the combination with a curved back arranged horizontally and a core fitting the back and adapted to turn therein on its own longitudinal horizontal axis, of clamps for holding the inner edges of two matrices located in the back, and rods extending longitudinally along in the back for engaging said clamps and moving them into and out of casting position so as to clamp the matrices in one position and free them in the opposite position.

8. In a mold for casting stereotype printing plates, the combination with a back and core, of two cams fixed to turn with the core a pair of end rings mounted in the back, said rings having means co-operating with said cams for pushing them inwardly to casting position, and yielding means for normally drawing them out to release the matrices and the cast plates.

9. In a horizontal mold for casting stereotype printing plates, the combination with a back and core, the core being adapted to turn on a horizontal axis, of two cams fixed to turn with the core, a pair of end rings mounted in the back for clamping the outer edges of the matrices and defining the edges of the mold space, said rings having means co-operating with said cams for pushing them inwardly to casting position, and yielding means for normally drawing them out to release the matrices and the cast plates, said yielding means being adapted to operate whenever the cams permit.

10. In a casting box, the combination with a back and a core, of means for closing the edge of the mold comprising a casting bar pivotally mounted and adapted to to furnish and a spring-pressed bar on the core adapted to project across the rest of the mold face into contact with the casting bar.

11. In a casting box, the combination with a concave back and a rotatable convex core, of means for closing the edge of the mold comprising a spring pressed reciprocable bar located in radial position and normally drawn back by the springs, a cam for forcing it forward to cover a part of the edge of the mold, a casting bar pivotally mounted and adapted to close down on the first-named bar and furnish a surface for defining the edge of the casting, and a spring-pressed bar on the core adapted to project across the rest of the mold face into contact with the casting bar.

12. In a casting box, the combination with a concave back and a rotatable convex core, of means for closing the lower edge of the mold comprising a spring pressed reciprocable bar located in radial position and normally drawn back by the springs, a cam for forcing it forward to cover a part of the edge of the mold, a casting bar pivotally mounted and adapted to close down on the first-named bar and furnish a surface for defining the edge of the casting, and a spring-pressed bar on the core adapted to project across the rest of the mold face into contact with the casting bar, a latch for holding the casting bar in a position in contact with the casting produced, and means rotatable with the core for withdrawing said latch to free the casting bar.

13. In a casting box, the combination with a back, core, and means for rotating the core a complete revolution, of a casting bar adapted to form a part of one edge of the mold and to remain in contact with the casting after it is produced while the core rotates out of the casting box, latches for holding the casting bar in the position described, means for engaging said latches when the core has rotated a half revolution and releasing them, and springs normally tending to raise the casting bar away from the mold to release the casting when the latches have been released.

14. In a stereotype plate casting mold, the combination with a back and core, of an axial shaft on which the core is mounted to rotate, said back being located with its flat side in inclined position, a pair of bars located along upper and lower sides of the back, and a set of cams for forcing said bars inwardly to cover a part of the mold space at the opposite edges of the mold.

15. In a stereotype plate casting mold, the combination with a concave back and convex core, of a horizontal shaft on which the core is mounted to rotate, means whereby the core can be rotated a complete revolution and then stopped automatically, said back being located with its flat side in inclined position, means for introducing metal into the upper edge of the mold space, a pair of bars located radially at along upper and lower sides of the back, each normally spring pressed into a retracted position, and a set of cams for forcing said bars inwardly to cover a part of the mold space at the opposite edges of the mold.

16. In a stereotype plate casting mold, the combination with the back and core, of a shaft on which the core is mounted to rotate, a pair of bars located radially at the upper and lower sides of the back, each normally spring pressed into a retracted position, a pair of cams for forcing said bars inwardly to cover a part of the mold space at the opposite edges of the mold, means for intro-

ducing the metal comprising a shaft to which one of said cams is fixed, whereby the operation of that bar will depend upon the position of the metal introducing means, and a casting bar located at the lower side of the mold and having a cam thereon constituting the means for operating the other radial bar.

17. In a casting box, the combination with a back, core, and means for rotating the core a complete revolution, of a casting bar adapted to form a part of one edge of the mold and to remain in contact with the casting after it is produced while the core rotates out of the casting box, latches for holding the casting bar in the position described, cams on the core for engaging said latches when the core has rotated a half revolution and releasing them, springs normally tending to move the casting bar away from the mold to release the casting when the core has been rotated a half a revolution, a bar on the core projecting during casting into a position to complete the lower edge of the mold which, when the core is rotated half a revolution, will engage the rear edge of the casting so as to eject the casting in a circumferential direction when the core rotates through the second half revolution after the casting bar has been retracted by its springs.

18. In a casting box, the combination with a curved back, of a shaft centrally located in the back, a convex core fixed on said shaft, a bar along one edge of the core when it is in casting position adapted to assist in defining the edge surface of the mold, and springs for projecting said bar when the core turns out of the casting so as to engage the rear edge of the curved casting when the core has been rotated a half a revolution, whereby, when the core is rotated a second half a revolution, said bar will carry the casting around with the core and out of the back.

19. In a casting box, the combination with a curved back, of a shaft in the back, a core fixed on said shaft, a spring pressed bar along the edge of the core, said bar being adapted to be projected by its springs so as to engage the rear edge of the casting when the core rotates to carry the casting around with the core and out of the back, and means co-operating with said bar for supporting the plate when thus moved out of the back.

20. In a stereotype plate casting machine, the combination with a horizontal mold adapted to cast a double truck plate and having removable means for dividing the mold to adapt it to cast two single plates, and having two pouring openings on opposite sides of said removable means, of gates for directing the metal into the mold, said gates being divided to introduce two streams of metal on opposite sides of the point of division of the mold.

21. In a stereotype plate casting machine, the combination with a mold having a removable partition for the casting of a plurality of single plates, gates on opposite sides of said partition for directing the metal into the mold, said gates being divided to introduce a plurality of streams of metal into the mold, and a spout for introducing metal into the gates, said spout being divided at the end and having a plurality of nozzles, one for delivering into each part of the gate.

22. In a stereotype plate casting machine, the combination of a mold having gates divided to introduce a plurality of streams of metal into the mold, a spout for introducing metal into the gates, said spout having a plurality of nozzles, one for delivering into each part of the gate, and means for directing the metal through either or both of said spouts.

23. In a casting machine, the combination with a metal spout having two separate nozzles to deliver metal at two separate points, of a valve pivoted at a point where the two nozzles diverge and capable of being turned to direct all the metal into either nozzle or to both nozzles.

24. In a casting machine, the combination with a metal pump and a spout, said spout being divided and having two separate nozzles to deliver metal at two separate points into the same mold, of a valve pivoted at a point where the two nozzles diverge and capable of being turned to two different positions to direct all the metal into either nozzle or, when in central position, to allow the metal to flow to both nozzles.

25. In a stereotype plate casting and finishing machine, the combination with means for casting a plurality of curved stereotype plates in the same mold and on the same core, means for delivering the plates simultaneously above the mold in axial alignment with each other, tracks in registration with the position of the delivery whereby the plates can be moved therefrom directly on the tracks, and a pair of trimming saws for trimming the edges of said plates one after the other while they move along the tracks.

26. In a stereotype plate casting and finishing machine, the combination with means for casting a plurality of plates in axial alignment in the same mold, means for transversely delivering the plates simultaneously, tracks in registration with the position of the delivery, trimming saws for trimming the edges of said plates while they move along the tracks, and a shaving arch in axial alignment with the mold and tracks for receiving the plates therefrom, said shaving arch being of a length to receive the two plates and having a blade therein for simultaneously shaving two plates on the interior.

27. In a combined stereotype plate casting and finishing machine, the combination with a mold divided so as to cast two plates in axial alignment with each other, said mold

comprising a rotatable core, of a shaft on which the core is located adapted to deliver the two plates simultaneously, a shaving arch in position to receive the plates when pushed in an axial direction from the position just described, the shaft extending into said shaving arch and having means thereon for simultaneously shaving the two plates in the arch.

28. In a stereotype plate casting and finishing machine, the combination with a mold divided so as to cast two plates in axial alignment with each other in horizontal position, said mold comprising a rotatable core, of a shaft on which the core is located, means for operating the shaft so that the plates will be delivered simultaneously over the shaft, a shaving arch in horizontal registration with the mold to receive the plates directly therefrom, the shaft extending through said shaving arch and having a blade thereon long enough for simultaneously shaving the two plates or a double truck plate in the arch.

In testimony whereof I have hereunto affixed my signature.

HENRY A. WISE WOOD.