

A. EGLI.

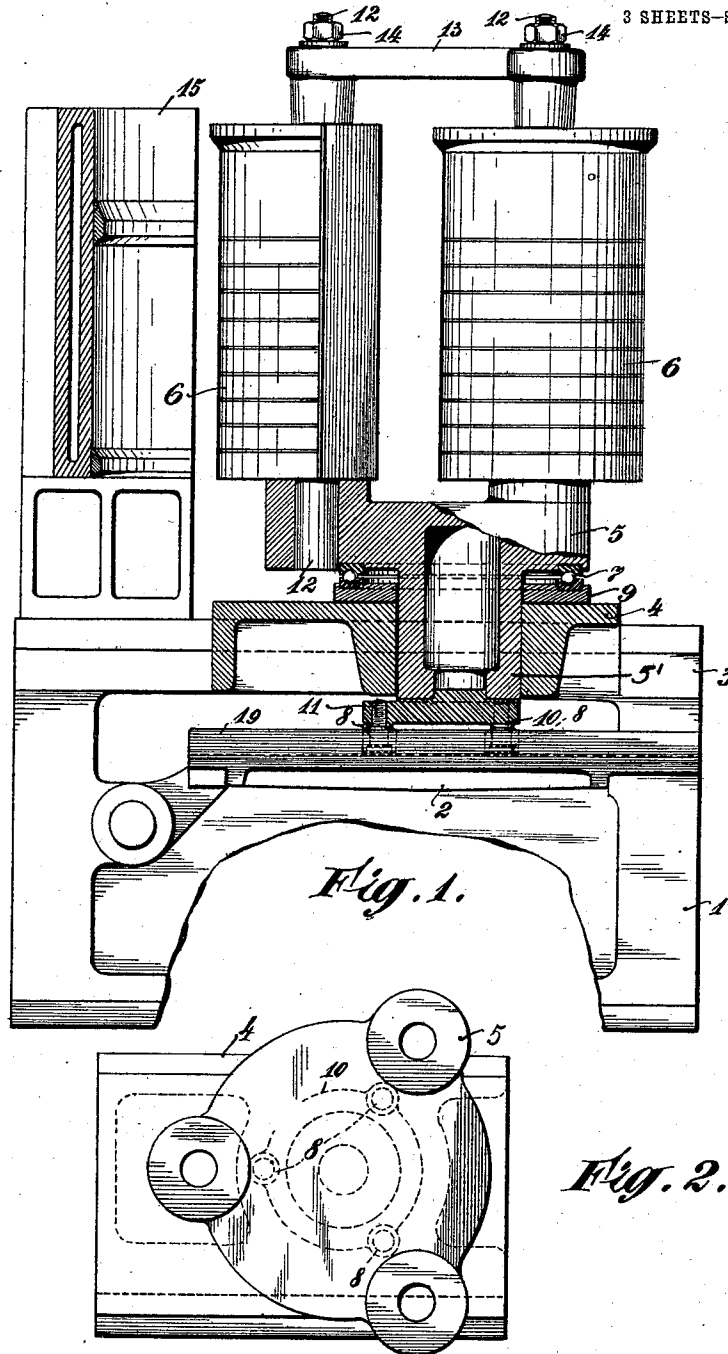
MACHINE FOR CASTING AND FINISHING CYLINDRICAL STEREOTYPE PLATES.

APPLICATION FILED OCT. 31, 1911.

1,028,694.

Patented June 4, 1912.

3 SHEETS-SHEET 1.



Witnesses:
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Anna Hays.

Inventor:
Arnold Egli
by *Arthur H. H. H.*

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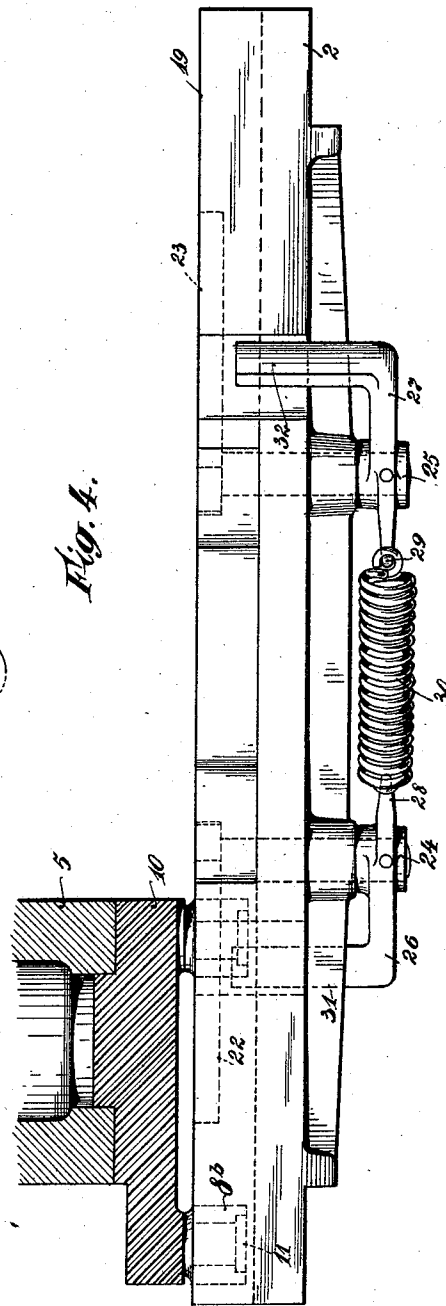
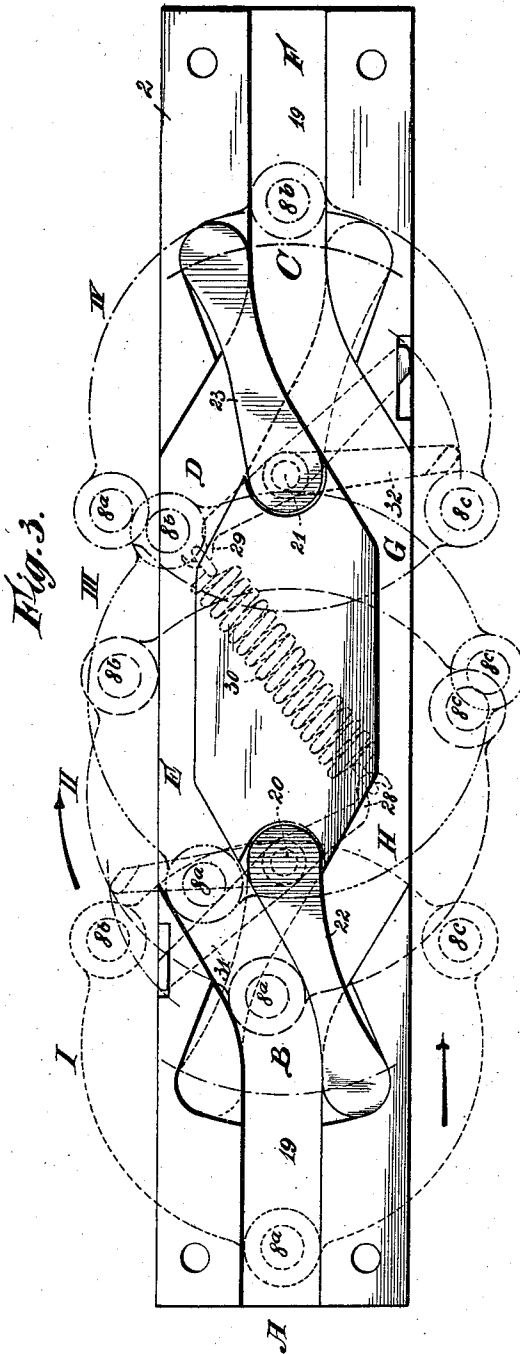
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3 SHEETS—SHEET 3.

Fig. 5.

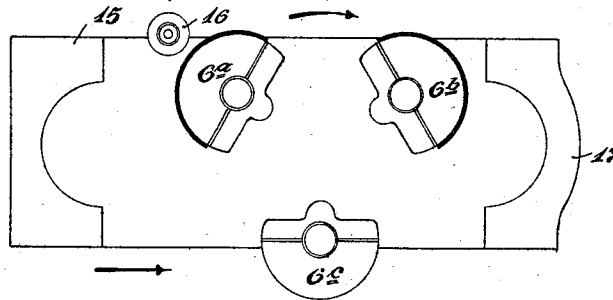


Fig. 6.

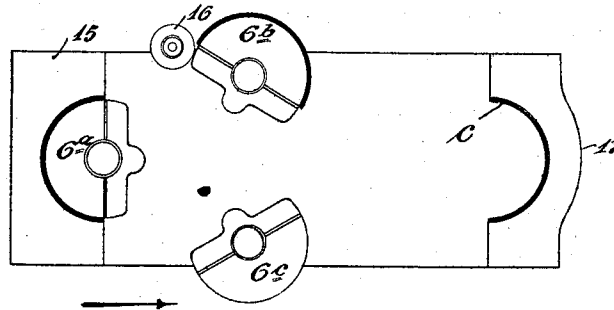
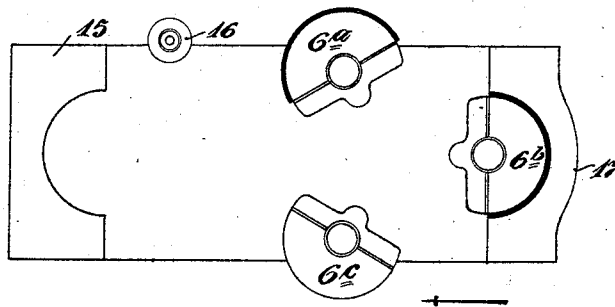


Fig. 7.



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UNITED STATES PATENT OFFICE.

ARNOLD EGLI, OF PLAUE, GERMANY, ASSIGNOR TO VOGTLANDISCHE MASCHINEN-FABRIK (VORMALS J. C. & H. DIETRICH) A. G., OF PLAUE, GERMANY.

MACHINE FOR CASTING AND FINISHING CYLINDRICAL STEREOTYPE-PLATES.

1,028,694.

Specification of Letters Patent.

Patented June 4, 1912.

Application filed October 31, 1911. Serial No. 657,711.

To all whom it may concern:

Be it known that I, ARNOLD EGLI, a subject of the King of Prussia, residing at Plaue i. Vogtl, in the Kingdom of Saxony and German Empire, have invented certain new and useful Improvements in Machines for Casting and Finishing Cylindrical Stereotype-Plates, of which the following is a specification.

My invention provides for improvements on machines for casting and finishing cylindrical stereotype plates of the known type in which a core cylinder coöperates with a mold box to form the casting mold and the two mold components are mounted vertically with relation to their supporting frame.

The improvements in the machine which constitute the present invention reside in the employment of three core cylinders and of a curvilinear guide path for rotating the table carrying the said three core cylinders or work cylinders through 120° during each displacement of the carriage from the mold box toward a drill situated opposite to it and back again whereby the work cylinders are guided to their places of operation in such a manner that the cylinder carrying the cast plate is guided to a shaping device or machine and the cylinder carrying the shaped or cut plate to the drilling device and the third cylinder as a mere or empty core into the mold box. To this end a star wheel is fixed on the under side of the turntable carried by the carriage with the three cylinders; this star wheel carries three rollers spaced 120° apart the center of which wheel is located on the connecting lines between the core cylinder and the center of the turntable. The cam or guide path is fixed in the frame beneath the carriage, the rollers on the star-wheel alternately entering its curve. This curve forms a forward and reverse track produced by two switches. By the movement of the carriage the roller which for the time being is located in the curve must follow the path prescribed by the curve and switch whereby the roller imparts the desired rotation to the turntable. The rollers are positively guided in the curve in such a manner that one roller only leaves its track when the rotation of the star wheel has progressed so far that the next roller has already entered the extension of the curve whereby the turntable is exactly fixed in each position.

My invention is illustrated in the accompanying drawing, in which:

Figure 1 is a side elevation of the new machine with the drill casing omitted. Fig. 2 is a plan of the carriage and turntable. Fig. 3 is a plan of the reversing track. Fig. 4 shows this track with the starwheel in side elevation. Figs. 5, 6 and 7 illustrate the operation of the machine diagrammatically.

In Fig. 5 the core 6^b with the cut plate is moving toward the drilling apparatus 17, the core 6^a having taken the plate just cast from the mold 15. In Fig. 6, the core 6^a is in the mold box 15, the core 6^b with the cast plate having moved to the cutter 16, while the core 6^c has left its cut plate for drilling in the drilling apparatus 17. In Fig. 7, the core 6^b is delivering its plate for drilling to the drilling apparatus 17 and, after this has been done, the core 6^a moves toward the cutter 16, whereas the core 6^c centers the mold 15 to receive a fresh casing.

The cam or guide track 2 is mounted in the machine frame 1 (Fig. 1) in such a manner that the rollers 8 on the star-wheel mounted on the under side of the turntable 5 which rollers are rotatably mounted on pins 11 are guided in the curve 19 of the cam path. The turntable 5 which carries the three cores 6 rotatable about the shafts 12 is itself rotatably mounted in the carriage 4 by means of a stub-shaft 5' and the pressure produced by the weight of the parts resting on the turntable is taken up by the ball bearing 7 provided on the ring 9. The carriage 4 and the center of the turn table are arranged to move in a straight line in a slide-way 3, provided in the frame 1, and they are reciprocated between the mold 15 and the drilling apparatus 17. The shafts 12 are immovably fixed in the turntable 5 and are rigidly held by the cross piece 13 located above the cores and secured to the shafts by the nuts 14. The curve 19 causing the rotation of the turntable is cut in the cam track 2 (Figs. 3 and 4) the rollers 8 rotatable on the pins 11 being guided in this curve. Switches are arranged at the portions B and C of the cam track 2 at the points 20 and 21; these switches are rotatable about studs and their tongues 22 and 23 are let into the cam track only to half the depth of the curve so that the rollers will be guided on both sides. Two-armed levers 26 and 27 are fixed to the end of the studs 24 and 25 opposite

the tongues 22 and 23. The hook-shaped ends 28, 29 of the levers 26, 27, engage a spring 30 which normally holds the tongues 22, 23 in the position shown in Fig. 3, where-
 5 as arms 31, 32 of the levers 26, 27 will positively draw back the tongues 22, 23 after they have been moved to the position shown by the broken lines in Fig. 3 by the passage of one of the rollers engaging the said tongues
 10 as shown in Fig. 3.

The operation is as follows: If the core 6^a is in the mold box 15 (Fig. 6) that is to say in its end position, its corresponding roller 8^a is situated in the portion A B of
 15 the cam path 19 which portion is parallel with the direction of movement of the carriage 4, the tongue 22 being in its normal position under the tension of the spring 30 (position I). When the carriage 4 moves
 20 toward the drilling apparatus 17 the roller 8^a first travels in a straight line from A to B and is then switched off by the tongue 22 into the curved portion B, E (position II). Before the roller 8^a leaves the closed curve at
 25 E the roller 8^b has entered the other closed portion of the curve at B (position III) so that the turn table is continuously and positively rotated about its shaft 5'. In the further movement of the carriage 4 the
 30 roller 8^b strikes against the tongue 23 located across the curve (Fig. 3) moving it from its normal position into the position shown by the broken lines, the tongue 23 thus completing the curve which is open at the
 35 branch C. After the roller 8^b has passed the tongue 23 the roller 8^c strikes against the arm 32 (position IV) and upon the further movement returns the tongue 23 to its normal position in which it is retained by
 40 the spring 30 and thus prescribes the path C, G, H, B for the roller 8^b in its return from F.

I claim:

1. In a machine for casting and finishing
 45 cylindrical stereotype plates, the combination of a stationary mold, a turn-table, core cylinders mounted thereon, a carriage carrying said turn table and adapted to move toward and away from said mold, a cam-track arranged below said carriage and
 50 turn-table, and guiding means on the underside of said turn table adapted to engage said cam track so as to rotate said turn table.
- 55 2. In a machine for casting and finishing cylindrical stereotype plates, the combination of a stationary mold, a turn table, three core cylinders mounted thereon and spaced 120° apart, a carriage carrying said turn-
 60 table, a cam-track arranged below said carriage and turn-table, and guiding means on

the underside of said turn-table adapted to engage said cam-track.

3. In a machine for casting and finishing cylindrical stereotype plates, the combina-
 65 tion of a stationary mold, a turn-table, core cylinders mounted thereon, a reciprocating carriage carrying said turn-table, a cam-track arranged below said carriage and turn-table and comprising two curved
 70 grooves connected at their ends to form rectilinear extensions, guiding means on the underside of said turn-table adapted to engage said cam-track, and switching means in connection with said cam-track.

4. In a machine for casting and finishing cylindrical stereotype plates, the combina-
 75 tion of a stationary mold, a turn-table, core cylinders mounted thereon, a reciprocating carriage carrying the turn-table, a cam-track arranged below said carriage and comprising two curved grooves connected at
 80 their ends to form rectilinear extensions, guiding means on the underside of said turn-table adapted to engage said cam-track, switches provided at the junctions of said curved grooves, and tongues projecting from
 85 said switches into the grooves to about half the depth of said grooves for the purpose of guiding the guiding means on the under-
 90 side of said turn-table.

5. In a machine for casting and finishing cylindrical stereotype plates, the combina-
 95 tion of a stationary mold, a turn-table, core cylinders mounted thereon, a reciprocating carriage carrying said turn-table, a cam-track arranged below said carriage and turn-table and comprising two curved grooves,
 100 connected at their ends to form rectilinear extensions, switches at the junctions of said grooves, tongues projecting from said switches across said grooves to about half the depth thereof, and lever-arms connected
 105 with said tongues and extending into the path of the said guiding means for the purpose set forth.

6. In a machine for casting and finishing stereotype plates, the combination of a sta-
 110 tionary mold, a turn-table, three core cylinders mounted thereon and spaced 120° apart, a reciprocating carriage carrying said turn-table, a cam-track arranged below said carriage and turn-table, studs provided on the underside of said turn-table, and rollers
 115 mounted on said studs and adapted to engage said cam-track.

In testimony whereof I have affixed my signature in presence of two witnesses.

ARNOLD EGLI.

Witnesses:

WILHELM DUNKEL,
 ROBERT H. NIER.