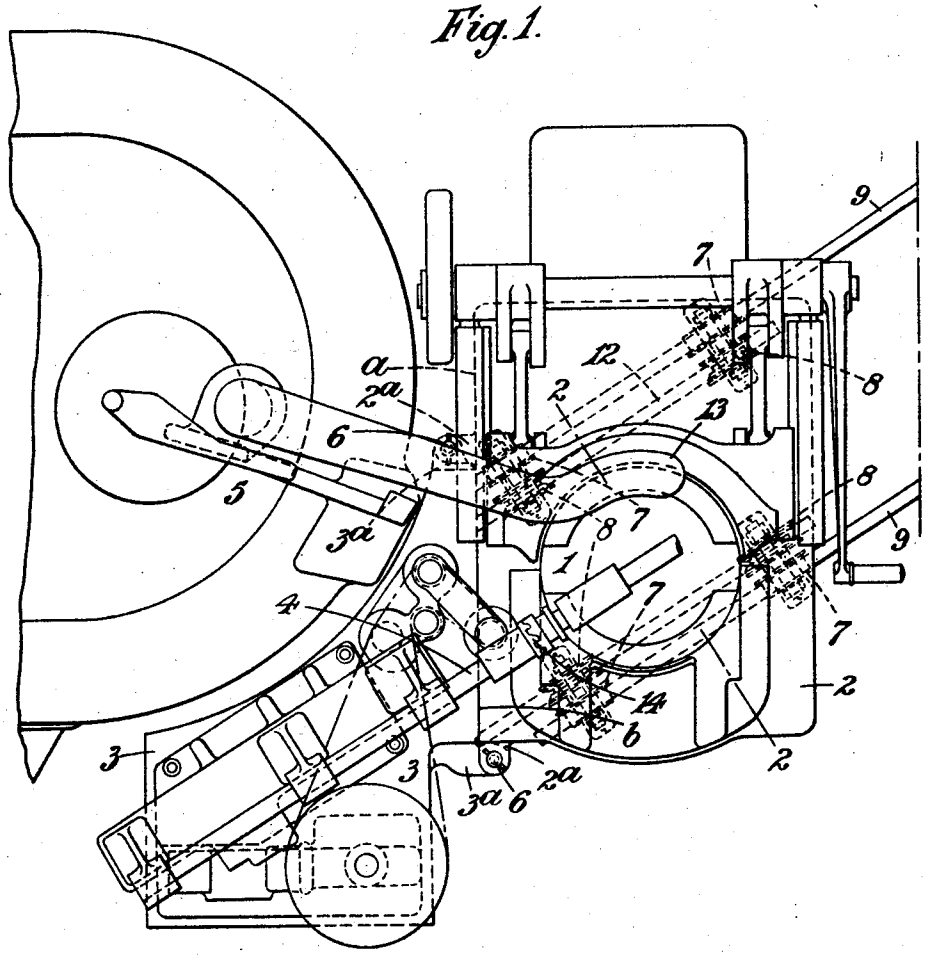
Nov. 17, 1925. 1,561,846

B. J. J. GOULDING

APPARATUS FOR CASTING CURVED STEREOTYPE PRINTING PLATES

Filed Aug. 28, 1923 3 Sheets-Sheet 1

Fig. 1.



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Filed Aug. 28, 1923 3 Sheets-Sheet 2

Fig. 1.

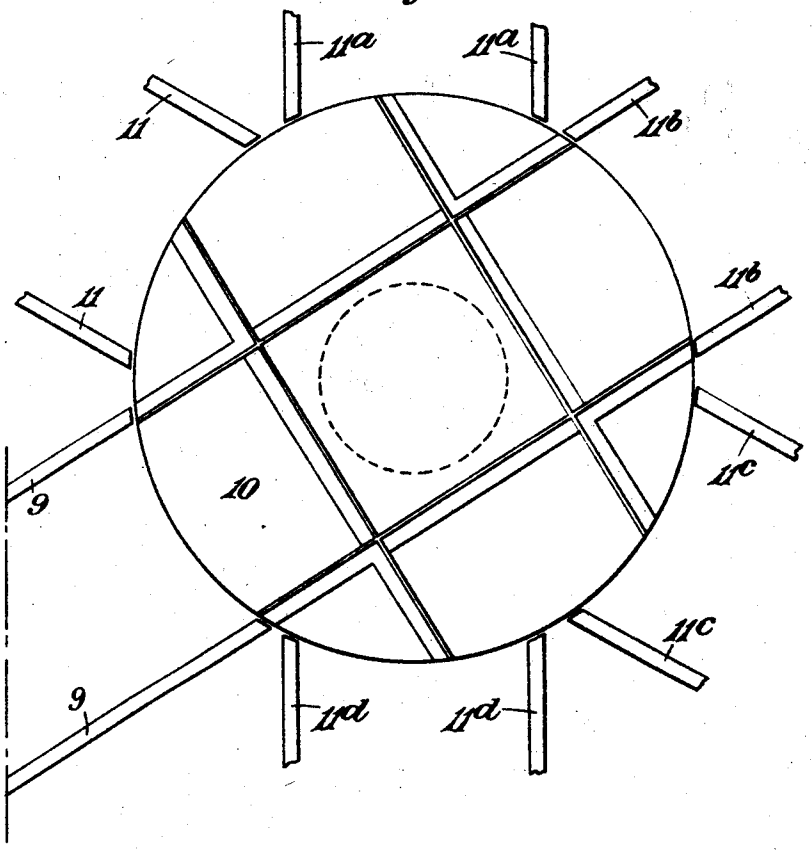
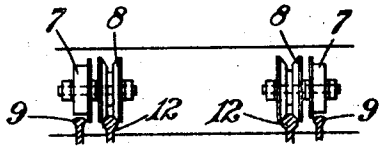


Fig. 2.



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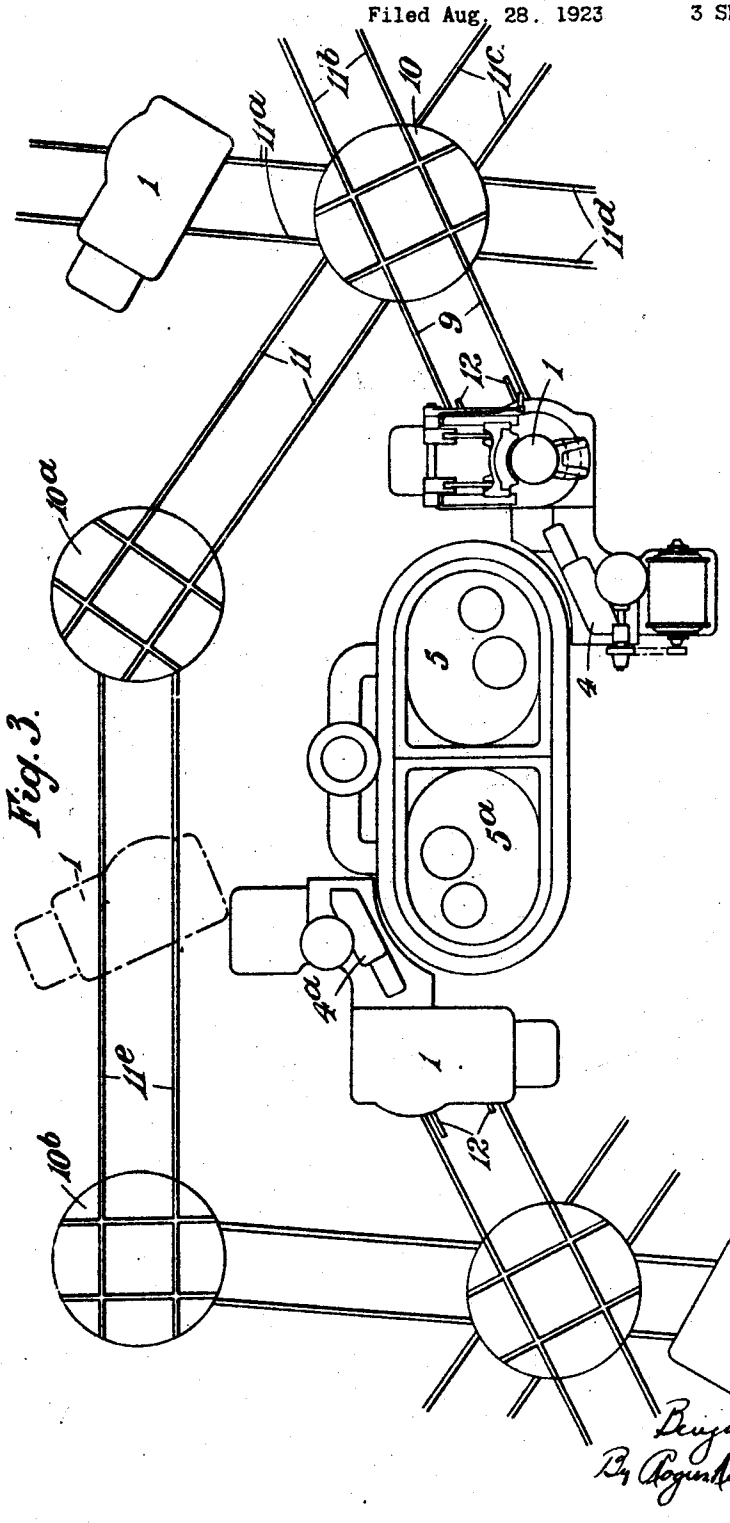


Fig. 3.

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UNITED STATES PATENT OFFICE.

BENJAMIN JOSEPH JOHN GOULDING, OF ALTRINCHAM, ENGLAND, ASSIGNOR TO LINOTYPE AND MACHINERY LIMITED, OF LONDON, ENGLAND, A COMPANY OF GREAT BRITAIN.

APPARATUS FOR CASTING CURVED STEREOTYPE PRINTING PLATES.

Application filed August 28, 1923. Serial No. 659,731.

To all whom it may concern:

Be it known that I, BENJAMIN JOSEPH JOHN GOULDING, a British subject, and residing at Linotype and Machinery Works, Altrincham, in the county of Chester, England, have invented new and useful Improvements in Apparatus for Casting Curved Stereotype Printing Plates, of which the following is a specification.

This invention relates to improvements in apparatus for casting curved stereotype printing plates, and has for a particular object to provide new or improved means for enabling plates of different diameter or curvature to be produced by one and the same apparatus.

The type of apparatus to which the invention is especially applicable, is that which comprises a melting pot, a vertical casting mould or box (known in the art as a casting box) wherein curved stereotype printing plates are cast on a cylindrical core from metal received from the melting pot, driving mechanism for turning the core about its axis, and trimming mechanism for trimming the plates during the turning of the core, all substantially as described in Letters Patent No. 1,009,367.

In the abstract the object of the present invention may be said to reside in the provision of an arrangement wherein a plurality of casting boxes of different diameters or curvatures can be supplied from one and the same melting pot to which they can be presented in any desired order and wherein the plates cast in all of said boxes can be trimmed by one and the same trimming mechanism.

The invention will now be described by reference to the accompanying drawings which are to be taken as part of this specification and read therewith:—

In these drawings:—

Figures 1 and 1ª are a plan, partly diagrammatic, of one constructional form of the said invention,

Figure 2 is a transverse section of part of the apparatus taken on line 2—2 of Figure 1, and

Figure 3 is a diagram of a modified arrangement of the apparatus.

In the arrangement as illustrated in Figures 1, 1ª and 2, provision is made for the interchange of five different casting boxes, but as these boxes differ from each other only as regards their diameter or curvature, it is believed that the single one represented in the drawing as an example, will suffice to afford a clear understanding of the invention.

This casting box 1 is shown in casting position and, like each of the other casting boxes, is mounted on a base-plate 2 which can be readily attached to, and detached from, the base-plate 3 carrying the driving and trimming mechanism 4, this latter base plate being, as ordinarily, in permanent fixed relationship to the melting pot 5.

A convenient means for detachably securing the base-plate 2 to the base-plate 3 is provided by pins 6, 6 which accurately fit into holes in two pairs of mutually-registering lugs 2^a and 3^a formed respectively on the base plates 2 and 3.

Each casting box base-plate 2 is provided with two sets of rollers 7 and 8 of which the former (7) are adapted to travel along a track 9 leading to, and extending across, a turntable 10. By means of this turntable the interchange of the casting boxes is effected, there being as many tributary tracks radiating from the turntable 10, in addition to the main track 9, as there are interchangeable casting boxes; five is the number in the example illustrated, these being respectively identified by the reference numerals 11, 11^a, 11^b, 11^c and 11^d. The rollers 8 are adapted to travel along a short track 12 in permanent rigid connection with the base-plate 3 of the driving and trimming mechanism. The peripheral contour of the rollers 8 and the shape and height of the rails 12, see particularly Figure 2, are such as to bring the selected casting box into correct operative register with the metal-pot mouth-piece 13 and driving mechanism 4; in Figure 1, it is the before particularized casting box 1, which is shown in this operative register. The tributary tracks 11, 11^a etc., constitute separate docks each for accommodating one of the interchangeable casting boxes when they are not in operative position.

A convenient point at which to make and break connection between the driving mechanism 4 and the casting box, is that at which the clutch 14 is usually provided in existing

apparatus, as is shown in Figure 1 in which figure the line marked *a*, *b*, represents the meeting edges of the two base-plates 2, 3.

When, with the foregoing arrangement, it is desired to effect an operative change of casting box, the base-plate 2 appertaining to the casting box then in operative position, is disconnected from the base-plate 3 by withdrawing the pins 6, and moved along first the track 12 and thereafter along the track 9 towards, and on to, the turntable 10 from which, after the latter is turned to the desired position, this same casting box is removed on to the pertinent tributary track or dock 11 or 11ª etc. The turntable is then turned to the position necessary for receiving the substitute casting box which is then run on to it, and thence to the track 9 leading towards the melting pot 5 and along which it is moved until it reaches the track 12 which raises it off the track 9, as shown in Figure 2, and directs it to its proper operative position wherein it can then be secured by means of the registering pins 6. When this attachment is completed, the casting box is held rigidly in position to co-operate with the metal-pot mouth-piece 13, and driving and trimming mechanism 4 in the same manner as though the two base-plates 2 and 3 were formed as parts of one and the same entity.

By the foregoing means, therefore, the casting and trimming of a number of stereotype plates of relatively different diameter or curvature is rendered possible with the use of only one metal pot with its associated driving and trimming mechanism.

When the foregoing improvements are embodied in an installation having what is known as a twin or double metal pot as shown in Figure 3, each element 5 or 5ª of said pot together with the respective driving and trimming mechanism 4 or 4ª, may be regarded as a separate unit and arranged to serve its own complement or set of casting boxes. In such an arrangement certain of the tributary tracks appertaining to the respective turntables, can be mutually connected through a further track 11ᵉ and other turntables 10ª and 10ᵇ, so as to enable the casting boxes 1 of different sets, to be used interchangeably with the different metal pot units 5, 5ª and driving and trimming mechanisms 4, 4ª.

With the last-named modification in view, it will be obvious that by a further development the invention could be embodied in an installation having a multiple pot arrangement comprising more than the two units included in said modification.

Having described my invention, I declare that what I claim and desire to secure by Letters Patent is:—

1. Apparatus for casting curved stereotype printing plates, having a molten metal delivery mouth-piece, a driving and trimming mechanism, and a plurality of interchangeable casting moulds adapted to be moved alternatively into and out of operative relationship to the said mouth-piece and mechanism each independently of another, characterized by the fact that the casting moulds can be thus moved in any order of succession.

2. In apparatus for casting curved stereotype printing plates, the combination with a source of molten-metal supply and a plurality of casting moulds adapted to be moved alternatively into and out of position each independently of another for receiving such metal, of a track along which the casting moulds are thus moved to the said position, a plurality of tributary tracks or docks and a turntable adapted to register with the track and docks, for permitting a casting mould to be moved from any of the docks into the aforesaid metal receiving position.

3. In apparatus for casting curved stereotype printing plates, the combination with a source of molten-metal supply and a driving and trimming mechanism, of a plurality of interchangeable casting moulds adapted to be moved alternatively into and out of position each independently of another for receiving such metal, a corresponding plurality of docks each for accommodating one of the casting moulds, and means whereby the casting moulds can be brought into operative relationship to the said supply and driving and trimming mechanism in any order.

4. Apparatus for casting curved stereotype printing plates having in combination a source of molten-metal supply, a plurality of casting moulds adapted to be moved alternatively into and out of position each independently of another for receiving such metal, a track along which the casting moulds are moved to the said position, a plurality of tributary tracks or docks, a turntable adapted to register with the track or docks, for permitting a casting mould to be moved from any of the docks into the aforesaid operative position and two sets of rollers on each casting mould, one set adapted to direct a casting mould towards and from the turntable, and the other set adapted to bring the said mould into and support it in operative register with the source of molten metal supply.

5. Apparatus for casting curved stereotype printing plates having in combination a source of molten-metal supply, a plurality of casting moulds adapted to be moved alternatively into and out of position each independently of another for receiving such metal, a track along which the casting moulds are moved to the said position, a plurality of tributary tracks or docks, a turntable adapted to register with the track

or docks, for permitting a casting mould to be moved from any of the docks into the aforesaid operative position, two sets of rollers on each casting mould, one set adapted to direct a casting mould towards and from the turntable, and the other set adapted to bring the said mould into and support it in operative register with the source of molten metal supply and means such as the registering pins 6 for locking or securing a casting mould in operative register with the source of molten metal supply.

6. In apparatus for casting curved stereotype printing plates, the combination with a plurality of units each comprising a source of molten-metal supply and a driving and trimming mechanism, and, for each such unit, a plurality of casting moulds adapted to be moved alternatively and each independently of another into and out of position for receiving such metal, a track along which the casting moulds are thus moved to the said position, a plurality of tributary tracks or docks and a turntable adapted to register with the track and docks, of a further track and other turntables mutually connecting certain tributary tracks appertaining to the respective metal supply sources so as to admit of the operative interchange of the casting moulds appropriate to respectively different metal supply sources.

In testimony whereof I have affixed my signature hereto.

BENJAMIN JOSEPH JOHN GOULDING.