

Sept. 11, 1923.

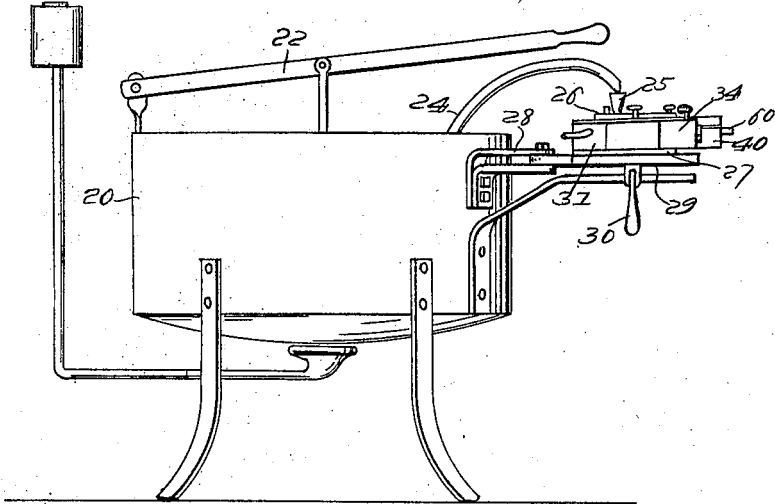
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M. F. TURNER

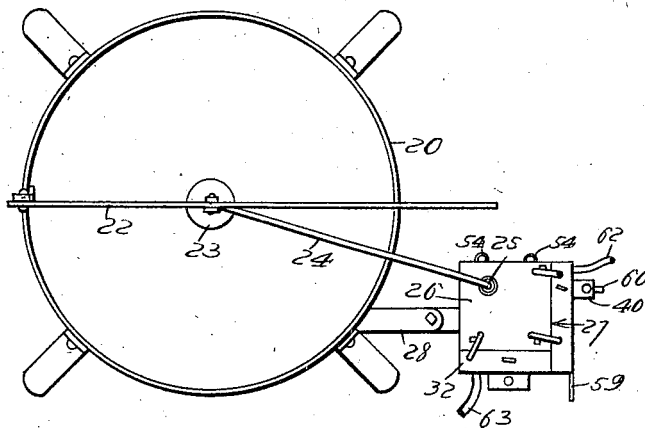
TYPE CASTING APPARATUS

Filed June 1, 1921.

4 Sheets-Sheet 1.



*Fig. 1.*



*Fig. 2.*

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*E. Hume Talbot,*

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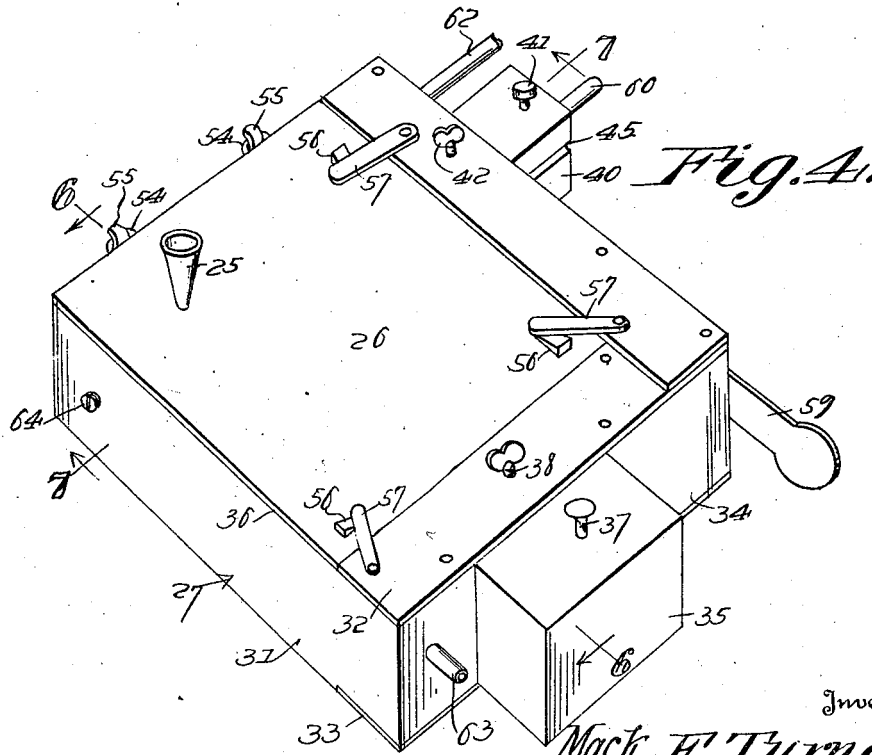
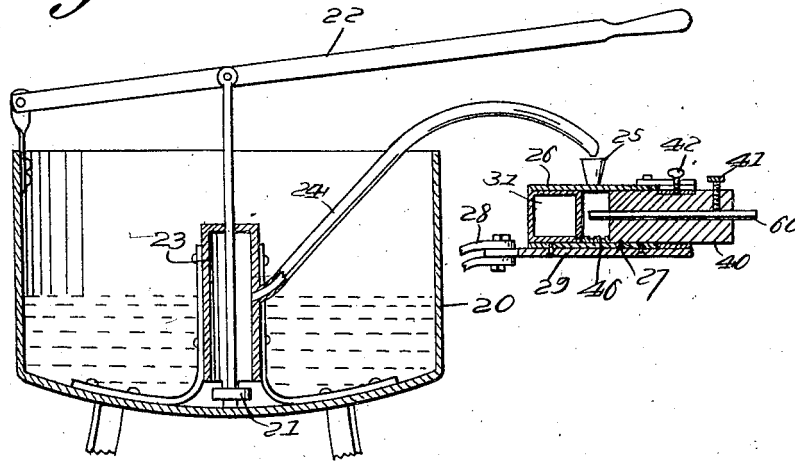
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*Fig. 3.*



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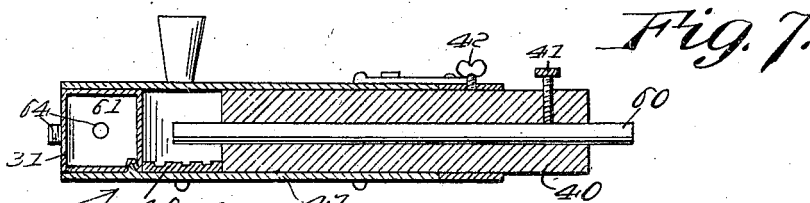
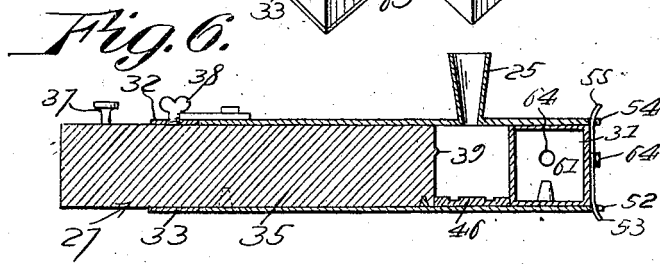
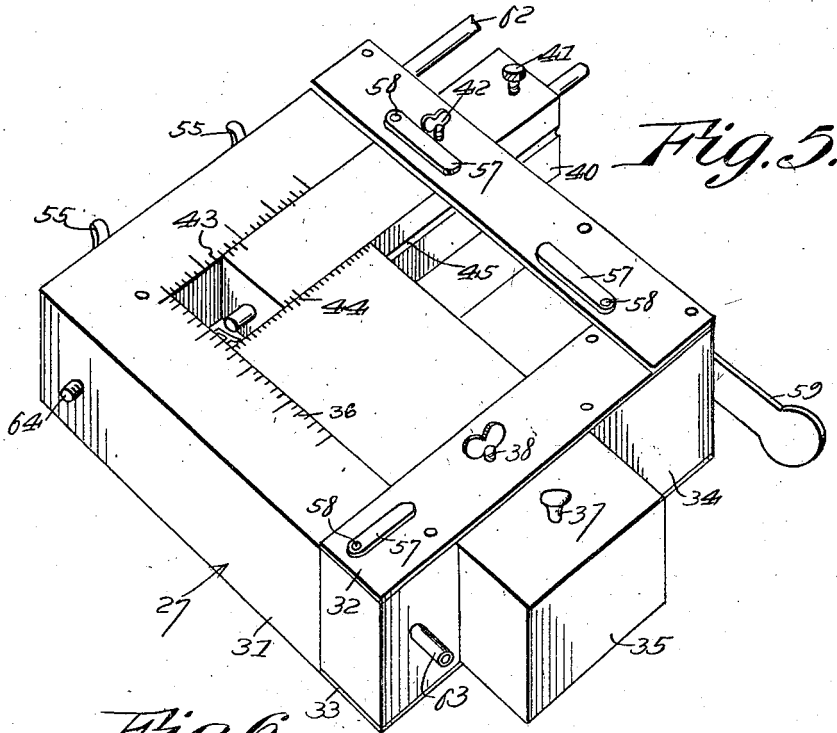
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TYPE CASTING APPARATUS

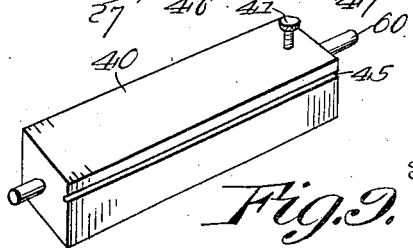
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By *Edmund Talbot*  
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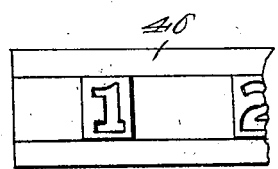
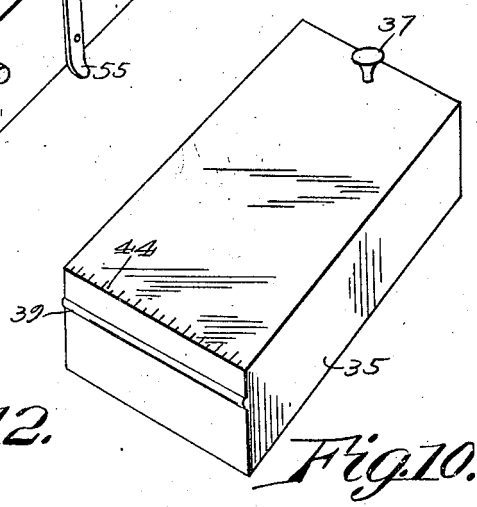
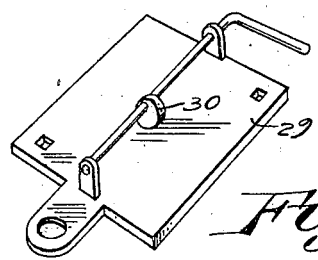
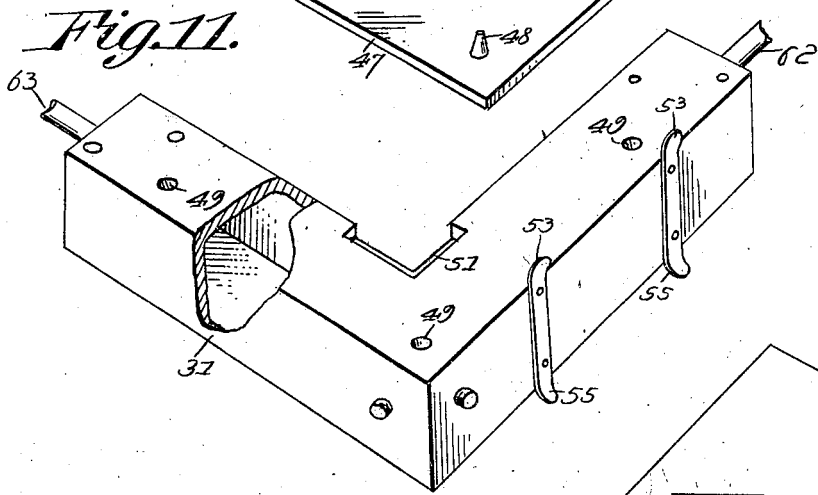
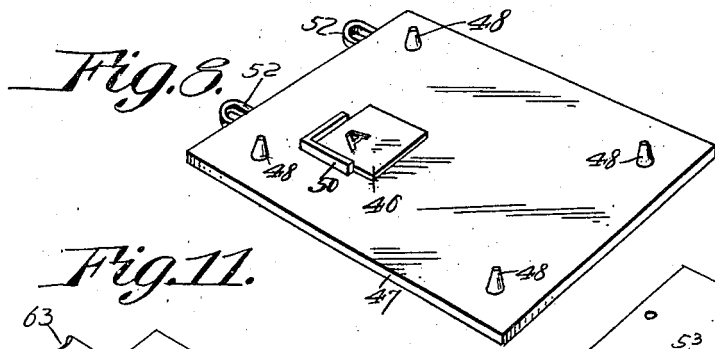
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TYPE CASTING APPARATUS

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*Fig. 13.*  
Inventor  
Mack F. Turner,

By *E. Hume Talbot*  
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# UNITED STATES PATENT OFFICE.

MACK F. TURNER, OF OTTAWA, ILLINOIS.

TYPE-CASTING APPARATUS.

Application filed June 1, 1921. Serial No. 474,159.

*To all whom it may concern:*

Be it known that MACK F. TURNER, a citizen of the United States of America, residing at Ottawa, in the county of La Salle and State of Illinois, has invented new and useful Improvements in Type-Casting Apparatus, of which the following is a specification.

The object of the invention is to provide a comparatively inexpensive and efficient means for casting type and more particularly special type for display purposes, head lines and the like, either in accordance with an original or especially prepared design or in duplication of type already in hand and especially designed for use in relatively small and unpretentious print shops, jobbing establishments, rural newspaper printing offices and the like, where, for example, only one or a few type may be required in connection with a particular job or for a special purpose, and under conditions where the character of the work or the purpose for which the type is required, or the urgency of the need for the particular type is such as not to justify obtaining the same from the ordinary source of supply and makes it necessary or at least desirable for the printer to be able to produce the type in the print shop; and with this object in view the invention consists in the construction and combination of parts of which a preferred embodiment is shown in the accompanying drawing, wherein:

Figure 1 is a side view.

Figure 2 is a plan view.

Figure 3 is a sectional view of a complete apparatus for casting type including the tank, pump and form for casting box.

Figure 4 is a perspective view of the casting box.

Figure 5 is a similar view with the top plate omitted.

Figures 6 and 7 are sectional views respectively on the planes indicated by the lines 6—6 and 7—7 of Figure 4.

Figure 8 is a detail view in perspective of the bottom plate.

Figure 9 is a similar view of the type blade.

Figure 10 is a similar view of one end of the set block.

Figure 11 is a similar view of the angle

frame forming a member of the mold box and inverted and partly broken away to show the groove for receiving the mat gauge and the water circulating chamber.

Figure 12 is a similar view of the mold seat inverted.

Figure 13 is a detail view of a type face blank.

The metal pot 20 in which the type metal is melted may be of any preferred or conventional form within which is arranged a pump having a piston 21 operable by a suitable lever 22 in a cylinder 23 from which extends a delivery spout 24 for discharging the molten metal into a filling funnel 25 carried by the cap or cover plate 26 of the mold box indicated at 27, the melting pot preferably being provided with a lateral bracket 28 upon which is pivotally mounted a seat plate 29 for supporting the mold and carrying a clamp 30 to elevate the mold and position the funnel 25 with reference to the spout 24.

The mold box consists essentially of an angular frame member 31 (shown in detail in Figure 11) of which the arms are connected by top and bottom strips 32 and 33 with a corner block 34 between which and one of the arms of the angle bar is provided a guide for the point set block 35, movable longitudinally with relation to a type size gauge 36 by means of a suitable knob 37 and adapted to be locked at the desired adjustment by a set-screw 38. At its inner end the point set block is provided with a nick pin or rib 39 designed for forming the nick or notch in a type casted between said inner face of the point set block and the corresponding inner end of a type blade 40 which also is provided with a knob 41 and is adapted to be secured in an adjusted position by a set-screw 42, said blade being slidably fitted between the operative or casting face formed by the inner end of the point set block and the inner surface of the parallel arm of the angle bar 31 which latter is provided with a type width gauge 43. A corresponding gauge 44 may also be provided parallel with the operative or inner face of the point set block while the adjacent surface of the type blade is provided with a groove 45 to receive the nick pin or rib 39.

The space defined between the inner angle

of the frame bar 31 and the adjacent end faces of the point set block and type blade and definitely bounded thereby at any adjustment relatively of the said block and blade which may be desired by the operator represents the size in the matter of ems and points or width and depth of the type to be cast, and the face of the type is formed by means of a type face mat 46 seated on the bottom plate 47 of the mold, which plate is positioned by means of dowel pins 48 engaging sockets 49 in the under side of the frame bar, said bottom plate carrying an angle alignment gauge 50 adapted to serve as a means of aligning or positioning the mat with relation to the molding space provided as above indicated, and said alignment gauge, which is of angular form being adapted for reception when the parts of the mold are assembled by an angular groove 51 formed in the under surface of the frame bar 31, as shown in Figure 11.

The type face mat may be either of metal or paper and may be formed as a matrix from an old type face or kept in stock for emergency use and when formed of paper being capable of repeated use as for from five to twenty-five times and being adapted to be furnished to the printer, for example, in sheets or strips as indicated in detail in Figure 13.

The bottom plate of the mold is provided at one edge with eyes 52 for engagement with coupling hooks 53 on the frame bar and the top or cover plate is provided with corresponding eyes 54 for engagement with coupling hooks 55 also carried by the frame bar, and in addition said top or cover plate is provided with beveled lugs 56 for engagement by pivotal clamps 57 fulcrumed as at 58 on the strips by which the frame bar is connected with the corner block 34. A handle 59 may as illustrated be attached to the corner block as a means of raising the body of the mold to permit of the insertion of the type face mat and positioning the same with relation to the gauge 50 on the bottom plate.

Furthermore as a means of reducing the amount of metal required for type of large size the type blade may carry one or more core pins 60 for projecting into the type mold space as indicated, said core pins extending longitudinally through the blade for adjustment to suit the width of the type molding space and being located at any desired adjustment by means of a set-screw which as shown at 41 also serves as a knob by which the said blade may be adjusted.

The frame bar is preferably hollow to form a circulating chamber 61 having a water inlet 62 and a water outlet 63, suitable plugs 64 being fitted in openings of the walls of the chamber in openings de-

signed to give access to the interior of the bar for cleaning purposes.

Having described the invention, what is claimed as new and useful is:—

1. An apparatus for molding type having a melting pot equipped with a pump and a discharge spout and provided with a lateral seat for a mold box provided with a filling funnel in communication with the mold space thereof, the seat being pivotally mounted to provide for positioning the funnel in communication with the discharge spout.

2. An apparatus for molding type having a melting pot equipped with a pump and a discharge spout and provided with a lateral seat for a mold box provided with a filling funnel in communication with the mold space thereof, the seat being pivotally mounted to provide for positioning the funnel in communication with the discharge spout and carrying a clamp for locking said funnel and spout in communicating relation.

3. A type mold having an angular frame bar, a point set block and a type blade movable in paths at a right angle to each other with their inner ends forming faces cooperating with the surfaces of the inner angle of the angle bar to constitute the bounding walls of the type mold space, and means for securing the set block and type blade in their adjusted positions, the type blade being provided with a longitudinally movable core pin for terminally invading the type mold space.

4. A type mold having an angular frame bar, a point set block and a type blade movable in paths at a right angle to each other with their inner ends forming faces cooperating with the surfaces of the inner angle of the angle bar to constitute the bounding walls of the type mold space, and means for securing the set block and type blade in their adjusted positions, the type blade being provided with a longitudinally movable core pin for terminally invading the type mold space, and means for securing said pin in its adjusted positions.

5. A type mold having an angular frame bar, a point set block and a type blade movable in paths at a right angle to each other with their inner ends forming faces cooperating with the surfaces of the inner angle of the angle bar to constitute the bounding walls of the type mold space, and means for securing the set block and type blade in their adjusted positions, the type blade being provided with a longitudinally movable core pin for terminally invading the type mold space, said core pin extending beyond the outer end of said type blade.

6. A type mold having an angular frame bar, a point set block and a type blade mov-

able in paths at a right angle to each other with their inner ends forming faces cooperating with the surfaces of the inner angle of the angle bar to constitute the bounding walls of the type mold space, and means for securing the set block and type blade in their adjusted positions, removable top and bottom plates being disposed to close the ends of the type mold space and having eyes for engaging hooks carried by said frame bar.

7. A type mold having an angular frame bar, a point set block and a type blade movable in paths at a right angle to each other with their inner ends forming faces cooperating with the surfaces of the inner angle of the angle bar to constitute the bounding walls of the type mold space, and means for securing the set block and type blade in their adjusted positions, top and bottom plates being fitted to the opposite surfaces of the frame bar for closing the opposite ends of the top mold space, and said bottom plate being provided with positioning dowel pins for engaging sockets in the frame bar.

8. A type mold having an angular frame bar, a point set block and a type blade movable in paths at a right angle to each other with their inner ends forming faces cooperating with the surfaces of the inner angle of the angle bar to constitute the bounding walls of the type mold space, and means for securing the set block and type blade in their adjusted positions, top and bottom plates being fitted upon opposite sides of the frame bar for closing the opposite ends of the type mold space, and pivotal clamps being arranged to secure the top plate in position.

9. A type mold having an angular frame bar, a point set block and a type blade movable in paths at a right angle to each other with their inner ends forming faces cooperating with the surfaces of the inner angle of the angle bar to constitute the bounding walls of the type mold space, and means for securing the set block and type blade in their adjusted positions, a top plate being fitted upon the upper surface of the frame bar and carrying a filling funnel in communication with the type mold space.

10. A type mold having an angular frame bar, a point set block and a type blade movable in paths at a right angle to each other with their inner ends forming faces cooperating with the surfaces of the inner angle of the angle bar to constitute the bounding walls of the type mold space, and means for securing the set block and type blade in their adjusted positions, a bottom plate being fitted upon the underside of the frame bar

and provided with means for positioning a type face mat in registration with the type mold space.

11. A type mold having an angular frame bar, a point set block and a type blade movable in paths at a right angle to each other with their inner ends forming faces cooperating with the surfaces of the inner angle of the angle bar to constitute the bounding walls of the type mold space, and means for securing the set block and type blade in their adjusted positions, a bottom plate being fitted upon the under surface of the frame bar and provided with an angular gauge rib for positioning a type face mat in registration with the type mold space.

12. A type mold having an angular frame bar, a point set block and a type blade movable in paths at a right angle to each other with their inner ends forming faces cooperating with the surfaces of the inner angle of the angle bar to constitute the bounding walls of the type mold space, and means for securing the set block and type blade in their adjusted positions, a bottom plate being fitted upon the under surface of the frame bar and provided with an angular gauge rib for positioning a type face mat in registration with the type mold space, the frame bar having a groove for the reception of said positioning rib.

13. A type mold having an angular frame bar, a point set block and a type blade movable in paths at a right angle to each other with their inner ends forming faces cooperating with the surfaces of the inner angle of the angle bar to constitute the bounding walls of the type mold space, and means for securing the set block and type blade in their adjusted positions, said frame bar being hollow and having circulating inlet and outlet passages in communication therewith.

14. A type mold having an angular frame bar, a point set block and a type blade movable in paths at a right angle to each other with their inner ends forming faces cooperating with the surfaces of the inner angle of the angle bar to constitute the bounding walls of the type mold space, and means for securing the set block and type blade in their adjusted positions, said frame bar being hollow and having circulating inlet and outlet passages in communication therewith and removable plugs for giving access to the interior of the same.

In testimony whereof he affixes his signature.

MACK F. TURNER.