

H. A. ARMSTRONG.
ATTACHMENT FOR TYPE SETTING MACHINES.
APPLICATION FILED MAR. 4, 1908.

912,056.

Patented Feb. 9, 1909.

3 SHEETS—SHEET 1.

Fig. 2

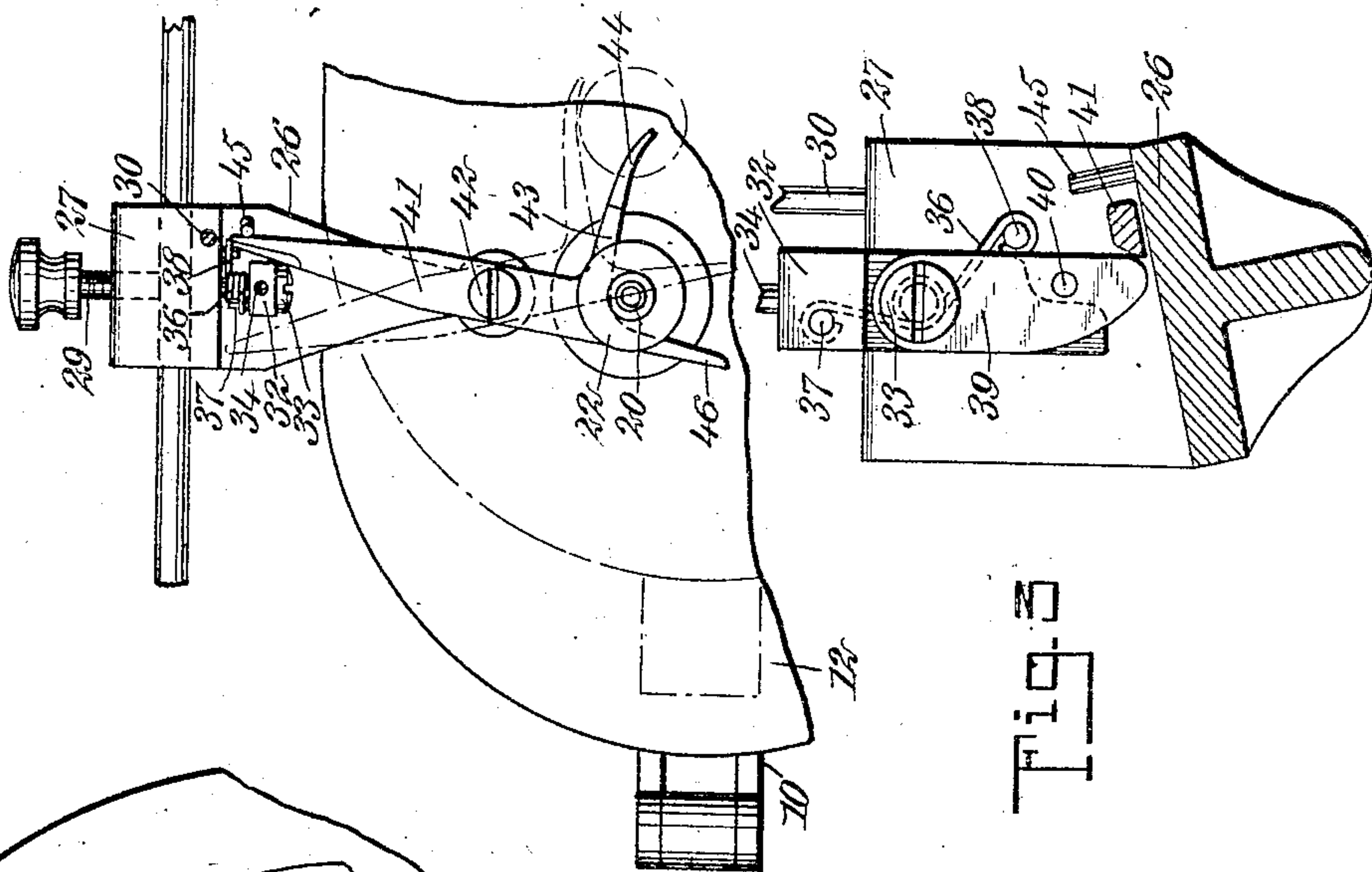
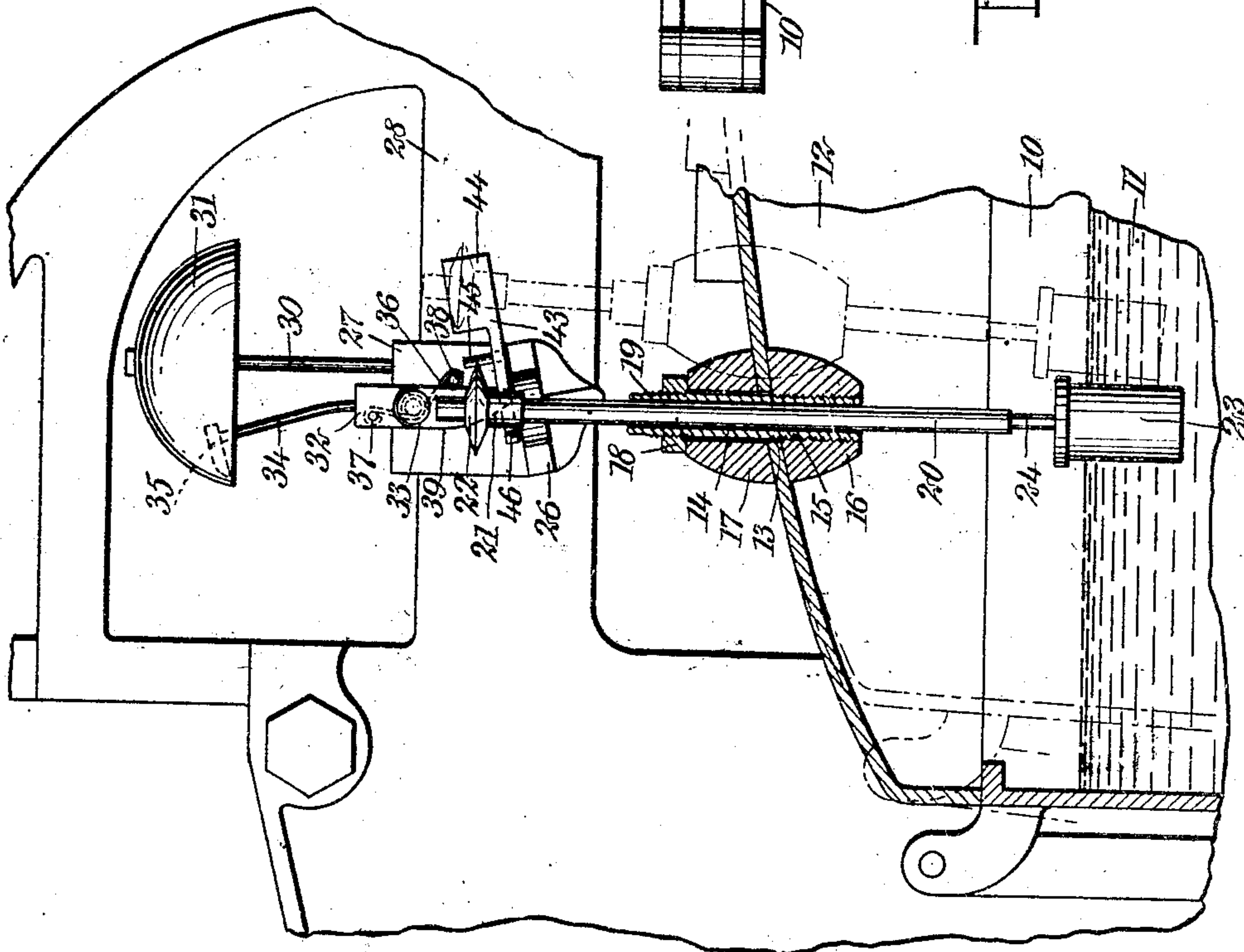


Fig. 3



WITNESSES

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Fig. 1

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3 SHEETS—SHEET 2.

Fig. 4

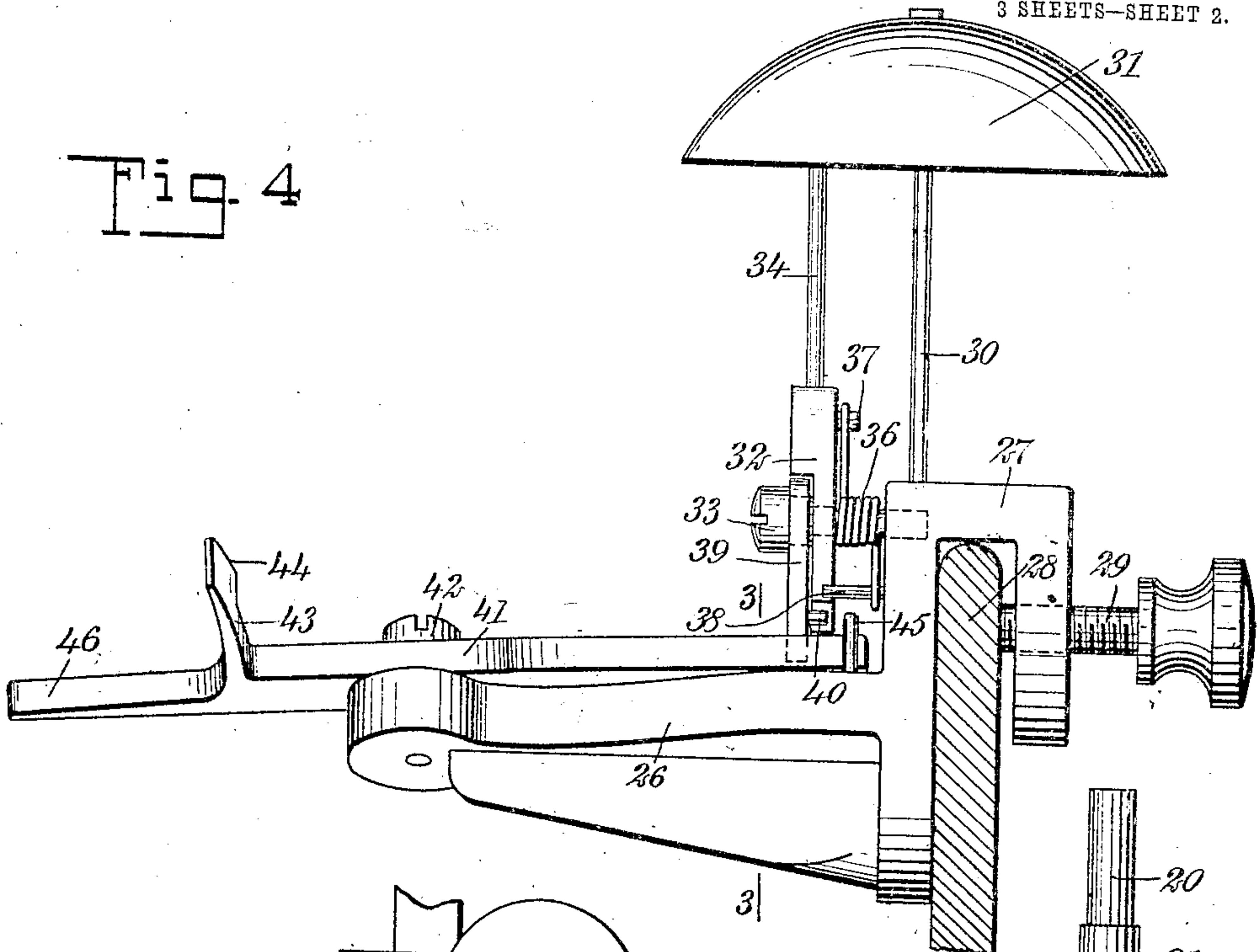


Fig. 5

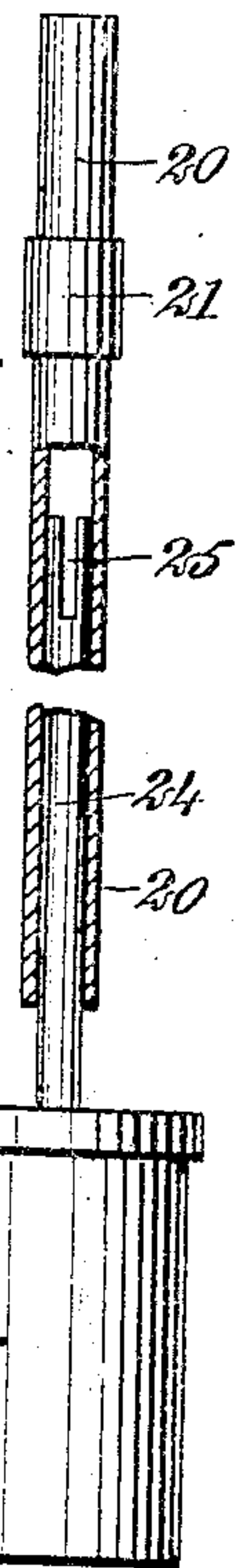
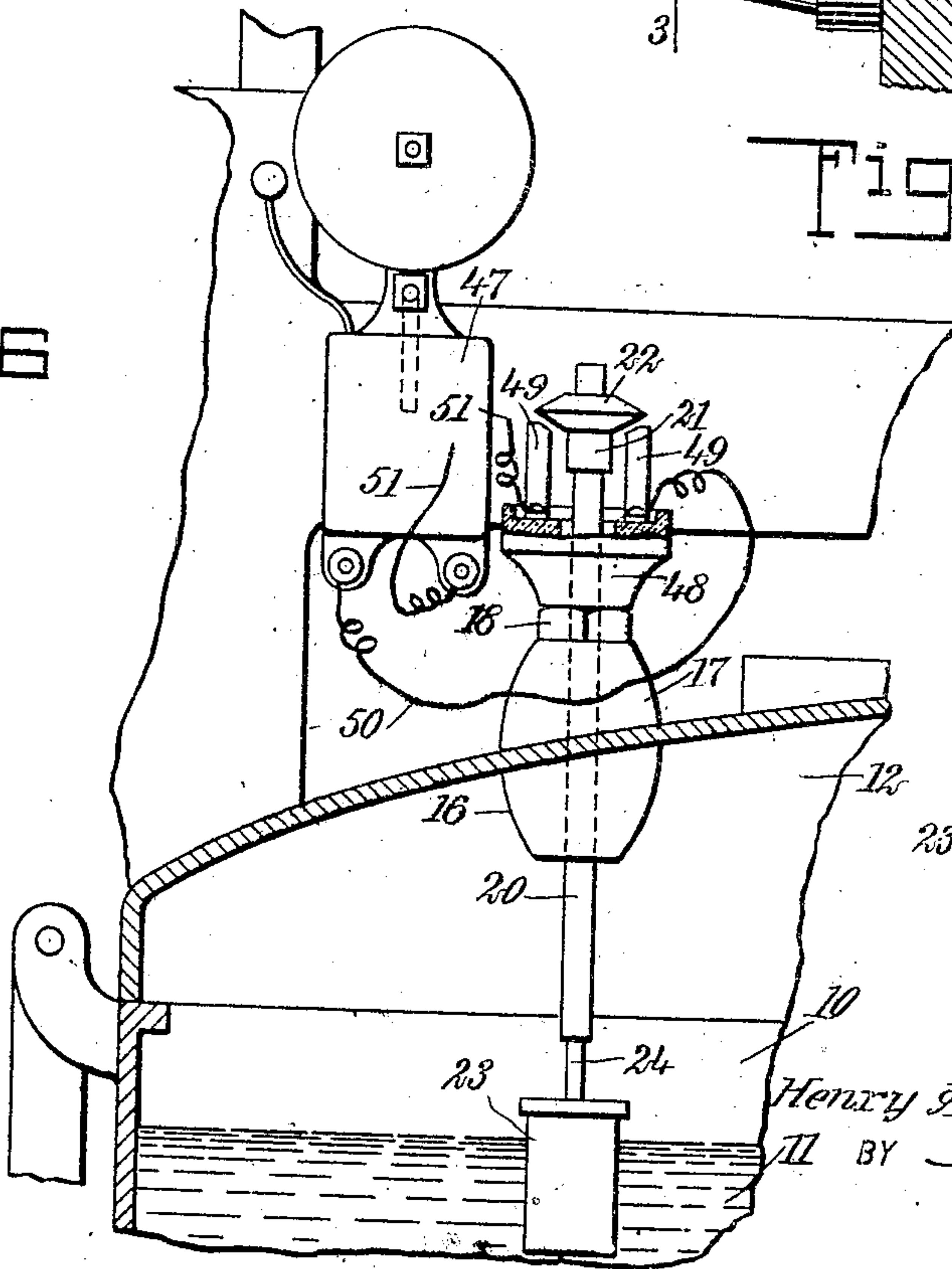


Fig. 6



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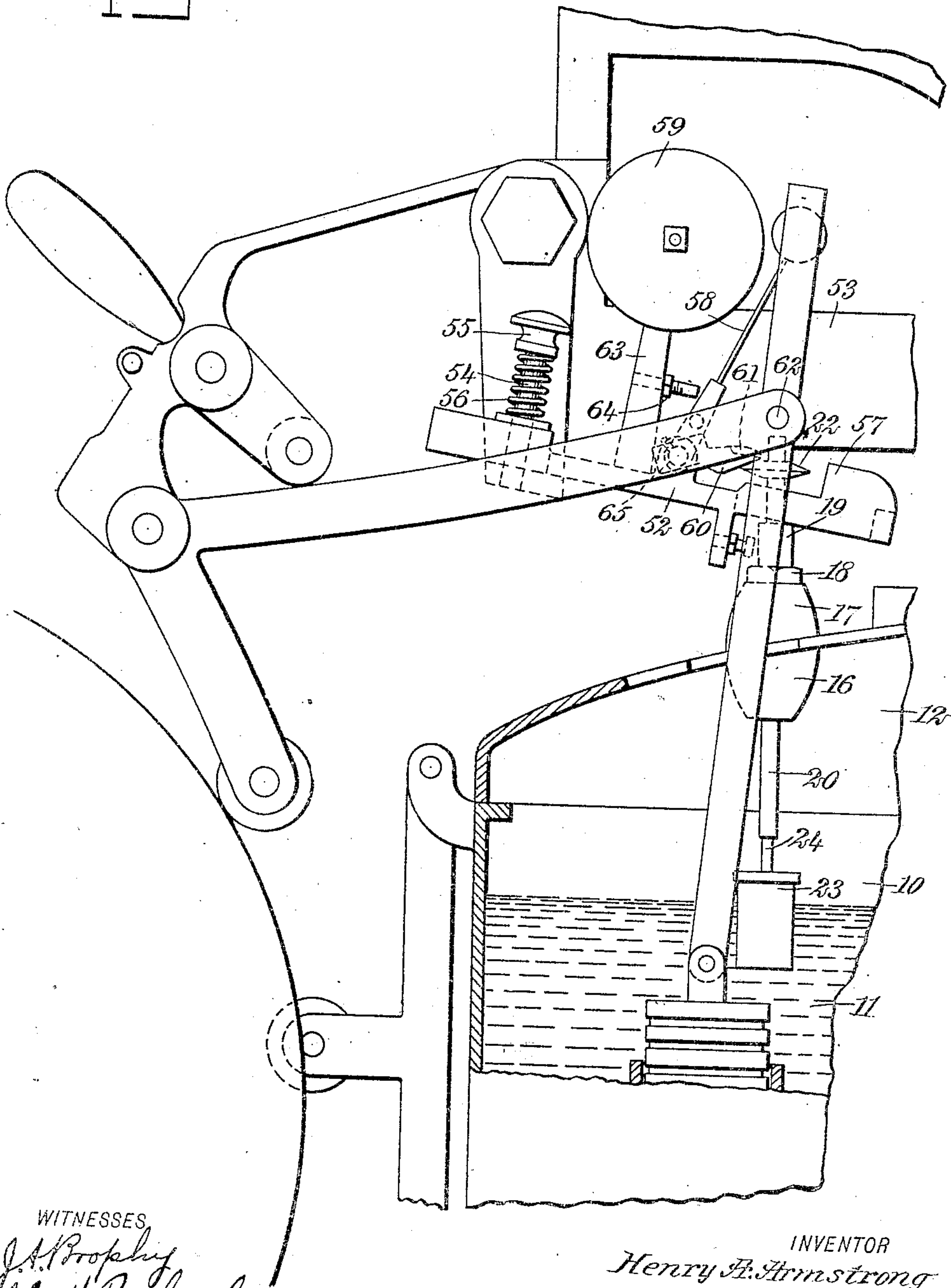
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Fig. 7



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UNITED STATES PATENT OFFICE.

HENRY ARCHIBALD ARMSTRONG, OF NEW YORK, N. Y.

ATTACHMENT FOR TYPE-SETTING MACHINES.

No. 812,056.

Specification of Letters Patent.

Patented Feb. 9, 1909.

Application filed March 2, 1909. Serial No. 416,278.

To all whom it may concern:

Be it known that I, HENRY ARCHIBALD ARMSTRONG, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Attachment for Type-Setting Machines, of which the following is a full, clear, and exact description.

10 This invention relates to attachments for typesetting machines, and is particularly useful in connection with linotype machines having movable metal pots.

15 An object of the invention is to provide a simple, inexpensive and efficient attachment for typesetting machines, by means of which the operator of the machine is notified when the level of the metal in the metal pot reaches a certain predetermined point.

20 A further object of the invention is to provide an attachment of the class described, which is adjustable to operate at various levels of the metal in the pot, and which, through the movement of a member controlled by the metal in the pot, operates a signal, either audible or visual, which indicates to the operator of the machine that the metal has reached a predetermined level.

30 A still further object of the invention is to provide an attachment for typesetting machines, which comprises a signal bell, a float arranged within the metal pot of the machine and controlled by the metal level therein, and mechanism operable by the member, and serving to sound the bell when the member is in a certain position owing to the falling of the metal to a predetermined level.

40 The invention consists in the construction and combination of parts to be more fully described hereinafter and particularly set forth in the claims.

45 Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views, and in which—

50 Figure 1 is a vertical section of the metal pot of a typesetting machine having my invention applied thereto and showing certain of the parts in different positions in dotted outline; Fig. 2 is a transverse section showing the signal device; Fig. 3 is an enlarged transverse section on the line 3-3 of Fig. 4, showing a detail of the signal operating mechanism; Fig. 4 is an enlarged elevation

of the signal, showing the alarm operating mechanism and the means of attaching the alarm to the machine; Fig. 5 is an enlarged elevation of the member controlled by the metal level, and showing a portion thereof in longitudinal section; Fig. 6 is a vertical section of the metal pot, showing an attachment of modified form applied thereto; and Fig. 7 is an elevation of a part of a linotype machine, showing the metal pot partially in section, and having applied thereto another signal attachment of modified form.

Before proceeding to a more detailed explanation of my invention, it should be understood that while I prefer to provide an audible signal such as a bell, a buzzer or the like, I can, if necessary, employ a visual one. In using the term "signal" I intend to indicate thereby, means of preferred or common form for calling the attention of the operator of the machine to the condition of the metal in the metal pot.

My attachment, in its various forms is applicable to typesetting machines of different kinds, notwithstanding that it is particularly useful in connection with linotype machines in which the metal pot, itself, is movable. In typesetting machines in general, the molten metal is contained in a metal pot and at certain stages in the operation of the machine is forced from the pot to form the matrices. As the machines work with considerable rapidity the metal in the pot is soon exhausted, and it is an annoyance to the operator to be constantly under the necessity of examining the pot to determine the condition of the metal therein. My attachment provides means for automatically notifying the operator that the metal has fallen to a level such that it is necessary to introduce new metal into the pot, and thereby is obviated the annoyance and loss of time due to the repeated examination of the pot by the operator. Furthermore, should the operator forget to examine the pot to ascertain the condition of the metal therein, the pot might become empty and the operator thus continue to operate the machine without result.

105 In the accompanying drawings, and in the more detailed description hereafter, I have shown and described a number of forms of my attachment and I have done this to show that the invention lies, not so much in the details of construction, but rather in the provision, broadly, of an alarm, a member

controlled by the level of the metal in the metal pot, and in mechanism operable by the member and serving to sound, or render visible the signal, to notify the operator of the machine that the metal has reached a predetermined level. The member can be adjusted to operate the signal at different levels, thus enabling the operator of the machine to determine exactly at which point he desires the alarm to sound or the signal to become visible.

Referring more particularly to the drawings, 10 represents the metal pot of a type-setting machine, which contains the metal in a molten state. The metal pot is hinged or otherwise suitably mounted upon the machine in accordance with the usual practice. It has a cover 12 provided with an opening 13 therethrough. The opening 13 receives a sleeve 14 having a threaded portion 15 extending to the inner side of the cover and carrying a body 16 formed to engage at the under side of the cover. A further body 17 is mounted upon the sleeve and engages at the upper side of the cover, being held in position by a nut 18 mounted upon a threaded portion 19 of the sleeve.

A hollow rod 20 is movably arranged within the sleeve and near the upper end has a collar 21. A disk 22 tapered to the periphery, is loosely mounted upon the rod 20 and is held in position by the collar 21. A float 23 of any suitable form is arranged within the metal pot and has a shank 24 adjustably arranged within the hollow rod 20. The shank 24 has the end 25 bifurcated; the sides of the end 25 are sprung outwardly and resiliently engage at the inside of the hollow rod to maintain the shank in position therewithin. The float can be adjusted by moving the shank longitudinally within the hollow rod, and it is maintained in position by the outwardly sprung sides of the bifurcated end 25.

A bracket 26 having at one end a U-shaped portion 27 is mounted upon the frame 28 of the machine, adjacent to the metal pot, and is clamped in position by a thumb-screw 29. The bracket 26 has a support 30 carrying a bell 31. A hammer bar 32 is pivotally mounted upon a pin 33 carried by the bracket and has a shank 34 provided with a hammer head 35 adapted to engage the bell to sound the same. The pin 33 has a spring 36 wound thereupon with the ends respectively engaging studs 37 and 38 of the hammer bar and the bracket. The spring thus holds the hammer in a normal, inoperative position. A dog 39 is loosely mounted upon the pin 33 and has a projection 40 adapted to engage the hammer bar to swing the same against the tension of the spring 36. A lever 41 is movably mounted, by means of a pin 42, upon the bracket, and has an arm 43 provided with a shoulder 44. The lever 41

has the end provided with the arm 43, arranged adjacent to the head 22 of the hollow rod. The end of the lever remote from the arm 43 is arranged to engage the dog 39 so that when the lever is swung in one direction the dog is operated, thereby, in turn, to operate the hammer bar to sound the bell. In its return movement, the lever inoperatively engages the dog, which swings aside to permit the lever to pass therebeyond. A stop 45 upon the bracket 26 limits the movement of the lever.

When the level of the metal is above the predetermined level for which the float is adjusted, the movement of the pot does not sound the alarm, the head 22 upon the hollow rod passing over the shoulder 44 of the arm 43. When the level of the metal falls to the predetermined point, however, the head 22 comes into engagement with the shoulder 44 during the movement of the pot, and the lever 41 is thereby operated to sound the bell. The lever has an extension 46 which is engaged by the rod 20 on the return movement of the pot, to return the lever to its original or normal position.

In the modified form of my invention shown in Fig. 6 I provide an electric bell 47 connecting with a suitable source of electrical supply such as batteries or the like. A support 48 is carried upon the nut 18 and has an opening through which the hollow rod 20 can freely pass. The support 48 has contacts 49 which are adapted to be electrically connected by the head 22. The contacts 49 are connected by means of conductors 50 and 51 with the alarm bell and the source of electrical supply so that the contacts are in the circuit. Consequently, when the head 22 is out of engagement with the contacts, the bell is silent, and when the head engages both of the contacts, the signal is sounded.

In the modified form of my invention shown in Fig. 7, I employ a signal base 52 slidably arranged upon the frame 53 of the machine and held in position by a pin 54 having an adjustable head 55 and provided with a spring 56 which resiliently holds the base 52 in place. The base 52 has a shoulder 57 adapted to be engaged by the head 22 so that the base itself, is moved as the pot moves. A swinging hammer 58 is mounted upon the base and is arranged to engage the bell 59. Rigid with the hammer is an arm 60 having a laterally extended toe 61. The toe 61 is arranged to be engaged by a stud 62 as the base is moved forward. The engagement of the toe with the stud depresses the arm and swings the hammer into an operative position. As the base advances, the stud passes beyond the arm and releases the latter to permit the hammer to swing against the bell to sound the same. The bell support 63 has a stud 64 for limiting the

movement of the hammer. A spring 65 serves to hold the hammer in a normal or inoperative position.

Having thus described my invention, I claim as new, and desire to secure by Letters Patent:—

1. In a type-setting machine, in combination, a metal pot arranged to move, a member controlled by the level of the metal in said pot, and a signal operable by said member, said member having means for resiliently holding it in a plurality of adjustments relative to the metal in said pot whereby it can be operated at a plurality of 15 levels of the metal.

2. In a type-setting machine, in combination, a movable metal pot, having a cover provided with an opening, a member movably arranged in said pot and extending through said opening, said member being controlled by the level of the metal in said pot, a signal, and means operable by said member, when the same is in a predetermined position, for operating said signal, 25 said member having means for resiliently holding it in a plurality of adjustments whereby it can be adapted to operate at different levels of the metal.

3. In a typesetting machine, in combination, a metal pot, a signal, a member adapted to operate said signal, and a float controlled by the level of the metal in said pot, said float being connected with said member and being slidably movable longitudinally thereof, said float having means for resiliently holding it in a plurality of positions with respect to said member. 35

4. In a typesetting machine, in combination, a metal pot having a cover, said cover having a sleeve, means for holding said sleeve in position, a hollow rod movably arranged within said sleeve, a float within said pot and controllable by the metal therewithin, said float having a shank slidably arranged within said sleeve, said shank having a part bifurcated resiliently to hold it in position within said sleeve, a signal, and means on said rod for operating said signal when said rod is in a predetermined position. 45

5. In a typesetting machine, in combination, a metal pot, a stationary bell, a pivoted hammer adapted to engage said bell, a lever arranged to operate said hammer when moving in one direction, a member adapted to 55 engage said lever to operate the same, and a float within said pot and controlled by the level of the metal, said float controlling said member.

6. In a typesetting machine, in combination, a metal pot, a fixed alarm, a hammer

adapted to sound said alarm, a dog movably carried by said hammer and arranged operatively to engage said hammer when said dog is moved in one direction, means for holding said hammer normally inoperative, a movable member arranged operatively to engage said dog when moving in one direction, thereby to sound said alarm, said member inoperatively engaging said dog when moved in the opposite direction, a second member 70 adapted to engage said first member to operate the same when in a predetermined position, and a float within said pot and controlled by the level of the metal therein, said float controlling said second member. 75

7. In a typesetting machine, in combination, a metal pot, a bracket carrying a bell, a hammer pivoted upon said bracket and movable to engage said bell, a dog movably carried by said hammer and arranged operatively to engage said hammer when moved in one direction, means for holding said hammer in a normal position out of engagement with said bell, a lever arranged operatively to engage said dog when moving in one direction thereby to ring said bell, said lever inoperatively engaging said dog when moved in the opposite direction, a member adapted to engage said lever to operate the same when in a predetermined position, and 90 a float within said pot and controlled by the level of the metal therein, said float controlling said member.

8. In a typesetting machine, in combination, a metal pot, a bracket carrying a bell, 95 a hammer pivoted upon said bracket and movable to engage said bell, a dog movably carried by said hammer and arranged operatively to engage said hammer when moved in one direction, means for holding said hammer in a normal position out of engagement with said bell, a lever arranged operatively to engage said dog when moving in one direction thereby to ring said bell, said lever inoperatively engaging said dog when moved 105 in the opposite direction, said lever having an arm provided with a shoulder, a member having a tapered disk adapted to engage said shoulder to operate said lever, and a float within said pot and controlled by the level of the metal therein, said float controlling said member, said member moving with said pot. 110

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HENRY ARCHIBALD ARMSTRONG.

Witnesses:

AUGUST WILLIAM NIELSEN,
THOS. T. STOCKSDALE.