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AUTOMATIC FEEDING DEVICE FOR LINOTYPE MACHINES.

APPLICATION FILED OCT. 18, 1911.

1,016,356.

Patented Feb. 6, 1912.

2 SHEETS—SHEET 1.

Fig. 1.

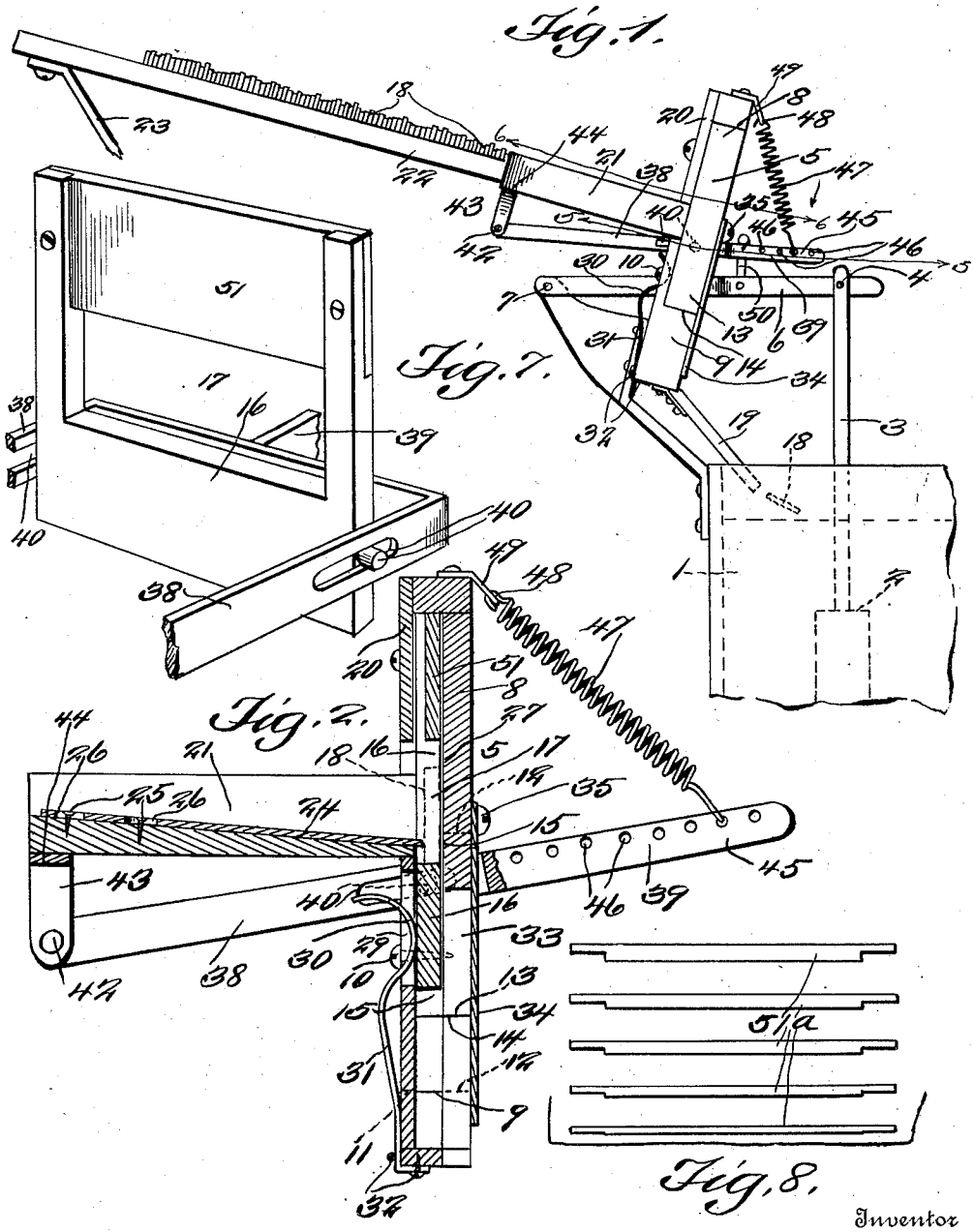


Fig. 7.

Fig. 2.

Fig. 8.

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2 SHEETS—SHEET 2.

Fig. 3.

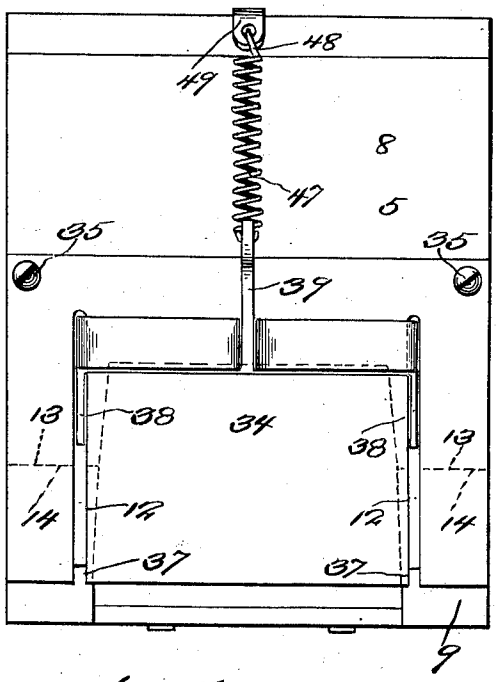


Fig. 4.

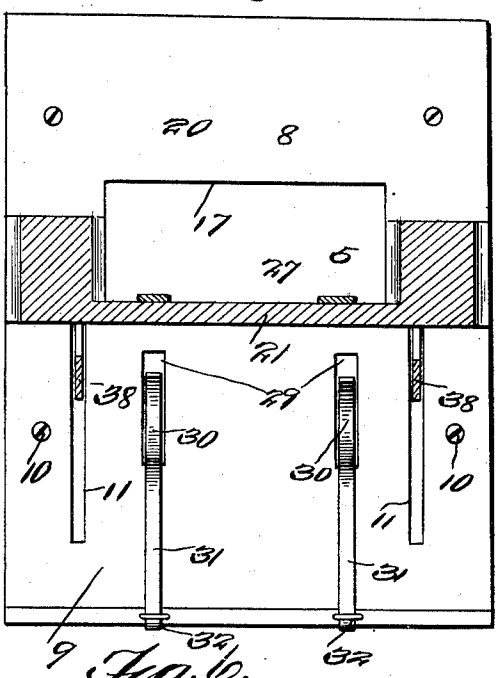


Fig. 5.

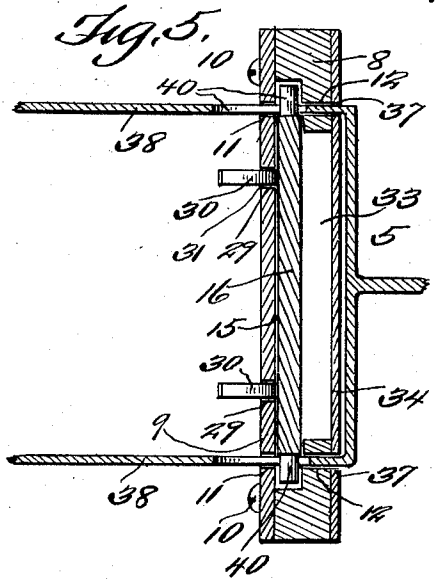
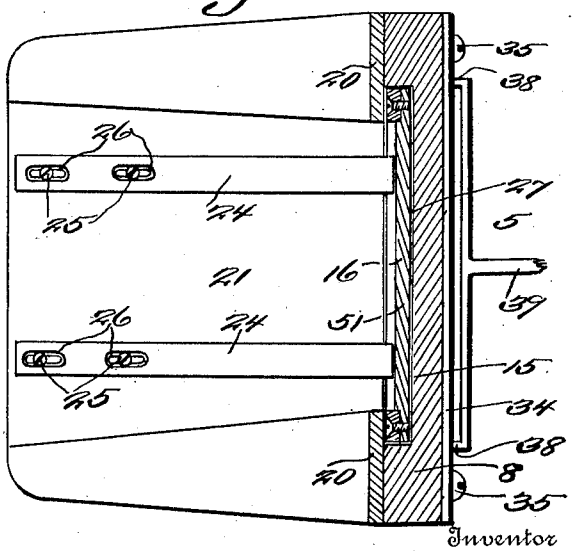


Fig. 6.



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UNITED STATES PATENT OFFICE.

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AUTOMATIC FEEDING DEVICE FOR LINOTYPE-MACHINES.

1,016,356. Specification of Letters Patent. Patented Feb. 6, 1912.

Application filed October 18, 1911. Serial No. 655,396.

To all whom it may concern:

Be it known that I, HARVEY E. NELSON, a citizen of the United States, residing at Petaluma, in the county of Sonoma and State of California, have invented a new and useful Automatic Feeding Device for Linotype-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a new and useful automatic feeding device for linotype machines.

An operator of a type setting machine in the old method is required to leave his machine from two to three times, or possibly four, while writing or setting a stick, to fill his melting pot. Even though he leaves his machine the requisite number of times to fill his melting pot, he may not leave the proper intervals between the times of leaving his machine, then again he may forget entirely, on account of becoming interested in his work.

The primary object of this invention is the provision of a novel, simple and practical apparatus for feeding a regular and uninterrupted supply of type metal to the melting pot, in proportion to the amount withdrawn for casting the type.

In linotype machines pumps are used for forcing the molten metal from the melting pot into the casters, and these pumps are operated at certain intervals.

A further object of this invention is to connect the feeder with the plunger of the pump, in such wise as to operate at the same intervals, thereby feeding the melting pot with type metal in an amount proportionate to the amount withdrawn from the pot.

The invention comprises further features and combination of parts, as hereinafter set forth, shown in the drawings, and claimed.

In the drawings:—Figure 1 is an elevation of a fragmentary section of machine, showing the feeder as applied. Fig. 2 is a sectional view. Fig. 3 is an elevation. Fig. 4 is a similar view, partly in section, looking at a side opposite to that shown in Fig. 3. Fig. 5 is a sectional view on line 5—5 of Fig. 1. Fig. 6 is a sectional view on line 6—6 of Fig. 1. Fig. 7 is a detail perspective view of the feeding slide. Fig. 8 illustrates a plurality of plates in edge view, any one of which may be applied to the slide, for feeding different sizes of type metal or slugs.

Referring to the drawings 1 designates the melting pot, while 2 denotes the pump therein, the plunger 3 of which is connected at 4 to the lever 6, which in turn is pivoted at 7 to the side of the casing of the feeder 5. The casing of the feeder 5 comprises two sections 8 and 9, which are bolted screwed or otherwise connected as shown at 10. These sections of the casing are provided with slots 11 and 12, one end of each slot in each section being open, yet when the two sections of the casing are secured together the lower end of the legs 13 of the section 8 coming in contact with the shoulders 14 of the section 9, the slots are closed at both ends because they are placed in registration, so that the closed ends of the slots will register with the open end of the adjacent slots. When these two sections are so connected there is a slide chamber 15 formed, in which the feed slide 16 is mounted, so as to reciprocate. This feed slide is provided with an opening 17, which receives the type metal or slugs 18 one at a time, so that when the slide is moved downwardly the type metal or slugs will be dropped or fed into the chute 19, from which it discharges into the melting pot 1. The upper portion of the slide chamber is covered by a plate 20, which is secured to the section 8. Secured to the section 8 is a bracket chute 21 into which the type metal galley 22 extends, which is supported by the bracket member 23. This bracket member 23 may be in turn supported by any suitable means (not shown). The bracket chute is trough shape in cross section and secured in the bottom of the same are two strips 24. These strips 24 are secured by the screws 25, which penetrate the slots in the strips 24. The strips 24 may be adjusted by loosening the screws 25, because of the provision of the slots 26. The object for adjusting the strips is to extend the free ends closer to the wall 27 of the section 8, or away from the same, so as to permit larger or smaller type metal slugs to pass through the slide chamber when the slide is moved downwardly.

The section 9 of the casing is provided with additional slots 29, through which the semi-circular curved ends 30 of the springs 21

extend, that is, when the opening of the slide is brought opposite the slots 30. The springs 31 are secured at 32. When the opening of the slide is brought opposite the slots 30 the curved portions of the springs enter the opening, so as to force the type metal slug from the opening, and down through the passage 33, which is formed by the sheet metal plate 34, secured at 35 by screws to the section 8. The same screws that secure the sheet metal plate in position penetrates the bracket chute 21, so as to secure it in position. The sheet metal plate 34 is provided with slots which register with the slots 11 and 12 of the sections 8 and 9. The slots of the sheet metal 34 are designated by the character 37. Secured to the slide 16 are the arms 38 of the lever 39. These arms are secured to the slide by the pin and slot connection 40, so as to permit the lever to move relatively with regard to the slide, when the same is moved. The arms 38 of the lever 39 are pivoted at 42 to the arms 43 of the bracket 44, which in turn is secured to the underface of the bracket chute 21. The end 45 of the lever is provided with a plurality of apertures 46, in any one of which one end of the spring 47 may be connected, while the other end of the spring is connected at 48 to the arm 49 of the section 8 of the casing. If the lower end of the spring 47 is connected to the outermost aperture of the lever 49, the lever 39 will not be moved so easily. In other words the spring must be connected to the lever 39, in such wise, as to correspond with the weight of the type metal slugs. The arms 38 of the lever 39 operate in the slots 11 and 12 and 37, as will be observed. The lever 6 is connected to the lever 39 by the link 50. The slide 16 is provided with a plate 51, which may be removed for any one of the plates 51[a] shown in Fig. 8. The object in providing the plates 51 and 51[a] is to provide means whereby type metal slugs of various thicknesses may be fed through the slide chamber.

In operation, a filled galley is placed in position each time when the operator dumps his stick. When the plunger of the pump is operated at certain intervals, the lever 39 is moved downward on its fulcrums 42, by virtue of its connection with the lever 6. When the lever 39 is so moved, the slide 16 is in turn moved downward, and each time when the slide 16 is moved downwardly a type metal slug is fed through the slide chamber, and thence into the passage adjacent thereto. The type metal slug passes from the said passage into the chute 19, and thence into the melting pot. These type metal slugs are fed uniformly, one at a time in this manner, into the melting pot, which tends to maintain the heat of the molten metal at a uniform temperature whereby as the molten metal is forced from the pot linotypes are formed having perfect lines and characters of precision and clearness.

The invention having been set forth, what is claimed as new and useful is:—

1. In a linotype feeder, a casing having a slide chamber, a slide having an opening therein adapted to feed type metal slugs one at a time to the melting pot, means for operating the slide at uniform intervals, and means adapted to automatically extend into the opening to discharge each slug when the slide is operated.

2. In a linotype feeder, a casing having a slide chamber, a slide having an opening therein having a removable plate adapted to be substituted by a similar plate of different thickness, the slide adapted to feed linotype slugs one at the time at uniform intervals, means for operating the slide, and means adapted to automatically extend into the opening to discharge each slug when the slide is operated.

3. In a linotype feeder, a casing having a slide chamber, a slide therein having an opening to receive a type metal slug, means for moving the slide downwardly, and means extensibly extending into the opening for automatically discharging the slug.

4. In a linotype feeder, a casing having a slide chamber, a slide therein having an opening, the casing having a bracket chute, adjustable members therein adapted to permit different size slugs to pass through the chamber, and means for operating the slide.

5. In a linotype feeder, a casing having a slide chamber, a slide therein having an opening, the casing having a bracket chute, adjustable members therein adapted to permit different size slugs to pass through the chamber, and means for operating the slide, and means for discharging the slug from the opening.

6. In a linotype feeder, a casing, a vertical movable slide therein and provided with an opening, and means for automatically discharging a slug from the opening.

7. In a linotype feeder, a casing having a bracket chute, a substantially vertically movable slide in the casing and provided with an opening adapted to receive a type metal slug, means in the chute adapted to be adjusted to permit slugs of different thicknesses to move with the slide.

8. In a linotype feeder, a casing having a bracket chute, a substantially vertically movable slide in the casing and provided with an opening adapted to receive a type metal slug, means in the chute adapted to be adjusted to permit slugs of different thicknesses to move with the slide, and means penetrable automatically into the opening for discharging a slug therefrom.

9. In combination with a linotype feeder, a melting pot, a pump therein; a substan-

tially vertically movable feeding member having an opening therein for feeding type metal slugs one at the time into the pot at uniform intervals, means of connection between the plunger of the pump and the feeder member for automatically operating the feeder member with the pump plunger, and means adapted to automatically extend into the opening of the member to discharge each slug when the member is operated.

10. In combination with a linotype feeder, a melting pot, a pump therein; a substantially vertically movable feeding member having an opening therein for feeding type metal slugs one at the time into the pot at uniform intervals, means of connection between the plunger of the pump and the feeder member for automatically operating the feeder member with the pump plunger, means placed under tension when the slide is operated for returning the slide to its initial position, and means adapted to automatically extend into the opening of the member to discharge each slug when the member is operated.

11. In combination with a linotype feeder, a melting pot, a pump therein; a substantially vertically movable feeding member for feeding type metal slugs one at the time into the pot at uniform intervals, means of connection between the plunger of the pump and the feeder member for automatically operating the feeder member with the pump plunger, and means automatically penetrable through the feeding member for discharging a type metal slug.

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

HARVEY E. NELSON.

Witnesses:
FRANK K. LIPPITT,
M. D. NOUVEGE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."