

J. McNAMARA.
MACHINE FOR PRODUCING PRINTING SLUGS.
APPLICATION FILED OCT. 30, 1908.

1,008,175.

Patented Nov. 7, 1911.

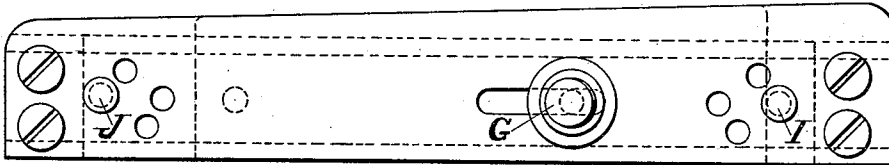


Fig. 3.

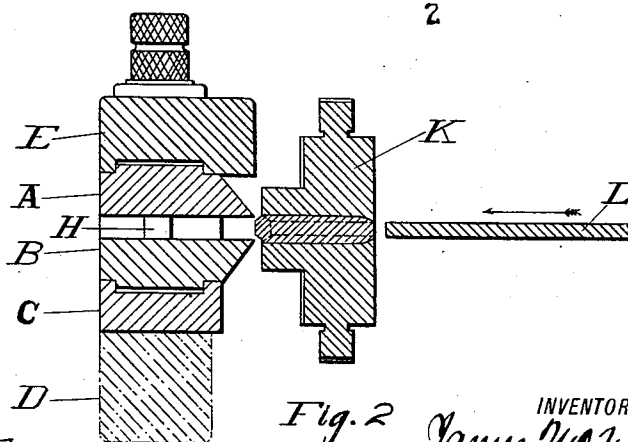
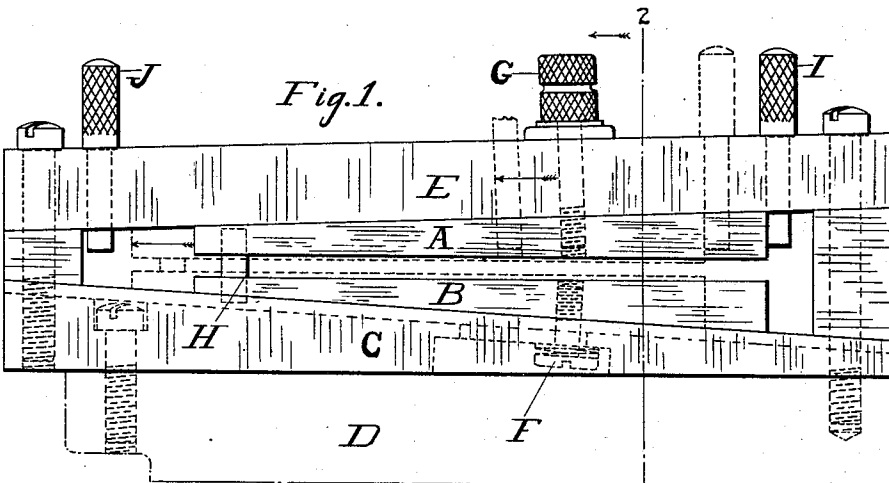


Fig. 2

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MACHINE FOR PRODUCING PRINTING-SLUGS.

1,008,175.

Specification of Letters Patent.

Patented Nov. 7, 1911.

Application filed October 30, 1908. Serial No. 460,347.

To all whom it may concern:

Be it known that I, JAMES McNAMARA, a citizen of the United States, residing at Montreal, in the Province of Quebec, Dominion of Canada, have invented a new and useful Improvement in Machines for Producing Printing-Slugs, of which the following is a specification.

My invention has reference to machines for casting type bars or slugs commercially known under the trademarks "Linotype", "Monoline", etc. In these machines the slugs cast of type metal in a slotted mold against a line of matrices, are ejected from the mold edgewise between parallel knives, which serve to correct any irregularities in their surfaces and to reduce them to the exact thickness required. One of the knives is commonly mounted for adjustment toward and from its companion, in order to properly shave slugs of different thicknesses delivered from the mold, and also in order to shave more or less from a slug, as may be desired, to reduce the thickness. The slugs are commonly cast with ribs on one side; and it is the ordinary practice to shave these ribs away to a greater or less extent, according as the printed matter is to appear in solid or in leaded form. The molds are commonly adjustable in order to vary the thickness of the slot, or the slugs produced thereby, as shown, for example, in Letters Patent of the United States 620,804.

Occasionally slugs are made with ribs on both sides, and in such case it is sometimes desirable to shave away both sides of the slug; and in some cases it is desirable to shave away one side more than the other, so that the letters on the edge may appear the desired distance from the respective sides.

My invention consists in two opposed trimming knives combined with supporting and adjusting devices which admit of the distance between the knives being varied at will, of both knives being adjusted toward and from an intermediate plane, and of one knife being adjusted to a greater extent than the other; so that slugs may be shaved on one side more than on the other.

As will be understood after reading this specification, my invention is susceptible of embodiment in various alternative forms and modifications, but in the drawings I

have illustrated a form which is simple and satisfactory under commercial conditions. 55

Referring to the drawings: Figure 1 is a front view of a pair of knives mounted in accordance with my invention. Fig. 2 is a cross section on line 2—2 of Fig. 1, the mold and the ejector for delivering the slugs to the knives being also shown in this figure. Fig. 3 is a top plan view of the parts shown in Fig. 1. 60

Referring to the drawings, A and B represent the two opposing knives with parallel cutting edges; C represents a plate or bar sustaining the lower knife, B, and in turn bolted, or otherwise secured, to the frame, D, of the machine; and E is a bar overlying and supporting the upper knife, A and secured rigidly in place. The bars C and E are grooved longitudinally to receive corresponding ribs on the outer sides of the knives. The two knives are free to slide endwise. The lower knife, B, is held down to its supporting plate by the screw F passing through a slot therein. The upper knife, A, is supported and held against the bar E by a thumbscrew, G, passing through a slot in the bar and serving as a means for securing the knife against longitudinal movement. Each of the knives is reduced in thickness longitudinally from one end to the other, or, in other words, made of wedge form, and the supporting faces of the bars C and E are arranged in diverging lines, as shown. The two knives are connected near one end by a pin, H, seated in the lower knife and projecting loosely into a hole in the upper one. By means of the screw, G, when loosened, the upper knife, A, may be moved endwise, carrying with it, through the pin, H, the lower knife, B the two knives being compelled to move the same distance. Owing to the taper of the knives and the divergence of their supporting surfaces, this longitudinal movement results in changing the distance between the cutting edges so that the slugs delivered between the knives will be reduced to one thickness or another according to the longitudinal position of the knives. The supporting bar C is arranged at a greater angle or inclination to the plane of the cutting edges than the bar E. In consequence of this fact the knife B receives greater vertical adjustment than 105

the knife A, so that the slugs presented to the knives at a given level may be shaved or cut away to a greater extent on one side than on the other.

5 In order that the knives may be quickly adjusted to produce slugs of different predetermined thicknesses, I propose to provide stop devices of any suitable character to limit their longitudinal adjustment. In their
10 most simple form these stop devices consist of vertical pins I and J, thrust downward through holes in the plate E, in position to encounter the ends of the knives and arrest their movement. There may be a series of
15 holes for each of these pins, arranged in such position that when the pins are inserted in the respective holes the knives will be arrested in position to trim slugs of standard thicknesses.

20 In Fig. 2, K represents the mold in which the slugs are cast, and L the reciprocating ejector blade by which the slugs are pushed out of the mold, and between the knives, to the usual receiving galley. The outgoing
25 slugs are guided by the mold, and directed edgewise and facewise to and between the knives. These molds are commonly adjustable as to the height of the slot; the lower face of the mold usually remaining at a fixed
30 level, while the upper face is adjustable, to increase the thickness of the slugs.

I believe it new to combine with longitudinally sliding knives converging guides which stand at different angular relations to
35 the cutting edges of the knives, for the purpose of imparting to one knife a greater adjustment than to the other.

40 It will be observed that my knives are tapered continuously from one end to the other, and that they are supported from end to end, so that there is no danger of their springing at the middle under the severe pressures to which they are subjected when in action.

Having thus described my invention, I 45 claim and desire to secure by Letters Patent:

1. The combination of two knives tapered from end to end with two fixed converging guides arranged to support the knives throughout their extent, and means for mov- 50 ing the knives endwise in unison.

2. In combination, two fixed converging guides, two knives mounted to slide endwise on the respective guides, means for moving the knives in unison, and stops to limit the 55 end motion of the knives; whereby the instantaneous adjustment of the knives to either of two fixed relations may be secured.

3. Two fixed converging guides, and knives mounted to slide endwise thereon, in combination with means to move the knives end- 60 wise in unison, and adjustable stops to limit their movement in each direction.

4. The combination of the two knives A and B tapered from end to end with the two 65 fixed converging guides C and E arranged to support the knives throughout their extent, and the pin H and the screw G.

5. The combination of longitudinally movable knives with fixed guides whereon 70 the knives move, the said guides being arranged to support the knives throughout their extent, whereby their bending or springing is prevented.

6. The combination of two opposed knives 75 with converging supports, whereon said knives are longitudinally movable to change the distance between their cutting edges, and connecting means whereby the movement of one of them effects the simultaneous move- 80 ment of the other.

In testimony whereof I hereunto set my hand this 22nd day of October, 1908, in the presence of two attesting witnesses.

JAMES McNAMARA.

Witnesses:

WESLEY BARRETT,
WM. ROGERS.