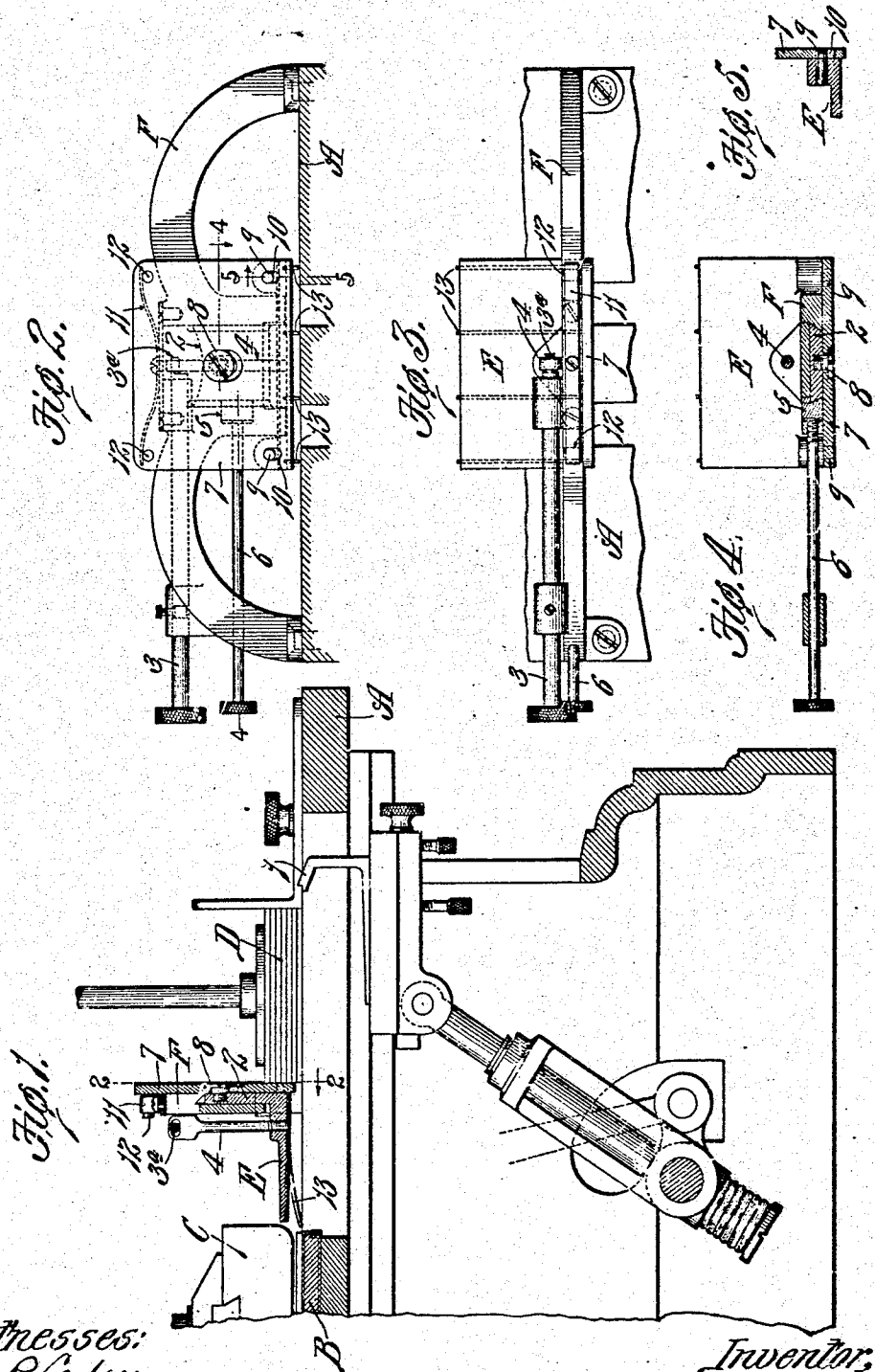


M. H. MANN.
GUIDE FOR PRINTING MACHINES.
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972,555.

Patented Oct. 11, 1910.



Witnesses:
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UNITED STATES PATENT OFFICE.

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GUIDE FOR PRINTING-MACHINES.

972,555.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, MILES H. MANN, a citizen of the United States, residing at Louisiana, Missouri, have invented a certain new and useful Improvement in Guides for Printing-Machines, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to machines for printing cards, labels, envelopes, and other articles, and particularly to the guides or gates used in such machines for controlling the feed of the bottom card or article of a pile from the ones above it during the operation of feeding said bottom article to the printing mechanism of the machine. The guides or gates which have heretofore been used for this purpose were so constructed that they could be adjusted to vary the space between the lower edge of same and the bed plate of the machine but they could not yield or move upwardly to accommodate irregular-shaped articles or articles that were more or less uneven. Consequently, such guides or gates could not be used successfully for controlling the feed of booklets and small pamphlets because the staples or devices which fasten the leaves of such articles together make the back or rear edge of same uneven or of varying thickness.

The main object of my present invention is to provide a guide or gate for printing machines which is so designed that it will yield or move upwardly slightly in case the article being fed underneath the lower edge of same is uneven or of varying thickness.

Another object is to provide a guide or gate which can be adjusted vertically relatively to the bed plate of the machine on which it is used, and which is also provided with a movable portion that will yield or give slightly in case the article being fed underneath same is irregular or of varying thickness. And still another object is to provide a printing machine having a feed-controlling guide or gate which is so designed that it will successfully govern the feed of booklets, pamphlets and similar articles and prevent such articles from catching on the platen of the machine when they are being fed to the printing mechanism.

Figure 1 of the drawings is a vertical sectional view of a portion of a printing ma-

chine provided with a guide or gate constructed in accordance with my invention; Fig. 2 is a front elevational view of the yoke which carries the guide, said view being taken on approximately the line 2-2 of Fig. 1; Fig. 3 is a top plan view of the members shown in Fig. 2; Fig. 4 is a horizontal sectional view taken on approximately the line 4-4 of Fig. 2; and Fig. 5 is a vertical sectional view taken on approximately the line 5-5 of Fig. 2.

Referring to the drawings which illustrate the preferred form of my present invention, A designates the bed plate of the machine, B the platen, and C the printing mechanism arranged above the platen. The pile D of booklets, pamphlets, or other articles being operated on, is arranged on the bed plate in front of a guide or gate E which controls the feed of the bottom article of the pile from the ones above it during the operation of feeding said bottom article onto the platen B, the feeding mechanism of the machine herein shown consisting of feeding fingers 1 which project upwardly through slots in the bed plate, as shown in Fig. 1.

The guide E consists of an approximately horizontally arranged wing that is provided with a vertically disposed shank 2 which is slidably mounted in a groove formed in a yoke F that is securely connected to the bed plate, and means is provided for adjusting the guide E vertically relatively to the bed plate so as to accommodate thin or thick articles. The means herein shown for adjusting the guide E consists of a horizontally arranged shaft 3 journaled in the yoke F and provided at its inner end with an eccentrically-disposed pin 3^a which projects into a slot in the upper end of a standard 4 on the guide E, as shown in Fig. 1. Any suitable means can be provided for locking the guide E in its adjusted position but I prefer to provide the yoke F with a clamping block 5 which can be forced into intimate engagement with the shank 2 on the guide by means of a screw 6 which is also journaled in the yoke F.

The guide E is provided with a movable plate or portion 7 whose lower edge is normally spaced away from the bed plate a distance equal to the thickness of the booklets being operated on, and said plate is arranged in such a manner that it can yield or move upwardly slightly so as to ac-

commodate the irregular or uneven rear edge of the booklet through which the staples or leaf-fastening devices pass. The plate 7 can be connected to the guide in various ways and it can either be subjected to yielding pressure to hold it in its normal position, or gravity can be relied upon to hold said plate in normal position.

In the preferred form of my invention, as hereir shown, the plate 7 is arranged in sliding engagement with the vertical shank 2 of the guide E and is connected to said shank by means of a screw 8 carried by the shank 2 and passing through an elongated slot in the plate 7, said screw having a head that prevents the plate from moving forwardly or away from the vertical shank of the guide E. Pins 9 on the guide project into elongated slots 10 in the plate 7 so as to hold the lower edge of said plate parallel with the bed plate of the machine, and these pins also act as stops to limit the downward movement of the plate or movable portion of the guide. A leaf-spring 11, which is carried by the yoke F, engages shoulders or pins 12 on the plate 7 so as to exert downward pressure on said plate and thus hold the lower edge of same normally spaced away from the bed plate a distance equal to the approximate thickness of the booklets in the pile D but it will, of course, be obvious that other means could be employed for holding the plate 7 in normal position, or, as previously stated, gravity could be relied upon to hold said plate down.

The horizontally disposed portion of the guide E is deflected upwardly from the bed plate slightly, as shown in Fig. 1, so that the space between the rear edge of same and the bed plate will be greater than the space between the bed plate and the lower edge of the movable plate 7, and a plurality of yielding fingers 13, which preferably consist of pieces of spring wire, are connected to the under side of the horizontal portion of the guide so as to exert downward pressure on the booklets after they have passed under the controlling plate 7 and thus prevent said booklets from rising or passing out of control of the feed fingers 1 when said fingers are feeding the booklets onto the platen, the under side of the guide E being provided with grooves that permit the spring fingers 13 to move upwardly far enough not to obstruct the passage of the booklet onto the platen.

A feed-controlling guide or gate of the construction above described permits booklets and other irregular or uneven articles to be fed successfully from a pile because the plate or movable portion 7 of the guide will yield or move upwardly slightly and thus permit the articles to pass under same. The lower edge of the plate 7 is normally spaced away from the bed plate a distance

equal to the approximate thickness of the articles being operated on so that only the bottom article of the pile can be fed from the pile, and as the guide can be adjusted vertically it can be used for operating on thick or thin articles.

In addition to these desirable features a guide or controlling gate of the construction above described overcomes the possibility of the articles becoming jammed between the platen and the rear edge of the guide because the space between the rear edge of the horizontal portion of the guide E and the platen is much greater than the thickness of the articles.

While I have herein shown my guide applied to a printing machine I do not wish it to be understood that it is limited to this specific use for it could be used in combination with various other mechanism or apparatus such, for example, as cutting machines. Furthermore, I do not wish it to be understood that my guide is limited to use in a machine in which the articles are fed over a horizontal surface for it could be used equally well for controlling the feed of articles that move in a vertical plane or in an inclined plane and therefore the terms "horizontal" and "vertical" and similar expressions which appear in the specification and claims should not be construed as limitations as these terms are only used relatively and with reference to the particular type of machine herein shown.

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

1. A guide or gate for controlling the feed of the bottom article of a pile from the ones above it, comprising an approximately horizontally disposed portion provided on its under side with yielding fingers, and a yielding plate arranged at the front end of said guide and normally projecting below the lower edge of the guide.

2. A guide or gate for the purpose described comprising an approximately horizontally disposed portion provided on its under side with yielding fingers, means for raising and lowering said horizontally disposed portion, and a spring-actuated plate arranged at the front end of said guide and having its lower edge normally projecting below the horizontally disposed portion of the guide.

3. In a machine of the class described, a yoke that extends across the bed plate of the machine, a vertically adjustable guide carried by said yoke, a movable plate on said guide whose lower edge normally projects below the guide, and yielding means for resisting upward movement of said plate.

4. In a machine of the character described, a yoke or supporting member, a vertically adjustable guide on said yoke provided with an approximately horizontally

disposed portion, and a rigid plate movably mounted on said guide and arranged at the front end of said horizontally disposed portion, said plate projecting below the lower 5 edge of said horizontally disposed portion.

5. In a machine of the character described, a yoke or supporting member, a vertically adjustable guide on said yoke provided with an approximately horizontally 10 disposed portion, a movable plate arranged at the front end of said horizontally disposed portion and projecting below the lower edge of same, yielding means for exerting downward pressure on said plate, and 15 means for guiding said plate.

6. A guide for the purpose described, comprising a yoke or supporting member, a horizontally disposed guide provided with a shank that slides in a groove in said 20 yoke, means carried by said yoke for adjusting said guide vertically, a vertically movable plate slidingly mounted on said shank, and yielding means carried by said yoke for exerting downward pressure on said 25 plate.

7. In a printing machine, a platen, an approximately horizontally disposed guide

arranged in advance of said platen and having its rear edge lying in a higher horizontal plane than the top face of the platen, yielding 30 fingers on the under side of said guide, and a yielding plate arranged at the front end of the guide and projecting below the lower side of same.

8. In a printing machine, a platen, a yoke 35 or supporting member connected to the bed plate of the machine, an approximately horizontally disposed guide carried by said yoke and having its rear edge terminating adjacent the platen, yielding fingers on the 40 under side of said guide, means on said yoke for raising and lowering said guide, a movable plate arranged at the front end of said guide and having its lower edge projecting below the guide, and yielding means on the 45 yoke for exerting downward pressure on said plate.

In testimony whereof I hereunto affix my signature in the presence of two witnesses, this 2nd day of May 1910.

MILES H. MANN.

Witnesses:

A. M. McGEE,

ALBERT WAMSLEY.