

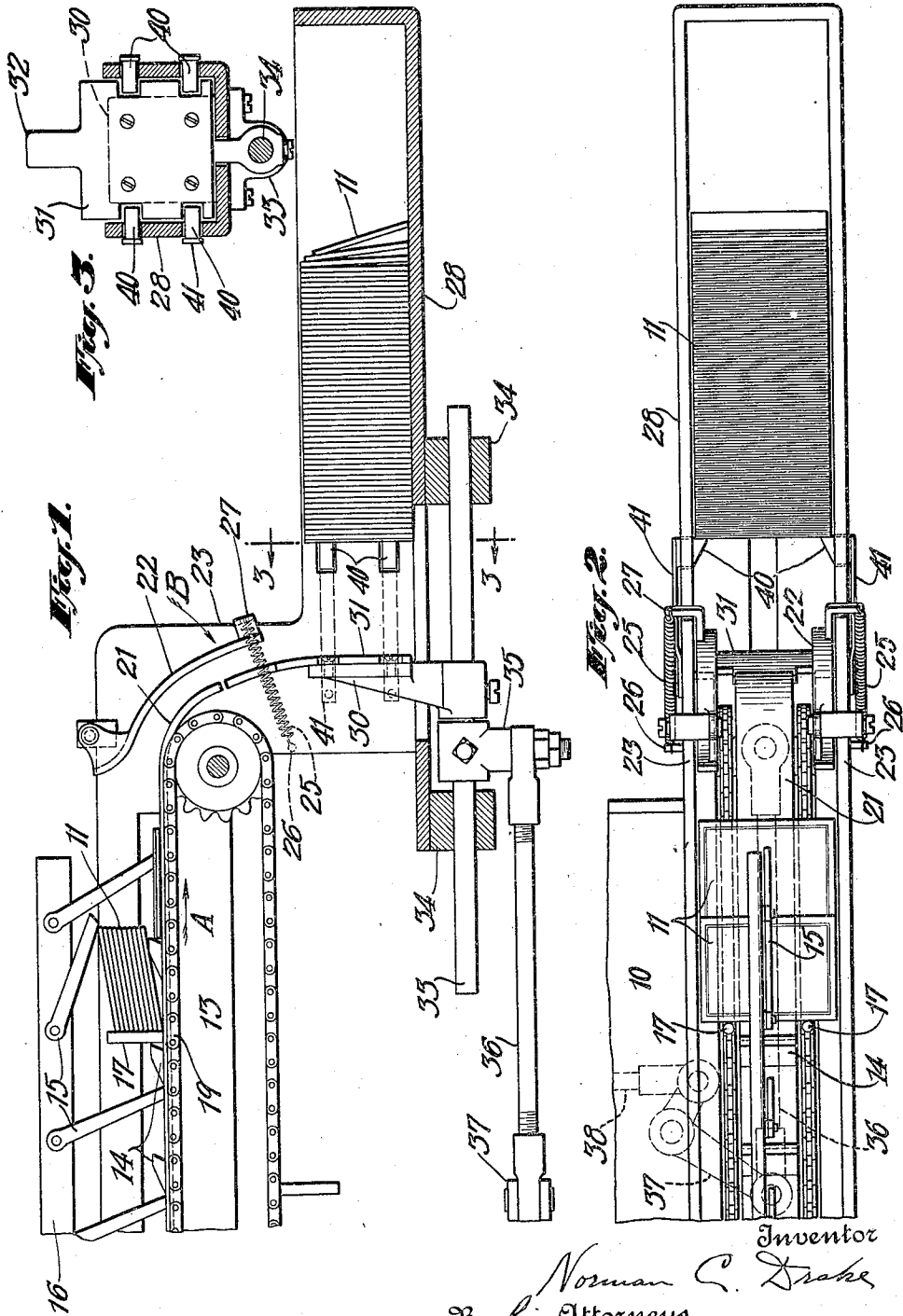
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DELIVERY MECHANISM

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DELIVERY MECHANISM.

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This invention relates to delivery mechanisms, and is herein shown applied to a machine adapted to simultaneously cut and simultaneously fold a plurality of strips of material, such as paper carrying printed or other matter, into the form of pamphlets or folders which are delivered by the machine in a superimposed or stacked relation.

Heretofore, the stacks of such folders were delivered to a table, belt or the like, without means for maintaining their stacked relation, with the result that difficulty was experienced in collecting and arranging them in a proper relation preparatory to binding or otherwise packaging them in groups.

The general object of this invention is to provide a simple and reliable delivery mechanism adapted particularly for cooperation with a machine of the kind above mentioned, for receiving stacks of folders or other articles and maintaining them in a stacked relation so as to facilitate handling thereof in binding, packaging or otherwise preparing them for shipment.

Other objects and advantages of the invention will become apparent from the following description when taken in connection with the accompanying drawings in which Figure 1 is a longitudinal sectional view of the device, the same being shown applied to the delivery end of a cutting and folding machine; Figure 2 is a plan view of the device; and Figure 3 is a sectional view taken on the line 3—3 of Figure 1.

The machine 10, to which the device embodying this invention is shown applied, is adapted to simultaneously cut and likewise fold a plurality of strips of material, such as paper carrying printed or other matter, into the form of pamphlets or folders 11. A plurality of these folders 11 are separately and simultaneously transferred from the machine 10 laterally into an ejecting device 13, and each folder is temporarily supported therein in an inclined position, by a stationary lug or cam 14, which serves to elevate one end of each folder 11 as the folder passes from the machine 10 into the ejecting device 13. In order to prevent improper displacement of the folders 11 while they are in the ejecting device, a plurality of fingers

15 are employed, which fingers are pivotally connected to a longitudinal bar 16, so connected, by means not shown, to the operating parts of the machine 10 as to be automatically lifted as the folders 11 pass from the machine 10 laterally into the ejecting device 13, and to be thereafter lowered so that the fingers 15 engage the folders 11. After the fingers 15 have been lowered into engagement with the folders 11, a pair of studs 17, carried by a chain 19, operating in the direction of the arrow A shown in Figure 1, serve to move the folders 11 progressively one on to the other into a stacked relation, such movement being permitted by reason of the fact that the fingers 15 are pivotally connected to the bar 16.

After the folders 11 have been stacked, they are carried forward over an arcuate shaped tongue 21 and are forced downwardly through the space afforded between this tongue and a pair of arcuate shaped guides 22. These guides 22 are pivotally connected to a frame 23 forming a part of the delivery mechanism. A pair of tension springs 25 serve to retain the guides 22 normally but yieldingly in their respective positions shown in Figure 1, the springs 25 being anchored at one end to pins 26, carried by the frame 23, and at the other end connected to brackets 27 which are secured to the free ends of the guides 23 and by engaging the frame 23 limit the pivotal movement of the guides 22 in the direction of the arrow B shown in Figure 1. It will be understood that the stacks of folders 11 are subjected to more or less pressure, under the influence of the springs 25 and guides 22, as they pass through the space afforded between the tongue 21 and the guides 22, and that as a result of this pressure the folders are slightly compressed into a more compact relation. The tongue 21 and guides 22 also function cooperatively to maintain the folders 11 in a stacked relation as they pass on to and over the tongue 21.

As the stacks of folders pass from between the tongue 21 and guides 22, they are directed into a receptacle 28, each folder being then in substantially a perpendicular position. The stacks of folders 11, as they enter the receptacle 28, pass over a compression head 30, and assume a position at the front

thereof. This compression head 30 includes a plate 31, formed with a tongue 32 which, when the head 30 is in its rearmost position as shown in Fig. 1, forms with the tongue 21, an extension over which the folders pass as they enter the receptacle 28. The head 30 is suitably connected, as by means of a set screw, to a reciprocating rod 33, mounted in suitable bearings 34, the reciprocating rod 33 being provided with a trunnion 35 to which is connected a pitman rod 36, pivotally connected to a bell-crank lever 37, adapted to be actuated by means of a connecting rod 38, connecting to a suitable rotating or other moving part of the machine 10. As the machine 10 is operated, the head 30 is reciprocated within the receptacle 28, the timing of the operation of the head 30 being such with respect to the machine 10 that the head 30 is moved to its position shown in Figure 1 as the folders 11 are being moved into a stacked relation, and this position is maintained until after the stack of folders 11 is deposited in the receptacle 28, at the front of the head 30, at which time the head 30 moves forward carrying with it the stack of folders previously deposited. As the folders are thus moved forward, they pass over a pair of lugs or dogs 40, which are provided with inclined faces and project through suitable openings formed in the side walls of the receptacle 28. These lugs or dogs 40 are carried by suitable springs 41 attached to the sides of the receptacle 28, and are thus permitted to yield as the folders pass along the receptacle 28 to a position in front of the dogs. After this position has been assumed by the folders 11, the dogs 40 are returned to their normal positions, shown in the drawings, and then serve to retain the folders in their advanced positions to which they have been moved. After the dogs 40 have moved into their positions shown in the drawings, and before the next stack of folders is introduced in the receptacle 28, the head 30 is retracted to its position shown in the drawings and is ready to complete another cycle of operation. As succeeding stacks of folders are moved into a position in front of the dogs 40, the preceding folders are advanced towards the outer end of the receptacle 28, from which they may be removed and bound or otherwise packaged preparatory to shipment.

I claim:

1. A delivery mechanism for use with a machine adapted to eject printed matter in a stacked relation, said delivery mechanism comprising a receptacle adapted to receive stacks of printed matter one after another, a reciprocating head adapted to successively move the stacks of printed matter from one end of said receptacle towards the other end thereof, and relatively movable guiding ele-

ments for guiding the stacks of printed matter into said receptacle, one of said guiding elements being carried by said head.

2. A delivery mechanism for use with a machine adapted to eject printed matter in a stacked relation, said delivery mechanism comprising a receptacle adapted to receive stacks of said printed matter one after another, relatively movable guiding elements between which the stacks of said printed matter are adapted to pass in entering said receptacle, and a reciprocating head for progressively moving the stacks of said printed matter toward one end of said receptacle as they enter the same.

3. A delivery mechanism for use with a machine adapted to eject printed matter in a stacked relation, said delivery mechanism comprising a receptacle adapted to receive stacks of said printed matter one after another, means at the receiving end of said receptacle for guiding the stacks of said printed matter into said receptacle one after another and including a pair of yieldably mounted guiding elements, yieldable means tending to retain said guiding elements in their respective normal positions, and a reciprocating head operating within said receptacle and adapted to progressively move the stacks of said printed matter toward one end of said receptacle as they enter said receptacle.

4. A delivery mechanism for use with a machine adapted to eject printed matter in a stacked relation, said delivery mechanism comprising a receptacle adapted to receive stacks of said printed matter one after another, means at the receiving end of said receptacle for guiding the stacks of said printed matter into said receptacle one after another and including a pair of yieldably mounted guiding elements, yieldable means tending to retain said guiding elements in their respective normal positions, a reciprocating head operating within said receptacle and adapted to progressively move the stacks of said printed matter toward one end of said receptacle as they enter said receptacle, and spring pressed means at each side of said receptacle adapted to be acted upon by and moved out of the path of the stacks of printed matter as they are initially moved in one direction within said receptacle and adapted to thereafter snap into said path of movement to retain the stacks of said printed matter against movement in an opposite direction within said receptacle.

5. A delivery mechanism for use with a machine adapted to eject printed matter in a stacked relation, said delivery mechanism comprising a receptacle adapted to receive stacks of said printed matter one after another, means at the receiving end of said receptacle for guiding the stacks of said printed matter into said receptacle one after

another and including a pair of yieldably mounted guiding elements, yieldable means tending to retain said guiding elements in their respective normal positions, a reciprocating head operating within said receptacle and adapted to progressively move the stacks of said printed matter toward one end of said receptacle as they enter said receptacle, and a tongue carried by said head and adapted to cooperate with said guiding elements in facilitating the passage of the stacks of said printed matter into said receptacle. 10

In testimony whereof, I have affixed my signature to this specification.

NORMAN C. DRAKE.