C. A. CHESHIRE.

FEEDING MECHANISM.

APPLICATION FILED NOV. 29, 1912.

1,077,390. Patented Nov. 4, 1913.

Fig. 1.

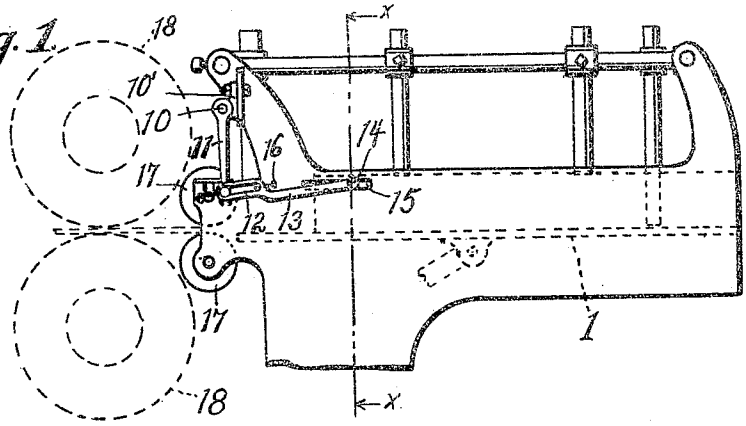


Fig. 2.

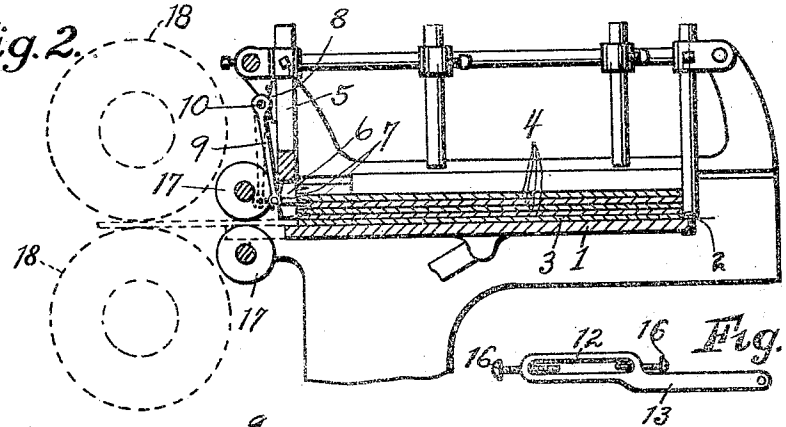


Fig. 4.

Fig. 3.

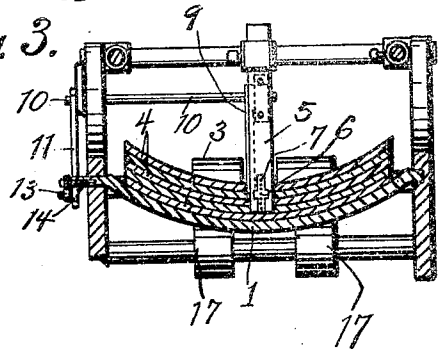
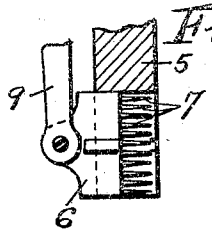


Fig. 5.



Witnesses:

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UNITED STATES PATENT OFFICE.

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FEEDING MECHANISM.

1,077,390. Specification of Letters Patent. Patented Nov. 4, 1913.

Application filed November 29, 1912. Serial No. 734,076.

To all whom it may concern:

Be it known that I, CAREY A. CHESHIRE, a citizen of the United States, and a resident of the city of Des Moines, county of Polk, and State of Iowa, have invented certain new and useful Improvements in Feeding Mechanism, of which the following is a specification.

My invention relates to improvements in feeding mechanism and has for its object the provision of improved feeding mechanism especially adapted for feeding articles having uneven or varying edges.

The invention consists in the combinations and arrangements of parts hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawings forming a part of this specification, and in which,

Figure 1 is a side elevation of feeding mechanism embodying my invention, Fig. 2, a central vertical section of the same, Fig. 3, a section taken on line *x*—*x* of Fig. 1, Fig. 4, an enlarged detail view of a link employed in the construction, and Fig. 5, an enlarged section taken through the lower end of a stop member employed in the construction.

The preferred form of construction as illustrated in the drawings comprises a reciprocating feed plate 1 having stop members 2 on the rear end thereof which are adapted to engage the lowermost article 3 of a stack of articles 4 resting on feed plate 1, as will be readily understood by those skilled in the art. A vertically adjustable stop plate 5 is arranged to contact centrally with the forward edges of the stack of articles but leaving the bottommost article 3 free to pass under said stop member. This stop member is provided in its lower portion with a reciprocatory block 6 carrying a plurality of inwardly projecting points 7 adapted to engage the corresponding edges of the articles 4, as indicated. The block 6 is pivotally connected to the lower end of an operating arm 9 which extends upwardly and is fixed to a pivot shaft 10 mounted in a bearing 8 on the upper portion of stop member 5. This shaft 10 is extended laterally to the side of the mechanism where it is given an adjustable bearing 10′. At its outer end shaft 10 carries a downwardly extending operating crank arm 11 the lower end of which carries a pin slidably engaging a longitudinal slot 12 in the end of a link 13. Link 13 is connected with plate 1 by means of a pin 14 extending through a slot 15 in the side frame of the mechanism. Set screws 16 are arranged in link 13 and are adapted to adjust the amount of play or lost motion between the lower end of arm 11 and said link. By this arrangement, it will be observed, that as plate 1 reciprocates, link 13 will operate arm 11 and consequently lever 9 to reciprocate block 6 in stop member 5.

The arrangement is such that as plate 1 approaches the limit of its movement to the right, as shown in Fig. 2, the left set screw 16 engages the lower end of arm 9 and rocks shaft 10 to throw points 7 into engagement with the edges of the articles 4. Then as plate 1 feeds to the left, as shown in Fig. 2, carrying the lowermost sheet 3 with it, the upper sheets 4 are maintained in elevated positions by points 7 thus preventing their interfering with the feed of the lowermost sheet 3. When plate 1 approaches the end of its movement toward the left, the right hand set screw 16 engages the lower end of arm 9 and rocks shaft 10 to throw points 7 out of engagement with articles 4 and permit the same to feed downwardly. From plate 1 sheet 3 passes to feed rollers 17 and thence to printing cylinders 18 or any other desired mechanism. This mechanism will be found to be especially advantageous in the feeding of articles having uneven and varying edges, such for example, as cheaply and carelessly made newspapers which frequently have some of their edges extending well beyond the other edges. This being so, when the stack of newspapers rest on plate 1, these forwardly extending uneven edges on the two adjacent papers, will often not exceed in thickness a single paper. This being so the combined forwardly extending edges of the lowermost two of the stack of articles could pass under the stop member 5 simultaneously. But the bodies of such papers cannot pass simultaneously under the stop member, so that two papers whose forward edges have thus started to feed under the stop member, will tend to wedge or jam themselves into the space under said stop member and thus render the feeding mechanism inoperative. However, by the construction above set forth, the points 7 will engage at least a portion of the article 4 next above the bot-

tommost article 3 and thus support the corresponding edge thereof and prevent this jamming action. The block 6 is extended high enough and provided with enough of the points 7 to support several of the upper articles 4 thus relieving the edge of the next to the bottom article from all weight and pressure, which greatly facilitates the action above noted.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

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

1. Feeding mechanism comprising a stop member; a reciprocatory feed plate arranged to feed an article past said stop member; holding means mounted for coöperation with said stop member: and automatic means operable by said feed plate, for moving said holding means to engage the edge of an article resting against said stop member during the feed of an adjacent article and to release said edge for feed of the corresponding article, substantially as described.

2. Feeding mechanism comprising a stop member; a reciprocatory feed plate arranged to feed articles under said stop member; a block slidable in the lower portion of said stop member and provided with a plurality of projecting points adapted to engage the edges of articles stacked against said stop member; and means for moving said block to cause said points to engage said edges during feed of an article and to withdraw said points during the idle movement of said feed plate, substantially as described.

3. Feeding mechanism comprising a stop member; a reciprocatory feed plate arranged to feed articles under said stop member; a block slidable in the lower portion of said stop member and provided with a plurality of projecting points adapted to engage the edges of articles stacked against said stop member: and means operable by said feed plate for moving said block to cause said points to engage said edges during feed of an article and to withdraw said points during the idle movement of said feed plate, substantially as described.

4. Feeding mechanism comprising a stop member: a reciprocatory feed plate arranged to feed articles under said stop member: a block slidable in the lower portion of said stop member and provided with a plurality of projecting points adapted to engage the edges of articles stacked against said stop member; an upwardly extending lever connected with said block; a pivot shaft for said lever; an operating arm on said shaft: and an adjustable link connection between said arm and said feed plate, substantially as described.

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

CAREY A. CHESHIRE.

Witnesses:
JOSHUA R. H. POTTS,
HELEN F. LILLIS.