

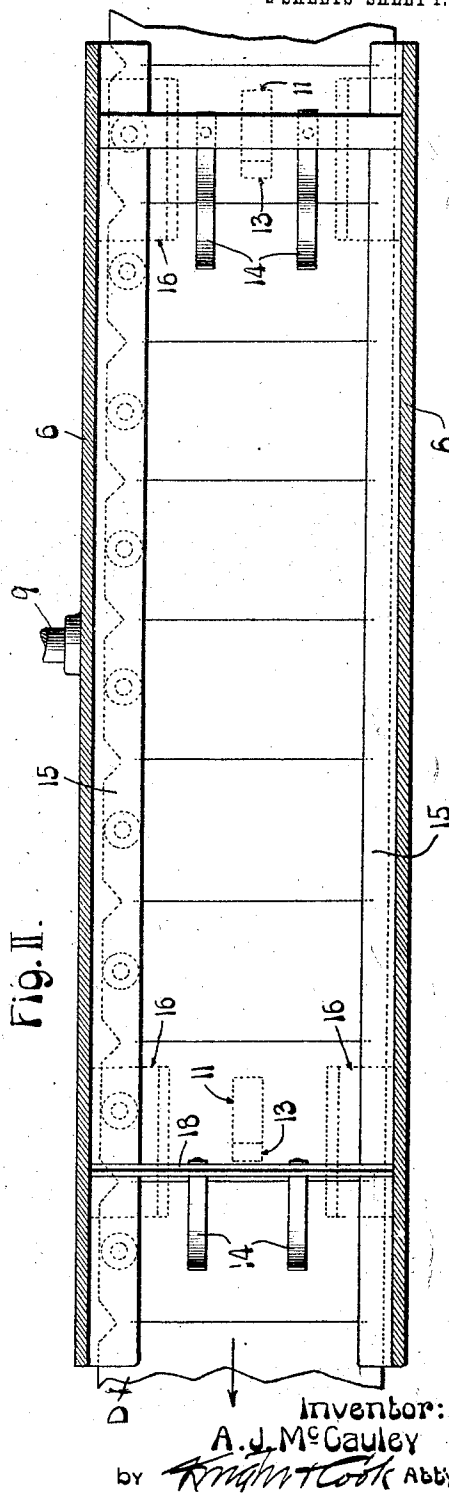
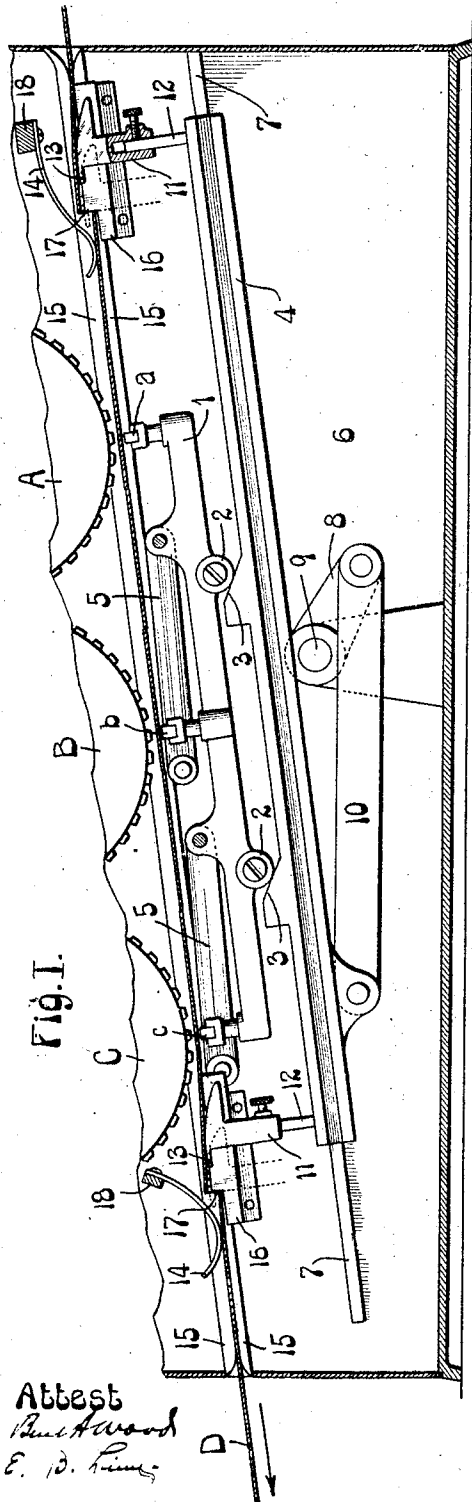
A. J. McCAULEY.
PAPER FEEDER.

APPLICATION FILED SEPT. 14, 1912.

Patented Mar. 4, 1913.

1,054,976.

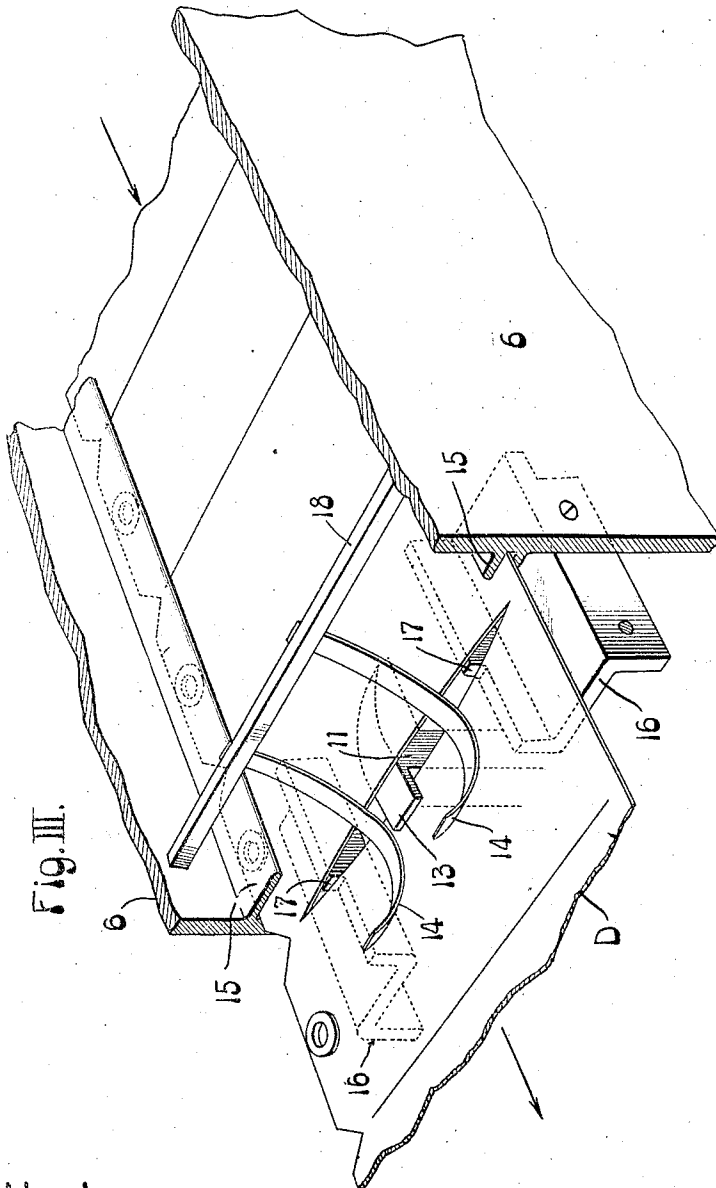
2 SHEETS-SHEET 1.



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2 SHEETS—SHEET 2.



Attest
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UNITED STATES PATENT OFFICE.

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PAPER-FEEDER.

1,054,976.

Specification of Letters Patent.

Patented Mar. 4, 1913.

Application filed September 14, 1912. Serial No. 720,321.

To all whom it may concern:

Be it known that I, ALBERT J. McCAULEY, a citizen of the United States of America, and a resident of the city of St. Louis and State of Missouri, have invented certain new and useful Improvements in Paper-Feeders, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to a paper feeding device adapted to feed cards or sheets of paper step by step, and has for its object the production of a very simple device of this kind which will positively feed the paper a predetermined distance during each feeding operation and prevent the paper from creeping or slipping during the intervals between the feeding operations.

The device is particularly adapted for feeding slitted webs of paper, such, for example, as gangs of shipping tags, although it will be understood that the invention is not limited to such use.

Figure I is a vertical section of a printing machine provided with a feeder embodying the features of my invention. Fig. II is a horizontal section. Fig. III is a perspective view showing the presser members for separating the slitted edges of the web of paper or tag strip, the abutments for preventing retrograde movement of the paper, and a feeder positioned to begin the feeding operation.

In the accompanying drawings I have shown the feeder applied to a printing machine having banks A, B and C of printing wheels for printing three lines of characters on each tag of a tag strip D. Platens *a*, *b*, and *c* arranged below the type wheels are secured to a platen frame 1, provided with rollers 2. The frame 1 is moved vertically toward the printing wheels through the medium of cams 3 on a slide bar 4.

5 designates links connecting the frame 1 to the side walls 6. The slide bar 4 is slidably fitted to ribs 7 on the walls 6.

8 designates a crank secured to the power shaft 9 and connected to the slide 4 by a pitman 10. It will be noted that rotary movements of the crank 8 will cause the slide 4 to reciprocate under the rollers 2, and at the end of each rearward stroke, the rollers 2 and platen frame 1 are elevated by the cams 3, with the result of forcing the

tag strip D against the type wheels. The tag strip is fed after each printing operation to position the tags consecutively under the wheels A, B and C, thereby causing three lines of characters to be printed on each individual tag. This printing mechanism has been shown and briefly described merely to show a machine requiring an accurate step by step feeding device associated with my improved paper feeder; and, as no invention *per se* is claimed for the printing mechanism, I do not deem it necessary to show the inking devices, or other details, forming part of the printing mechanism.

The feeding mechanism comprises feeder arms 11, adjustably fitted to posts 12 on the reciprocating slide 4, each of said feeder arms having a nose 13 at its upper end.

14 designates presser members for separating the slitted edges of the tag strip so as to position one of said edges directly in front of each feeder when the latter occupies its rearmost position. The feeders are reciprocated a greater distance than a step of the feeding operation, so that before beginning to feed they occupy the positions seen in Fig. I; some distance away from the separated edges of the tag strip. As the feeders move forwardly, their noses 13 enter the space between the separated edges of the tag strip so as to overlap portions of said strip, thereby positively maintaining the feeders in engagement with the tag strip during the feeding operation. If the feeders were not provided with the noses 13, the edges of the tag strip would spring upwardly during the feeding movement and slip over the top faces of the feeders, thereby stopping the feed prematurely. However, the noses 13 positively prevent such slippage and, on the return stroke of the feeders, the noses 13 pass freely from between the slitted edges of the tag strip.

As the device does not include any mechanism for dropping the feeders away from the tag strip during the return or backward movements of the feeders, it will be apparent that the tags will tend to slip backwardly in the guides 15 when the feeder moves rearwardly, this slipping tendency being increased by the presser members 14 which force the tag strip downwardly into frictional engagement with the feeders. To positively prevent retrograde movement of the tag strip, brackets 16, secured to the side

walls 6 are provided with abutments 17 adapted to engage edges of the tag strip, as seen in Fig. III, said edges being depressed by the presser members 14 so as to lie in front of said abutments 17.

The presser members 14 are preferably springs, or yielding arms, or rigid arms secured to cross bars 18.

I claim:—

1. A device for moving a slitted web of paper step by step comprising feeder arms, a nose carried by and extending forwardly from one of said feeder arms and adapted to extend between the slitted edges of the paper so as to positively interlock said feeder arm with the slitted web of paper, said feeder arms constituting the sole means for advancing the slitted web of paper step by step, and a presser member for separating the slitted edges of said paper to produce a gap for the reception of said forwardly extending nose.
2. A device for moving a slitted web of paper step by step comprising a reciprocating feeder, a feeder arm carried by said feeder, a nose carried by and extending forwardly from said feeder arm and adapted to extend between the slitted edges of the paper so as to positively maintain the feeder arm in engagement with said paper during the feeding operation, and a presser member for pressing an edge of the paper directly into the path of travel of the feeder arm; said reciprocating feeder constituting the sole means for advancing the slitted web of paper step by step.
3. A device for moving a slitted web of paper step by step comprising a reciprocating feeder, a feeder arm carried by said feeder, a nose carried by and extending forwardly from said feeder arm and adapted to extend between the slitted edges of the paper so as to positively maintain the feeder arm in engagement with said paper during

the feeding operation, and a presser member 45 for pressing the edge of the paper directly into the path of travel of the feeder arm, said reciprocating feeder constituting the sole means for advancing the slitted web of paper step by step, and an abutment against 50 which one of the edges of the paper is adapted to abut to prevent retrograde movement of said paper.

4. A device of the character described comprising a feeder for moving a slitted 55 web of paper step by step, said feeder being adapted to move while frictionally engaged with said paper during the intervals of time between the feeding operations, an abutment for preventing the paper from following the 60 feeder during the intervals of time between the feeding operations, and a presser member for separating the slitted edges of said paper and deflecting one of said edges to a point directly in front of said abutment 65 after each feeding operation.

5. A device of the character described comprising a feeder for moving a slitted web of paper step by step, means for reciprocating said feeder a greater distance than 70 a step of the feeding movement, an abutment for preventing retrograde movement of said paper, a presser member for separating the slitted edges of said paper so as to position one of said edges in front of said 75 abutment and feeder after each feeding operation, and a nose carried by and extending forwardly from said feeder adapted to pass between the separated slitted edges of said paper to overlap a portion of said paper 90 and positively hold said paper in engagement with the feeder during the feeding operation.

ALBERT J. McCAULEY.

In the presence of—

E. S. KNIGHT,
E. B. LANN.