(No Model.)

J. WELKER, Jr.

FEEDING MECHANISM FOR PAPER CUTTING MACHINES.

No. 259,735. Patented June 20, 1882.

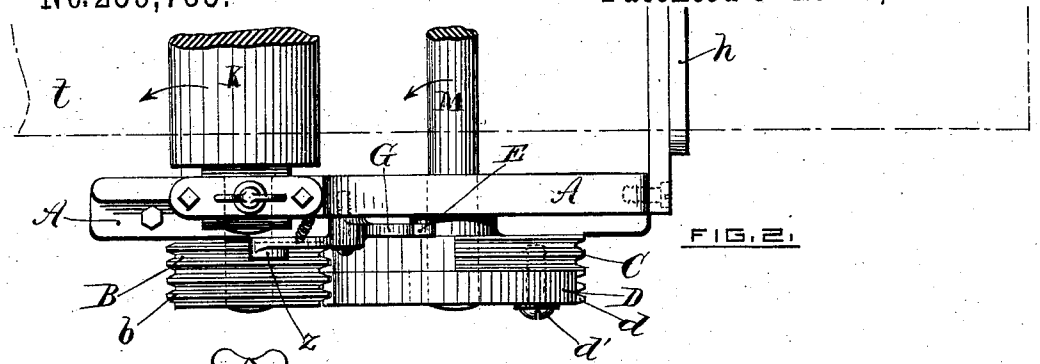


FIG. 2.

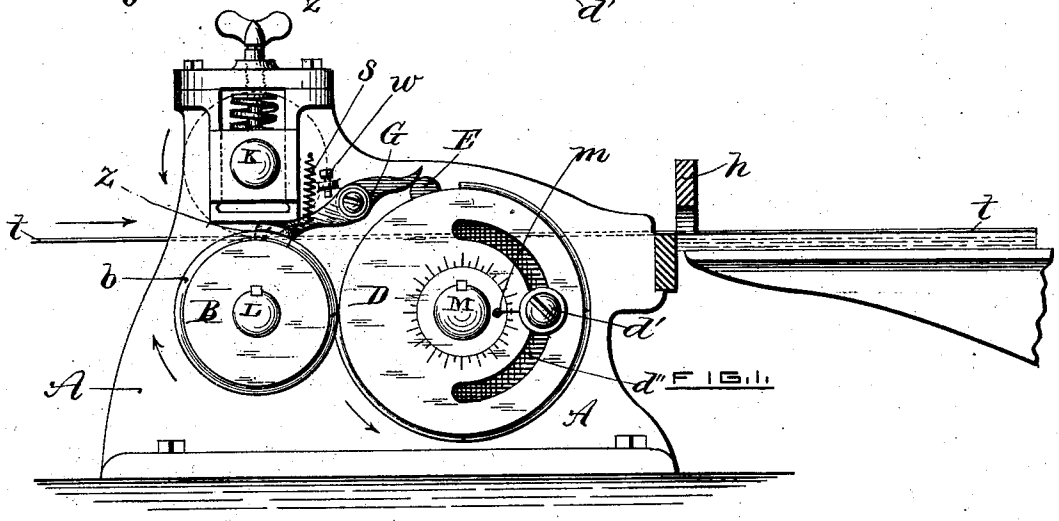


FIG. 1.

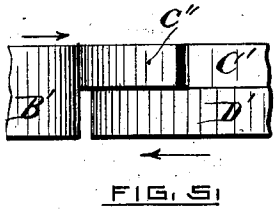


FIG. 5.

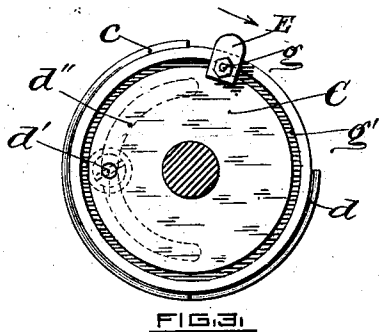


FIG. 3.

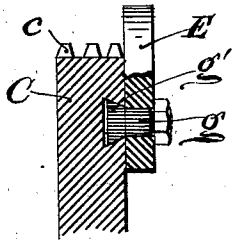


FIG. 4.

WITNESSES:

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UNITED STATES PATENT OFFICE.

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FEEDING MECHANISM FOR PAPER-CUTTING MACHINES.

SPECIFICATION forming part of Letters Patent No. 259,735, dated June 20, 1882.

Application filed April 1, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH WELKER, Jr., a citizen of the United States, residing at Pawtucket, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Feeding Mechanism for Paper-Cutting Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to an improved feeding mechanism for paper or other analogous material preparatory to being severed from the roll or sheet; and it consists of a pair of feed-rolls, upon one of which is secured, at one end thereof, a traction gear or wheel, which in turn is driven by a similar wheel, the latter being divided in the plane of its transverse axis into two or more parts, and having upon a portion of its periphery a series of grooves or other suitable bearing-surface. The two parts of this wheel are adjustably secured together.

Another portion of my invention is embraced in the combination of an adjustable dog attached to the driving-wheel and a brake-lever which is made to act intermittently upon the wheel of the feed-roll.

In the accompanying drawings, Figure 1 is an end elevation, showing my invention. Fig. 2 is a partial top view of the same. Fig. 3 is a view from the back of driving-wheel, showing the adjustable dog. Fig. 4 is an enlarged sectional view of the dog and wheel. Fig. 5 represents a modification of the frictional contact-surface of the wheels.

K and L represent respectively the upper and lower rolls of a feeding-machine, mounted in a frame or housing, A, between which the paper *t* or other material is fed along. Upon one end of the roll, and outside of the frame, is secured the wheel B, having grooves *b* formed therein.

d and *c* represent corresponding grooves, formed respectively on the wheels D and C. These latter are in width or face equal to the wheel B. The grooves *c* and *d* are shown to extend half-way around the wheels. The wheel C is secured to the driving-shaft M. Upon the hub of said wheel, and loosely mounted thereon, is the wheel D. This wheel D, has a slot, *d''*, formed therein, extending partially around it. Said slot is made at a right angle with the groove *d*. The bolt *d'* serves to adjustably connect the wheels D and C together. Upon the back side of the wheel C is adjustably secured the dog E by means of the groove *g'* and bolt *g*.

G represents a brake-lever, one end of which is located in the plane of the dog E, and its opposite end or shoe, Z, is made to engage with the wheel B. Said dog is adjusted relatively to the termination of the groove *b*, whereby the dog engages with the lever G at the same instant that the groove of wheel C D leaves the wheel B, thus bringing the brake Z to bear upon the wheel B and preventing the latter from further motion, which might be caused by its momentum.

S represents a releasing-spring, and *w* an adjustable stop for the lever.

B', C', and D', Fig. 5, represent wheels having a smooth surface, showing in place of the grooves a band or strip, *c''*, of rubber, leather, or other suitable substance.

My invention is advantageously employed in machines for cutting paper, &c., into sheets or strips of uniform length, and represented in the drawings as feeding for three-fourths of a revolution of the large wheels C D the wheel B and its roll, both shown of the same diameter. By moving the wheel D opposite the direction of the arrow to the end of its slot *d''* and removing the dog E a continuous feeding mechanism is produced. For convenience in adjusting I further introduce the gage and index *m*, as shown.

The operation of my invention is as follows: Suppose it is desirable to cut the paper or other material into lengths equal to one-half the circumference of the wheel C; the wheels C and D are adjusted by means of the bolt *d* so as to bring the grooves in the two wheels coincident, when upon revolving said wheels the wheel B will revolve and feed the paper during the first half-revolution of wheel C D. While said wheel is completing its revolution

the wheel B remains stationary, during which time the paper is cut by the shears *h*, when the piece severed will equal in length one-half the circumference of wheel C.

It will be perceived that different lengths of feed are determined by adjusting the grooves of the wheel D to varying relations with the grooves of wheels C.

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

1. In a machine for feeding and cutting paper, &c., the friction-wheels B, C, and D, (the latter having a circular slot, *d''*,) arranged to produce an intermittent feed, substantially as shown and described.

2. In a machine for feeding and cutting paper, &c., the combination of the friction-wheels B D C, dog E, brake-lever G, and spring S, all substantially as shown and described.

3. In a machine for feeding and cutting paper, &c., the combination of the friction-wheel C with the slotted friction-wheel D and bolt *d'*, said wheels having suitable friction-surface extending partially around their circumference, substantially as shown and described.

In testimony whereof I have affixed my signature in presence of two witnesses.

JOSEPH WELKER, JR.

Witnesses:

GEO. H. REMINGTON,

CHARLES HANNIGAN.