(Model.)

E. C. PHILLIPS.

ROLL PAPER HOLDER AND CUTTER.

No. 456,964. Patented Aug. 4, 1891.

Fig. 1.

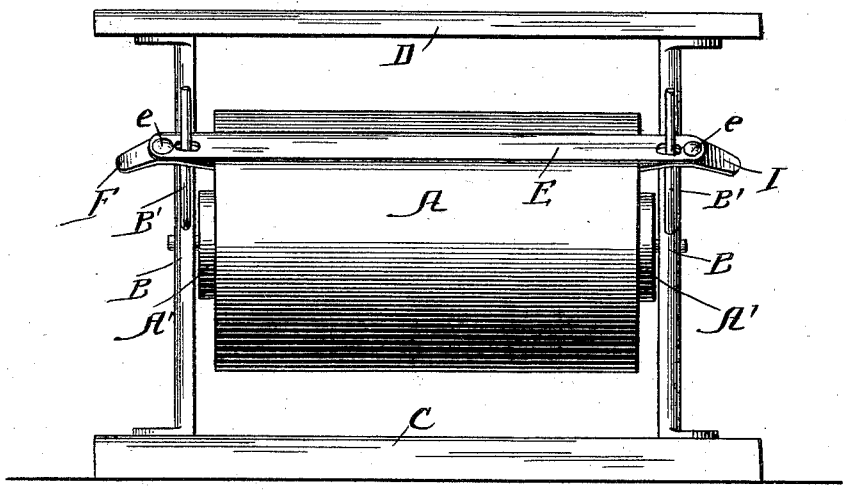


Fig. 2.

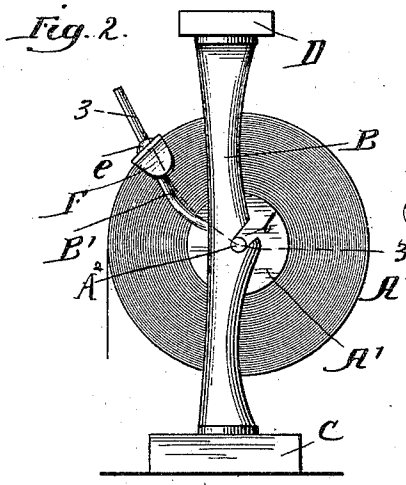


Fig. 4.

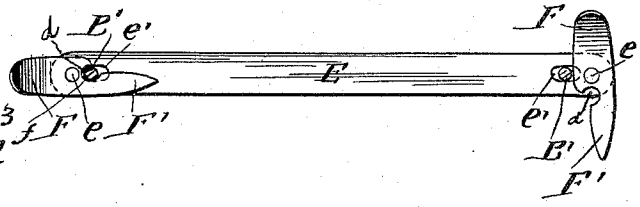
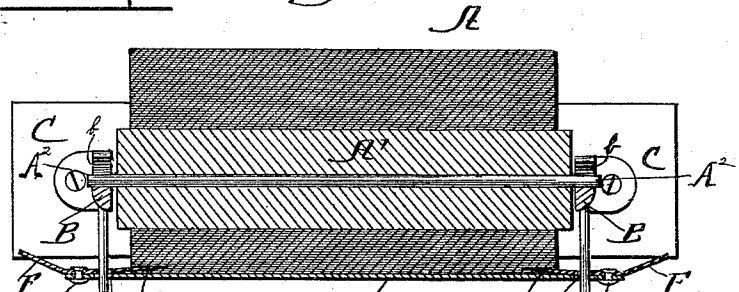


Fig. 3.



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ROLL-PAPER HOLDER AND CUTTER.

SPECIFICATION forming part of Letters Patent No. 456,964, dated August 4, 1891.

Application filed August 25, 1890. Serial No. 363,042. (Model.)

To all whom it may concern:

Be it known that I, ELWOOD C. PHILLIPS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Roll-Holding and 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.

The chief object of this invention is to dispense with the springs and weights heretofore used for holding the knife or cutting blade to its work on the periphery of the roll. This I effect by providing the said knife or cutting blade with regulators or regulating-plates, which fit in between the layers of paper forming the roll and hold the said knife or cutting blade to its work by resisting any outward movement.

My invention consists in the combination of these regulator-plates with the said knife, in the combination of both with guiding-arms and a supporting-frame, and in certain details of construction, arrangement, and combination hereinafter more particularly set forth and claimed.

In the accompanying drawings, Figure 1 represents a front elevation of a machine embodying my invention. Fig. 2 represents right side elevation of the same. Fig. 3 represents a view in cross-section taken on the line 3 3 of Fig. 2, and Fig. 4 represents a bottom plan view of the knife or cutting-blades and regulator-plates, one being in and one out of operative position, the guide rods or arms being shown in cross-section.

A designates the roll of paper, wound as usual on a wooden roller or core A′, through the center of which a rod A^2 extends lengthwise, with its ends protruding to form journals. These protruding ends or journals are mounted in open bearings *b*, formed as usual in the rear sides of the two standards B, which, with the bed-piece *c* and the top piece D, make up the entire frame. Two spring-guide arms or rods B′, extend upward and forward, with a slight curvature from said standards, to which their lower ends are respectively rigidly attached.

E designates a knife or paper-cutting blade, which is slightly curved in cross-section to fit on the exterior of the roll throughout its length, and provided on its projecting ends with pivots *e* and longitudinal slots *e′*. These slots are slightly broader than the diameter of the said rods or arms and about twice as long. The said pivots hold the regulators F to the under side of the said cutting-blade, allowing them to turn, so as to bring their lateral tapering flat points F′ into the roll A, between two of the layers of paper and out again. Near the pivot, on the side of it toward the operating point F′ of each regulating-plate, I form a recess *d*, which is adapted to fit on the proximate spring-rod B′. The position of this recess when the regulating-plate is in line with the knife, and therefore in position for service, is a little in front of the outer end of the slot *e′*, just above it, and in consequence the outward pressure of the said spring rod or arm comes in the first instance on this regulator-plate and, coinciding in direction with the line passing longitudinally through the center of said regulator-plate and through the pivot *e*, holds the said regulator-plate against accidental turning or dislodgment. Each regulator-plate extends out beyond the end of the knife, for convenience in manipulation.

The operation is as follows: The roll A being mounted as usual in the frames, the slotted ends of knife or cutting blade E are slipped on the spring rods or arms B′, which enter the slots *e′*. The latter are pressed toward each other as far as the inner ends of the said slots will allow. The regulator-plates F are then turned into the roll, each occupying the position shown at the left hand of Fig. 4 with the proximate rod B′ in its recess *d*. The rods or bars B′ are then released by the operator and remain caught in the recesses of said regulator-plates, holding these securely in position. The roll is then ready for use. The paper is torn off against the edge of the knife or cutting blade E in the usual way, the regulators holding the latter down to its work. As the roll turns and decreases the outer layers of paper continue to travel between them and the said knife, so that the number of such layers intervening is always the same. This continues until the roll is too small for further use.

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

1. The combination of a paper-cutting blade with roll-holding devices and regulators engaging the roll and holding the said blade thereto, substantially as set forth.

2. The combination of a paper-cutting blade having slots near its ends, with rods or arms passing through said slots, and regulators attached to said blade and entering the paper roll, substantially as set forth.

3. A paper-cutting blade having movable regulating-plates attached thereto at its ends, the said plates being adapted to enter a roll of paper between layers thereof, substantially as set forth.

4. A paper-cutting blade having regulating-plates pivoted to it near its ends, these plates being adapted to turn into a roll of paper between the layers thereof, substantially as set forth.

5. A paper-cutting blade having slots near its ends, in combination with spring arms or rods entering the said slots, and regulators pivoted to said blade, each regulator being provided with a recess for engaging one of said rods, and the said recess being farther inward than the outer end of the proximate slot in the cutting-blade, substantially as set forth.

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