

(No Model.)

S. M. FRIEDE.
ROLL PAPER HOLDER AND CUTTER.

No. 445,987.

Patented Feb. 10, 1891.

Fig. I.

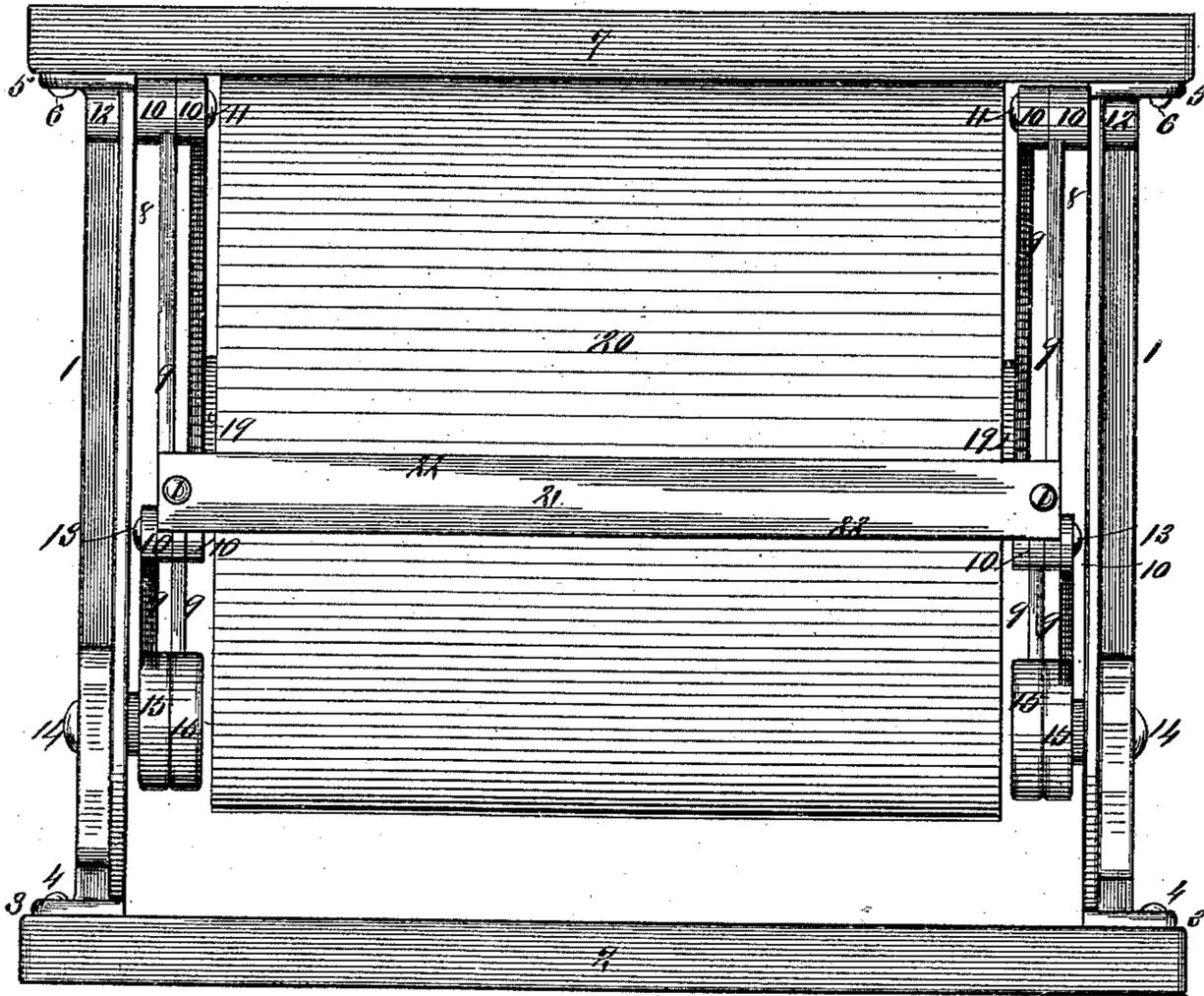
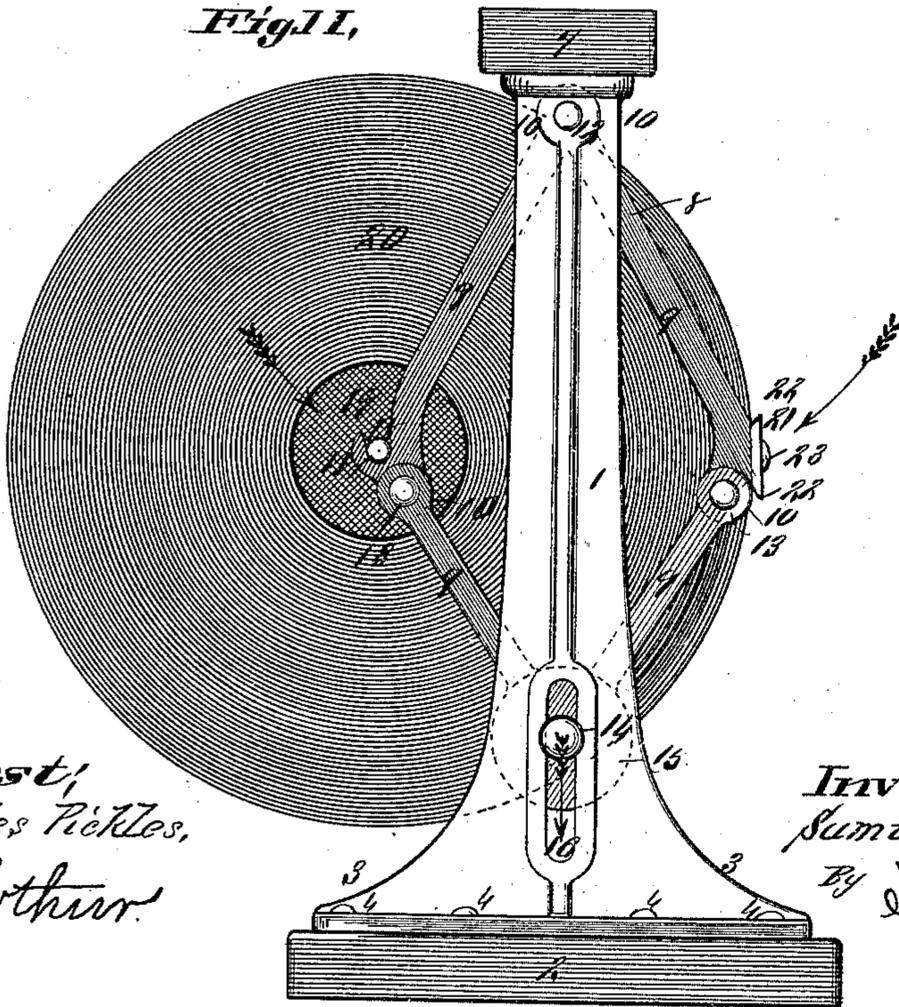


Fig. II.



Attest!
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UNITED STATES PATENT OFFICE.

SAMUEL M. FRIEDE, OF ST. LOUIS, MISSOURI, ASSIGNOR TO THE AMERICAN
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ROLL-PAPER HOLDER AND CUTTER.

SPECIFICATION forming part of Letters Patent No. 445,987, dated February 10, 1891.

Application filed June 6, 1888. Serial No. 276,176. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL M. FRIEDE, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Roll-Paper Holders and Cutters, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

10 This invention relates to devices for a combined self-adjusting knife and tension-plate for paper-rolls, to obviate the necessity of spring-pressure and to constitute a follower that automatically conforms to the reduced
15 periphery of the roll as it is used up; and the invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

20 Figure I is a front view of the machine, and shows the main frame and the toggle-frame pivoted thereto, the paper-roll carried by said toggle-frame, and combined knife and tension-plate the toggle-frame carries, and which
25 knife by the tension-draw of the gravity-weight on said toggle-frame is constituted a follower that is automatically adjusted to the roll as it reduces in diameter. Fig. II is an end view, and shows the paper-roll with its
30 axle-bearings, the toggle-frame, a standard of the main frame to which said toggle-frame is pivoted, the knife, and self-adjusting gravity-weights secured to the toggle-frame, and the elongated slot in which the axle of the
35 gravity-weights work.

Referring to the drawings, in which similar figures of reference indicate like parts in all the views, 1 represents the T-flanged standards of the main frame that carry the roll. 2 is the platform of said frame, to which its
40 foot-flange 3 is secured by bolts 4. The top flange 5 is secured by bolts 6 to the cap tie or table 7, that connects the two standards together above.

8 represents the two pivoted toggle-frames,
45 which are each composed of four arms 9, with enlarged perforated terminals 10, the two upper ones of which arms are pivoted together and to the standards at top by the pin or bolt 11, (that is seated within circular expansions 12
50 of the T-flanges of said standards,) and at their lower ends to the lower arms by pins or

bolts 13. The bottom ends of said lower arms are pivotally held together and to the standard by the pivot-bolts 14 that carry the gravity-weights 15, which bolts work vertically in the
55 elongated slots 16, near the foot of the same. The gravity-weights 15 are preferably made in the form of heavy disks at the lower ends of the lower arms of the toggle-frames, and the pivot-bolts that connect said toggle-arms thus also
60 couple the sections of the toggle-weights together; but they may, if preferred, be made solid and the said pivot-bolts in either case secure them to the toggle-frames. Projecting
65 hooks 17 at the foot of the rear upper arms of the toggle-frame immediately above the pivotal connection with their corresponding arms form bearings for the axle 18 that carries the bobbin 19 of the paper-roll 20.

The knife 21 is provided with two edges
70 22, and is secured by screw-bolts 23 to the upper ends of the lower front toggle-arms. When the edge of the knife in use is dull, it is easily removed by removal of the screws to reverse the edges or for sharpening.

It will be seen that in operation the toggle-frames are pivotally hung to near the top of the standards of the main frame of the paper-cutter, and their arms are pivotally connected
80 at bottom by the pivot-bolts that carry the gravity-weights, and which work vertically in the slots 14 in the standards. The upper and lower pair of arms are also pivoted together at their junction.

The front upper arms of the toggle-frame
85 have the knife secured to them, as shown, and the axle of the bobbin that carries the paper-roll has bearings within the hooks that project from the lower ends of the rear top arms just above their pivotal connection with their
90 corresponding arms.

It will thus be seen that the knife which presses against the paper-roll will keep the toggle-frame expanded relatively to accord
95 with the varying diameter of the roll, and the other side of the frame that carries the roll will in consequence be projected in like manner, and the tension of the knife balances on one side against the gravity of the roll on the other, and as the roll runs out and diminishes
100 in diameter the gravity-weight at the foot of the toggle-frame, whose axle works in the

slot 14, draws down on the toggle-frame, and thus keeps the knife always in position for an effective cut against the periphery of the roll, and at the same time forms a tension-
 5 brake to stay its rotation while effecting the cut. These self-adjusting toggle-frames that carry both the roll and the knife also carry the gravity-weights, whose pivot-bolts, working in the slots in the standards, make a fol-
 10 lower of the knife and obviate the necessity of spring attachments for tension and to hold the knife to its work, and thus the weakest attachments to the usual paper-cutter (the spring) are dispensed with.

15 I do not herein claim a roll-paper holder and cutter having a knife held in position against the roll of paper by means of the weight of the roll itself.

I claim as my invention—

20 1. The combination of the supports and the toggle-frames provided with a knife and having bearings for a paper-roll, substantially as and for the purpose set forth.

25 2. The toggle-frames, the knife they carry, and the gravity-disks at the lower ends of said toggle-frames, substantially as and for the purpose set forth.

30 3. The main frame, the sectional toggle-frames, the pivotal connection of said toggle-frames to the main frame, the sectional arms of said toggle-frames, and the pivotal coupling of said arms together, substantially as and for the purpose set forth.

35 4. The supporting-frame, the toggle-frames pivoted to said frame, the double-edge combined knife and tension-plate and screw attachment of said knife to the toggle-frames at one side, the projecting hooks on the opposite side of said toggle-frames, and the roll-
 40 bobbin axle they carry, substantially as and for the purpose set forth.

5. The supporting-frame, the toggle-frames pivoted to said frame, the combined double-edge knife and tension-plate secured to one side of said toggle-frames, with the bobbin- 45 axle and axle-bearings secured at the opposite side of said toggle-frames and providing a counter-balance to said pivotal toggle-frames, the gravity-disks at the lower ends of said toggle-frames and the pivot-pin that 50 couples said disks thereto, and the standards of said supporting-frame, provided with elongated slots in which said pivot-pin works, substantially as and for the purpose set forth.

6. A suspended toggle-frame, the axle and 55 bobbin that carry the paper-roll, having bearings attached to said frame, the knife that severs the paper secured to said frame, and the gravity-weight that automatically operates the toggle-frame and the follower-knife 60 that it carries, substantially as and for the purpose set forth.

7. A suspended toggle-frame, the main frame to which it is pivoted, the axle and 65 bobbin that carry the paper-roll, the hook-bearings on the toggle-frame that carry said axle, the combined follower-knife and tension-plate attached to said toggle-frame, the gravity-disks on the lower ends of said toggle-frames, and the pivot-pin which couples said 70 disks to said toggle-frame, has suspended bearings therein, and is guided in vertical slots in the standards, arranged to automatically adjust the knife to the roll and form a tension-follower as the roll reduces in diam- 75 eter, substantially as and for the purpose set forth.

SAMUEL M. FRIEDE.

In presence of—
 BENJN. A. KNIGHT,
 SAML. KNIGHT.