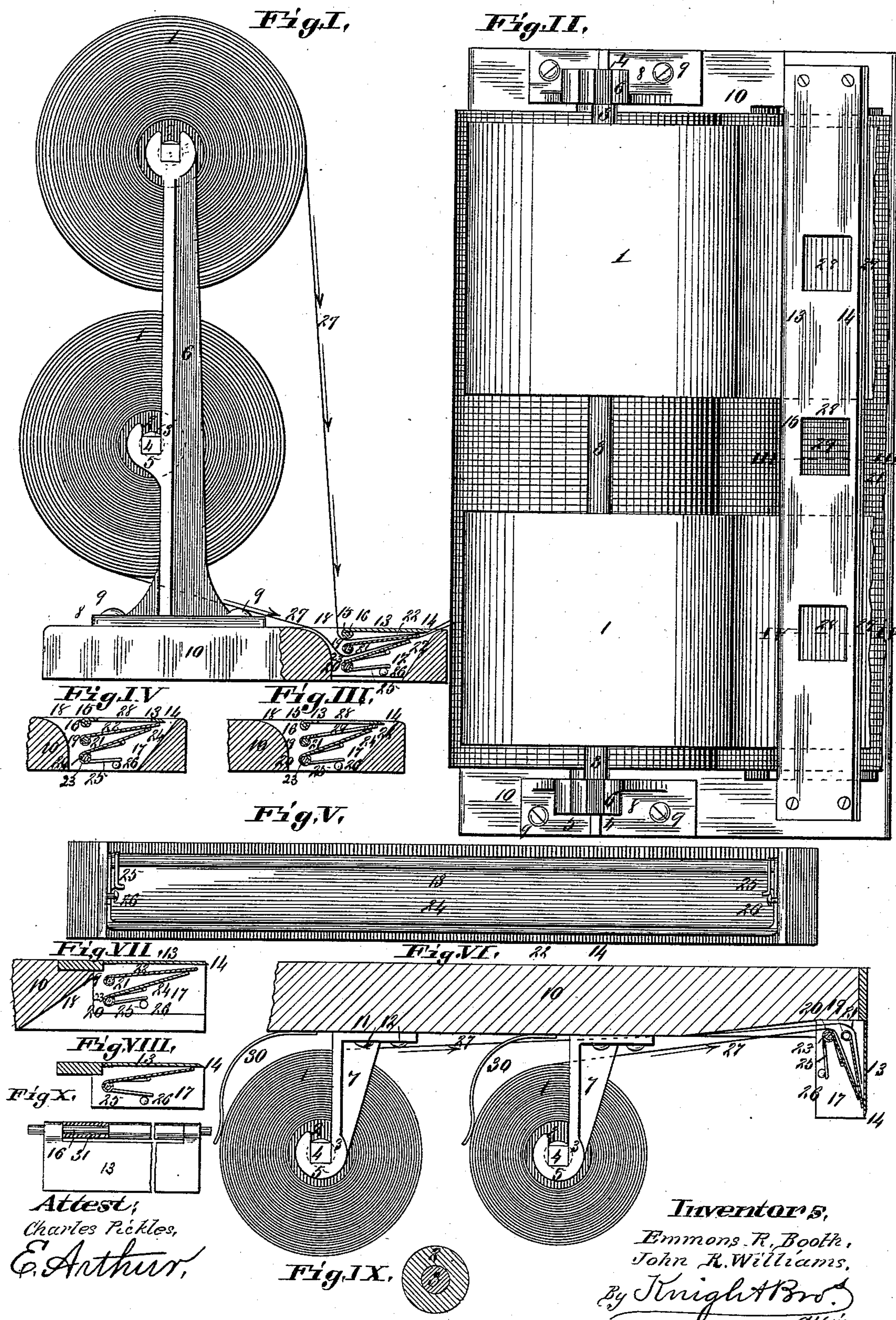


(No Model.)

E. R. BOOTH & J. R. WILLIAMS.  
ROLL PAPER HOLDER AND CUTTER.

No. 379,444.

Patented Mar. 13, 1888.



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# UNITED STATES PATENT OFFICE.

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## ROLL-PAPER HOLDER AND CUTTER.

SPECIFICATION forming part of Letters Patent No. 379,444, dated March 13, 1888.

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*To all whom it may concern:*

Be it known that we, EMMONS R. BOOTH, of Kirkwood, in the county of St. Louis and State of Missouri, and JOHN R. WILLIAMS, 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, and in which—

Figure I is a side elevation with part of the base broken away to show the action of the knife, tension guide-plates, and springs. Fig. II is a top view of the rolls and cutter. Fig. III is a vertical section, taken on line III III, Fig. II, showing a thumb-gate hole extending through both the knife-plate and the first tension guide-plate to reach the broad continuous paper sheet that rides on the lower tension-plate and comes from the lower roll and slides said sheet forward to obtain a fresh hold. Fig. IV is a vertical section taken on line IV IV, Fig. II, showing one of the thumb-gates in the knife-plate for slipping forward one of the continuous narrow sheets of paper after a previous cut to obtain a fresh hold. Fig. V is a rear or under view of the cutter-frame and tension guide-plates. Fig. VI is a vertical section of a modification with the paper rolls suspended beneath a counter and the cutter-frame projecting down from said counter. Fig. VII is a vertical section of a modification with the cutter-frame recessed into the counter. Fig. VIII is a vertical section of a modification, showing a single tension guide-plate in the cutter-frame. Fig. IX is a section of the bobbin-spool that carries the roll and the shaft on which it runs; and Fig. X is a detail view of a modification with a roller in the place of the bead, around which the paper turns on its way to the cutter-knife.

This invention relates to devices for holding paper rolls and the manipulation of the paper in the process of cutting; and the invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Referring to the drawings, similar figures of reference indicate like parts in all the views. 1 represents the paper rolls, of which, in our

preferred form, there are three different widths. The rolls are wound around sleeve bobbins or spools 2, which are preferably made of some soft grained wood that provides a clinging tension to the axle 3, on which they are mounted, which axles may be of wood, metal, or other suitable material. The bobbin-spool sleeves to the sectional roll are made in sections to conform relatively to the width of the section-roll that each carries. Thus it will be seen that, as diverse to the usual manner of construction, we provide stationary axles, (made stationary by their square ends fitting in square seats,) and consequently the bobbins turn on, instead of with, the axles. Each separate roll with its individual bobbin works independently of its adjoining section, so as to only unroll the individual section from which the paper is drawn.

The axles have square ends 4, that rest in the projecting bracket-seats 5 on the pedestal 6, as shown in Fig. I, or the pendent bracket 7, as shown in Fig. VI. These pedestals and pendent brackets are preferably of malleable cast-iron, but may be of steel, brass, or other suitable material. The pedestals have foot-flanges 8, that are secured by screw-bolts 9 to the counter, table, shaft, or platform 10, on which the pedestals stand.

When the pendent brackets (shown in Fig. VI) are used, they have rear attachment flanges, 11, which are secured by screw-bolts 12 to the under side of the counter, ceiling, shelf, or other suitable position to which they are secured.

We have shown and described the paper rolls held and having their bearings on projected seats in connection with pedestals or pendent brackets; but they may be held in similar square-seated projections from brackets secured to side walls or suspended from pendent looped rods, the shaft having its seat within the loop or by any other suitable means without departing from the essential features of the invention.

When the paper rolls are supported on pedestals secured to a counter, &c., as in Fig. I, the bobbin-spool which carries the broad paper roll with its shaft is preferably placed on the lower bracket-seat, and the bobbin-spool



that carries two rolls of narrower paper occupies the seat at top of said pedestal.

When the rolls are held or supported on pendent brackets secured to the under side of a counter, ceiling, &c., the wide paper roll is preferably held by the front bracket, and the sectional roll of narrow widths by the rear brackets. In other words, however, the rolls are supported on pedestals above or brackets below. It is always preferable to have the wide paper roll located nearest to the knife-frame, so that its paper will occupy the lower or rear tier of interspaces between the tension-plates, for reasons that will hereinafter appear.

We have shown the sectional paper roll with two sections of different widths and corresponding thumb-gates in the surface-plate of the knife-frame through which to start the paper; but we do not confine ourselves to that number, for the sectional rolls and their corresponding thumb-gates on the surface-plate may be increased in number according to the requirements of the trade in connection with which it is used; also, the single roll may, when preferred, be made sectional and the number of the rolls (shown as two) may be increased, or the device may be worked with a single roll.

13 represents the metallic knife-frame surface-plate, the front or lower edge of which has a knife-edge, 14, which may, if desired, be of steel welded to the plate, or the whole plate of steel or iron, as preferred.

When the paper rolls have their bearings above the counter, &c., as shown in Figs. II, III, and IV, and so that the paper descends therefrom on its way to the knife, the rear of said plate, except at the extreme ends where it is fastened to the counter, is bent to form a bead, 15, that turns around a rod, 16, the ends of which are secured in the end flanges of the knife-frame. This bead forms a convenient turning curve for the two sections of narrow paper from the upper roll. When, on the other hand, the rolls are suspended beneath the counter at the rear of the knife-frame, as shown in Figs. VI, VII, and VIII, so that the paper from neither of the rolls would pass around said bead, the bead is preferably dispensed with, and then the whole rear of said edge can be utilized in attaching the knife frame to the counter. The ends of the knife-frame plate are bent to form flanges 17, which strengthen the frame and form means of attachment at its ends to the boxing 18, which is recessed in the counter for the knife-frame.

The aforesaid end flanges are perforated both for securing the rod 16, that passes through the bead of the surface-plate, and also to constitute bearings for the rods 19 and 20, that relatively pass through the bead 21 of the upper tension guide-plate, 22, and through the bead 23 of the lower tension guide-plate, 24. Dual-arm spiral springs 25 engage around each end of the rod 20, and one arm of each spring is held to its work by the pins 26, that

project inwardly from the flanged ends of the knife-plate, and the reverse arms press the tension-plates 22 and 24 above to tightly grip the paper 27.

28 represents three thumb-gates through the surface-plate of the knife-frame. The two end ones are for sliding forward the ends of the paper from the narrow section-rolls, and the central gate opens the way to a second gate, 29, through the upper tension guide-plate to operate in the same way on the broad paper from the other roll.

30 represents tension-springs, which are shown secured to the under side of the counter, and may, if desired, be secured in any other suitable position. These springs are to prevent the continued unwinding of the roll under the impulse given to it by drawing on the paper.

In Figs. I and II are shown rolls on which no tension-spring is used; but reliance in these cases is placed on the friction-tension between the axle (in such cases preferably of wood) and the soft wooden bobbin-sleeve. (See Fig. IX.)

In Fig. VIII is shown a modification for use when a single roll only is used, and consequently a single tension-plate alone required.

In Fig. X is a modification for use in certain relative positions of the rolls and cutter-frame, in which part of the bead 15 on the rear of the surface-plate of the knife-frame is cut away and a sleeve-roller, 31, is loosely seated around the rod 16.

It will be seen that in our combined paper-roll holder and cutter the rolls and their means of support are (unlike such devices in general) detached from each other, so that, although in the drawings they are for convenience located in near proximity to each other, yet they are not by any means confined to such close proximity, if, as is frequently the case, it is found desirable to place them remote from each other. For instance, when used in extensive retail stores, where the space beneath the counter is taken up with drawers, &c., and the lower shelving, being convenient to the clerks, is all fully occupied, the roll-frames may be stationed on upper shelves; or elongated pedestals may be used that elevate the rolls out of the way, or the rolls may be suspended from the ceilings, as they are shown beneath the counter in Fig. VI. Even when the rolls are located as shown in Figs. I, II, and VI it is found of great advantage to have the paper-cutter detached from the roll and to have separate tension-plates, as shown, apart from the roll, that definitely hold the paper to the knife while tearing, and also retain their hold of the end connected with the roll, so that it is on hand and presents itself under pressure beneath the thumb-gates ready for a further projection.

The operation of the invention is as follows: When the rolls are elevated on a pedestal or otherwise, as in Fig. I, the wide paper from the lower roll is passed down and under the bead 21 on the rear of the tension-plate 22



and over the lower tension-plate, 20, to or past the edge of the knife 14. The two narrow widths of paper from the section-roll above are then passed down and under the bead 15 at the rear of the surface-plate of the knife-frame and over the tension-plate 22, their forward edges, also, to or past the edge of the knife. (See Figs. I and II.) Now it will be seen that if a clerk standing in front of the counter (see Fig. II) requires a portion of the narrowest paper on the rolls he puts his thumb through the gate 28 in front of the roll-section on his left hand and slides the paper forward until he gets a good hold in front of the knife, when he draws it forward to the length required and severs it by drawing it quickly upward against the edge of the knife. If he requires a medium width, he follows the same course with the section on his right hand, and if a length is required of the wide paper from the lower roll he passes his thumb through the middle gate and also the gate beneath it through the first tension-plate, when his thumb comes in contact with the wide paper, (shown of a darker color in Fig. II,) and it is passed forward by the same means, as above described.

When the rolls are located beneath the counter and the knife-frame either secured in its pendent position (shown in Fig. VI) or coming up through the top of the counter, as shown in Fig. VII, the operation is substantially the same as described above; but in this case, the paper rolls being beneath the counter, the paper from each roll turns relatively around the beads at the rear edges of the two tension-plates, so that in the latter case, when preferred, the bead 15 on the rear edge of the surface-plate of the knife-frame may be dispensed with and the plate extended flush, so as to re-enforce its attachment to the counter.

We have shown and described tension-springs on the rolls beneath the counter, and the same springs may, if desired, be secured to the pedestals and provide tension to the periphery of the rolls; but we generally prefer to rely on the axle-tension in conjunction with the spring tension-plates in the knife-frame.

It will be seen that we provide square or other angular-formed ends to the axles and rest them in square or angular seats, so that the axles cannot turn. We also preferably make these axles of wood to increase the friction, (for they are inexpensive, and therefore cheaply renewed,) and we provide soft-wood bobbin-sleeves, that also add to the friction, so that, in conjunction with the aforesaid spring tension-plates in the knife-frames, (in any ordinary case,) there is sufficient tension without the use of a tension-spring on the roll, which with some rolls is objectionable because of the high tension it exerts when the roll is full, (sometimes sufficient to injure the paper,) and the low tension, and sometimes loss of all tension, when the roll is nearly empty.

Although in most establishments it is preferable to have our multiple and sectional width

rolls, yet, as in some small establishments a single roll may only be required, we show in Fig. VIII and have described a single knife-frame with our spring tension-plate, &c., attached thereto; also, although in most contingencies, we prefer our beaded tension guide-plates to a roller-guide, (which is in danger of sometimes rolling back instead of forward, and so carry back the catch-hold of the paper,) yet to meet all contingencies we also, in the modification shown in Fig. X, provide and have described a sleeve-roller, 31, that works on the rod 16.

We claim as our invention—

1. In a roll-paper holder and cutter, the combination of the rolls and bobbin-spools with stationary axles on which the spools run, the bracket-frames that support them, and the disconnected knife-frame, spring tension guide-plates, the pivot-rods that carry said plates, and knife, substantially as and for the purpose set forth.

2. In a roll-paper holder and cutter, the combination of the single and sectional rolls, the individual bobbin-spools for each roll, the stationary axles on which said bobbins run, and bracket-frame with angular seats that support said axles, the disconnected knife-frame, knife, and tension guide-plates, with the spiral springs that back them and the pivot-rods that carry said plates, substantially as and for the purpose set forth.

3. In a roll-paper holder and cutter, the combination of the single and sectional paper rolls, the single and sectional bobbin-spools, the stationary shafts provided with angular ends and seats in their supporting bracket-frames, said supporting bracket-frames, the disconnected knife-frame and tension guide-plates mounted therein, the springs that back up said tension-plates, the pivot-rods that carry said plates and springs, and the beads at rear of said plates and of the surface-plate of the knife-frame, the said beads arranged to turn and guide the paper on its way to the knife, substantially as and for the purpose set forth.

4. In a roll-paper holder and cutter, the combination of the single and sectional rolls, the single and sectional bobbin-spools, the stationary axles with angular ends, the bracket-supports provided with angular seats for the shafts to prevent them from turning, the disconnected knife-frame with the knife which is the sharpened front edge of the surface-plate of said frame, its beaded rear edge to guide the paper from the rolls and flanged ends, the tension guide-plates secured by beads at their rear edges, the pivot-rods around which said beads engage, which rods have bearings in the end flanges of the surface-plates of the knife-frame, the springs secured around said rods with one arm, which is held by a pin that projects from the end flanges aforesaid, and a second arm that enforces the pressure of the tension guide-plates, substantially as and for the purpose set forth.



5. In a roll-paper holder and cutter, the combination of the single and sectional rolls, bobbin-spools, and stationary axles with supporting bracket-frames, the disconnected knife-frame, spring-tension guide-plates, pivot-rods that carry said plates and springs that enforce their tension, and the thumb-gates through the surface-plate of the knife-frame and tension-plate, through which the thumb of the operator enters to slide and project the front edge of the paper, substantially as and for the purpose set forth.

6. In a roll-paper holder and cutter, the combination of the rolls, bobbin, stationary axles, the supporting bracket-frames, the disconnected knife-frame, the surface-plate of the same, with its sharpened knife-edge and end flanges, the rod 16, secured in said flanges, and the sleeve-roller 31 on said rod to turn and guide the paper toward the knife, the beaded tension guide-plates and their pivot-rods and tension-springs, and the roll tension-springs

30, and thumb-gates in the surface knife-plate and tension-plate arranged to pass the thumb through to slide and project the front edge of the paper for a catch-hold, substantially as and for the purpose set forth.

7. In a roll-paper holder and cutter, the combination of the sectional roll, bobbins, stationary axles, the supporting bracket-frame, the disconnected knife-frame, the surface-plate of same, with its sharpened knife-edge and end flanges, the beaded tension-plate and pivoted rod on which it runs, the springs that enforce its tension against the paper, and the thumb-gates through the surface-plate of the knife-frame through which to pass the thumb to slide the paper for a catch-hold, substantially as and for the purpose set forth.

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In presence of—

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SAML. KNIGHT.