

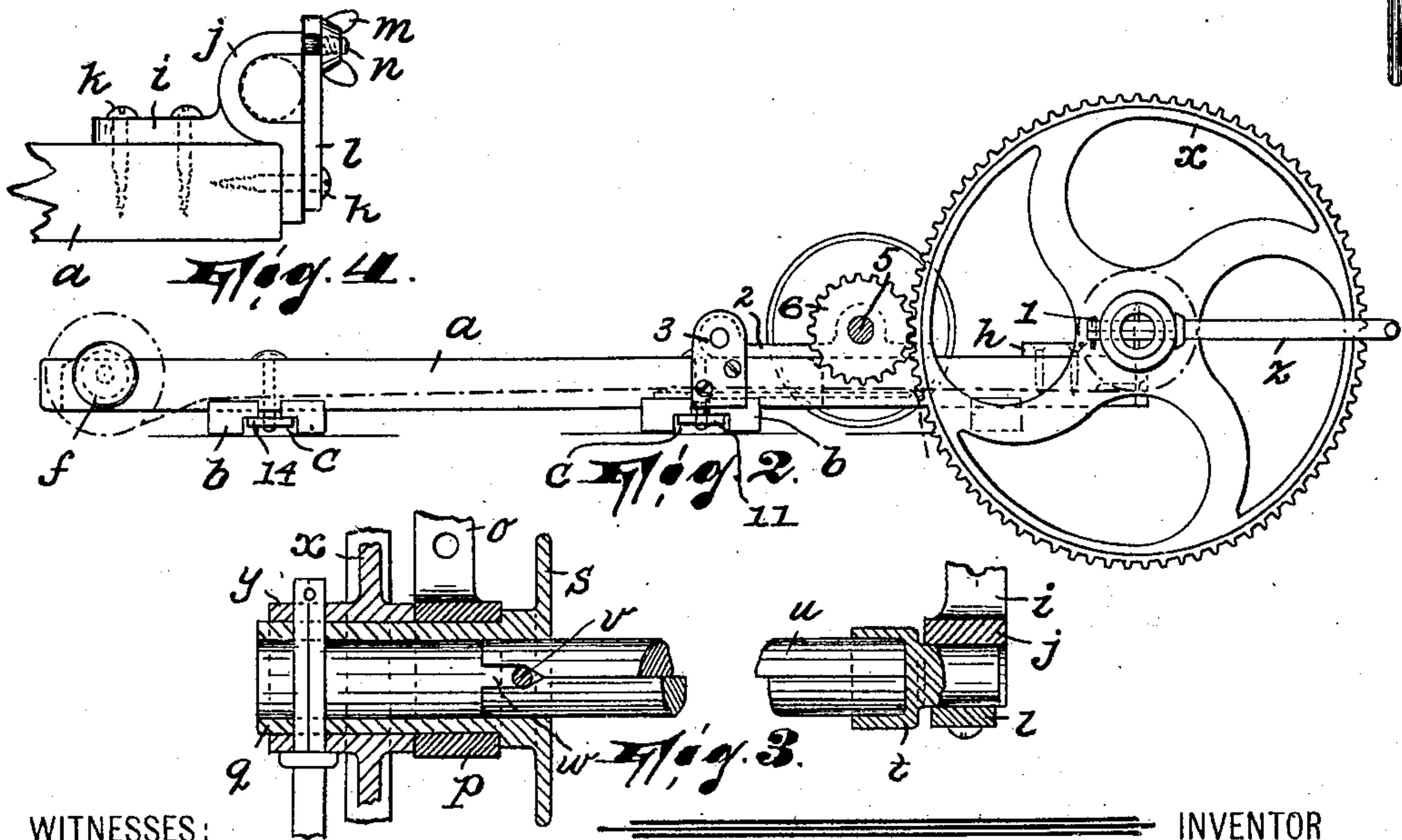
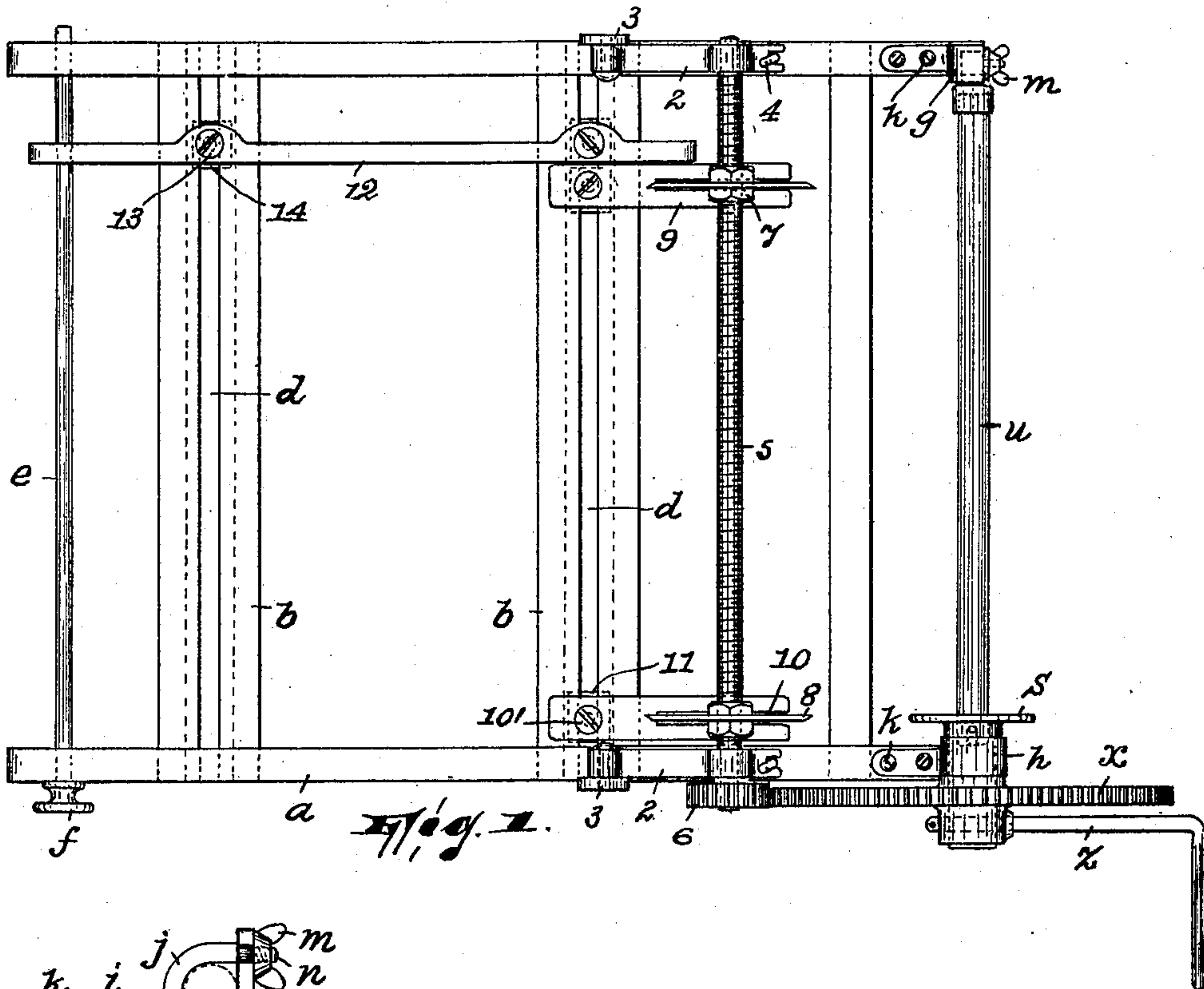
No. 682,767.

Patented Sept. 17, 1901.

H. L. STREHL.  
PAPER CUTTING MACHINE

(Application filed Feb. 6, 1901.)

(No Model.)



WITNESSES:

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# UNITED STATES PATENT OFFICE.

HENRY L. STREHL, OF FAIRLAWN, NEW JERSEY.

## PAPER-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 682,767, dated September 17, 1901.

Application filed February 6, 1901. Serial No. 46,178. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY L. STREHL, a citizen of the United States, residing in Fairlawn, in the county of Bergen and State of New Jersey, have invented certain new and useful Improvements in 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 and figures of reference marked thereon, which form a part of this specification.

This invention relates to paper-cutting machines, and it has reference particularly to machines of this nature adapted especially for trimming wall-paper, window-shades, or other similar material in strip form.

The object of the invention is to provide a simple, durable, and compact paper-cutting machine of the kind above referred to whose parts shall be so constructed and arranged that they may be adjusted so as to cut the material in various widths and so that they may be taken apart and put together in small and convenient compass for transporting from one place to another.

My invention is fully illustrated in the accompanying drawings, wherein—

Figure 1 is a top plan view of the machine. Fig. 2 is a view in side elevation of said machine. Fig. 3 is a horizontal sectional view of that portion of the machine which includes the mandrel for receiving the trimmed material and the parts accessory to said mandrel, some of these elements being shown in section and others in elevation; and Fig. 4 is a view of a detail of the invention.

The frame of the machine is composed of two side bars *a* and a series of cross-bars *b*, connecting the side bars and rabbeted into the same. Four of the cross-bars are arranged in two spaced pairs, (see Figs. 1 and 2,) each pair being formed on its under side with a groove *c*, which communicates with the slot *d*, that separates the members of said pair of cross-bars. The side bars are at one end of the machine connected by a spindle *e*, which penetrates them and which is removable from them, having a knob or handle *f* secured at

one of its ends. Upon the top faces of said side bars and at their other ends are secured bearing-pieces *g h*. The bearing-piece *g* consists of an angle portion *i* and a U-shaped portion *j*, integrally formed, the angle portion being secured to the end of the side bar preferably by screws *k*. The entrance to the U-shaped portion is adapted to be closed by a latch *l*, which is pivotally mounted, if desired, on one of the screws *k* and which may be secured in closed position by a wing-nut *m*, mounted on a threaded pin *n*, which projects from the U-shaped portion. The other bearing-piece comprises an angle portion *o* and a cylindrical portion *p*, the angle portion being adapted to be also secured in place on the side bar preferably by screws, as in the case of the angle portion *i* of the other bearing-piece.

In the cylindrical portion *p* of the bearing-piece *h* is journaled a sleeve *q*, having a shoulder *r*, which takes against the inner end of said cylindrical portion, and an annular flange *s*, extending from the inner end of said sleeve. In the U-shaped portion of the other bearing-piece is journaled a socket *t*. The sleeve portion *q* and the socket portion *t* are adapted to receive the ends of a longitudinally-split or two-part mandrel *u*. In order to prevent the mandrel from turning in the sleeve *q*, the bore in the latter is traversed by a pin *v*, forming a part thereof, said pin being adapted to be received by a cross cut or recess *w*, formed in the end of the mandrel. The outer end of the sleeve portion protrudes from the bearing-piece *h*, and on said outer end is mounted a gear *x*, said gear having its hub extended on the outer side, as at *y*. *z* denotes a crank for turning the sleeve and the parts connected therewith, the mounting end of said crank being squared and penetrating the portion *y* of the hub of the gear-wheel and the outer end of the sleeve. Said crank thus acts to secure the gear-wheel and sleeve together, and it is removably held in place by a cotter-pin *l*.

2 designates other bearing-pieces which are pivotally mounted in lugs 3, secured to the side bars, being adapted to rest on the top of said side bars, where they may be held by turn-buttons 4. In this pair of bearing-pieces is journaled a shaft 5, which is preferably



threaded substantially from end to end. The end of the shaft which is adjacent the gear  $x$  carries a pinion 6, which meshes with said gear. Between the bearing-pieces and adjustably secured on the shaft by nuts 7 are disk-shaped knives or cutters 8. These knives are adapted to be moved relatively to each other on the shaft after releasing the nuts 7 by adjusting devices 9, having slots 10 receiving the knives. Said adjusting devices are mounted on the adjacent pair of cross-bars  $b$ , and they are adapted to be set at any predetermined position on said cross-bars by screws 10', which penetrate them and the slot  $d$ , being screwed into squared blocks 11, set in and approximately fitting the groove  $c$ .

12 designates a guiding-strip for the paper or other material to be cut. The edge of the paper is adapted to take against this guiding-strip, and for this purpose it is arranged longitudinally of the machine and is mounted adjustably, the adjustment being effected by means of screws 13, which penetrate the guiding-strip and the slots  $d$  in the two pairs of cross-bars and which are screwed into blocks 14, substantially like the blocks 11 already described, and set in the grooves  $c$ .

In operation, the roll of paper or other material to be trimmed being first placed on the spindle  $e$  by withdrawing the latter and then resetting it with the roll penetrated thereby and the guiding-strip 12 and the cutters or knives being set to the proper width, the free end of said roll is brought forward and secured between the sections of the mandrel. In order to secure the paper in place in the mandrel, the insertion of the end of the paper in the mandrel may be effected upon removing the latter from its mountings, so that its sections may be separated. To remove the mandrel, it is only necessary to release the latch  $l$ , detach the socket from its bearing, and draw out the mandrel from the sleeve. After the socket  $t$  has been removed from the mandrel the sections are free to receive the paper between them, whereupon the parts may be replaced. The shaft 5 together with the cutters or knives are now lowered to their working position and there secured. The slots 10 being comparatively narrow, upon the lowering of the knives the latter will force themselves through the material to be trimmed, thus starting the cut. The crank is then turned to feed the paper along and through the

gearing to turn the shaft 5 and the knives, so that as fast as the paper is fed it is cut. 55

The flange  $s$  serves not only as an abutment against which the cut paper winding on the mandrel may be from time to time forced, so as to assist in guiding the paper and keeping it true relatively to the knives, but as a guard for keeping the edge of the paper away from the side bars and adjacent parts. Since the adjusting will usually be effected from the other side of the machine and since, therefore, the edge of the paper adjacent the gearing side of the machine will as a rule be close to the side bars, the use of this guard will not be inconsiderable. 60 65

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is— 70

1. The combination, with a frame, of a spindle arranged in said frame and adapted as a holder for the paper or other material to be cut, a rotary mandrel, upon which the cut material is adapted to be wound, journaled in said frame, a shaft journaled in said frame between said mandrel and the spindle, elevatory mountings for said shaft, a pair of cutters carried by said shaft, said cutters being adjustable on the shaft relatively to each other, and gearing connecting said mandrel and the shaft, substantially as described. 75 80

2. The combination, with a frame, of a spindle arranged in said frame and adapted as a holder for the paper or other material to be cut, a rotary mandrel, upon which the cut material is adapted to be wound, journaled in said frame, a shaft journaled in said frame between said mandrel and the spindle, elevatory mountings for said shaft, a pair of cutters carried by said shaft, said cutters being adjustable on the shaft relatively to each other, gearing connecting said mandrel and the shaft, and a guiding-strip arranged in said frame, said guiding-strip being disposed parallel with the direction of feed and being adjustable parallel with the direction of adjustment of said cutters, substantially as described. 85 90 95 100

In testimony that I claim the foregoing I have hereunto set my hand this 29th day of January, 1901.

HENRY L. STREHL.

Witnesses:

JOHN W. STEWARD,  
ROBERT J. POLLITT.