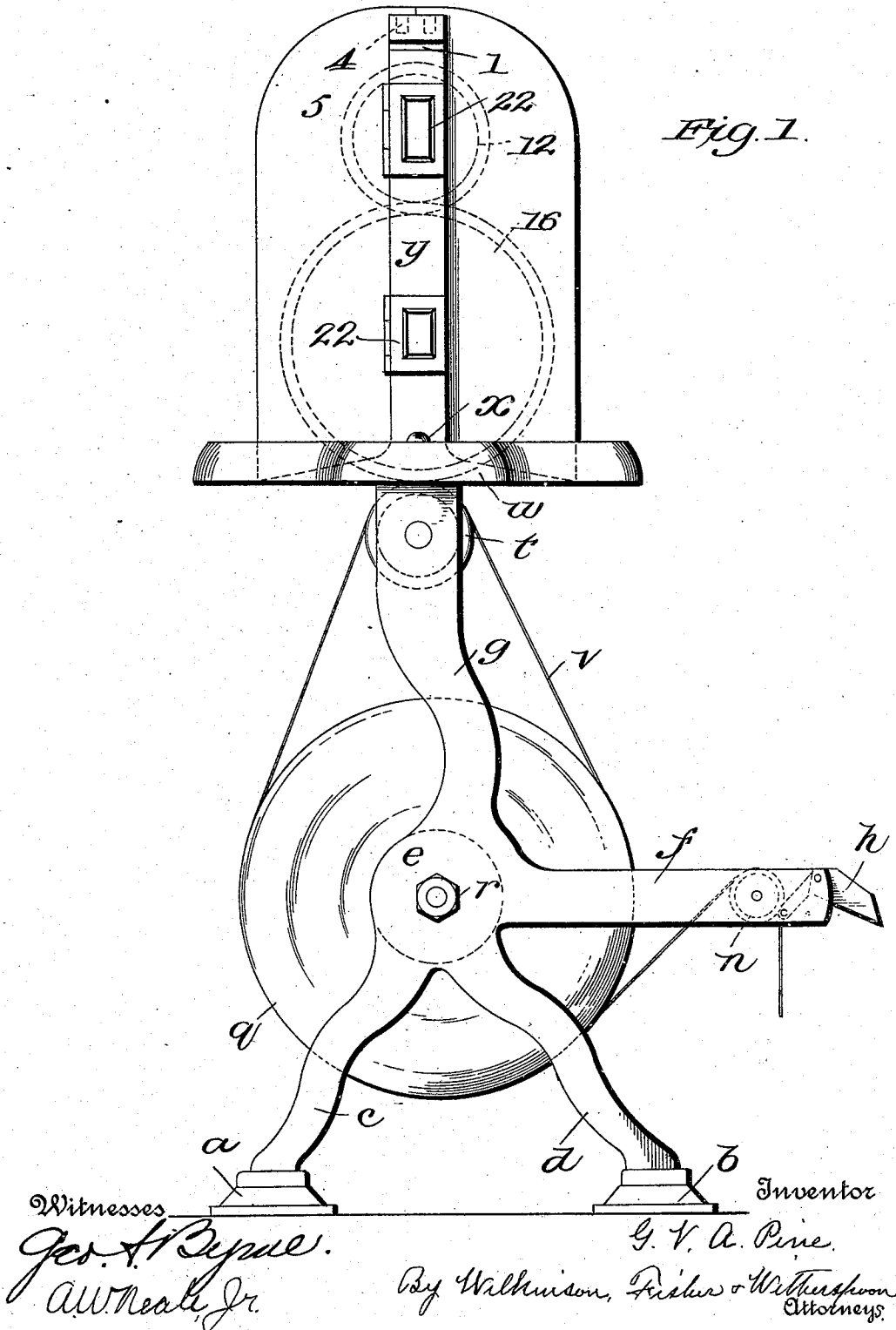


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 APPLICATION FILED MAR. 11, 1909.

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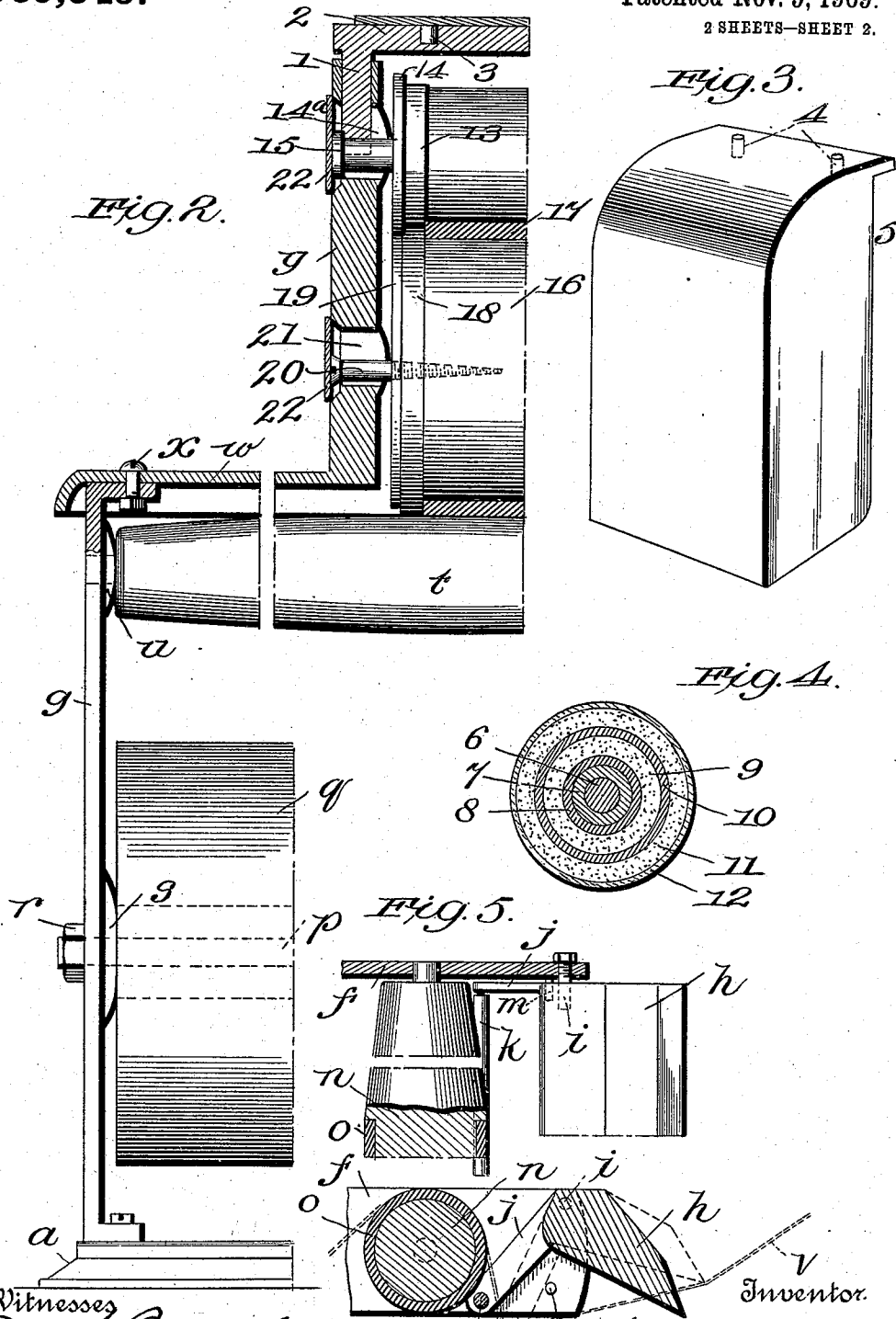
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Witnesses
 Geo. A. Sympson.
 A. W. Neal, Jr.

Inventor.
 G. V. A. Pine
 By Wilkinson, Fisher
 & Witherspoon
 Attorneys.

UNITED STATES PATENT OFFICE.

GILBERT V. A. PINE, OF BALTIMORE, MARYLAND, ASSIGNOR TO AUTOMATIC ROLL PAPER PRINTER MANUFACTURING COMPANY, OF BALTIMORE, MARYLAND, A CORPORATION OF DELAWARE.

AUTOMATIC ROLL-PAPER CUTTER AND PRINTER.

939,545.

Specification of Letters Patent.

Patented Nov. 9, 1909.

Application filed March 11, 1909. Serial No. 482,681.

To all whom it may concern:

Be it known that I, GILBERT V. A. PINE, a citizen of the United States, residing at Baltimore, in the county of Baltimore City and State of Maryland, have invented certain new and useful Improvements in Automatic Roll-Paper Cutters and Printers; 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.

My invention relates to an improvement in automatic roll paper cutters and printers and is an improvement upon a similar invention made by Pine and Stockley, recently filed.

The object of the invention is to provide a simple machine whereby the paper, as it is pulled from the roll and before it is cut, will have an inscription or advertisement printed on the outside thereof.

With this object in view and others that will appear in the detailed description, the invention consists in the construction and combinations of parts as hereinafter described and claimed.

In the accompanying drawings—Figure 1 is a side view of the complete invention. Fig. 2 is a cross section of a part of the machine. Fig. 3 is a perspective view of one of the covers. Fig. 4 is a cross section through the ink roll. Fig. 5 is a top plan view of a part of the blotting roll and severing knife, and Fig. 6 is a cross section of the same.

The invention comprises two side frames connected together at the bottom by horizontal pieces *a* and *b*. The side frames, which are similar in shape to each other, are each provided with legs *c* and *d*, an enlarged center portion *e*, a horizontal arm *f*, and a vertical arm *g*. In the outer ends of the horizontal arms is pivotally mounted a heavy knife *h* upon the pins *i*, screwed into the arms *f*. To each end of the knife is fixed a projecting arm *j*, and on pins in the ends of these arms is loosely mounted a roll *k*. Pins *m* are provided on the interior of the frame, so that when the knife is pulled into the position shown in dotted lines in Fig. 6, preparatory to tearing the paper off, these pins will limit the movement of the knife.

n represents a roll journaled in the arms *f* and provided with blotting paper, or similar material, near its center. This roll is highest in the center, as is shown in Fig. 5, the effect of which is to cause the paper to always maintain a central position on the roll.

In the central part of the portions *e* of the side frames is removably mounted a spindle *p* on which the roll of paper, *q*, provided with the ordinary hollow wooden center, is adapted to be mounted. The ends of the spindle *p* are secured by nuts *r*, so that said spindle may be easily removed for the purpose of putting on or taking off a roll of paper. *s* represents enlargements preferably made integral with the side frames, which serve to keep the roll of paper properly centered.

In the arms *g* near the upper part thereof, a guide roller *t* is pivotally mounted, projections *u* on the interior of the side frames serving to guide said roll. This roll, as shown in Fig. 2, tapers from the center toward both ends, which arrangement causes the paper always to keep properly centered upon said roll, and not to run over the edges thereof. *v* represents a web of paper which passes upwardly from the main roll, then over the guide roll *t*, then down over the main roll, over the blotting roll and under the roll *k*, as shown in Figs. 1 and 6. On the top of the side frames is mounted a casing which carries the printing and inking rolls. This casing is preferably made of metal and cast in one piece. The body of the casing is rectangular, but at the ends it is provided with projecting portions *w*, which by means of bolts *x* are secured to the tops of the side frames which are bent over, as shown in Fig. 2. The main body of the casing is rectangular in cross section, and at its center is thickened as shown at *y*, the ink and printing rolls being mounted in bearings in these thickened portions.

At the top the thickened portions *y* are perforated for the reception of downwardly projecting ends 1 of the cross piece 2, forming pillow blocks, which serve as a weight and as a support for the cover. The ends 1 slide freely in the perforations in the tops of the parts *y*. The cross piece 2 is provided with two sets of perforations 3 for the reception of pins in the cover.

The cover is made in two symmetrical halves, one being shown in Fig. 3. It consists of a metal casing having a curved top and a back and vertical sides, being open at one side and at the bottom and provided with pins 4, which enter the perforations 3. It is cut away, as shown at 5, so that it may rest against the parts *y*. These covers are wholly supported by the cross piece 2.

The inking roll is shown in cross section in Fig. 4. It consists of a central shaft 6, then a layer of wood 7, then a layer of blotting paper or similar material 8, then a layer of felt 9, then a layer of blotting material 10, then a layer of felt 11, and finally a layer of linen 12, which holds the ink. This roll is provided with two flanges 13 and 14, which engage with similar parts on the printing roll. The shaft 6 projects out through elongated perforations 14^a in the parts *y*, and its outer ends are headed, as shown in Fig. 2, the pillow blocks 1 fitting down over the shafts inside the headed ends.

16 represents the printing roll provided with a rubber covering 17, carrying the type, and with parts 18 and 19 engaging the parts 13 and 14 of the ink roll, thus keeping said rolls always in alinement. The printing roll is supported on two screws 20, which are screwed into the center of the ends thereof, and which pass through elongated openings 21 in the parts *y*. 22 represent hinged doors ordinarily closing the openings 14^a and 21. It will thus be seen that the weight of the cross piece 2 and the covers is wholly supported upon the axle of the ink roll, and that the ink roll is wholly supported upon the printing roll, these rolls being held in the proper relation to each other, as already described. The printing roll is supported wholly upon the guide roll *t*, which therefore supports the cross piece 2, the ink roll and the printing roll, so that the latter rolls may revolve freely, and the shafts 6 and 20 merely serve to prevent side and end displacement.

In operation the paper web is drawn from the main roll over the guide roll *t*, back under the main roll and between the rolls *n* and *k*, leaving a projecting end, as shown in Fig. 1. When it is desired to sever a piece of paper, the projecting end is caught and pulled outwardly, bringing the knife into the position shown in dotted lines in Fig. 6, in which position the paper can be easily torn off. By the arrangement described, provision is made so that the impression may have a chance to become dry before the paper is torn off, this action being aided by the blotting paper *o* on the roll *n*.

After a piece of paper has been severed from the web, the weight of the knife *h* will bring it down into the position shown in full lines in Fig. 6, carrying the roll *k* back toward the roll *n*, the web of paper being held

between said rolls and leaving a downwardly projecting end, as shown in Fig. 1, which may be easily caught.

I claim:—

1. The combination of a supporting frame, a paper carrying roll journaled therein, a printing roll, and a guide roll in proximity thereto, said guide roll tapering from the center toward both ends, substantially as described.

2. The combination of a supporting frame, a paper carrying roll journaled therein, a guide roll also journaled therein, said guide roll being tapered from the center outwardly, a printing roll resting on said guide roll, and a blotting device, substantially as described.

3. The combination of a supporting frame, a paper carrying roll journaled therein, a guide roll also journaled therein, said guide roll tapering from the center toward both ends, a printing roll resting on said guide roll, a blotting device, and a weighted knife adapted, in connection with the blotting device, to hold the end of the web of paper, substantially as described.

4. The combination of a supporting frame, a heavy knife pivotally mounted therein, a roll supported by said knife, a blotting roll against which said roll is adapted to bear, by the weight of said knife, a paper carrying roll journaled in said frame, a guide roll also journaled in said frame, said guide roll tapering from the center outwardly, and a printing roll resting on said guide roll, substantially as described.

5. The combination of a supporting frame, a blotting device mounted therein, a heavy knife pivotally mounted in said frame and provided with means for holding the end of the paper against the blotting device, a paper carrying roll journaled in said frame, a guide roll also journaled in said frame, said guide roll tapering from the center toward both ends, a printing roll resting on said guide roll, and an ink roll resting on said printing roll, said printing roll and ink roll being provided with coacting means for keeping them in proper relation to each other, substantially as described.

6. The combination of a supporting frame, a frame mounted on said first named frame and provided with upwardly projecting uprights perforated at the top, a cross piece having downwardly bent ends entering the perforations in said upright pieces, a paper carrying roll journaled in said first named frame, a guide roll also journaled in said first named frame, a printing roll resting freely on said guide roll, and an inking roll resting freely on said paper roll, substantially as described.

7. The combination of a supporting frame, a paper carrying roll, a guide roll

and a blotting roll journaled therein, a second frame supported on said first named frame, and provided with upwardly extending perforated portions, a printing roll resting on said guide roll, an ink roll resting on said printing roll, said ink roll and said printing roll having shafts projecting through the openings in the upright pieces, a cross piece provided with downwardly extending ends resting upon the ends of the

shaft of the printing roll, and hinged covers normally concealing the ends of the shafts of the printing roll and ink roll, substantially as described.

In testimony whereof, I affix my signature, in presence of two witnesses.

GILBERT V. A. PINE.

Witnesses:

SAMUEL H. PINE,
ISRAEL COHN.