

(No Model.)

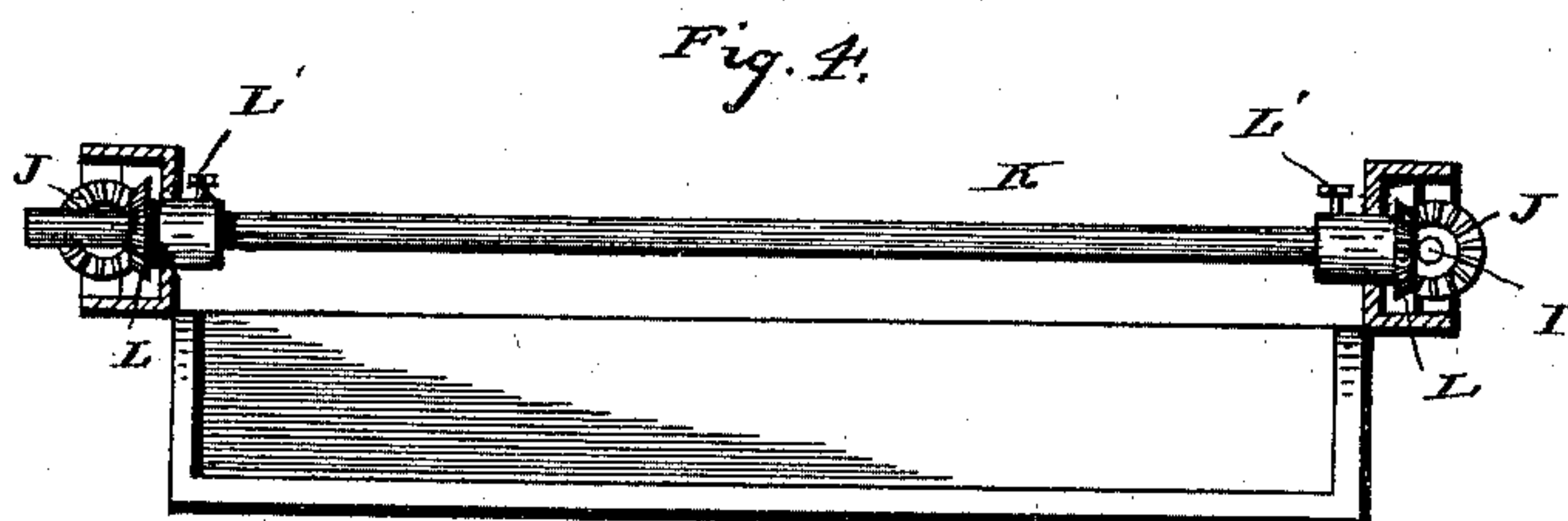
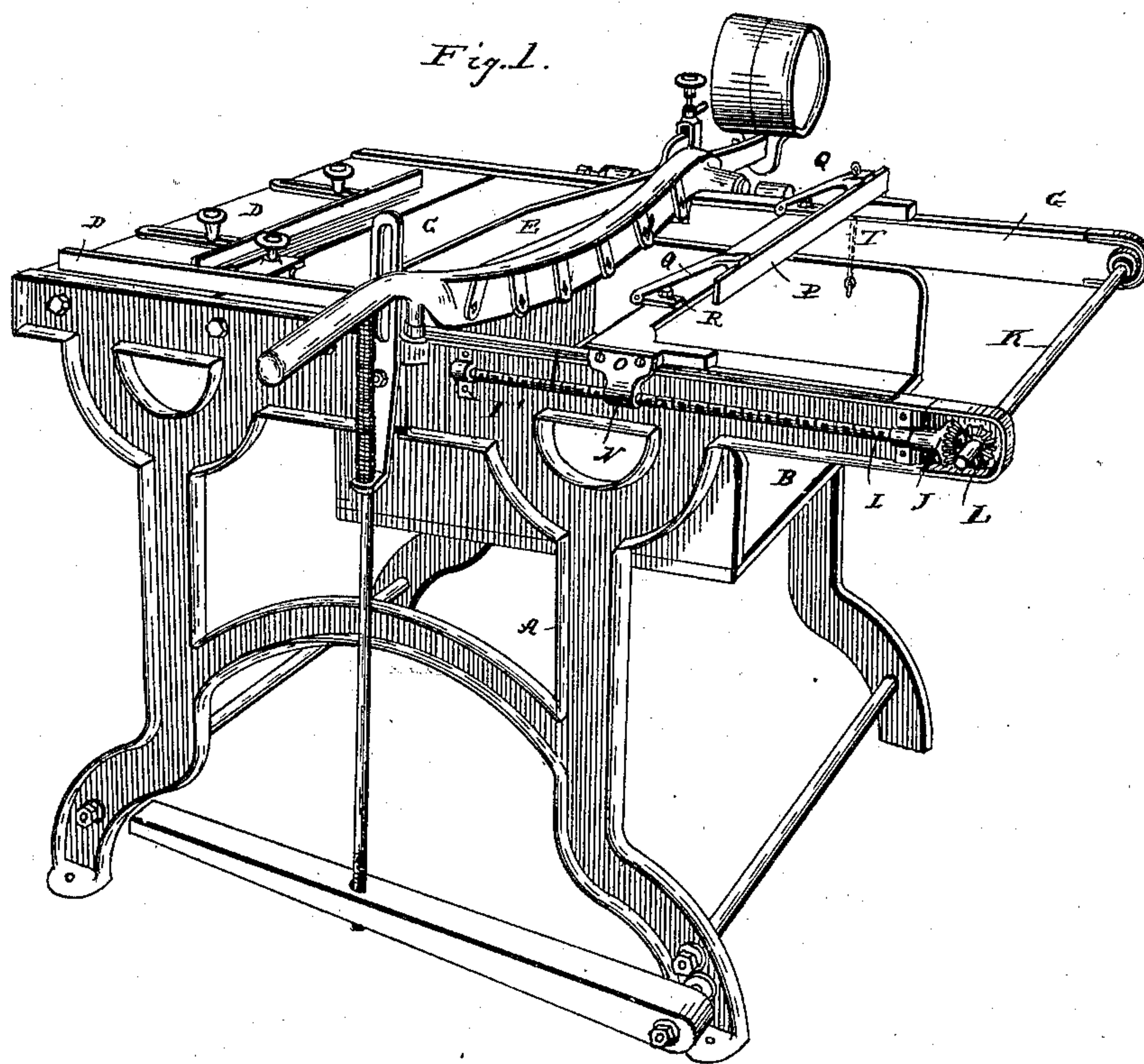
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M. L. METZGER & A. COOPER.

GAGE FOR PAPER CUTTERS.

No. 335,766.

Patented Feb. 9, 1886.



WITNESSES

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Morton Toulmin

INVENTOR

Martin L. Metzger
and
Albert Cooper
By Toulmin & Femmes,
their Attorneys.

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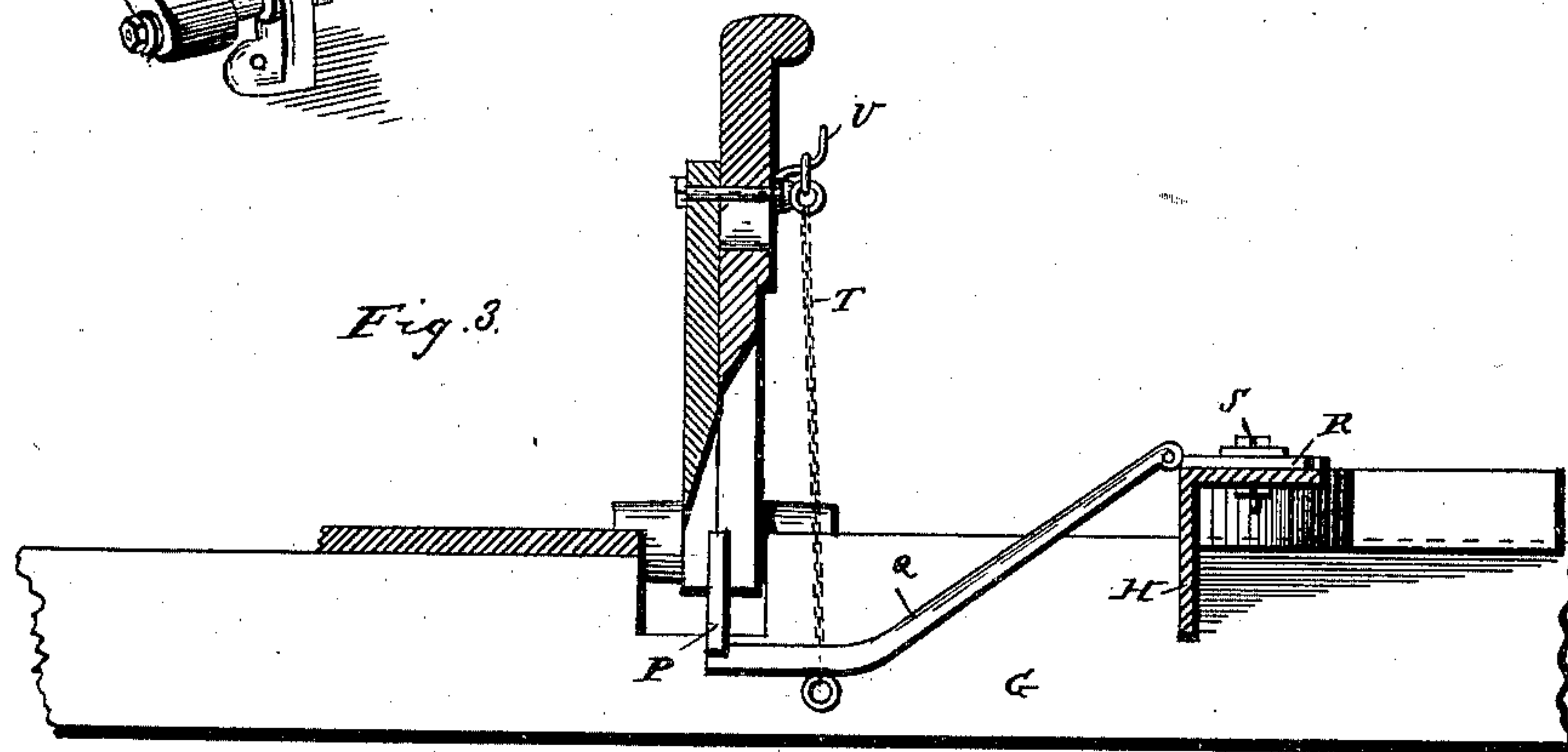
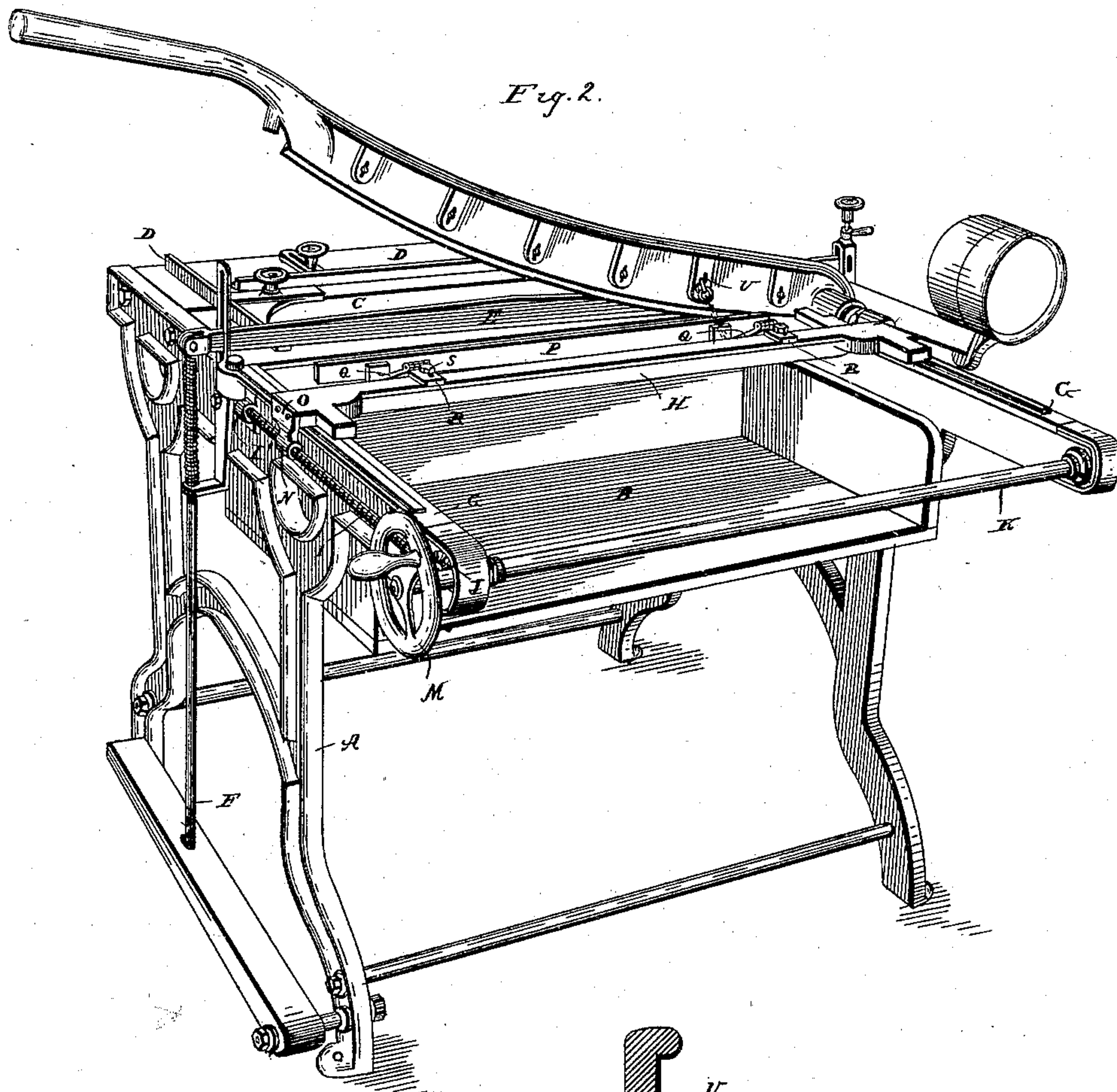
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UNITED STATES PATENT OFFICE.

MARTIN L. METZGER AND ALBERT COOPER, OF HARRISBURG, PENNSYLVANIA, ASSIGNORS TO WILLIAM O. HICKOK, OF SAME PLACE.

GAGE FOR PAPER-CUTTERS.

SPECIFICATION forming part of Letters Patent No. 335,766, dated February 9, 1886.

Application filed June 17, 1885. Serial No. 168,923. (No model.)

To all whom it may concern:

Be it known that we, MARTIN L. METZGER and ALBERT COOPER, citizens of the United States, residing at Harrisburg, in the county of Dauphin and State of Pennsylvania, have invented certain new and useful Improvements in Gages for Paper-Cutters, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to certain new and useful improvements in paper-shears; and it has for its objects, first, to provide means whereby both ends of the gage may be presented accurately to and withdrawn from the
15 shear, so as to maintain the parallelism between the gage and shear; second, to provide the gage proper with an auxiliary gage which will vary its position with the movement of the shear, so as to gage the cutting of narrow
20 strips from the main body of the paper or other articles—as binder-boards—and yet to prevent interference of the arm carrying the blade with the gage.

25 In the accompanying drawings, forming a part of this specification, and on which similar letters of reference indicate the same or corresponding features, Figure 1 represents a perspective view of our improved gage as applied to a paper-shearing machine; Fig. 2,
30 a side elevation of the same; Fig. 3, a detached enlarged end elevation of the gage and shear, showing their relative arrangement, and Fig. 4 a detached view of the receiving-box, showing the screw-threaded rods for moving
35 the gage and the transverse shaft for actuating said rods.

40 The letter A designates the frame of a paper-shearing machine of any approved description, such as is now in use—for instance, the same being provided with the usual scrap-box B and the top or platform C, to which are connected the usual hand-gages, D.

45 The letters E and F respectively designate the usual holding-bar and operating treadle and pitman. The upper surface of the horizontal pieces G G of the frame is formed so as to constitute ways, upon which is fitted the gage H, the ends of which are constructed to fit and slide upon said ways.

50 At either side of the machine a screw-threaded rod, I, is mounted in journals I' in such manner as to freely rotate therein. These rods are provided each with a beveled pinion,

J, at one end. A transverse shaft, K, is mounted at either end in journals formed on
55 or attached to the pieces G, and is provided with beveled pinions L, adapted to intergear with the pinions J. The outer face of each of the side pieces G at the ends where the beveled pinions are located is recessed, so as to form a
60 sort of nest or receptacle within which the pinions may operate, the object of which is to bring the screw-threaded rods I as close to the sides of said pieces as possible, whereby they are put out of the way of the operator. 65

The beveled pinions L on the shaft K are not rigidly mounted, but are capable of movement thereon, and are held in any fixed position by means of set-screws L', the object of which arrangement is to allow either end of
70 the gage to be advanced to or withdrawn from the shear without moving the other end, so as to secure the alignment of the gage and shear, whereby the gage is adjusted parallel to the shear. A further object of this arrangement is to admit of the depth of the
75 mesh between the fixed beveled pinions on the rods and the beveled pinions on the shaft K to be regulated, so as to avoid any binding tendency between the gears and prevent the
80 frame from being sprung, which might occur if the pinions mesh too deeply.

The shaft K is further provided with a hand-wheel, M, whereby rotary motion is imparted thereto, and that motion, through the
85 instrumentality of the beveled pinions, is transmitted to the screw-threaded rods I, to which the gage H is attached by means of the screw-threaded sleeves N, one of which snugly embraces either rod, and is provided with a
90 shank, O, to which the gage is connected. Thus it will be seen that by operating the hand-wheel the gage will be made to advance to or recede from the shear positively, and yet always maintaining the exactitude of its alignment therewith, whereby the paper is gaged
95 and held. On account of the thickness, however, of the hand-lever, to which the shear is connected, it is found that it is somewhat difficult to gage and shear off a strip less in width
100 than the thickness of that lever, as the lever when brought down interferes with the gage. To overcome this difficulty, we have provided an auxiliary gage, which consists of the strip
105 P, to which are connected in any convenient manner the arms Q, having a hinged joint and

slotted portions R, the latter being adjustably connected with the gage proper by bolts S, whereby the alignment of the auxiliary gage-strip with the shear may be effected.

5 One of the arms Q (preferably the one nearest the fulcrum end of the hand-lever) is provided with an aperture near the gage-strip, and through this aperture is passed a chain, T, (or other flexible device capable of move-
10 ment to and fro in the aperture,) having a ring at one end adapted to engage the hook U, secured to the hand-lever, and also a ring or other enlargement at the other end, to prevent its slipping through the aperture.

15 In using the auxiliary gage the ring is placed over the hook U, and as the hand-lever is raised with the blade the gage-strip is elevated with it to the proper position and held. The article to be cut is then placed upon the
20 table and adjusted against the gage, and the clamp forced down upon the article to hold it in place. As the lever is drawn down, the chain slackens, and before the cut is completed the auxiliary gage of its own weight drops, so as
25 to give place for the down-coming hand-lever. The object of allowing the chain to play freely through the aperture in the frame is to prevent it from buckling.

We do not confine ourselves to the use of a
30 chain, as any other means of flexibly connecting the gage with the hand-lever will suffice.

The frame is provided at one side with a graduated scale, whereby the relative position of the gage proper or the auxiliary gage
35 with the cutting-blade may be ascertained in inches and the fractions thereof.

It is to be observed that the gage proper serves as a support for the auxiliary gage; but it is obvious that this support need not
40 necessarily constitute the gage proper, but might well be a simple support adapted to slide to and from the shear. The auxiliary gage, by reason of the hinged arms, may be thrown back out of the way, and need not be
45 detached when it is desired to use the gage proper. It is also noticeable that the threaded rods, through the sleeves which connect them with the gage, act to hold the gage in any set position without resorting to other
50 fastening devices.

We claim—

1. In a paper-cutter, the combination, with the main frame having ways and the gage constructed to fit and slide upon said ways, of
55 the screw-threaded rods connected to the gage, one at either end, and the transverse shaft geared with said rods, whereby motion imparted to the shaft is imparted equally to the respective rods.

60 2. In a paper-cutter, the combination, with the main frame having the side pieces provided with ways on their upper surfaces and recesses on the outer faces of the ends, and the gage adapted to slide to and fro from the shear
65 upon said ways and provided with a threaded sleeve at either end, of the screw-threaded rods mounted at the sides of the machine, en-

gaging, respectively, with the said sleeves and having beveled pinions, and the transverse shaft having like pinions which intergear, 70 respectively, with those on the rod and the hand-wheel, whereby motion imparted to the said shaft is equally applied to either of the rods.

3. In a paper-cutter, the combination, with 75 the main frame having ways and the shear, of the gage constructed to fit and slide upon said ways, and the screw-threaded rods connected to the gage, one at either end, and a transverse shaft geared with the said rods, whereby 80 motion imparted to the shaft is imparted equally to the respective rods.

4. In a paper-cutter, the combination, with 85 the main frame having the side pieces provided with ways on their upper surfaces and recessed on their outer faces near the ends, and the shear, of the gage adapted to slide to and from the shear upon said ways and provided with a threaded sleeve at either end, and the screw-threaded rods mounted at the 90 sides of the machine, engaging, respectively, with said sleeves and having beveled pinions, and the transverse shaft having like pinions which intergear, respectively, with those on the rods and the hand-wheel, whereby motion 95 imparted to the shaft is equally applied to either of the rods.

5. In a paper-cutter, the combination, with the auxiliary gage mounted upon a slide, of the screw-threaded rods connected with said 100 slide and the transverse shaft geared with said rods, whereby motion imparted to the shaft is equally applied to either of said rods.

6. In a paper-cutter, the combination, with 105 the gage and the auxiliary gage mounted thereon so as to recede from the shear, of the screw-threaded rods provided with beveled pinions, the threaded sleeves connecting the rods with the gage, and the transverse shaft having pinions to intergear with those on the 110 rods.

7. In a paper-cutter, the combination, with the shear, of the gage constructed to slide, the auxiliary gage hinged thereto, the chain connected therewith and adapted to be connected 115 with the shear, the screw-threaded rods having pinions, the threaded sleeves connecting them with the gage, and the transverse shaft having like pinions which gear with pinions on the rods, and a hand-wheel. 120

8. In a paper-cutter, the combination, with the gage proper, of the auxiliary gage having hinged arms, one portion of each of which is slotted and adjustably connected with the gage proper, and a chain connecting the auxiliary 125 gage with the shear, the chain being adapted to play in the aperture in the arm.

In testimony whereof we affix our signatures in presence of two witnesses.

MARTIN L. METZGER.
ALBERT COOPER.

Witnesses:

D. C. MAURER,
H. S. REINHOLD.