

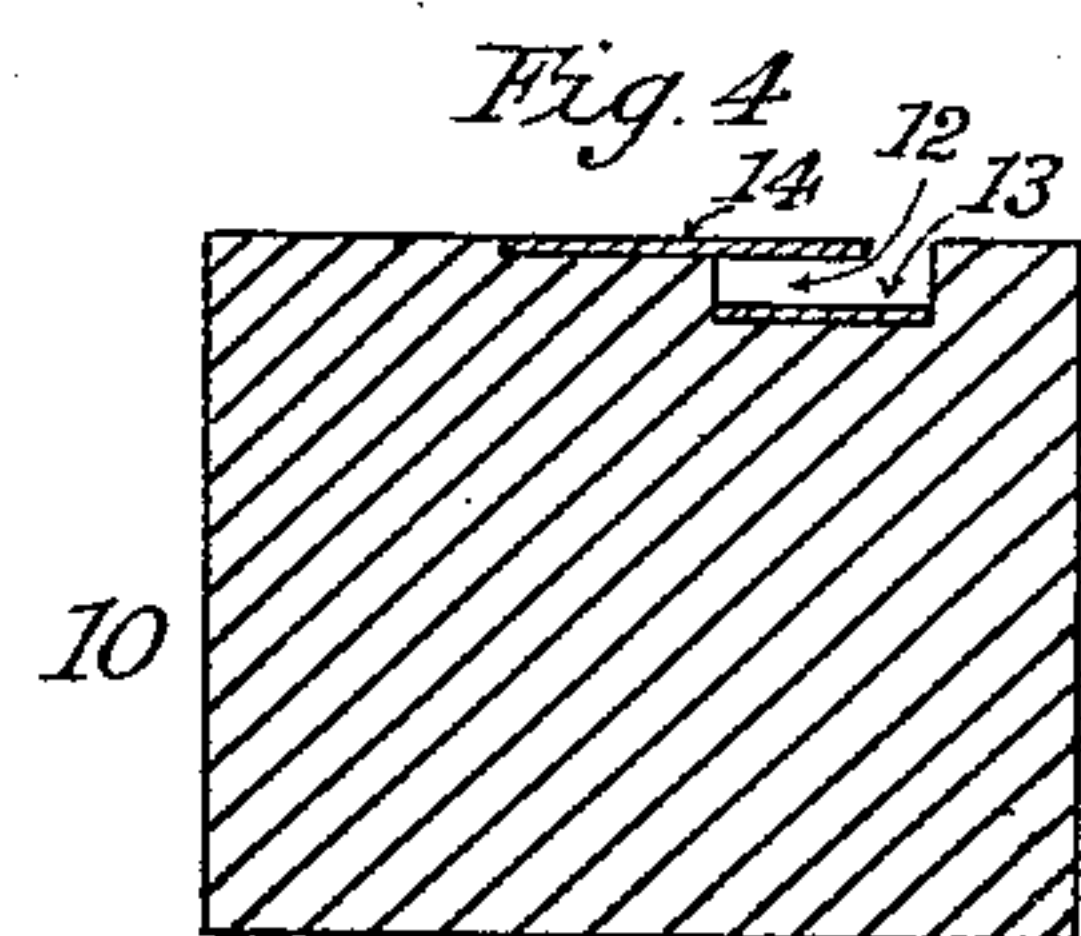
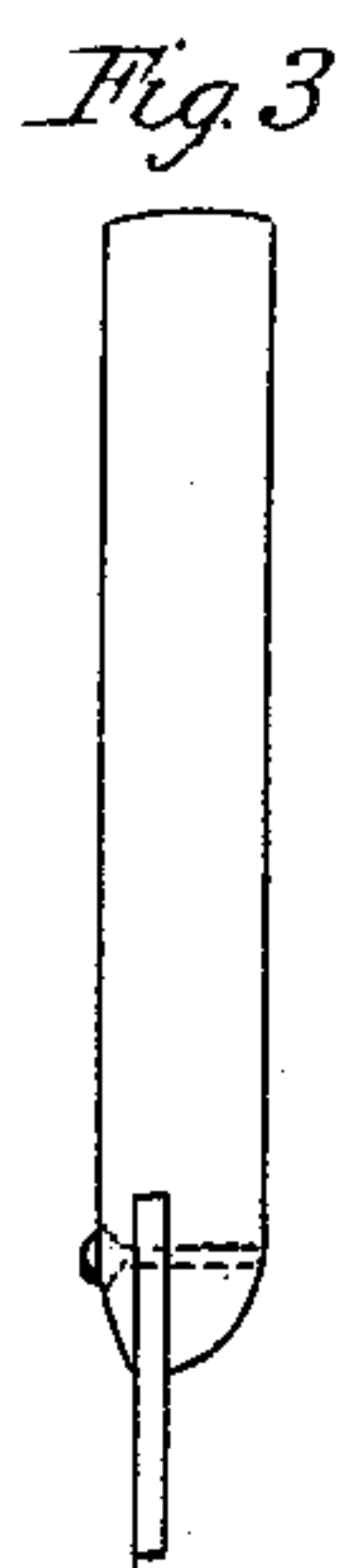
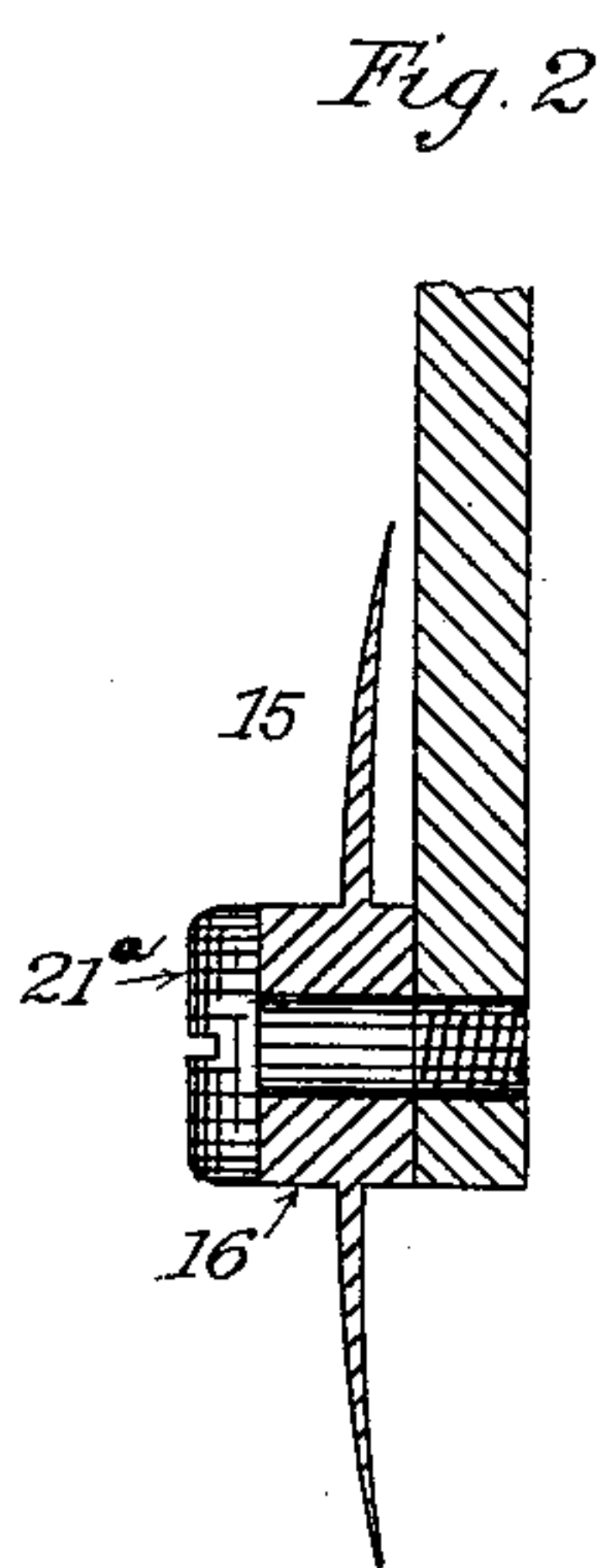
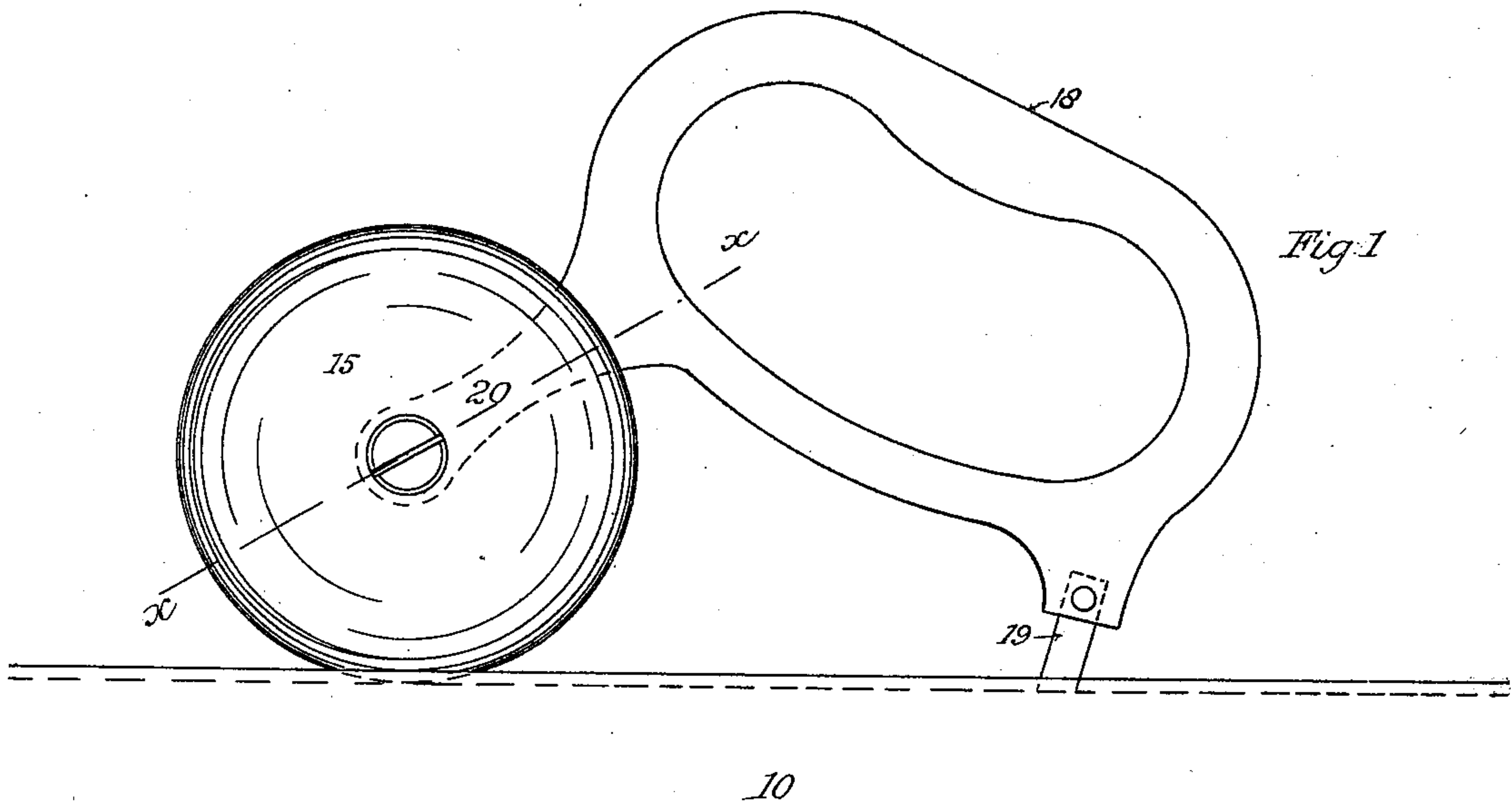
(No Model.)

A. L. KARSHNER.
PAPER CUTTER.

2 Sheets—Sheet 1.

No. 478,935.

Patented July 12, 1892.



Witnesses
G. J. Rolland
Wm. M. Cornell

Inventor
A. L. Karshner
By his Attorney
A. J. W. Brien

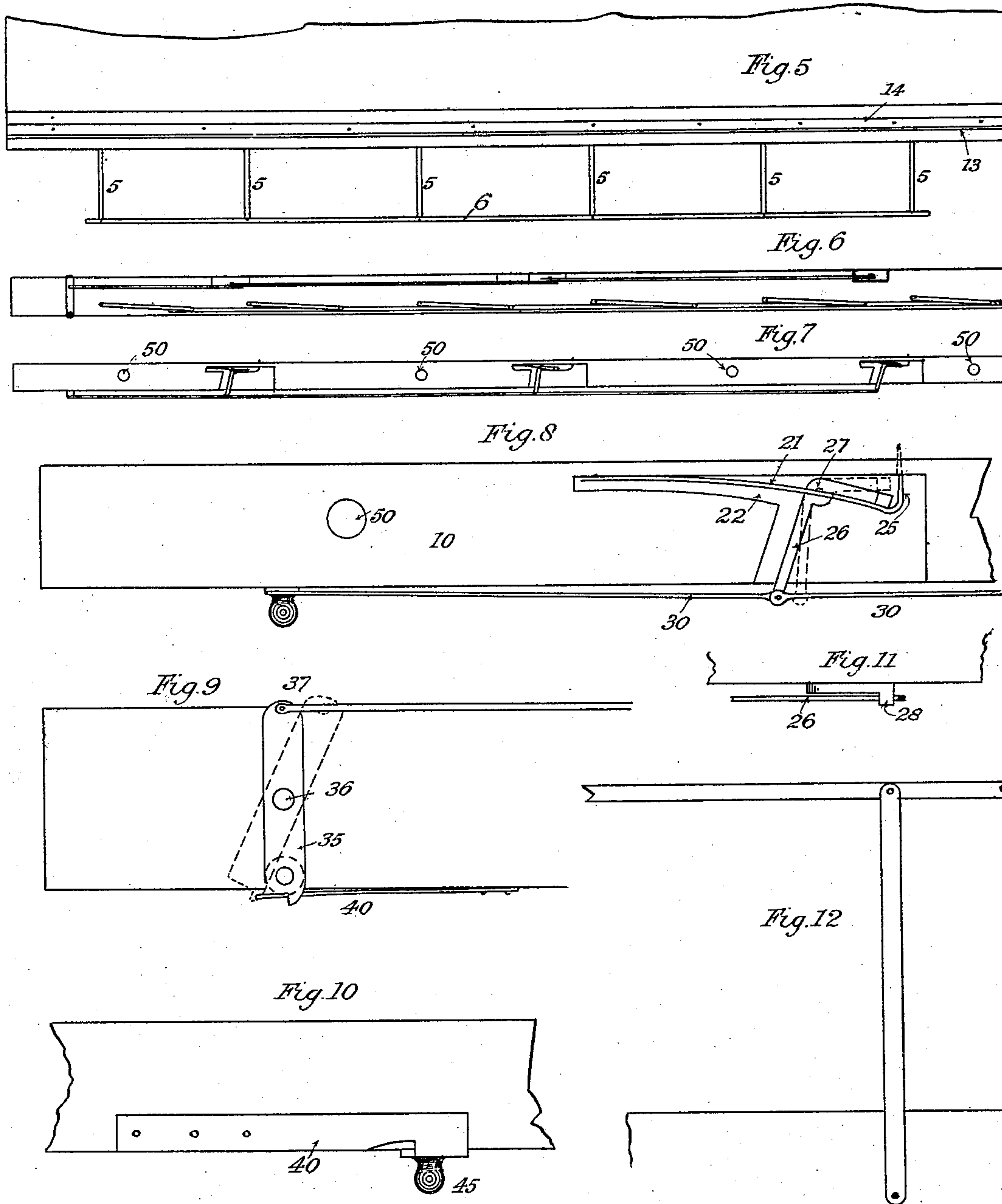
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UNITED STATES PATENT OFFICE.

ALBERT L. KARSHNER, OF DENVER, COLORADO.

PAPER-CUTTER.

SPECIFICATION forming part of Letters Patent No. 478,935, dated July 12, 1892.

Application filed August 11, 1891. Serial No. 402,402. (No model.)

To all whom it may concern:

Be it known that I, ALBERT L. KARSHNER, a citizen of the United States of America, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Paper-Cutters; and I do 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 the figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in paper-cutters or to mechanisms more especially designed for trimming wall-paper preparatory to hanging the same.

The object of the improvement is to produce a device of the class stated which shall be of simple construction, economical in cost, reliable, durable, and efficient in operation, and which shall embody all features of advantage in a paper-trimming mechanism and reduce to a minimum the time necessary in preparing the paper for the wall and facilitate to the greatest possible extent the work of paper-hanging.

My improved device will be fully understood by reference to the accompanying drawings, in which is illustrated an embodiment of the invention.

In the drawings, Figure 1 is a side elevation of the device in position for use. Fig. 2 is a section taken on the line xx , Fig. 1. Fig. 3 is a rear view of the cutter. Fig. 4 is a cross-section of the strip provided with a track for the cutter. Fig. 5 is a top view, on a small scale, of the device secured to the edge of the table or other suitable support, the adjustable rack being extended. Fig. 6 is an underneath view showing the rack folded or closed. Fig. 7 is an inner edge view showing the retaining-needles. Fig. 8 is a fragmentary view of the same on an enlarged scale. Fig. 9 is an enlarged underneath view showing the means for adjusting the retaining-needles. Fig. 10 is an outer edge view of the same. Fig. 11 is a top fragmentary view showing a controlling-lever engaging a retaining-needle. Fig. 12 is a fragmentary underneath view of the adjustable rack.

In the views, similar reference-characters indicating corresponding parts of the mechanism, let the numeral 10 designate a strip of convenient size and length and composed of any suitable material, preferably wood. The upper surface of this strip is provided with a longitudinal recess or groove 12, the bottom of which is provided with a metal plate or lining 13. Another metal plate 14 is secured to the top of the strip and made to overlap the groove 12, whereby the same is sufficiently contracted at the top to furnish a nicely-fitting track or way for the cutter, which is composed of the concavo-convex rotating cutting-disk 15, provided with the hub 16, the handle 18, and the guide 19. The object of the metal bottom in groove 12 is to give the user perfect control of the rotary cutter and prevent the same from being guided out of a direct line, as might be the case if the bottom of the groove were of wood and the grain not perfectly straight. The metal bottom also forms a support for the disk as it rolls through the groove. The function of this bottom will be understood when it is considered that plate 14 will be gradually worn away by the engagement of the disk, making the groove larger and giving it more latitude of movement. It would thus seem that the metal bottom would be indispensable in this construction. The handle is provided with a neck 20, projecting forward, to which the disk is pivoted by a screw-pin 21^a, which is threaded to engage a correspondingly-threaded aperture formed in the neck of the handle, but is smooth where it engages the hub of the disk, which rotates freely thereon. The guide 19 is rigidly secured to the rear lower extremity of the handle fashioned to enter the groove in which the disk runs, and is so set as to maintain the disk uniformly in the proper position—that is to say, with its edge in engagement with the free edge of plate 14, the concave face of the disk being next to the edge of this plate when the tool is in use, whereby the disk is automatically sharpened as it moves along its track in the regular performance of its function.

Where the paper is very heavy and the most accurate work is desirable, it will be found advantageous to use my improved retaining means for holding the paper in place

during the operation of cutting or trimming. This retaining means consists of springs 21 of any suitable length located within suitable recesses 22, formed in the inner edge of strip 10, being secured at one extremity by rivets or in any other suitable manner, and terminating at their opposite or free extremities in upwardly-projecting needles 25, adapted to enter vertical apertures formed in strip 10 and extending from recesses 22 to the upper surface of the strip, the needles being of sufficient length to protrude from those apertures, pass through the paper, and retain it in the proper position. The needles forming a part of spring 21, if left to themselves, normally project above the surface of the strip 10 and assume the operative or retaining position. It is, however, necessary that these needles should be under control, since they are not always necessary, and in any event they must not project above the upper surface of the strip until the paper has been placed in position. Hence I employ a series of small bell-crank levers 26, one for each needle. These levers are located within a continuation of recesses 22 and are fulcrumed at 27. The forward extremity of each lever 26 is provided with an outwardly-projecting lug 28, located above and engaging spring 21 near the base of the needle. The other arm of the lever projects below the surface of the strip and is pivotally secured to connecting-rods 30, one of which extends between each two levers, the last rod toward one end of strip 10 being secured to a short lever 35, fulcrumed to the under surface of said strip, as shown at 36. One extremity of the lever is pivoted to the rod, as shown at 37, while the opposite extremity is notched to engage a leaf-spring 40, secured to the outer edges of strip 10. This lever is also provided with a button or small knob 45, forming a handpiece for use in manipulating the lever. When lever 35 is adjusted to engage spring 40, as shown in full lines in Fig. 9, the connecting-rods are so regulated as to throw the outer extremity of the upper arm of levers 26 downward, thus withdrawing the needles 25 from the upper surface of strip 10 and concealing them within the recesses 22. When the paper is in position, lever 35 may be released and the needles allowed to pass upward therethrough, for the purpose hereinbefore stated. To the under side of strip 10 are pivotally secured a number of short folding arms 5, having their outer extremities connected by another rod 6, to which the rods 5 are pivoted. This construction forms a supporting-rack adapted to be extended for use, as shown in Fig. 5, or folded or closed when not in use. This rack is designed for use when it is necessary to divide a strip of paper longitudinally to cover places on the wall too narrow to require a strip of full width. In this case the rack supports one part of the divided strip as it is cut off.

In the use of my improved device the strip 10 is secured to a table or other suitable sup-

port of the proper height by passing screws or other suitable fastening devices through horizontal openings 50 and extending said fastenings into the edge of the table or other support used. The adjustable folding rack is thrown out to the proper position if it is desired to use the same, and the paper placed in position so that the part to be trimmed off shall lie to the left of the track 12, assuming that the operator is standing at the right-hand end of Fig. 5 and facing toward the opposite side of the sheet, which would be his proper position, as the mechanism is shown in that figure. On this assumption the adjustable rack would lie at his left hand and the part to be trimmed off would lie at the left of the track or way 12. If the needles 25 are to be used, the lever 35 is released, so that it occupies the position shown by dotted lines in Fig. 9. The needles then spring upward through the paper, or to the position shown by dotted lines in Fig. 8. The cutter is then taken in the right hand and placed in the position shown in Fig. 1, the edge of the rotating-disk and the rear guide engaging the track 12 just in front of the paper, the concave face of the disk being toward the right and so held that its edge shall be ground upon the free edge of plate 14 as the disk rotates. The cutter is then moved forward upon the paper, which it cuts as it rolls along in its track. It will thus be seen that by reason of the track being shallow the disk cuts downward upon the paper instead of having a tendency to push the paper forward, also that the paper is immediately supported on each side of the cutting-line.

In consideration of these points, together with the self-sharpening feature and the general construction and operation, as hereinbefore delineated, it will be observed that by the use of this device the operation of cutting paper is greatly simplified, the device being conducive to first-class results when considered from the standpoints of ease and rapidity, as well as from that of the standard or quality of the work.

Having thus described my invention, what I claim is—

1. In a paper-cutter, a rotating disk suitably mounted, in combination with a guideway or track having a metal bottom and side plate, substantially as and for the purpose set forth.

2. In a paper-cutter, the combination, with a rotating disk, of a strip of suitable material having a guide-track for the disk and retaining mechanism consisting of a plural number of spring-actuated needles and a series of controlling-levers suitably connected and simultaneously manipulated for the purpose of releasing or depressing the needles, substantially as described.

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

ALBERT L. KARSHNER.

Witnesses:

WM. MCCONNELL,
G. J. ROLLANDET.