J. DAHLY.

PAPER CUTTER.

APPLICATION FILED MAY 19, 1905.

928,636.

Patented July 20, 1909

4 SHEETS—SHEET 1.

Fig. 1.

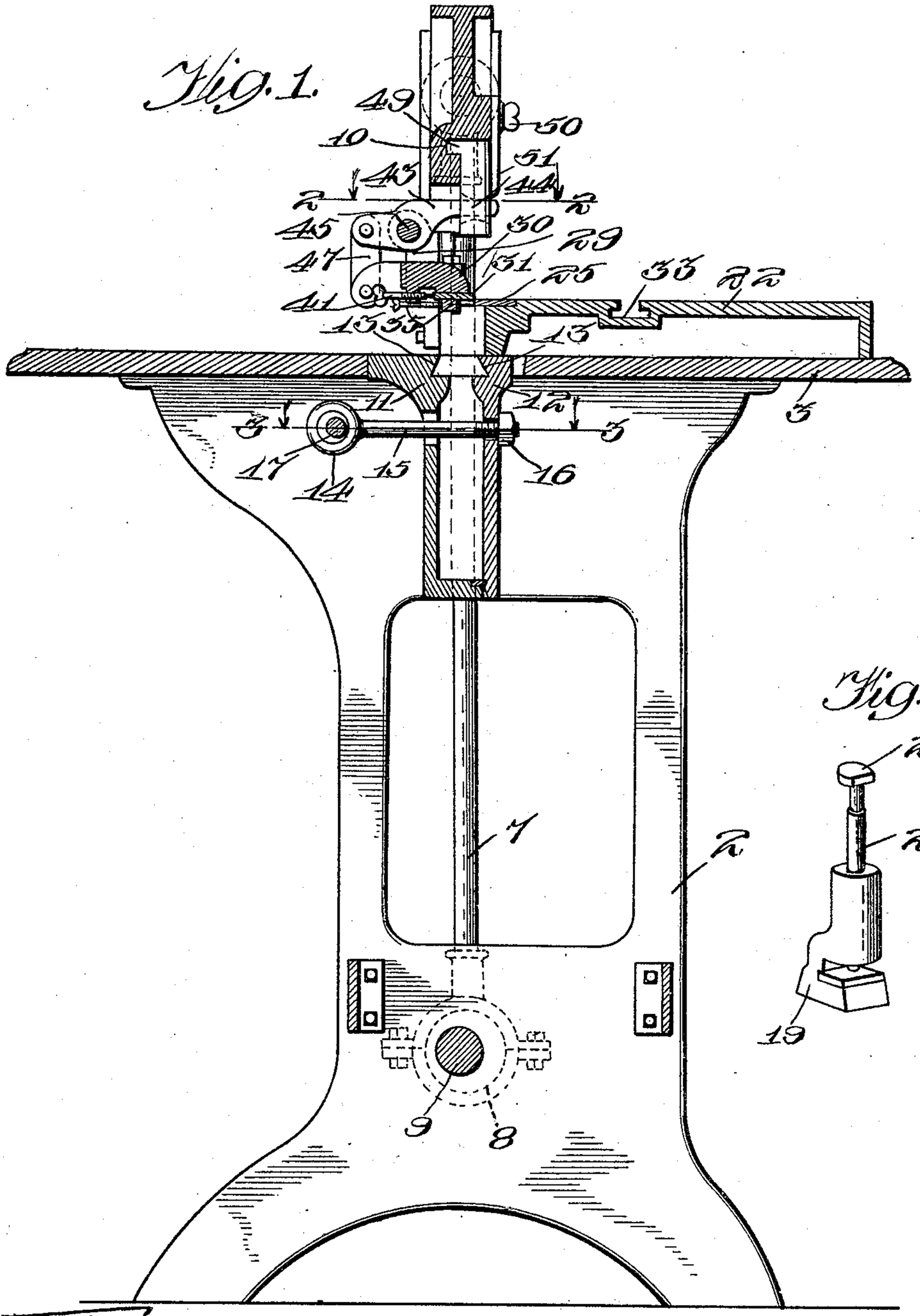


Fig. 1a.

Witnesses:
L. V. Downing.
J. B. Weir

Inventor:
John Dahly
by Francis & Hopkins
Atty

J. DAHLY.

PAPER CUTTER.

APPLICATION FILED MAY 19, 1905.

928,636.

Patented July 20, 1909.

4 SHEETS—SHEET 2.

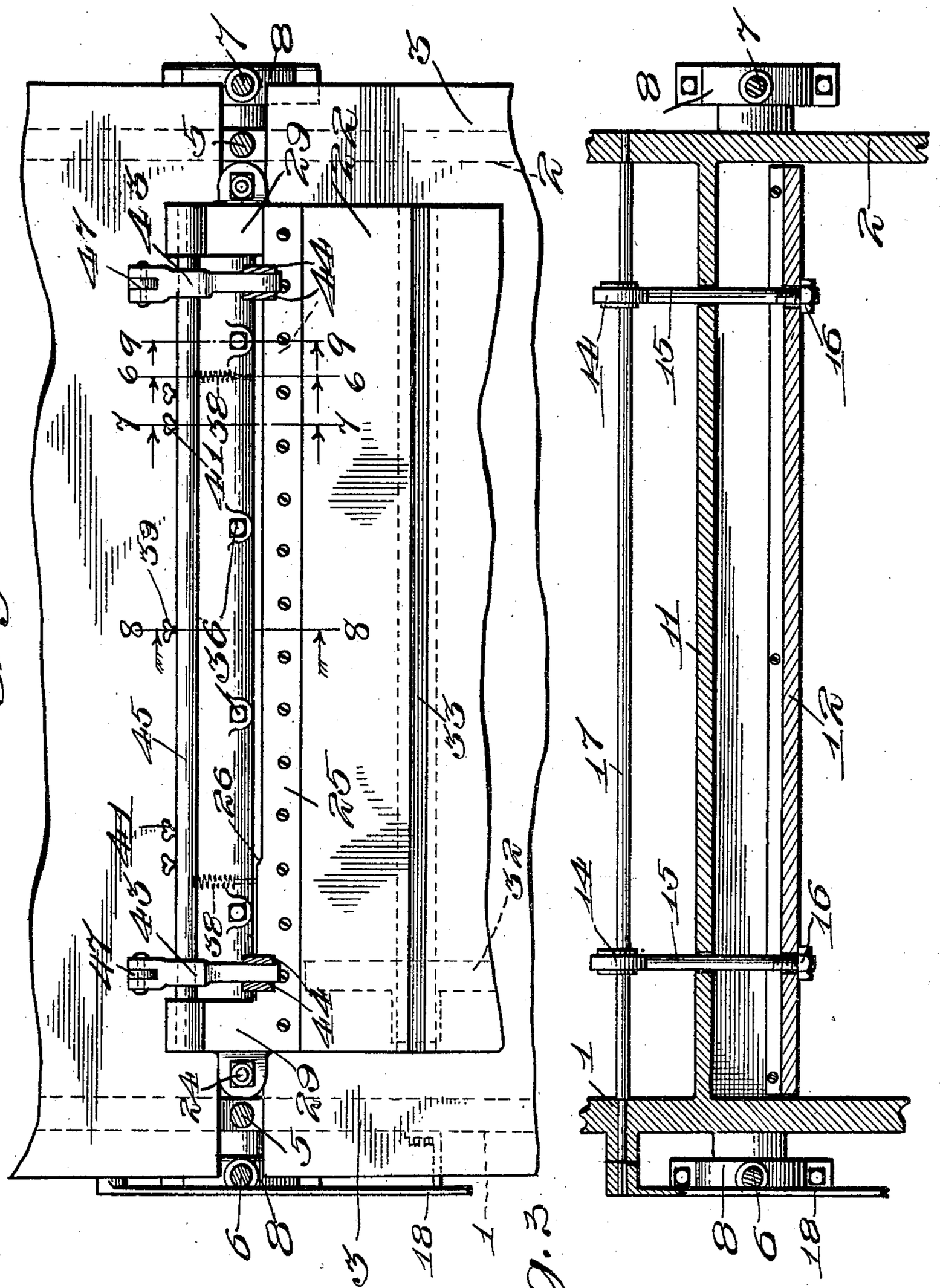


Fig. 2

Fig. 3

Witnesses:
G. V. Donahue
J. B. Weir

Inventor:
John Dahly
by Francis A. Hopkins
Atty

J. DAHLY.

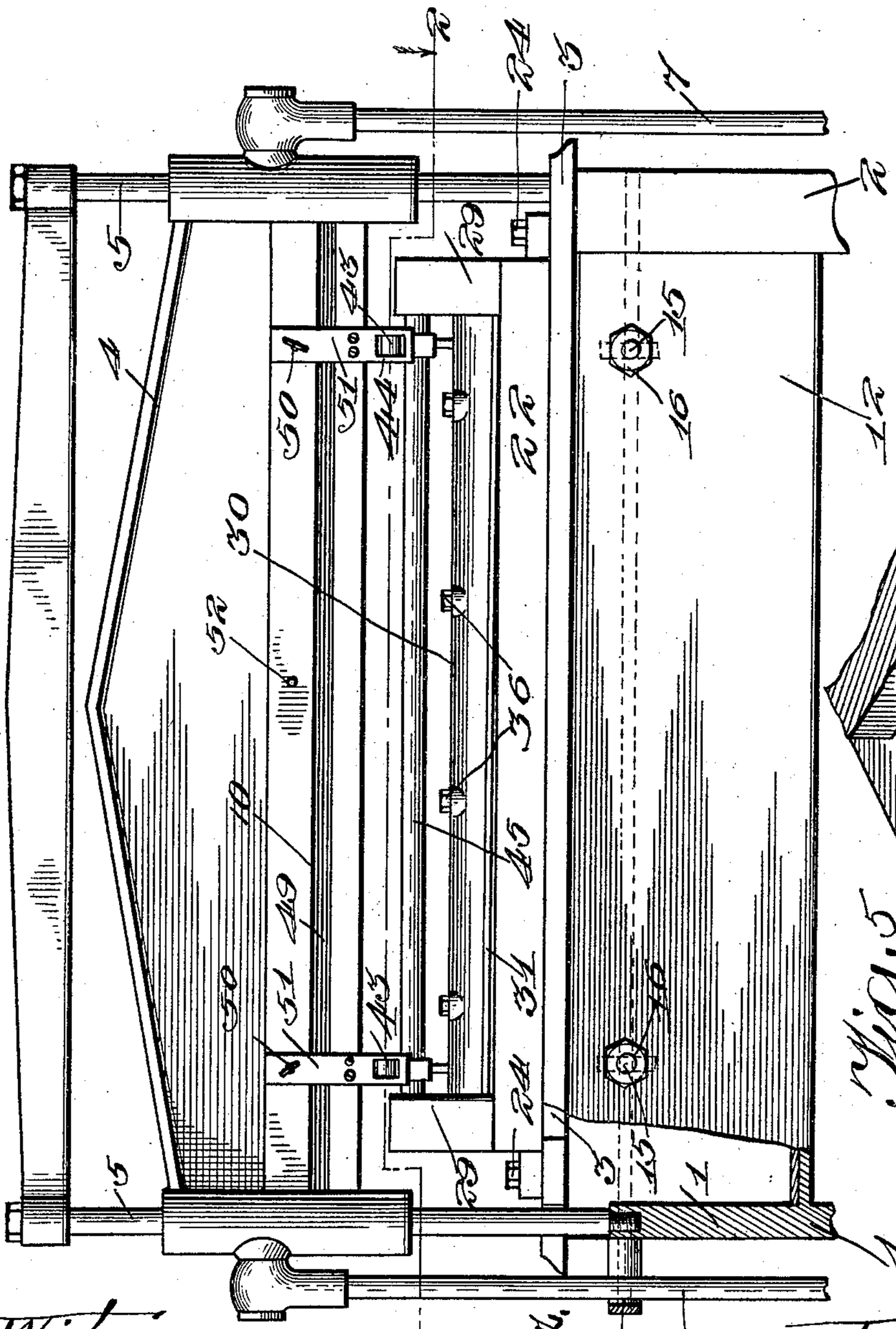
PAPER CUTTER.

APPLICATION FILED MAY 19, 1905.

928,636.

Patented July 20, 1909.

4 SHEETS—SHEET 3.



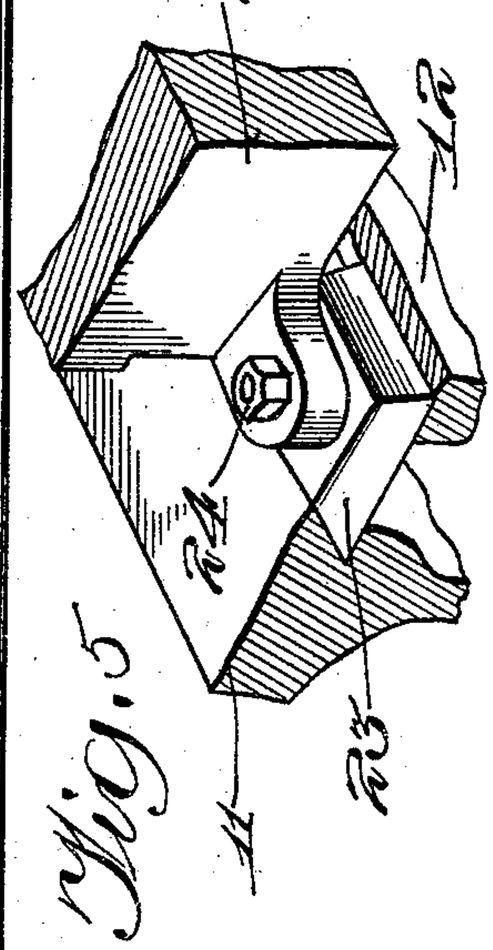


Fig. 5.

Fig. 4.

Witnesses:
G. C. Domarus.
J. B. Weir

Inventor:
John Dahly
by Francis A. Hoffman
Atty

J. DAHLY.

PAPER CUTTER.

APPLICATION FILED MAY 19, 1905.

928,636.

Patented July 20, 1909.

4 SHEETS—SHEET 4.

Fig. 6

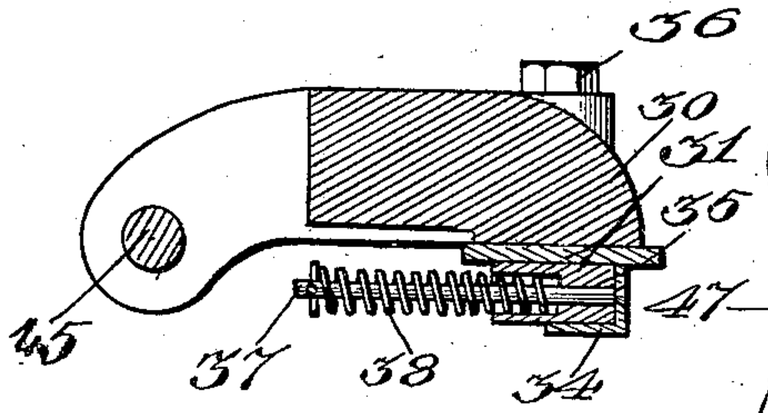


Fig. 7

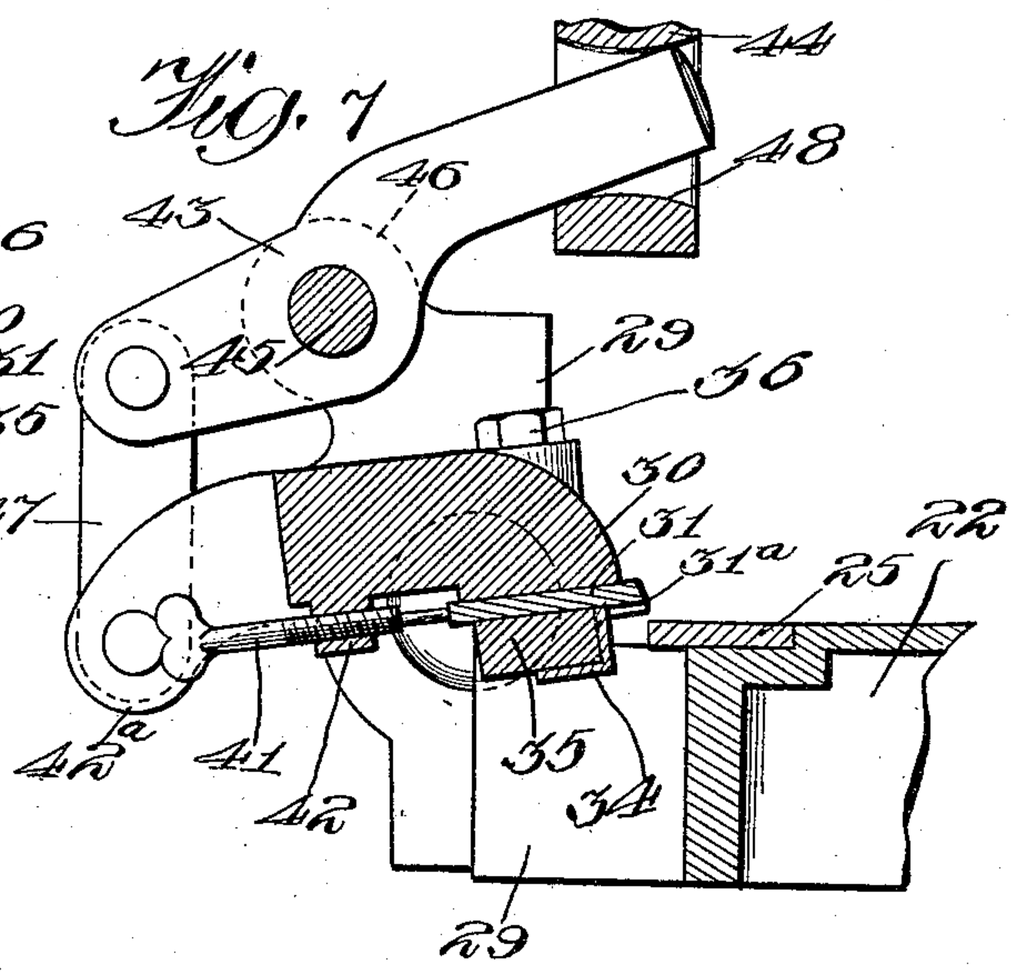


Fig. 8

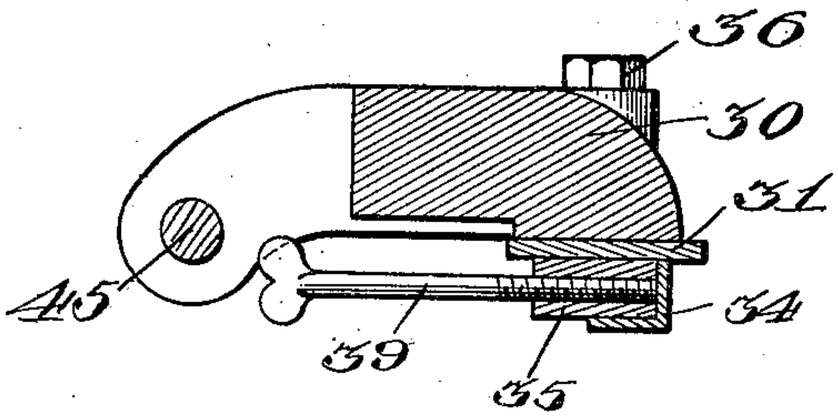


Fig. 9.

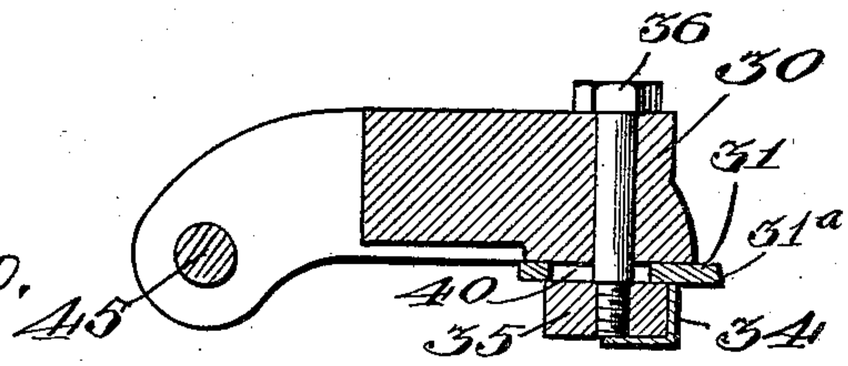


Fig. 10.

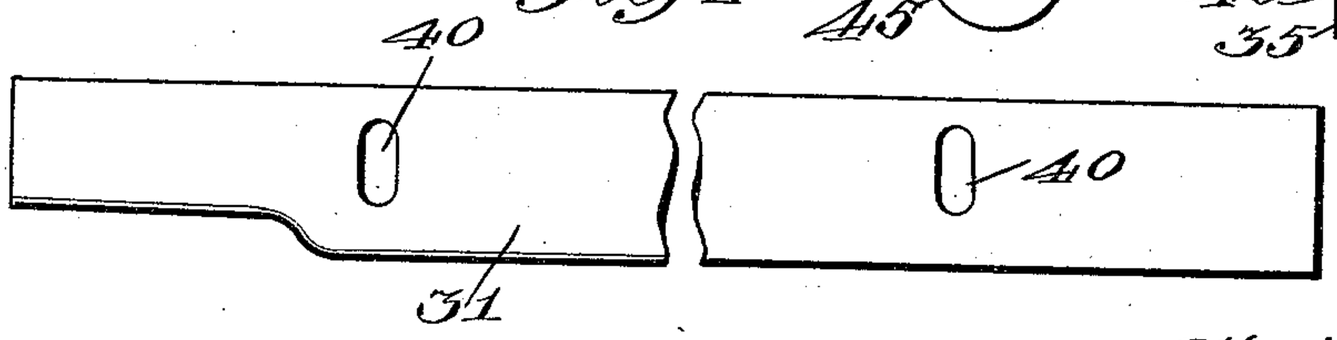


Fig. 12.

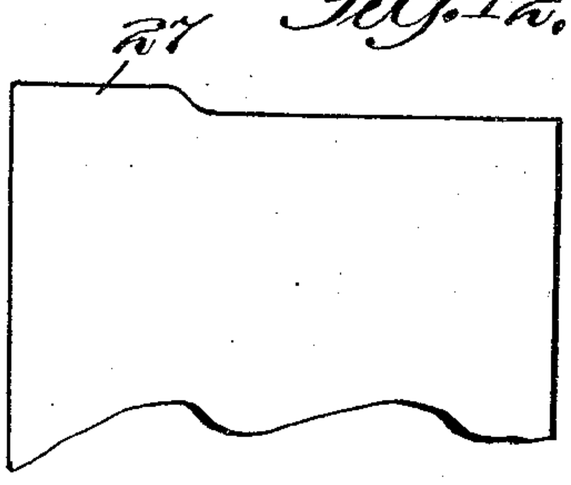
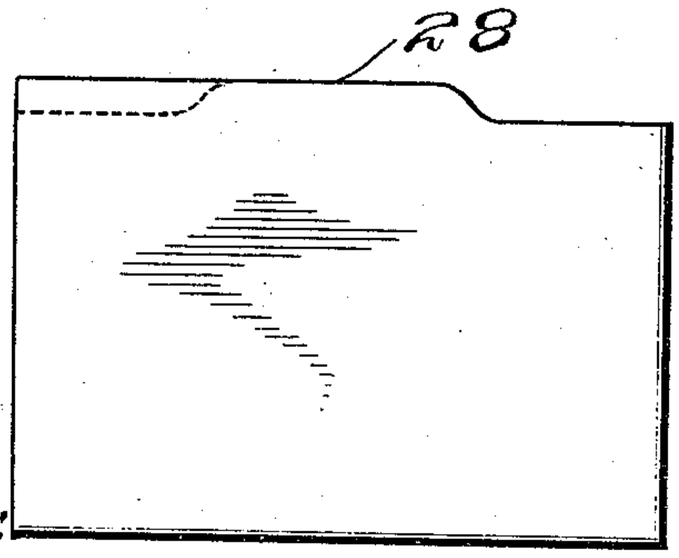


Fig. 11



Witnesses:
G. C. Domarus.
J. B. Weir

Inventor:
John Dahly
by Francis A. Hopkins
Atty

UNITED STATES PATENT OFFICE.

JOHN DAHLY, OF CHICAGO, ILLINOIS, ASSIGNOR TO LATHAM MACHINERY COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

PAPER-CUTTER.

No. 928,636. Specification of Letters Patent. Patented July 20, 1909.

Application filed May 19, 1905. Serial No. 261,159.

To all whom it may concern:

Be it known that I, JOHN DAHLY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Paper-Cutters, of which the following is a full, clear, and exact specification.

This invention relates to that type of paper cutters more especially designed for cutting the edges of cards or sheets to be used as index cards or leaves which are usually formed with tabs or offsets at their edges varying in length and position according to the requirements of the use to which the indexes are put. As machines for this purpose are usually employed in shops or factories also employing punching machines for producing apertures or perforations in index cards, leaves for loose leaf ledgers, etc., it is desirable to have the one frame and operating mechanism serve the double duty of supporting and operating both the punch and the cutter; thus not only reducing the cost of manufacture but saving shop room and making both machines available in many places where the lack of room or the additional expense might otherwise prove prohibitive.

Hence the primary object of the invention is to provide an improved paper cutter of the described character which may be readily attached to the operating mechanism of a punch such as before mentioned, or to any other like machine.

Another object of the invention is to provide an improved and simple machine for the described purpose by which the same pair of cutting blades may be utilized for producing tabs of any required length limited only by the length of the card or leaf.

With a view to the attainment of these ends and the accomplishing of certain other objects that will hereinafter appear, the invention consists in the features of novelty in the construction, combination and arrangement of parts which will now be described with reference to the accompanying drawings and more particularly pointed out in the claims.

In the said drawings—Figure 1 is a vertical transverse section of a punch showing my improvements in connection therewith. Fig. 1[a] is a perspective view of the removable punches. Fig. 2 is a plan section thereof on the lines 2, 2 Figs. 1 and 4. Fig. 3 is a detail plan section on the line 3, 3, Fig. 1. Fig. 4 is a front elevation partly broken away. Fig. 5 is an enlarged perspective view of a portion of the clamp and one of the table blocks hereinafter described. Fig. 6 is an enlarged transverse detail section on the line 6, 6, Fig. 2. Fig. 7 is a similar section on the line 7, 7, Fig. 2. Fig. 8 is a similar section on the line 8, 8, Fig. 2. Fig. 9 is a similar section on the line 9, 9, Fig. 2. Fig. 10 is a detail plan view of the movable cutting blade. Figs. 11 and 12 are face views of index cards of different forms capable of being cut by this machine.

1, 2 are the side frames and 3 the table of a well known form of punch, or any suitable form of punch, employed for producing the apertures or perforations in index cards, leaves for loose leaf ledgers, etc. as before mentioned, and 4 is a cross head arranged to slide vertically on guides 5 supported on the said frames 1, 2, or in any other suitable manner, and this cross head, as is usual in machines of this character, is connected at both ends by rods 6, 7 to eccentrics 8 on an operating shaft 9 whereby the up and down movement is imparted to the cross head for operating the punches. One of these punches is shown in Fig. 1[a] and it will be understood that the upper dies or punches proper 20 are attached in any suitable way to the cross head, which has a longitudinal groove 10 to receive head of flange 21 in a well known manner to facilitate that end while the lower or female dies are secured to the frame by a pair of jaws 11, 12 arranged just below the table 3 and having undercut faces or edges 13 for receiving the lower dies which have blocks 19 adapted to fit between the jaws. The jaw 11 is rigidly fixed on the frame while the jaw 12 is pivoted at its lower edge and is capable of being moved toward and from its companion jaw by a number of eccentrics 14 which operate rods 15 passing through the jaws and having nuts or shoulders 16 engaging the movable one. These eccentrics 14 are mounted upon a shaft 17 which is common to all of them and the shaft is provided with a handle or lever 18 whereby all of the eccentrics may be thrown at one time and the jaws conveniently and quickly opened for releasing the dies held thereby which may then be removed and my improved paper cutting adjustment substituted therefor.

When the punches are removed from the cross head and the jaws 11, 12, a supplemen-

tal table 22 may be placed directly upon the table 3 of the punch press and a pair of blocks 23, which are secured to the underside of the table 22 in any suitable way as by bolts 24, are slipped between the jaws 11, 12 and the jaws then tightened thereon by throwing the handle or lever 18. To one edge of this table 22 is secured a fixed cutting blade 25 which, as better shown in Fig. 2, has its edge formed with an offset or shoulder 26 for producing the tabs 27, 28 shown on the edges of the index cards in Figs. 11 and 12, and trunnioned upon the table or in suitable pillows 29 secured thereto, is a blade stock 30 to the underside of which is secured a movable blade 31, having an edge complementary in shape to the edge of its companion blade 25, and which is adapted to be moved past the edge of blade 25 with a shearing action by the rocking motion of the blade stock 30 upon its trunnions so that when a card or sheet is inserted over the blade 25 and under the blade 31 its edge will be cut in the manner shown in Figs. 11 and 12.

In the use of the machine the card or sheet is placed upon the table 22 with its edge or end resting against a suitable gage 32 shown in dotted lines in Fig. 2 and which is capable of being adjusted to any desired point throughout the width of the card along the groove 33 in the table so that the position of the shoulder 26 with respect to the width of the card may be determined accordingly and consequently a tab of any desired length may be produced, but since it is unnecessary to cut the top edge of the tab, which in all cases may be constituted by the edge of the card as it existed originally, it is desirable to provide a side gage for gaging the extent to which the card is inserted under the movable knife, the object being to bring the top edge of the tab to a position nearly in register with the edges of the knives extending to the left of the shoulder 26 Fig. 2. To that end therefore a gage 34 is mounted preferably directly on the under side of the blade 31 and is made adjustable. The blade 31 is placed directly against the under side of the stock 30 and against the under side of the blade is situated a bar 35 and the blade, bar and stock are firmly clamped together by a suitable number of set screws 36 passing through the stock and having their ends screwed into the bar so that the bar will be rigid with relation to the stock and may be utilized for supporting the gage 34 as well as clamping the blade 31. The gage 34 is secured to a number of guide pins or stems 37 which pass therethrough and upon which are situated springs 38 serving to pull the gage against the edge of the bar 35 and producing its maximum movement in a direction away from the fixed blade 25. Its adjustment in the opposite direction is effected by a number of adjusting screws 39 screw threaded through the bar 35 as shown in Fig. 8 and impinging the back of the gage 34. In order that the blade 31 may be also adjusted with great nicety it is formed with slotted or elongated apertures 40 where the set screws 36 pass through, thus permitting it to be moved transversely when the set screws are loosened, and this transverse movement may be produced as desired by a number of adjusting screws 41, screw threaded through bosses 42 on the under side of the stock 30 and impinging the back of the knife or blade 31.

As shown in Fig. 4 the two blades 25, 31 are set to form an angle with relation to each other longitudinally so as to produce a shearing cut, the ends of the blades remote from the shoulder 26 being nearest together, and as shown in Fig. 7 the cutting edge of blade 31 is beveled off at the upper side or away from the edge of blade 25 as indicated at 31^a so as to prevent the upper edge of the blade 31 from abutting against the vertical face or edge of the blade 25 as the stock rocks upon its pivots. The rocking action of the stock just referred to is produced by suitable operative connection with the cross head 4 through the intermediary of one or more arms 42^a on the stock, levers 43 and attaching lugs 44. The levers 43, two of which are preferably employed, are pivoted near each end of the stock upon a rocker shaft 45 journaled in suitable bearings 46 on the pillows 29. One arm of each lever is connected to one of the arms 42^a by a link 47 and their other arms are situated in rounded seats 48 formed in the lower ends of the lugs 44 so that as the cross head rises and falls the rounded faces of the seats 48 will maintain close contact with the levers 43 and avoid lost motion while the stock 30 will be correspondingly rocked upon its trunnions and the movable blade 31 caused to shear past the blade 25. The lugs 44 may be attached to the cross head 4 in any suitable way but since the cross head is already provided with the groove 10, the lugs may be formed with tongues 49 adapted to fit into said grooves and thus receive the strain while they may be held in place by screws 50 passing through upward extensions 51 on the lugs and entering two of the screw threaded perforations 52 which are ordinarily provided in the face of the cross head for the attachment of a bar which serves to hold the punch heads 21 in place in the groove 10.

Inasmuch as there are no obstructing portions to interfere with the card being slid along the face of the side gage 34 any desired extent, even beyond the sides of the machine, it will be understood that the tab may be produced on the card at any point throughout its width and may be of any length limited only by the width of the card.

In producing the form of tab shown at 27 in Fig. 12, it is obvious that but a single cut

is required while the card is being held at the proper position, regard being paid to the length of the tab desired; but when the form of tab indicated partially in full lines and partially in dotted lines in Fig. 11 is to be produced, it will be understood that the shoulder on the right will first be cut with the longer edge of the card projecting to the left of the shoulder 26 of the blade; the card is then turned end for end to produce in the same manner the cut indicated by dotted lines, thus resulting in a tab situated inwardly from both edges of the card.

Having thus described my invention what I claim as new therein and desire to secure by Letters Patent, is:

1. In a machine for the purpose described the combination of a table, relatively fixed and movable cutter blades, a transversely adjustable side gage carried with said movable blade, springs for pushing said gage in one direction, and adjusting screws for pushing it in the opposite direction.

2. In a machine for the purpose described the combination with a frame, of a table, means for detachably securing the table to the frame, a cutter blade fixed to the table, a blade stock trunnioned on the table, a blade carried by said stock, an operating member mounted on the frame independently of the table, an arm projecting from the stock, a lever pivotally mounted on the table and connected with said arm for oscillating the stock, and means for detachably connecting said lever to said operating member.

3. In a machine for the purpose described the combination with a frame, of a table, means for detachably securing the table to the frame, a cutter blade fixed to the table, a blade stock trunnioned on the table, a blade carried by said stock, an operating member mounted on the frame independently of the table and operatively connected with said stock, and a lug detachably secured to said member and having a seat for receiving the end of said lever.

4. In a machine for the purpose described the combination with a frame and a vertically movable cross head mounted thereon, of a lug detachably secured to the cross head, a lever projecting under the cross head and operatively connected with said lug, a cutter blade stock trunnioned under said cross head and operatively connected with said lever, a table upon which said lever and stock are mounted, and cutter blades fixed to said stock and table respectively.

5. In a machine for the purpose described the combination of a cutter blade stock, a table upon which said stock is mounted, a blade on said table, a bar extending longitudinally of said stock, a cutter blade arranged between the stock and said bar, set screws binding said bar, stock and movable cutter blade together, a side gage extending longitudinally of said bar, pins passing through said bar and supporting said gage, means for moving said gage toward said bar, and adjusting screws for forcing the gage away from the bar and toward the first said blade.

6. In a machine for the purpose described, the combination of a frame, an operating member mounted on the frame, a table independent of the frame, a cutter blade fixed to the table, a member pivotally supported by the table, an arm projecting from the member, a blade supported by one end of the member and adapted to coöperate with the first said blade, a lever pivotally supported intermediate its ends by the table and above the said member, a link connecting one end of the arm and the lever, the other end of the lever being disposed above the cutter blades, said table and cutter being adapted to be placed upon the frame with the cutter blades disposed below the operating member and with the said lever extending transversely of the operating member, means for securing the table to the frame, and means for connecting the free end of the lever with the operating member.

7. In a machine for the purpose described, the combination of a table, relatively fixed and movable cutter blades, a transversely adjustable side gage carried by and fixed with relation to said movable cutter, and a longitudinally adjustable gage fixed with relation to the fixed blade.

JOHN DAHLY.

Witnesses:
M. A. WILLIAMSON,
C. H. SEEM.