

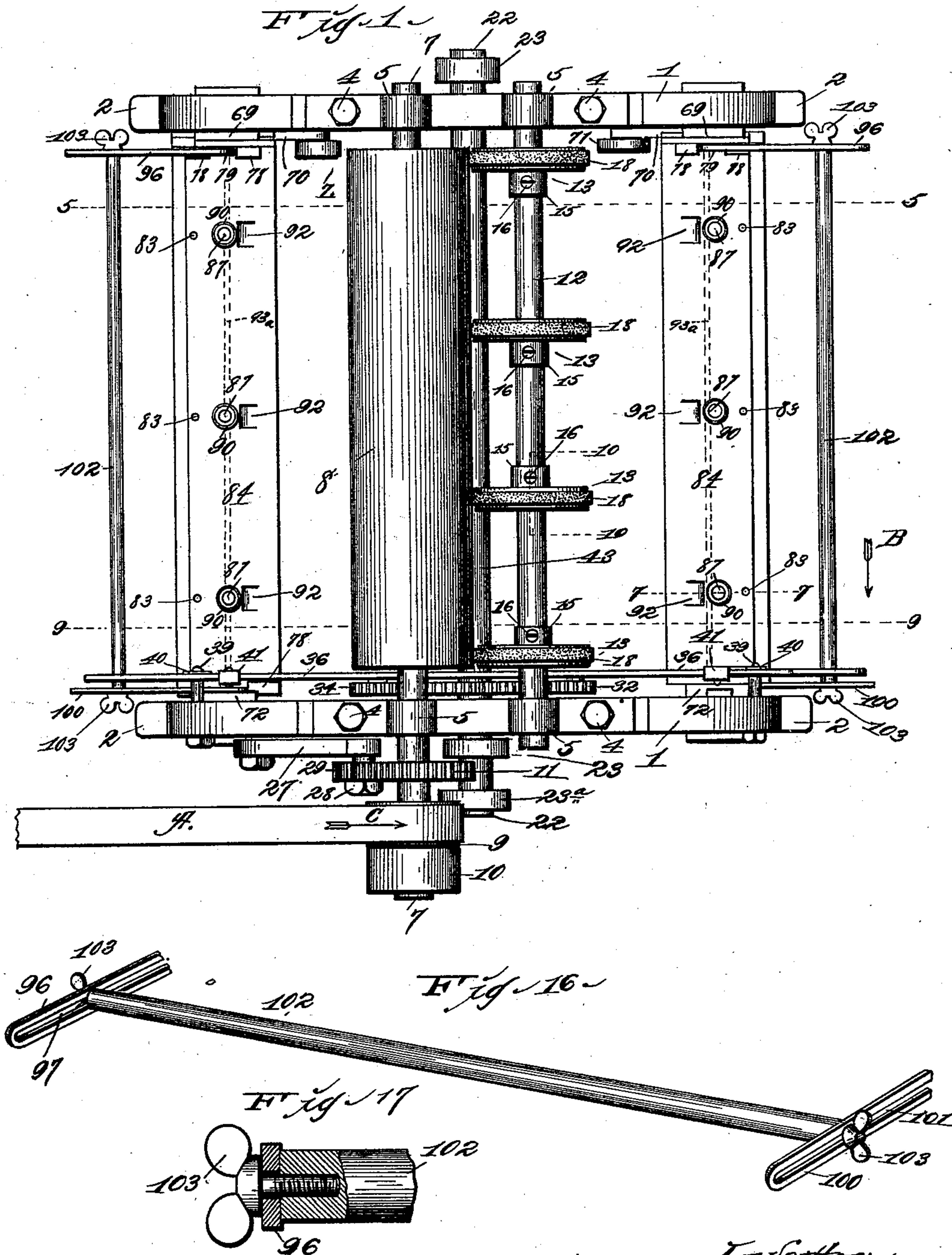
(No Model.)

6 Sheets—Sheet 1.

J. VICTOR.
PAPER FOLDING AND CUTTING MACHINE.

No. 547,651.

Patented Oct. 8, 1895.



Attest:
W. P. Smith,
a. a. Blankenweider.

Inventor:
Joseph Victor,
by Higdon & Higdon & Longan
Attys.

(No Model.)

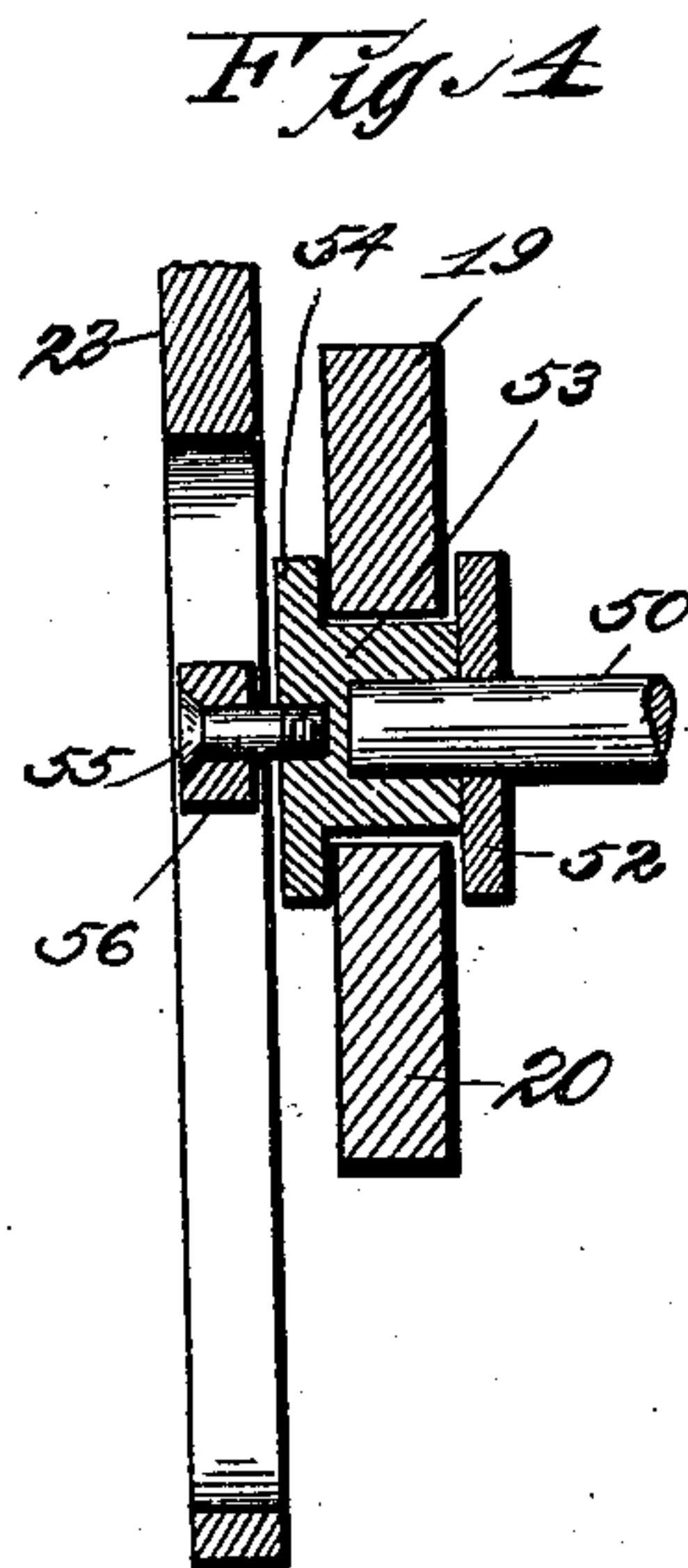
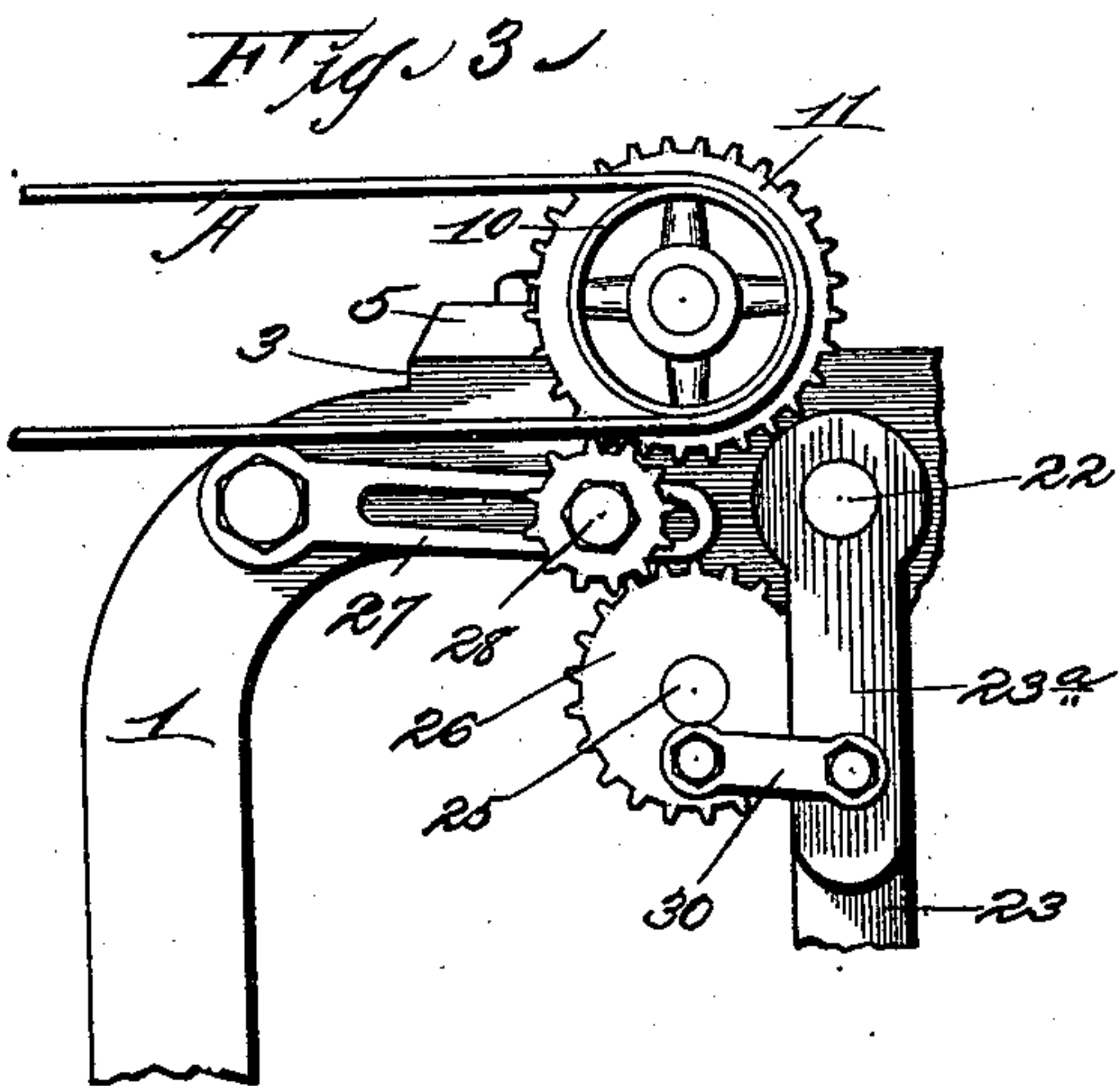
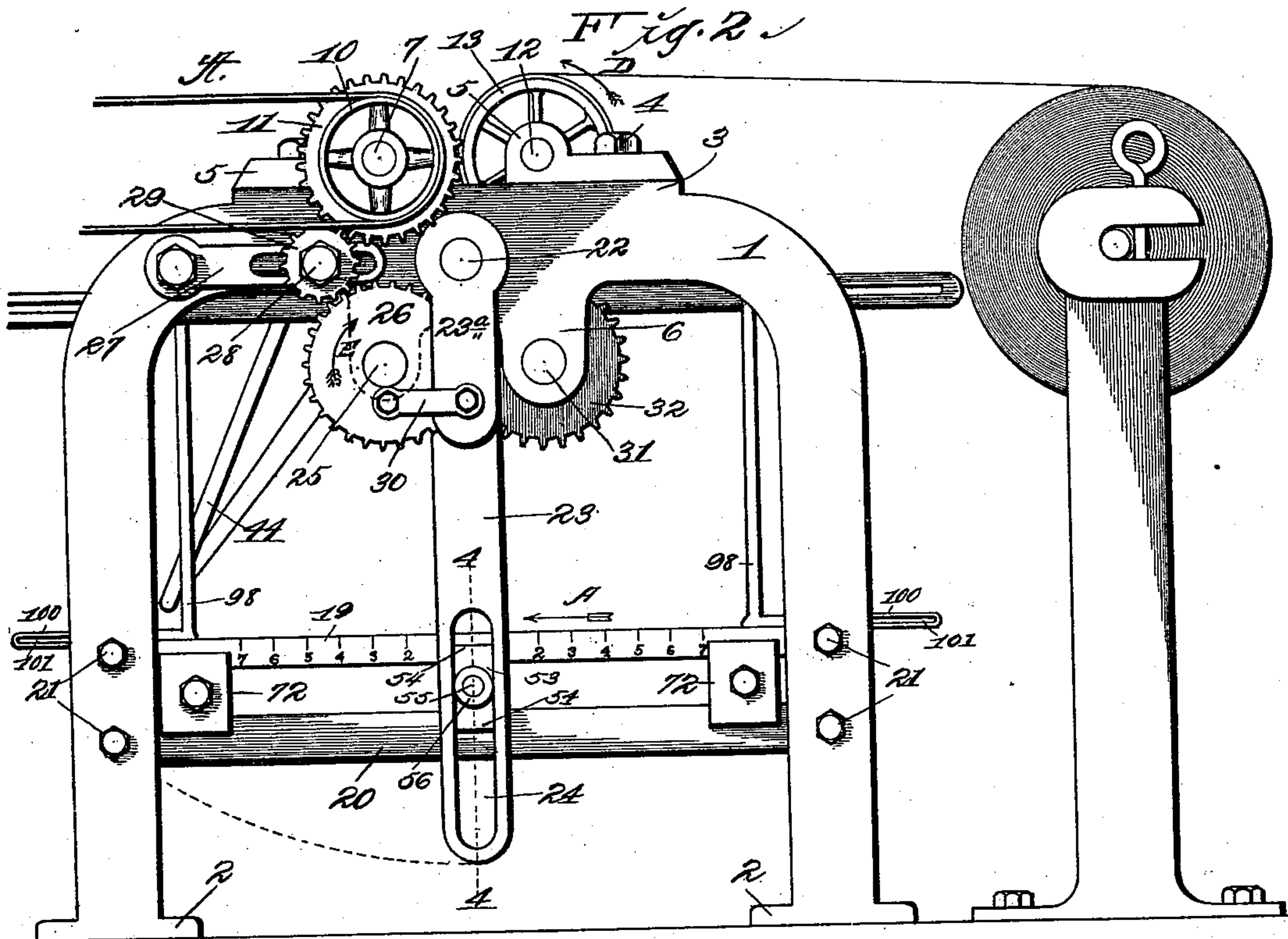
6 Sheets—Sheet 2.

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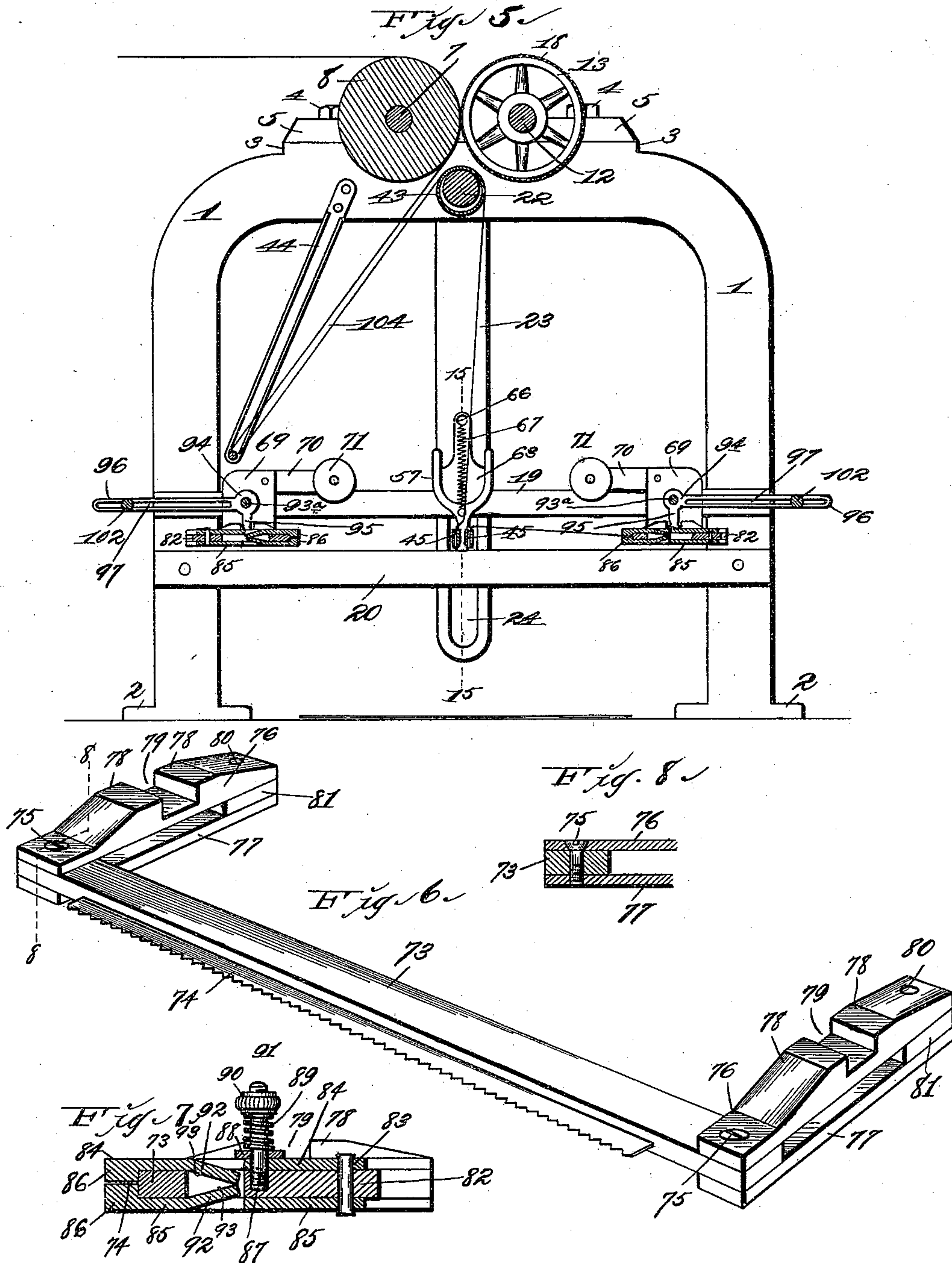
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6 Sheets—Sheet 4.

J. VICTOR.

PAPER FOLDING AND CUTTING MACHINE.

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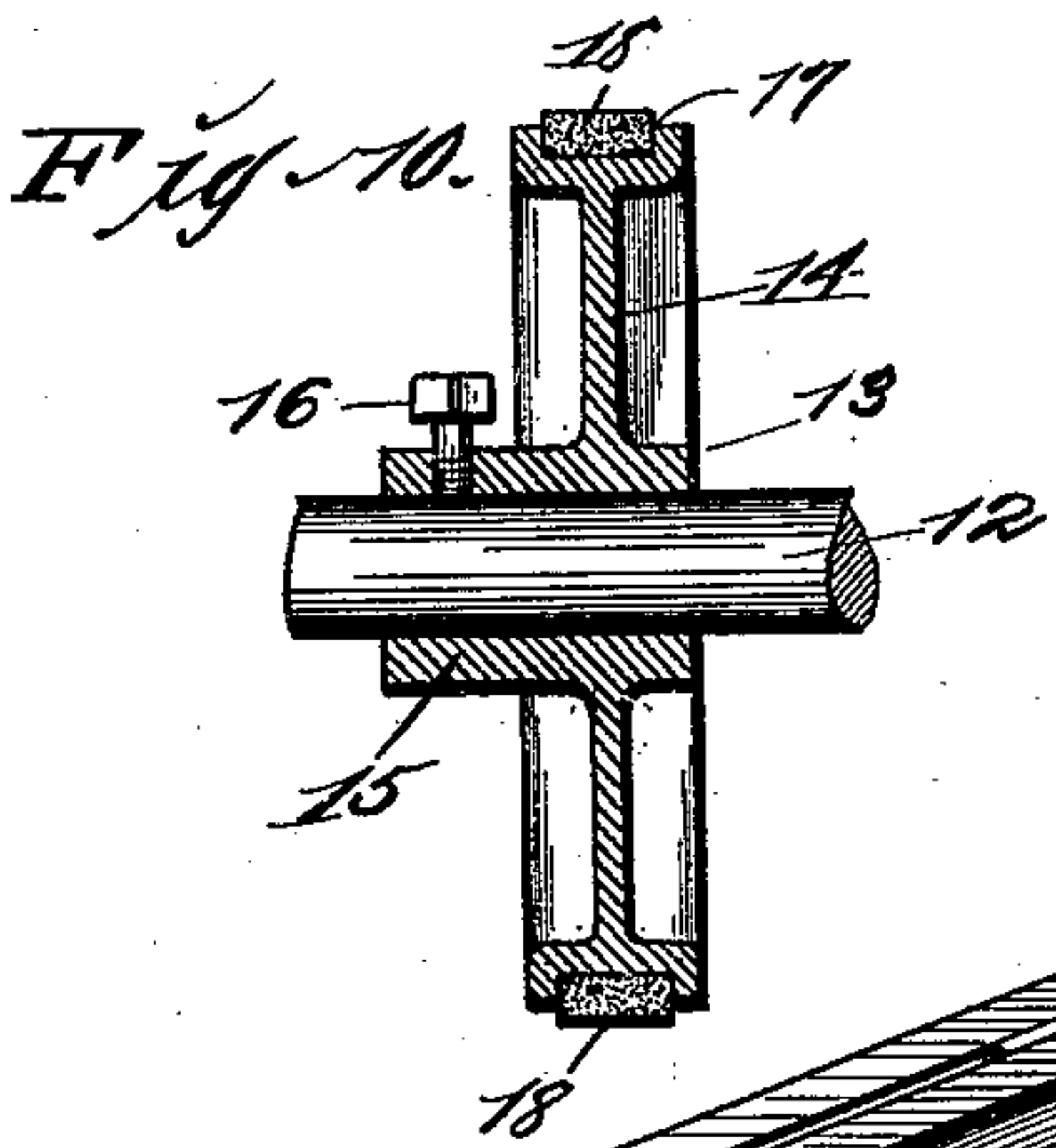
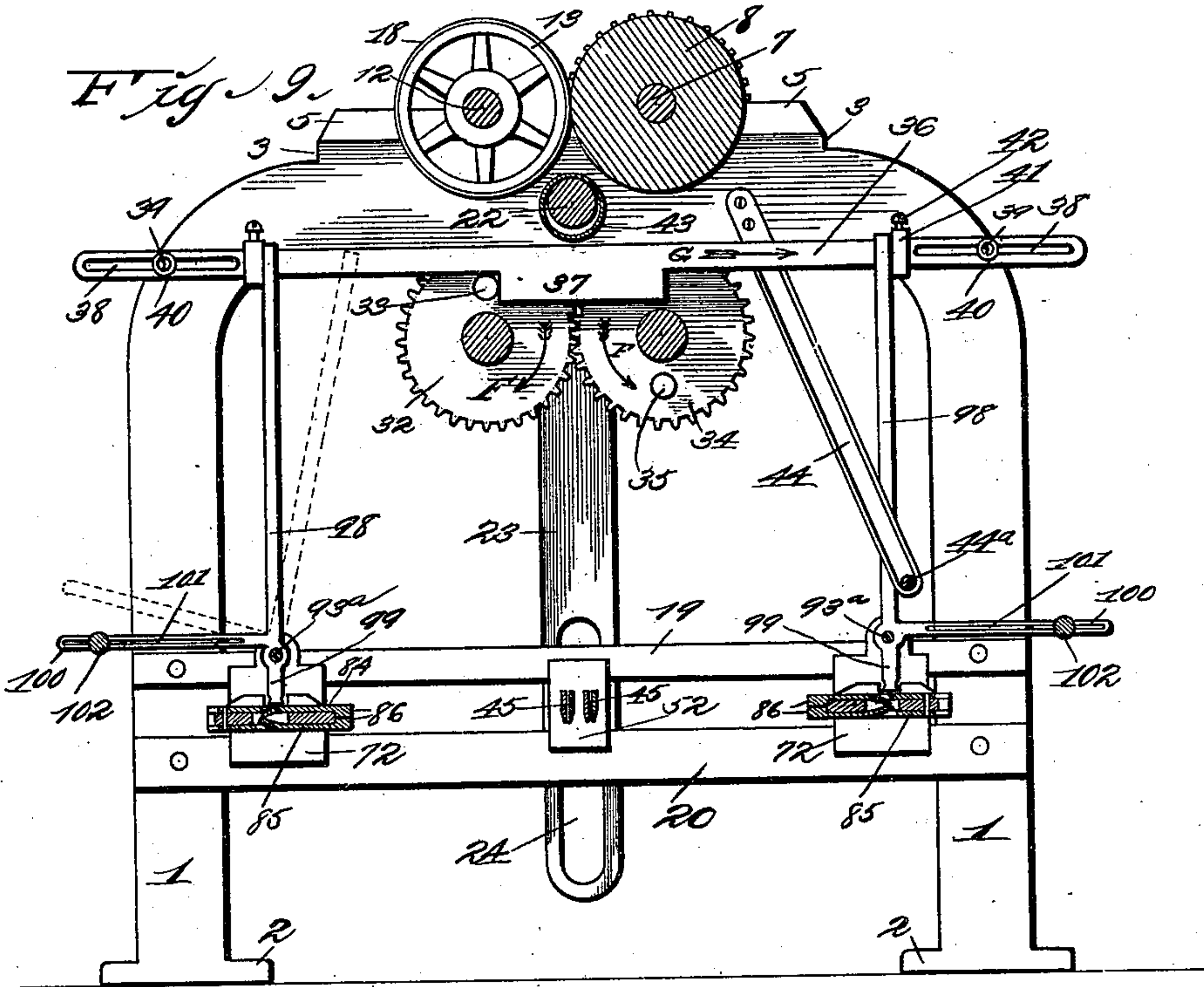


Fig. 11.

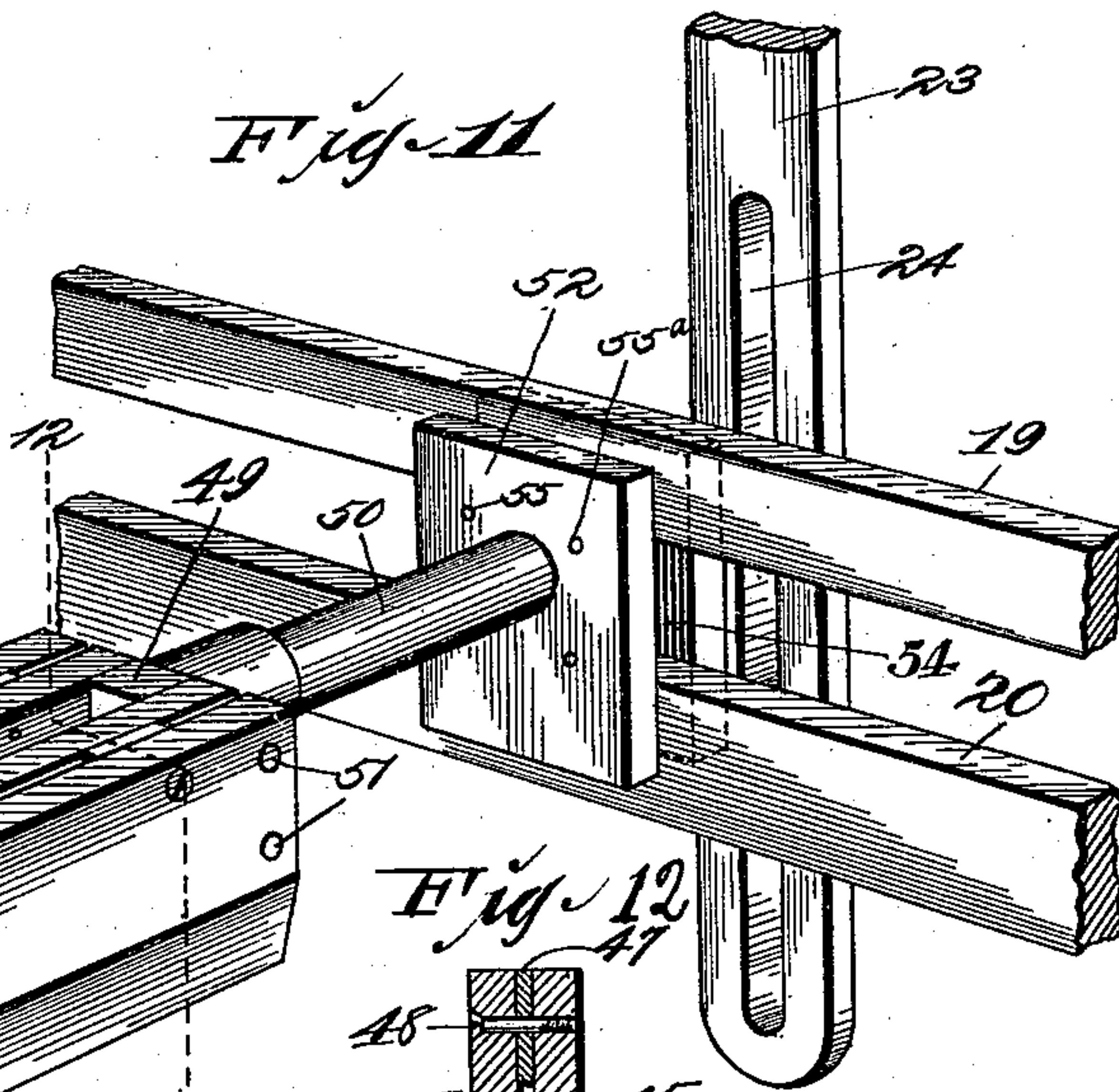
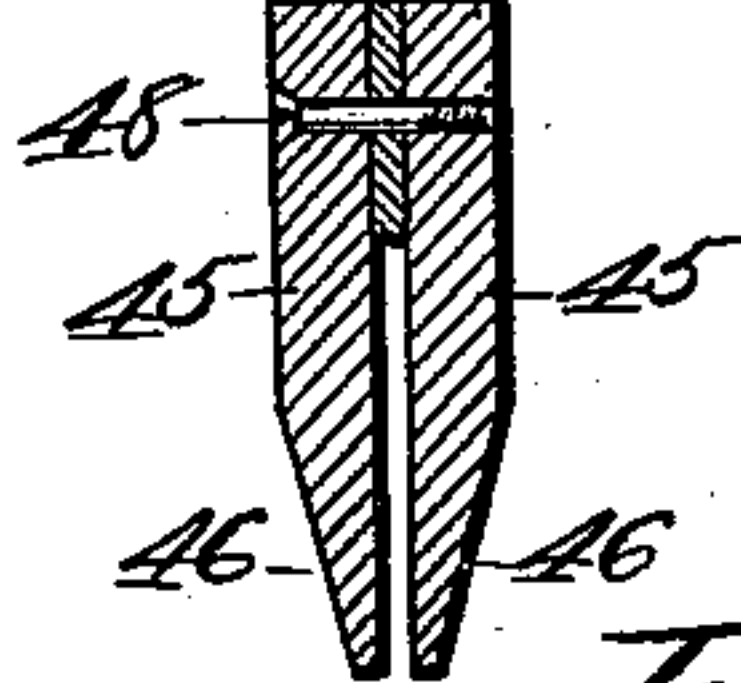


Fig. 12.



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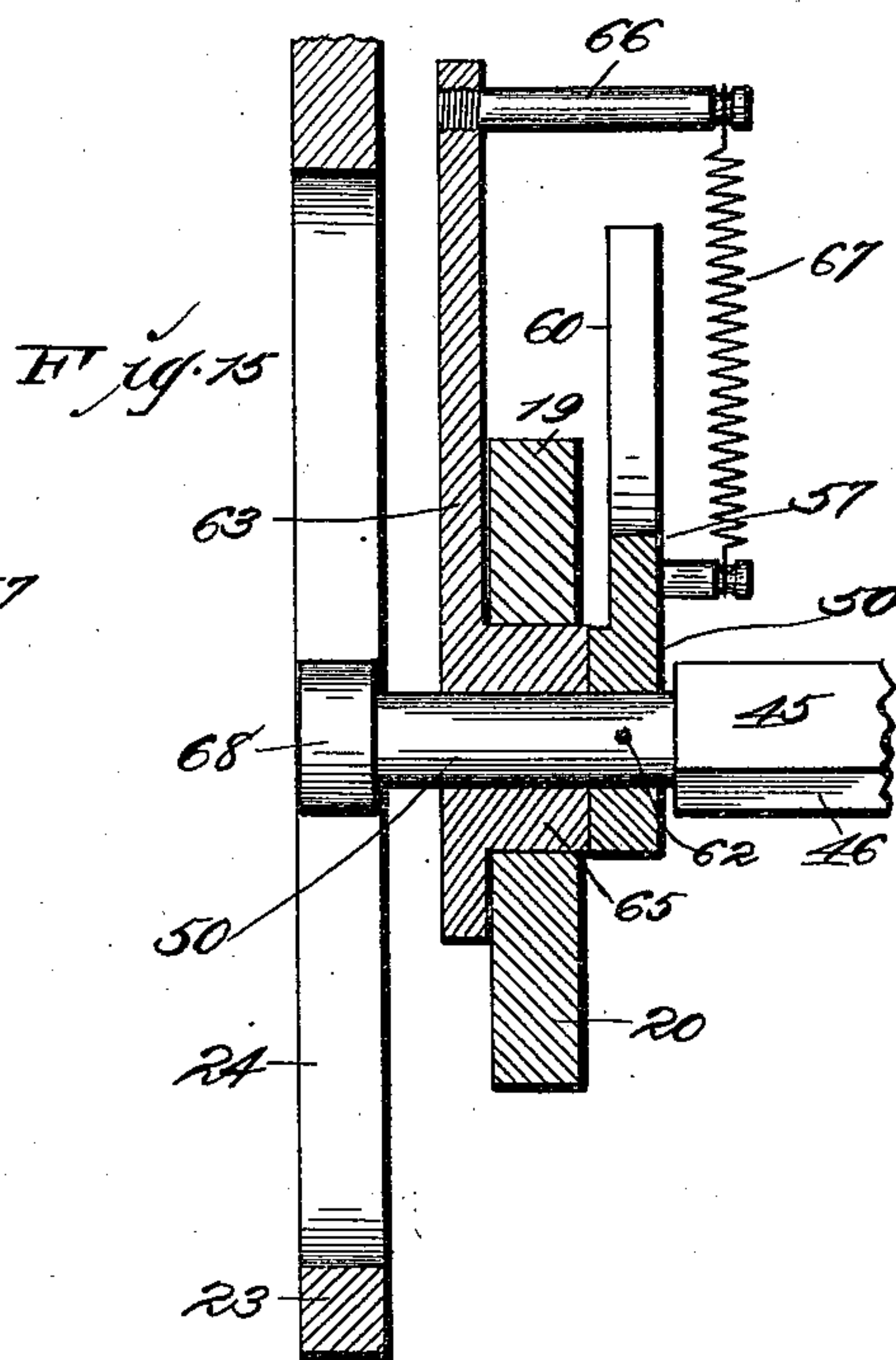
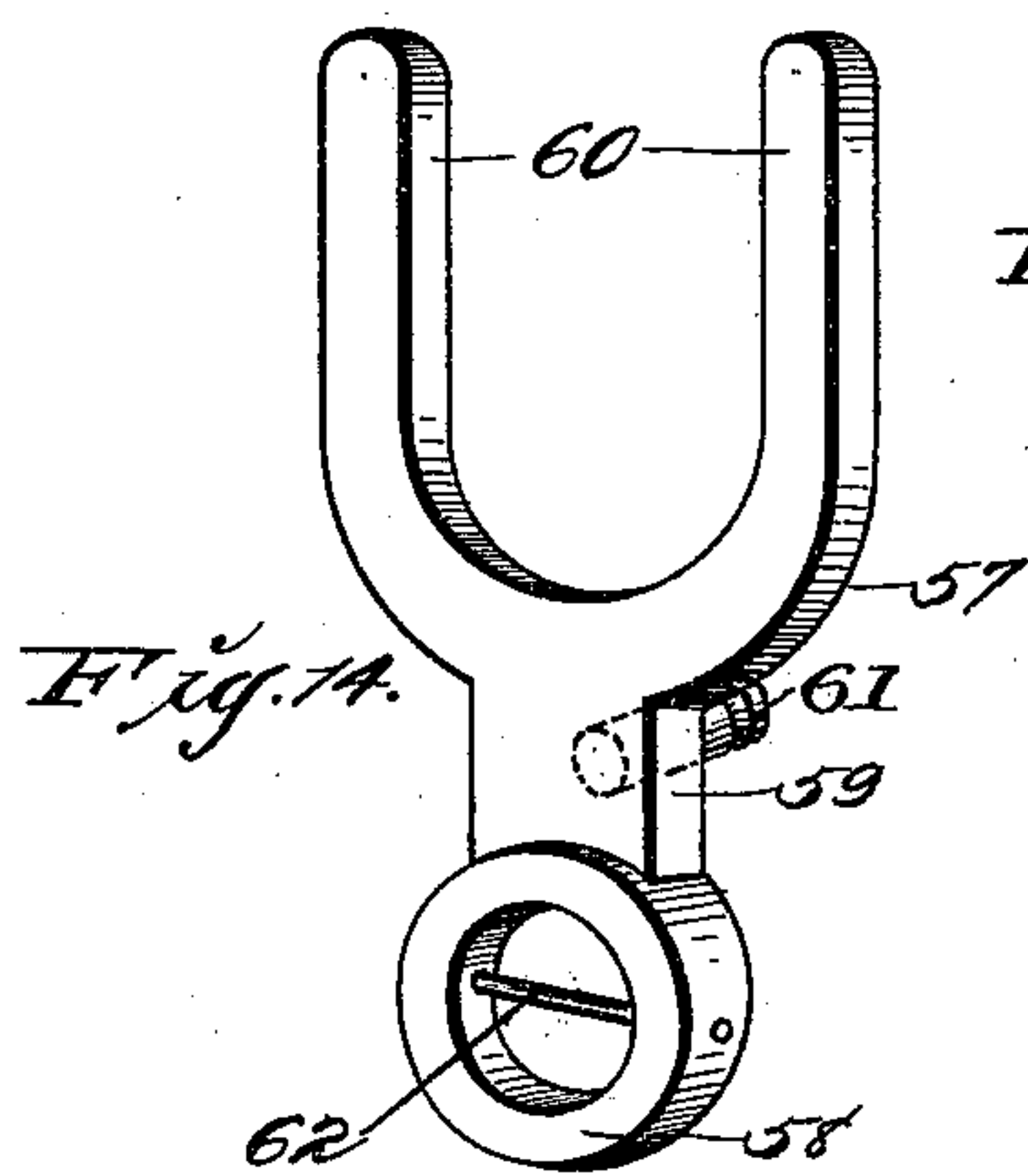
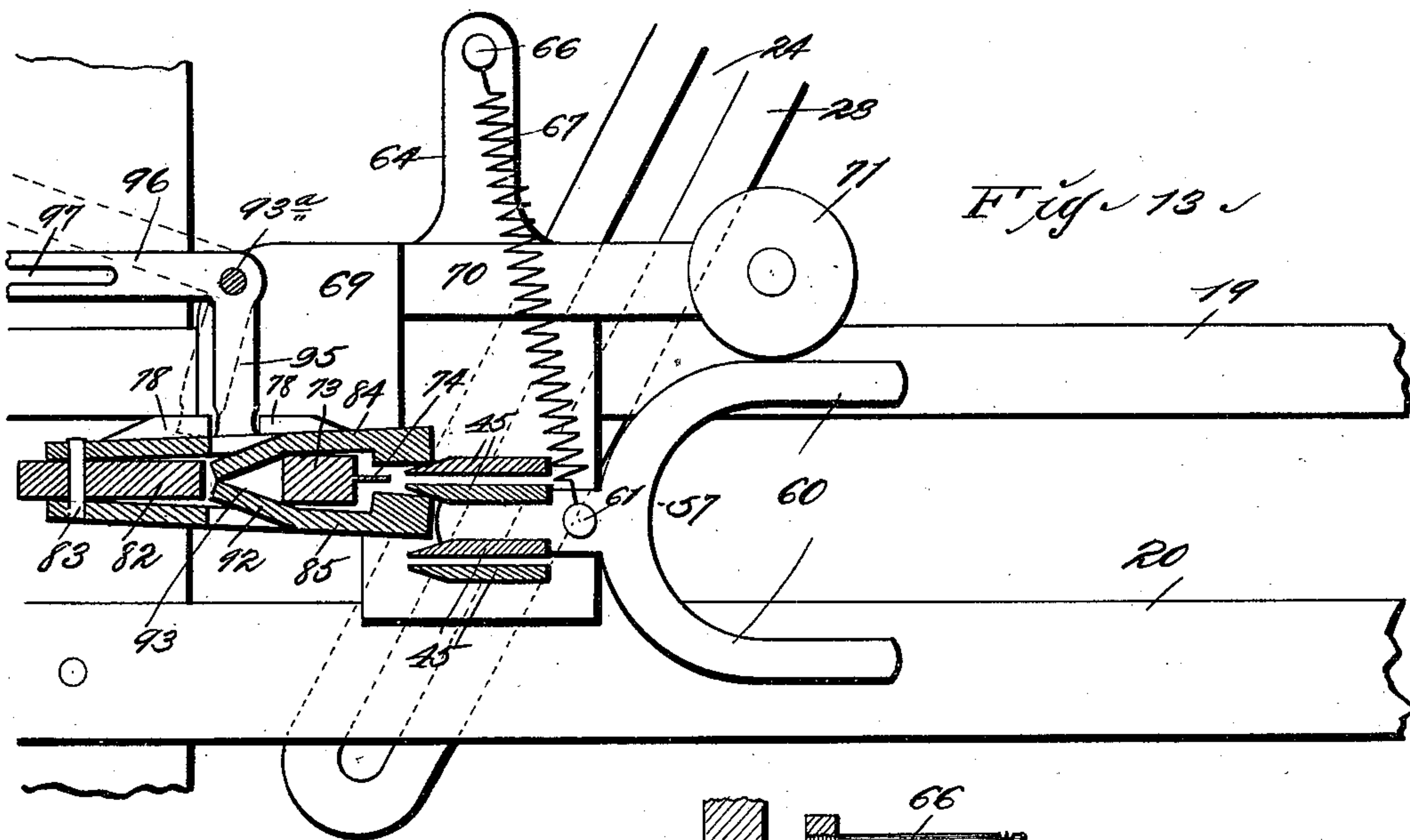
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6 Sheets—Sheet 5.

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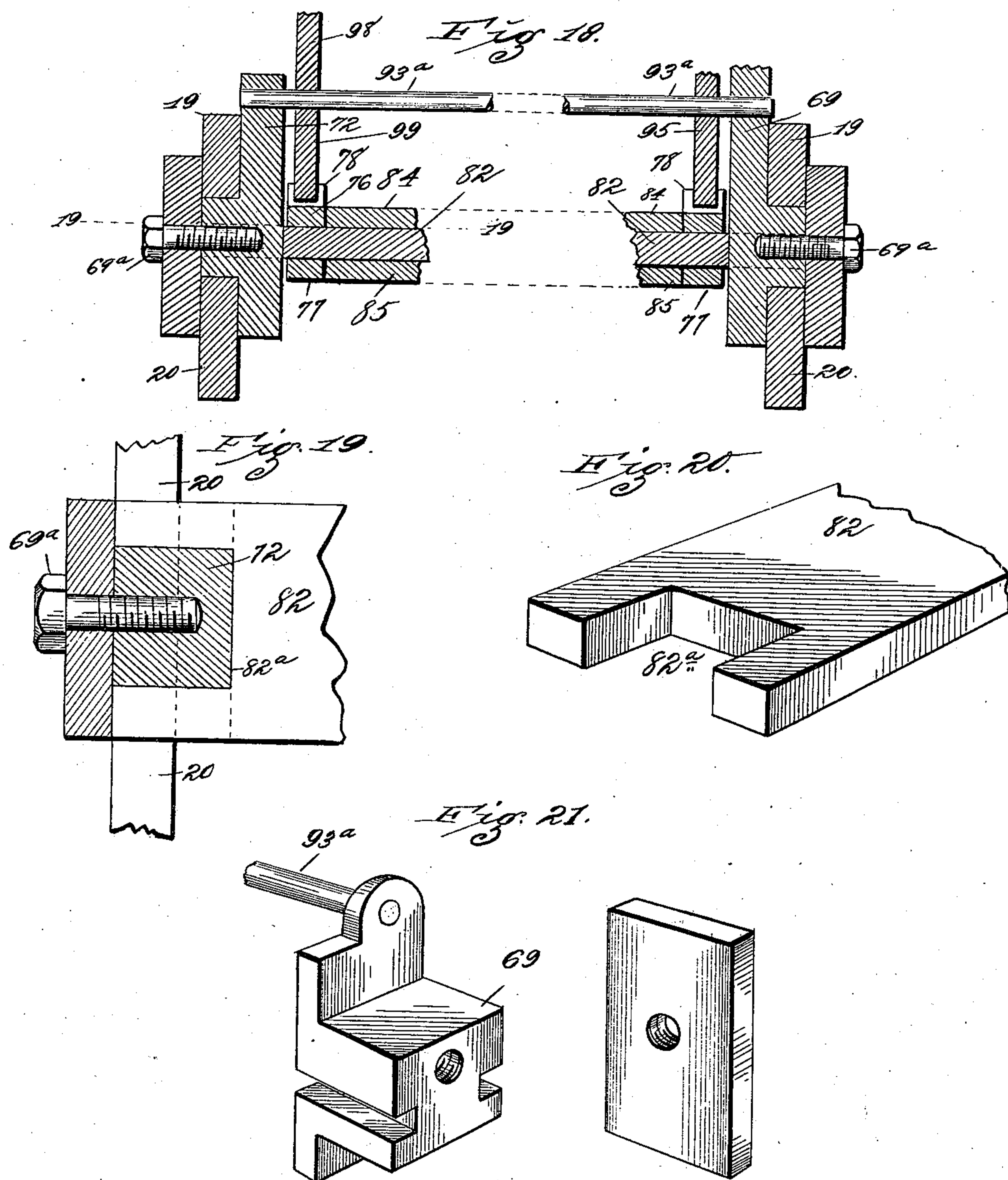
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(No Model.)

6 Sheets—Sheet 6.

J. VICTOR.
PAPER FOLDING AND CUTTING MACHINE.
No. 547,651. Patented Oct. 8, 1895.



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UNITED STATES PATENT OFFICE.

JOSEPH VICTOR, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF TO JULIUS ROTHSCILD AND MORRIS SALE, OF SAME PLACE.

PAPER FOLDING AND CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 547,651, dated October 8, 1895.

Application filed August 29, 1894. Serial No. 521,607. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH VICTOR, of the city of St. Louis, State of Missouri, have invented certain new and useful Improvements in a Combined Paper Cutter and Folder, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to a machine for automatically folding, cutting, or perforating into equal lengths a strip of paper as it passes through the machine from a roll, said roll of paper being suitably located adjacent the machine.

An object of my invention is to so construct a machine that when paper in a continuous strip is passed through the same said paper will be either folded, cut, or perforated, as desired, in equal lengths, said folded or cut portions being deposited at a central point below the machine.

A further object of my invention is to provide in such a machine an adjustable cutting or folding mechanism, whereby the length desired to be given to the cut, folded, or perforated sections of paper may be quickly and easily regulated and adjusted.

A further object of my invention is to construct a machine that is especially applicable and adapted to be used in connection with newspaper-printing presses of the improved type. When my invention is used in this connection, the printed paper which issues from the printing-press in a continuous strip is passed through my machine and the same cut and folded at the proper places.

My invention consists in certain novel features of construction, combination, and arrangement of parts hereinafter described, and designated in the claims.

Referring to the drawings, Figure 1 is a top plan view of my complete machine. Fig. 2 is a side elevation of my complete machine, a roll of paper here being shown passing into and through said machine. Fig. 3 is a detail view of a portion of the mechanism seen in Fig. 2, the means for regulating the speed of the machine being illustrated. Fig. 4 is a sectional view taken approximately on the indicated line 4 4 of Fig. 2 and looking in the direction of the arrow A. Fig. 5 is a longitudinal

sectional view on the line 5 5 of Fig. 1.

Fig. 6 is a view in perspective of one form of knife I employ and the end clamps therefor.

Fig. 7 is an enlarged cross-sectional view on the line 7 7 of Fig. 1. Fig. 8 is a cross-sectional view taken approximately on the line 8 8 of Fig. 6. Fig. 9 is a longitudinal sectional view taken on the line 9 9 of Fig. 1 and looking in the direction of the arrow B.

Fig. 10 is an enlarged sectional view on the line 10 10 of Fig. 1. Fig. 11 is a detail view, in perspective, of the longitudinally-moving jaw I make use of in carrying out my invention.

Fig. 12 is a cross-sectional view on the line 12 12 of Fig. 11. Fig. 13 is a detail view showing the positions of the various parts as one of the points of the longitudinally-moving jaw enters between the spring-actuated jaws, one of which is located at each end of the machine.

Fig. 14 is a view in perspective of a bifurcated arm that is rigidly attached to the longitudinally-moving jaw and which is adapted to be tripped in its longitudinal movement and cause the longitudinally-moving jaw to enter one of the pair of spring-actuated jaws that is located on both ends of the machine.

Fig. 15 is a vertical sectional view taken approximately on the indicated line 15 15 of Fig. 5. Fig. 16 is a view in perspective of one of the weight-bars of which I make use in carrying out my invention.

Fig. 17 is a view, partly in section, showing the manner of adjustably attaching the ends of said weight-bars to the slotted horizontal bars.

Fig. 18 is a longitudinal section through one of the cutter-bars and its supporting parts. Fig. 19 is a horizontal sectional view on the indicated line 19 19 of Fig. 18, the parts being enlarged. Fig. 20 is a view in perspective of the bifurcated end of a plate made use of in carrying out my invention.

Fig. 21 is a view in perspective of the parts of a cutter-bar clamp separated.

Referring by numerals to the accompanying drawings, 1 indicates the side frames of my machine, they being identical in size and construction. These side frames are preferably angular in form, of skeleton construction, and provided with the enlarged bases or feet 2. The top edges of the side frames 1 are slightly raised, as indicated by the numeral 3, and

upon these raised portions are positioned by means of bolts 4 or in any suitable manner the journal-bearings 5. Depending from the under side of the top bars of the side frames 1 are integrally-formed journal-bearings 6. Passing through one pair of the oppositely-positioned journal-bearings 5 is a shaft 7, upon which and between the side frames 1 is rigidly mounted a roller 8, the same being covered, as desired, with cloth, paper, rubber, or analogous material.

The side of the machine shown in Fig. 2 may be properly termed the "front" side. The shaft 7 extends some distance beyond the bearing 5 and from the front side of the machine and is provided on its outer end with tight and loose pulleys 9 and 10. Rigidly mounted upon the shaft 7, between its front bearing 5 and the tight pulley 9, is a gear-wheel 11. Passing through the remaining pair of oppositely-positioned bearings 5 is a shaft 12, upon which and between the side frames 1 is rigidly mounted a series of rubber or leather faced wheels 13, the same comprising the circular body portions 14 and elongated hub 15, through which passes a set-screw or bolt 16, whereby said wheels may be locked at any point upon the shaft 12. The peripheral grooves 17, formed in these wheels 13, are adapted to receive rubber, leather, or analogous bands 18, the same being adapted to contact with the face of the roller 8. These wheels 13 are approximately of the same diameter as is the roller 8.

Parallel guide-bars 19 and 20 extend horizontally from one of the upright portions of the side frame to the other and are bolted to said side frames by means of suitable bolts 21. These guide-bars 19 and 20 are a slight distance below the center of the height of the side frames 1. The upper bar 19 on the front of the machine is graduated or scaled in both directions from the center, these portions being provided with indicating-numerals, as clearly shown in Fig. 2, for the purpose hereinafter mentioned.

At a point in the longitudinal center of the top part of the side frames 1 and extending from one of said side frames to the other is a shaft 22, said shaft extending a slight distance beyond both of the side frames 1 and there has rigidly mounted thereon adjacent the side frames 1 the depending arms 23, the lower ends of which are slotted, as indicated by 24. Passing through one of the depending bearings 6 is a short shaft 25, to the outer end of which and in vertical alignment with the gear-wheel 11 is rigidly mounted a gear-wheel 26. Pivoted to the front side frame is a slotted arm 27, the same being horizontally positioned at a point between the gear-wheels 11 and 26. Mounted upon a longitudinally-adjustable bolt 28, the same passing through the slot in the arm 27, is an intermediate gear-wheel 29, the same meshing with the gear-wheels 11 and 26. At any time desired a different-sized gear-wheel may be positioned

upon the shaft 25, thereby easily and efficiently changing the speed of the reciprocating and rocking parts of the machine. A smaller gear-wheel 26 is shown in Fig. 3.

On the outer end of the shaft 22 and outside the gear-wheel 26 is mounted a depending arm 23^a. A connecting bar or link 30 is bolted to this front arm 23^a, and also to the face of the gear-wheel 26 at a point a slight distance from the center of said gear-wheel 26. As the depending arms 23 are rigidly mounted upon the horizontal shaft 22 and the connecting bar or link 30 is attached to the front depending arm 23^a, it will be seen how these depending arms are given a slight oscillating movement.

Mounted for rotation in the remaining depending bearing 6 and extending a slight distance rearwardly is a short shaft 31. Upon the inner end of this shaft 31 is rigidly mounted a gear-wheel 32, the same being provided on its inner face with a lug 33. This gear-wheel 32 meshes with a similar gear-wheel 34, that is rigidly mounted upon the inner end of the shaft 25, said gear-wheel 34 also being provided with a lug 35 in every way identical with the lug 33. A bar 36, having at its central point a depending lug or portion 37 and its ends 38 slotted, is mounted for longitudinal movement on the inside of the front side frame and the inside of the gear-wheels 32 and 34. This is accomplished by passing bolts 39, provided with washers 40, through the slots 38 in the ends of the bar 36 and into the front side frame.

Mounted for longitudinal adjustment upon the bar 36 and near the inner ends of the slots are rectangular blocks 41, the same being provided with set-screws 42. Positioned upon the shaft 22 between the side frames 1 is a tube 43, the purpose of which will be presently shown. Bolted to the inner sides of the top portions of the side frames 1 and inclining and depending therefrom to a point adjacent the meeting point of the bars 19 with the upright portions of the side frames are guideways 44, the same being U-shaped in cross-section. A rod 44^a extends from one of these guideways to the other and is adapted to vertically move therein in a manner presently to be described.

Referring now to Figs. 4 and 11, I will describe the construction of the longitudinally-moving bar and its connections with the slotted ends of the depending and oscillating arms 23. This longitudinally-moving bar or "carrier," as it may be called, is composed of four angular metallic bars 45, said bars 45 being paired, a space left between the two pairs, and the outer and inner edges of the outer and inner bars being beveled, as indicated by the numeral 46. The members of each pair of bars 45 are held a slight distance apart by the interpositioning of a small rectangular plate or washer 47 and a pin or screw 48, passed through the bars 45 and the plate 47. Positioned between the ends of the

paired bars is a block 49, from which extends in a plane corresponding to that of the bars 45 a shaft 50. The pairs of bars 45 are bolted to this block 49 by means of screws or bolts 51. The end of the shaft 50 toward the front side frame passes through a plate 52, that slides along the inner faces of the bars 19 and 20, and from thence into a block 53, said block being provided with flanges 54, which slide along the outer faces of the bars 19 and 20, the plate 52 being securely positioned upon this block 53 by means of screws or pins 55^a. The end of the shaft 50 passes nearly through the block 53 and is allowed to freely turn therein.

Mounted upon the pin 55, the same being rigidly fixed to the outer face of the block 53, is an antifriction-roller 56, which is adapted to operate in the slot in the lower end of the oscillating arm 23 on the front side of the machine. The rear end of the longitudinally-moving bar and the shaft 50 are fitted in the following manner: A bifurcated arm 57 comprises a hub 58, through which the shaft 50 passes, and a rectangular portion 59, extending vertically from the hub 58. Formed integral with the portion 59 and extending upwardly therefrom is a U-shaped portion 60. Extending horizontally from the portion 59 is a pin 61. By means of a pin 62, passing through the hub 58 and the shaft 50, the bifurcated arm 57 is rigidly fixed upon said shaft 50. A plate 63, provided with a vertical extension 64, has formed integral with its lower end an inwardly-projecting block 65, that passes between the bars 19 and 20 and contacts with the inner face of the hub 58. Extending from the upper end of the vertical portion 64 is a pin 66, to the outer end of which is connected one end of a coil-spring 67. The lower end of this coil-spring is secured to the outer end of the pin 61. Mounted for rotation upon the outer end of the shaft 50 is an antifriction-roller 68, which is adapted to operate in the slot in the lower end of the rear arm 23.

Mounted for longitudinal adjustment between the bars 19 and 20 on the rear side of the machine and at both ends thereof are blocks 69, from which extend toward the center arms 70, upon the inner ends of which are mounted antifriction-rollers 71, the same being directly in the path of travel of the bifurcated arm 57. Mounted between the bars 19 and 20 on the front side of the machine and near the ends thereof are blocks 72. These blocks 72 are provided with a common set-screw 69^a or other common means, whereby they are capable of being longitudinally moved along said parallel guide-bars 19 and 20.

Mounted between the blocks 69 and 72 are spring-actuated jaws and knives or perforators of which I make use in carrying out my invention, and which will now be described. The knife comprises the rectangular bar 73, from which projects in a horizontal plane the knife-edge 74. This knife-edge may be formed

in the ordinary manner, or serrated, as it is shown in Fig. 6. The bar 73 is detachably held by means of screws 75, passing through the forward ends of the end clamps 76 and 77. The top-plates of these clamps 76 have formed integral therewith the raised portions 78, between which is formed a rectangular notch 79. The lower plates 77, that are used in constructing the end clamps, are rectangular metallic bars and are rigidly held at their rear ends to the top plates 76 by means of bolts 80, passing therethrough. Blocks 81 are interposed between the rear ends of the upper and lower plates 76 and 77 in order to establish and maintain the correct space between said plates. A plate 82 has its ends bifurcated, as indicated by 82^a, said ends being positioned in and held by the blocks 69 72, that are clamped between the parallel guide-bars 19 and 20. This plate 82 passes between the end clamps 76 and 77 and forms a bearing for the laterally-moving end clamps. Positioned on both sides of this plate 82 and held thereto by means of pins 83 are the top and bottom clamping-jaws 84 and 85, the same extending beyond the rectangular bar 73 and there provided with widened portions 86, that contact with both sides of the knife-edge 74. At equal distances along the length of the plate 82 and extending upward through the upper jaw 84 are pins 87, the lower ends of which are screw-threaded and firmly seated in the plate 82. These pins extend upward a slight distance and have positioned thereon, adjacent the upper clamping-jaw, a washer 88, which forms a seat for a coil-spring 89, the same being held upon a pin 87 by means of a thumb-nut 90, which is adapted to be located upon the screw-threaded upper end 91 of the pin 87. The function of said pins 87 is to support the spring 89 and permit adjustment of said spring by moving the thumb-nut 90.

At regular intervals in the length of the upper and lower jaws 84 and 85 are stamped or pressed the inwardly-extending lips 92, thus forming the inclined planes 93 for the rear edges of the rectangular bar 73 to engage against when the same is thrown rearwardly. These jaws 84 and 85 are so fitted upon the pins 83 as that the front ends of said jaws will part or open a slight distance and the rear ends thereof will not bind upon said pins 83.

Pivoted on rods 93^a, that extend from the blocks 69 to the blocks 72, are bell-cranks 94, the vertical arms 95 of which are adapted to enter the rectangular notches 79 in the top plates of the end clamps. The horizontal arms 96 of these bell-cranks are made much longer than the vertical arms and are slotted, as indicated by 97, for a purpose that will be presently shown. Pivoted on the rods 93^a, adjacent the inside portions of the blocks 72, are vertical arms 98, the upper ends of which contact with the blocks 41 previously mentioned. The lower ends 99 of these arms 98 are adapted to engage in the rectangular

notches 79, formed in the upper sides of the upper plates of the end clamps. Horizontal arms 100, counterparts of the horizontal arms 96, are formed integral with the vertical arms 98 and are of the same length as are the horizontal arms 96. These arms 100 are provided with horizontal slots 101. Weight-bars 102 extend from the slotted bars 96 to the slotted bars 100 and are adjustably held thereto by means of thumb-screws 103, passing through the slots in the horizontal arms into the ends of the weight-bars 102.

The paper shown passing through the machine is indicated by the numeral 104. The paper is introduced between the roller 8 and the rubber-faced rollers 13, passes downwardly around the rod 44^a, moving in the guideways 44 up and over the tube 43, which latter acts as an antifriction-roller, thence down and between the paired bars of the carrier, and from thence to a point between the forward ends 86 of the spring clamping-jaws. The paper thus being introduced into the machine and the various parts in the positions as shown in Figs. 2, 5, and 9, the operation is as follows:

We will assume that it is desired to cut the paper into equal lengths and at each end of the stroke or oscillation of the arms 23. The block 69 and the block 72 having been longitudinally moved along the parallel guide-bars 19 and 20 until the desired length of paper to be cut is indicated, the belt A (shown in Figs. 1 and 2) is thrown onto the tight pulley. The belt moving in the direction of the arrow C necessarily imparts motion to the shaft 7, thereby driving the roller 8 and gear-wheel 11 in the same direction. The shaft 12 and rubber-faced wheels 13 will by reason of the peripheries of the wheels coming in contact with the paper be moved in the direction of the arrow D. The paper fed downward by the feeding devices above referred to will be drawn off by the carrier in the manner below described and slip through the bars 45 as the carrier is moving toward the clamping-jaws. The intermediate or speed gear 29, meshing with the gear-wheel 11, will necessarily be given motion, which it will necessarily impart to the gear-wheel 26, the same moving in the direction of the arrow E. The gear-wheel 34 on the inner end of the shaft 25 will necessarily be given movement and, the same meshing with the gear-wheel 32, will cause said gear-wheel to rotate, the direction of movement of these gear-wheels being as indicated by the arrows F. As the gear-wheel 26 rotates, the bar or link 30, secured to the face of same and to the vertical arm 23^a, will be given motion, which will necessarily oscillate the arm 23 in the direction indicated by dotted lines in Fig. 2. The carrier composed of the angular bars 45 and end shafts 50, which are carried by the depending arms 23, will be, when the arms 23 have reached their limit of movement, thrown to a horizontal position, or as that shown in Fig. 13, this being occasioned by reason of one of the portions

60 of the bifurcated arm 57 contacting with the antifriction-roller 71 on the end of the arm 70. This action easily takes place as the forward shaft 50 rotates in the block 53 and the rear shaft 50 rotates in the block 65. The points of the upper pair of angular bars 45 will enter a short distance between the front ends 86 of the clamping-jaws 84 and 85, they being opened to receive the forward ends of the angular bars 45 in the following manner: Simultaneous with the movement of the arms 23 the gear-wheels 32 and 34 are rotating and the lug 33 on the gear-wheel 32 is commencing to bear and engage against the end of the depending portion or lug 37 of the bar 36. This will necessarily move said bar longitudinally in the direction of the arrow G. This will necessarily cause the block 41 on the left-hand end of the longitudinally-moving bar 36 in Fig. 9 to contact with the upper end of the vertical bar 98. This movement being continued, said vertical bar 98 will be thrown to the position as indicated by dotted lines in Fig. 9. The lower end 99 of the bar 38, engaging in the rectangular notch 79 on the top plate 76, will cause the rectangular bar 73 of the knife to contact with and move a slight distance along the inclined surfaces 93 of the lips 92. This will necessarily throw the upper and lower clamping-jaws 84 and 85 apart, as clearly shown in Fig. 13, and allow the forward points of the upper pair of angular bars 45 of the carrier to enter therein. These various movements having taken place, the arms 23 by reason of their connections begin movement in a reverse direction to that just described. As the upper pair of bars 45 of the carrier leave the forward ends of the clamping-jaw they will leave the paper clamped therein, and as the reverse movement is continued and the bifurcated arm 57 leaves the roller 71 said bifurcated arm will reassume a vertical position by reason of the tension of the coil-spring 67. Simultaneous with this reverse movement of the arms 23, the lug 33 on the gear-wheel 32 having passed the depending portion 37 of the longitudinally-moving bar 36, the weight-bar 102, carried between the slotted horizontal portions 96 and 100, will cause the vertical arm 98 on the left-hand side of the machine (shown in Fig. 9) to reassume its normal position. Thus with the receding movement of the upper pair of angular bars 45 of the carrier the clamping-jaws are closed, the knife thrown forward, and the paper cut at the instant before the carrier begins to move backward. The arms 23 are now carried to the other side of the machine and an operation in every way similar to the one just described gone through with. In case any fold of the paper should be of less thickness than the knife-blade a thinner-edged blade should be substituted. Whenever the paper is cut, the cut edges thereof are held between the clamping-jaws until they are again opened and about to receive one pair of the rectangular bars 45 of the carrier.

When a knife is used on both sides of the machine, the paper will be cut with each stroke or movement of the arms 23. Should the knife-edge 74 be removed from the bar 73 on one side of the machine, then the paper will only be folded on that side of the machine and cut on the other. Should the knife-edges be dispensed with on both sides of the machine, then the paper will be folded with each movement of the arms 23 and the clamping-jaws 84 and 85. If desired, a bar similar to the bar 73, but provided with a series of pins, may be introduced between the clamping-jaws and by this means the paper perforated and folded instead of cut. The rod 44^a acts only as a tension for the paper. In Fig. 2 I have shown the roll of paper upon standards. This is not essential, however, as the paper may be fed into the machine in any suitable manner.

When it is desired to cut sheets of different length, the operator may refer to the scale on the frame of the machine and adjust the blocks 69 on one side of the machine near to or farther from each other, and also adjust the blocks 72 on the opposite side of the machine near to or farther from each other, which may be readily accomplished by manipulating the common screws or bolts 69^a. (See Fig. 1.) The length of movement of the carrier should also be changed by limiting the swing of the slotted arms 23, which may readily be done by replacing the gear-wheel 26 by another one of the same construction, but having its crank-bolt for the connecting-link 30 nearer to or farther from the center of said wheel, whereby the said slotted arms will be given a greater or a lesser movement. Thus it will be seen how I have constructed a machine for cutting, folding, or perforating paper that possesses superior advantages in point of simplicity, durability, and general efficiency.

What I claim is—

1. In a paper cutter, the combination of a suitable frame, two cutters mounted one adjacent one end of the machine and the other adjacent the opposite end of the machine, means for operating said cutters, means for automatically drawing the paper from a roll, a carrier mounted to rock and reciprocate and alternately carry the paper to the cutters, and means for rocking the said carrier that it may present the paper to both cutters, substantially as herein specified.

2. In a combined paper cutter and folder, a pair of side frames, parallel guide-bars bolted to said side frames, a pair of oscillating arms depending from the upper portions of the side frames, a longitudinally moving carrier having its ends operating within slots in the lower ends of the oscillating arms, spring-actuated clamping-jaws in which are located longitudinally moving knives, said clamping-jaws being located at both ends of the side frames, and operating mechanism for said

clamping-jaws and horizontally moving carrier.

3. A combined paper cutter and folder, comprising a pair of skeleton side frames, parallel guide-bars bolted to said side frames, spring-actuated clamping-jaws in which are located horizontally moving knives extending from movable blocks in one pair of the parallel guide-bars to movable blocks in the opposite parallel guide-bars, weighted bell-cranks for moving the knives and permitting said spring actuated jaws to close, and vertical arms, the upper ends of which are adapted to be engaged by blocks on a longitudinally moving bar for opening the spring-actuated clamping-jaws.

4. In a combined paper cutter and folder, a pair of side frames, parallel guide-bars bolted to the inside of said side frames, blocks mounted for longitudinal adjustment between said parallel guide-bars, knives carried by said horizontally adjustable blocks, clamping-jaws in which said knives are located, said clamping-jaws adapted to be alternately opened and closed, means for feeding paper to the clamping-jaws, and means for actuating said jaws.

5. In a combined paper cutter and folder, a pair of side frames, parallel guide-bars bolted to the inside faces of the side frames, arms adapted for oscillation pivoted to the top portions of the side frames, means for oscillating said arms, a carrier comprising pairs of angular bars, the forward edges of which are beveled and the end shafts of which pass through blocks sliding between the parallel guide-bars and provided with anti-friction rollers operating in slots formed in the lower ends of the oscillating arms, and cutting and folding devices to which the paper is fed by said carrier.

6. In a combined paper cutter and folder, a carrier comprising a plurality of angular metallic bars paired and bolted together at their ends, the forward edges of said bars being beveled, plates or washers interposed between the pairs of bars to correctly position the same, shafts extending from the blocks to which the ends of the bars are bolted, horizontally moving blocks, said shafts passing into said horizontally moving blocks, and having mounted on their outer ends anti-friction rollers, slotted arms which engage said anti-friction rollers for moving said carrier, and cutter and folding devices to which the paper is delivered by said carrier.

7. In a combined paper cutter and folder, horizontally-placed cutters and folders, a movable carrier, a bifurcated arm rigidly mounted upon one of the end shafts of said carrier, said bifurcated arm adapted to contact with suitable stops and throw the carrier into a horizontal position, so that it may deliver the paper to said horizontal cutters and folders.

8. In a combined paper cutter and folder, a carrier, comprising pairs of angular metallic

bars, rectangular blocks to which the ends of the pairs of bars are bolted, shafts extending from said blocks, an anti-friction roller attached to one of said blocks, a bifurcated arm 5 rigidly mounted upon one of said shafts, a plate positioned upon one of the shafts of said carrier adjacent said bifurcated arm, a pin extending from the upper end of said plate, a coil-spring connecting the end of said pin 10 with a pin extending from the bifurcated arm, an anti-friction roller located upon the end of the other carrier shaft, oscillatory slotted arms for engaging said anti-friction rollers, and means for oscillating the arms just mentioned.

15 9. In a combined paper cutter and folder, a clamping and cutting device, comprising a pair of end-clamps, the top plates of which are provided with rectangular notches, a rectangular bar provided with a knife blade detachably mounted in the forward ends of said 20 end-clamps, a plate positioned between said end-clamps, a pair of spring-actuated clamping-jaws pivoted to said plate, the forward ends of which contact with the sides of the 25 knife-edge, a pin extending upward through the upper plate and provided with a washer, coil-spring and thumb-nut, and lips forming inclined planes bent from the lower and upper clamping-jaws, and means for actuating 30 said knife.

10. In a combined paper cutter and folder, a knife edge, a bar carrying the latter, a pair of clamping-jaws pivoted together and sheathing and surrounding said knife-edge, a series 35 of inclined lips for said clamping-jaws, said clamping-jaws adapted to be opened by a rearward movement of the bar carrying the knife-edge, and means for moving the knife-carrying bar into and out of contact with said inclined lips. 40

11. In a combined paper cutter and folder, a longitudinally moving carrier, parallel guide-bars, a tripping device for the longitudinally moving carrier comprising an arm projecting 45 from said carrier, anti-friction rollers 71 located in the path of said arm, blocks adapted to slide between the parallel guide-bars, anti-friction rollers connected with said blocks, oscillatory arms 23 having slots, the walls of 50 which engage said rollers, and cutters and folders to which the paper is fed by said carrier, substantially as set forth.

12. In a combined paper cutter and folder, the side-frames of the machine, a knife-bar, 55 clamping-jaws, an operating device for the clamping-jaws comprising a pair of meshing gear-wheels provided with oppositely positioned lugs on said gear-wheels, a bar provided with slots in its ends and mounted for 60 longitudinal movement on the inside of one of the side frames of the machine, said bar

being provided in its longitudinal center with a depending portion or lug against the ends of which the lugs on the meshing gear-wheels are adapted to contact, blocks adapted to be 65 horizontally positioned along the longitudinally moving bar, cross-rods, vertically positioned arms pivoted near their lower ends to said cross-rods, end-clamps, the lower ends of said vertical arms engaging in the rectangular 70 notches on the upper plates of the end-clamps, weighted bars and slotted horizontal arms adapted to receive the ends of said weighted bars.

13. A combined paper cutter and folder, 75 comprising a pair of angular skeleton side frames, parallel guide-bars bolted to the inside faces of said side frames, parallel shafts journaled on top of said side frames, a roller, a series of rubber-faced wheels, one of said 80 shafts carrying said roller and the other shaft carrying said series of rubber faced wheels, a gear-wheel mounted upon the outer end of the first mentioned shaft, a slotted arm secured to one of the side-frames, an intermediate or 85 speed gear mounted upon said slotted arm and meshing with the before mentioned gear-wheel, a vertically positioned oscillatory-arm, a carrier connected to this arm, a gear-wheel meshing with said intermediate or speed gear, 90 a bearing depending from one of the side frames, a shaft passing through said bearing, a connecting bar or link pivoted to the face of the last mentioned gear-wheel and to the face of the vertically positioned oscillating 95 arm.

14. In a combined paper cutter and folder, a pair of angular skeleton side frames, pairs of parallel guide-bars bolted to the inside 100 faces of said side frames, oppositely positioned blocks mounted for longitudinal adjustment between said parallel guide-bars, knives carried by said blocks, spring-actuated jaws inclosing said knives, movable bell-cranks for moving the knives into position to 105 permit closing said spring-actuated jaws, a horizontally moving bar, blocks on the latter for opening said spring-actuated jaws, oscillating-arms, a longitudinally moving carrier operated by said oscillating arms, a bifurcated 110 arm and an anti-friction roller, said carrier being adapted to be tripped by contact of said bifurcated arm with said anti-friction roller immediately before it enters the clamping-jaws. 115

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

JOSEPH VICTOR.

Witnesses:

E. E. LONGAN,

A. A. BLANKENMEISTER.