

No. 720,896.

PATENTED FEB. 17, 1903.

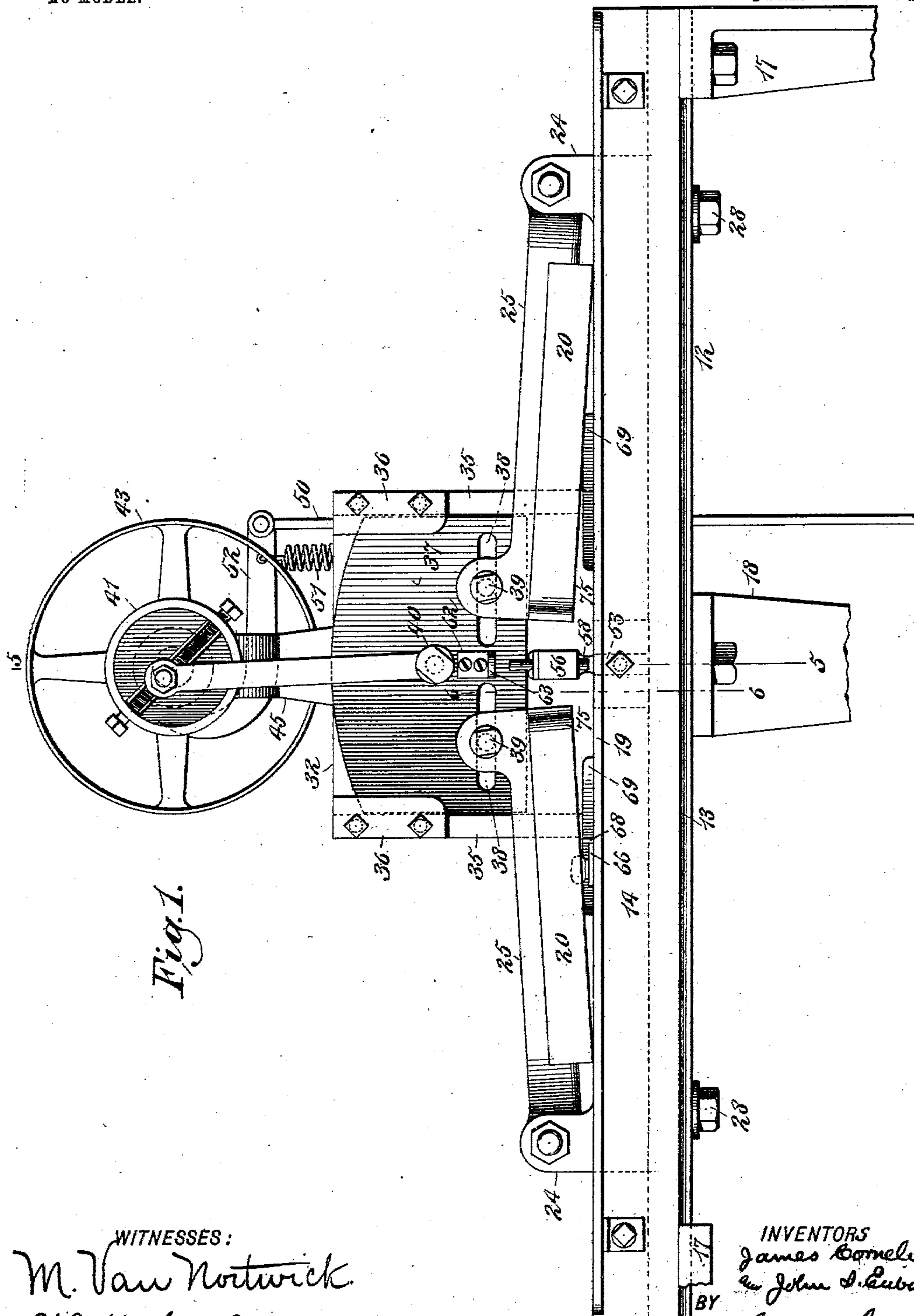
J. CORNELIUS & J. S. EUBANK.

CARD CUTTING MACHINE.

APPLICATION FILED JUNE 7, 1902.

NO MODEL.

4 SHEETS—SHEET 1.



WITNESSES:

M. Van Nortwick.
W H Stubbz

INVENTORS
James Cornelius
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George Cook,
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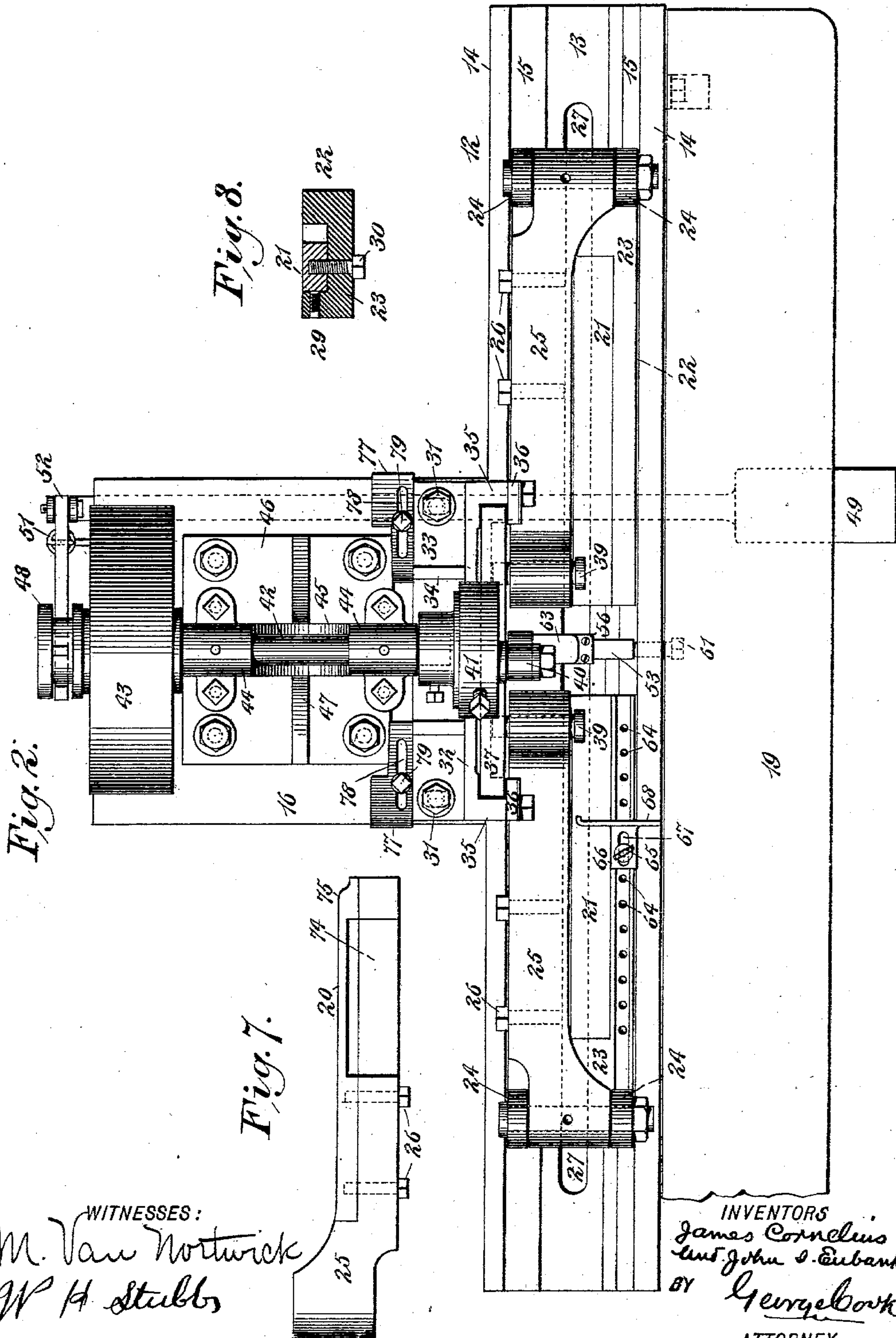
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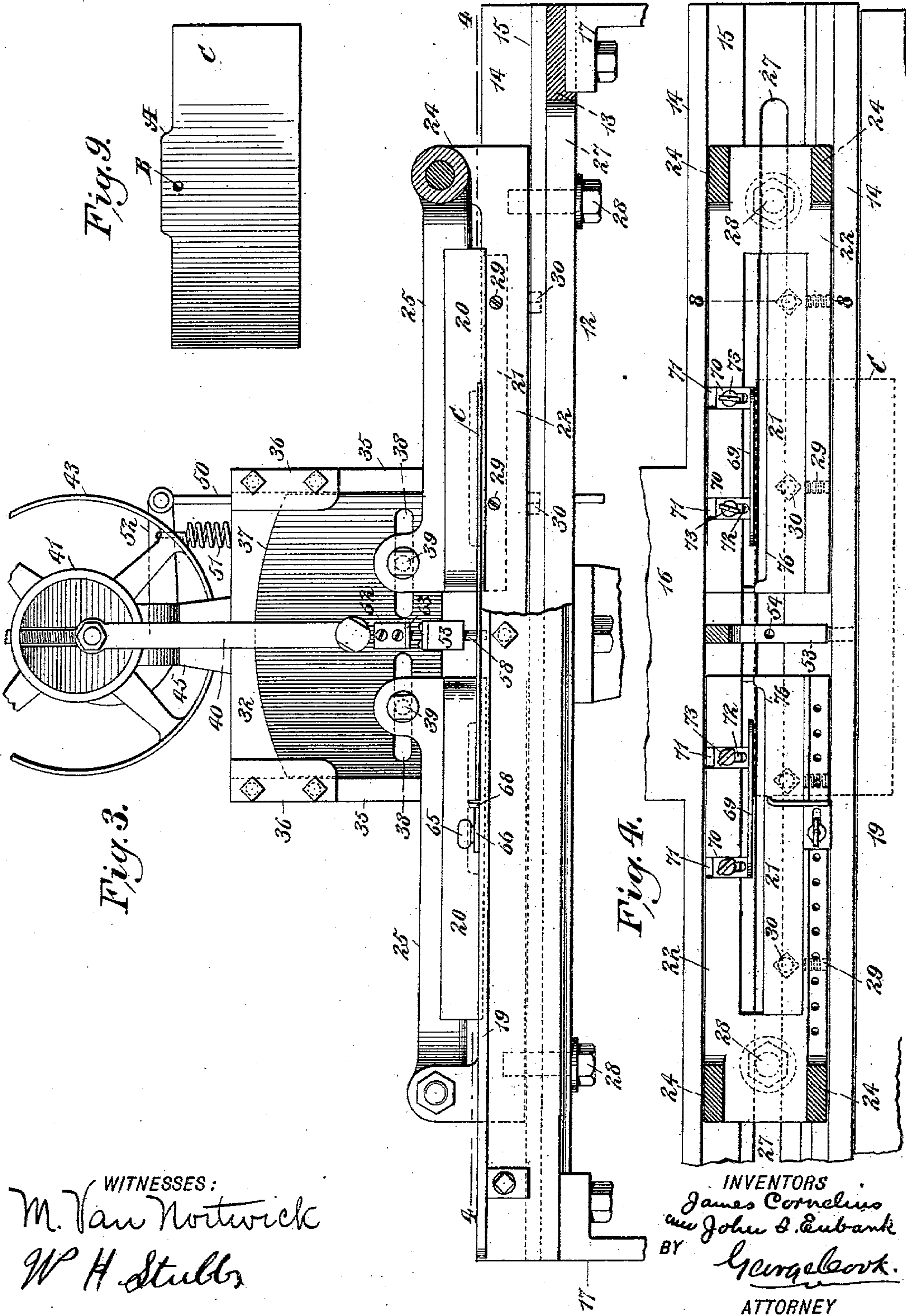
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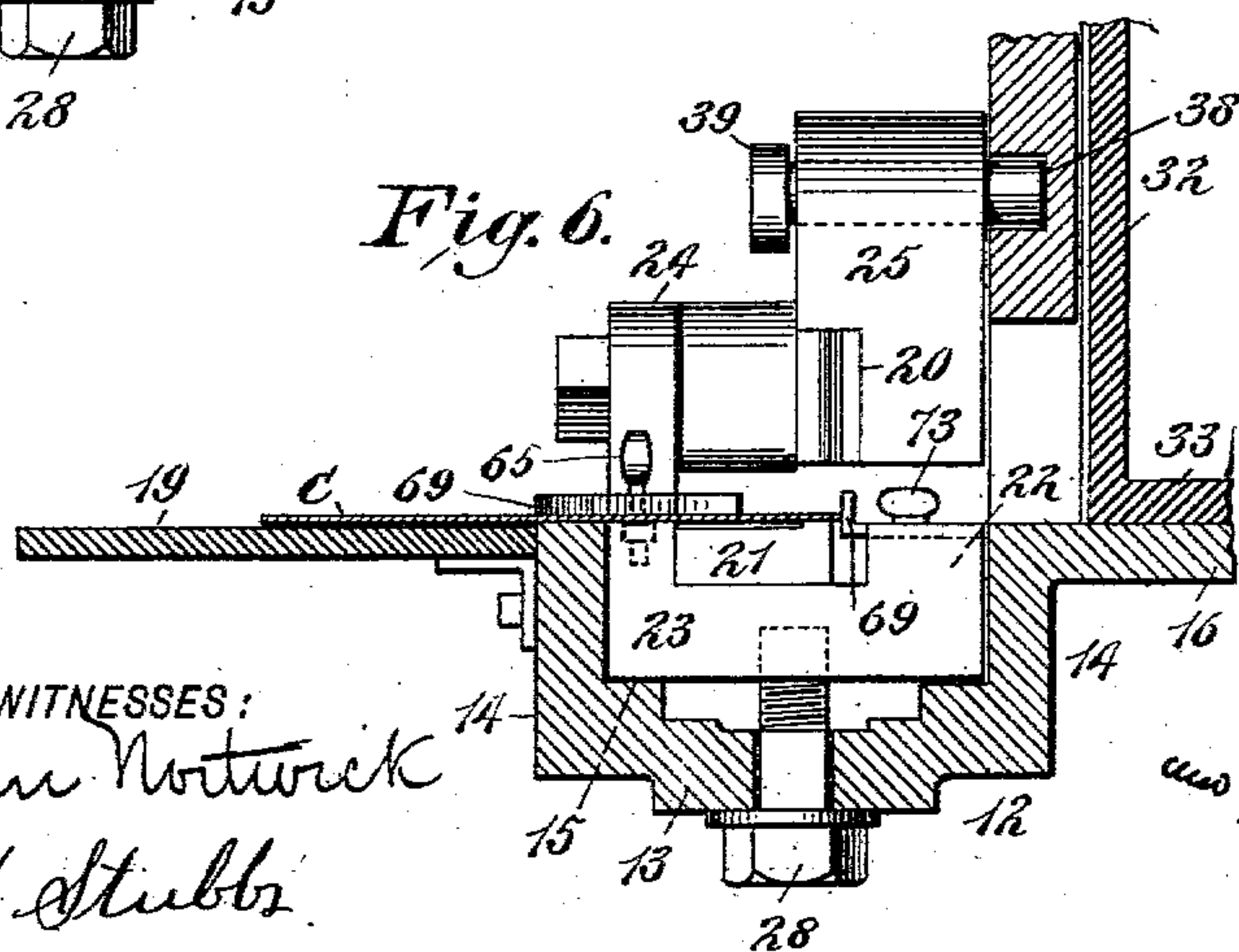
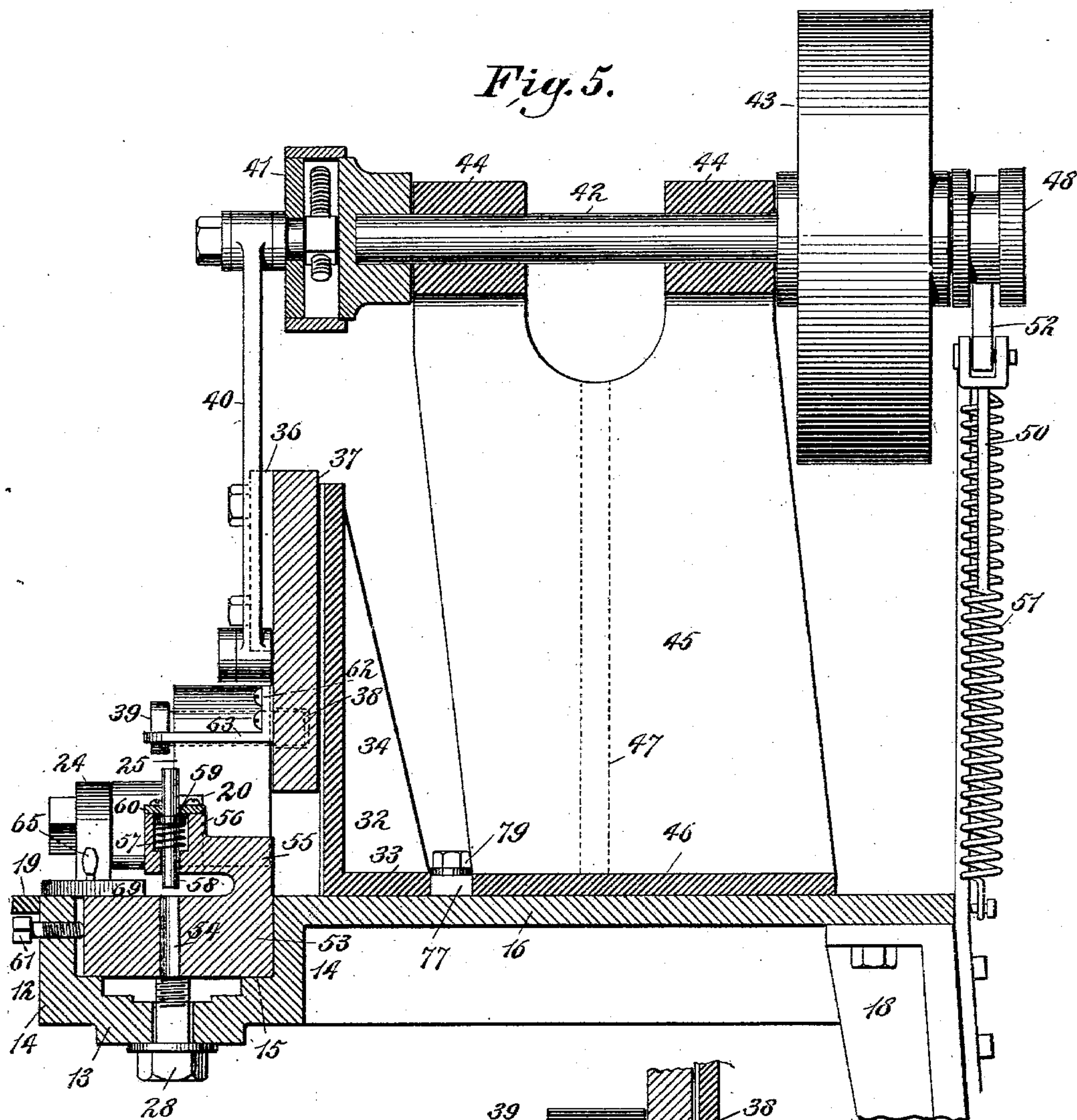
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UNITED STATES PATENT OFFICE.

JAMES CORNELIUS, OF RIDGEWOOD, NEW JERSEY, AND JOHN S. EUBANK,
OF BROOKLYN, NEW YORK.

CARD-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 720,896, dated February 17, 1903.

Application filed June 7, 1902. Serial No. 110,580. (No model.)

To all whom it may concern:

Be it known that we, JAMES CORNELIUS, a resident of Ridgewood, in the county of Bergen and State of New Jersey, and JOHN S. EUBANK, a resident of New York, borough of Brooklyn, county of Kings, and State of New York, citizens of the United States, have made and invented certain new and useful Improvements in Machines for Cutting Cards, of which the following is a specification.

Our invention relates to an improvement in machines for cutting cards, and more particularly those cards designed to be mounted upon wires or rods and generally known and referred to as "index-cards," the object of the same being to provide a machine which shall be simple in construction and operation, cheap to manufacture, and wherein the knives or cutters may be easily and readily removed and others inserted when it is desired to cut cards having different outlines or shapes.

With these and other ends in view our invention consists in certain novel features of construction and combinations of parts, as will be hereinafter fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in front elevation of our improved machine, the legs or standards for supporting the same being broken away, the movable knives or cutters being shown in their raised positions. Fig. 2 is a top plan view of the same. Fig. 3 is a view in front elevation, showing the movable knives in their lowered positions, the bed-plate being partially cut away to show one of the lower or stationary knives. Fig. 4 is view taken on the line 4 4 of Fig. 3. Fig. 5 is a sectional view taken on the line 5 5 of Fig. 1, and Fig. 6 is a sectional view taken on the line 6 6 of Fig. 1. Fig. 7 is an inverted plan view of one of the movable cutters, and Fig. 8 a detail sectional view showing the manner of securing the lower or stationary cutter to its sliding support. Fig. 9 shows one form of card after being cut.

Referring to the drawings, 12 represents the bed-plate of the machine, consisting, preferably, of the base 13 and the vertical sides

14, between which latter fit the adjustable knives or cutters, hereinafter referred to, the sliding support for said cutters resting upon the shoulders 15, formed on said bed-plate, as illustrated in Figs. 1 and 4 of the drawings. This bed-plate at about the center of its length is extended rearwardly, as shown at 16, and is preferably supported by the legs or standards 17, secured to the outer ends, as shown in Fig. 1, and the leg or standard 18, secured to the rear end of the plate 16, as illustrated in Figs. 1 and 5, said legs or standards being of any desired pattern and of any suitable height, a shelf or platform 19 being bolted or otherwise secured to the front of the bed-plate for convenience of the operator and upon which to lay or pile the cards or blanks before and after being cut.

Upon the bed-plate 12 of the machine are supported the two pairs of knives or cutters consisting of the upper or movable knives and the lower or stationary knives or cutters 21, each pair being secured to a horizontal adjustable support 22, consisting of the plate 23, having formed on its outer ends the upwardly-extending arms or lugs 24, between which is pivoted the outer end of the arm 25, carrying the cutter 20, the latter being secured to its arm 25 by means of the screws 26, Figs. 2 and 7. These cutters 20, located on opposite sides of the center of the machine and adapted in connection with the lower or stationary cutters 21 to shape the upper or top edge of the card under operation, have their cutting edges so formed as to give to said upper edge of the card its proper outline—as, for instance, those illustrated in the drawings are intended to shape the upper edge of the card, as illustrated in Fig. 9. It will be understood, however, that our invention is in no wise limited to the cutters for forming the cards having the outline shown, as the same may be formed of any desired shape whereby to cut the cards having suitable outline or contour—as, for instance, the enlargement A on the card C may be longer or shorter or of greater or less height.

In the bottom of the bed-plate 13 is formed the elongated slot or opening 27, through which pass the screws 28, the latter entering

the plates 23 and holding the same, with the cutting-knives, in their proper adjustment toward or away from the center of the machine.

As illustrated in the several figures of the drawings, the central portion of the plate 23 is recessed to accommodate the lower or stationary knives 21, which are held in place by means of the screws 29, Fig. 8, passing horizontally through the plate 23 into the same and also by the screws 30 passing up through the plate 23 into the under side of the knives 21. By means of this construction and arrangement of parts it will be understood that the knife-supporting plates 22 may each be horizontally adjusted on the bed-plate toward or away from the center of the machine and secured in their proper positions by means of the bolts or screws 28.

To the rearwardly-extending plate 16 of the bed-plate is adjustably secured, by means of the bolts 31 or otherwise, the vertical guide-plate 32, provided with a base 33 and with the strengthening web or flange 34, the vertical edges of said plate being provided with the flanges 35, having secured thereto the plates 36. Between the flanges 35 is contained the vertical sliding plate 37, held in proper position by said plates 36, and in which plate 37 are formed elongated slots 38 to receive the inner free ends of the screws 39, passing through and threaded into the inner or adjacent ends of the arms 25, carrying the cutters or knives 20. From the foregoing it will be understood that when the plate 37 is raised and lowered the inner or adjacent ends of the arms 25 will be correspondingly raised or lowered, thereby effecting, in conjunction with the lower or stationary knives 21, a shearing cut, the elongated slots or openings 38 in the sliding plate 37 allowing of the adjustment of said arms 25 carrying the knives 20 toward or away from each other.

For the purpose of vertically moving the sliding plate 37 we pivot thereto the lower end of the connecting-rod 40, the upper end of the latter being adjustably and eccentrically secured to the wheel 41, the latter in turn being secured to the outer end of the shaft 42, carrying the belt-pulley 43, through which a revolving motion is imparted to said shaft. This shaft is preferably mounted in bearings 44, formed on or secured to the upper end of the bracket or standard 45, the latter being provided with a base-plate 46, secured to the plate 16 of the bed-plate, and with the strengthening-web 47. To the opposite end of the shaft 42 is secured the clutch 48, of any approved construction and operated by means of the treadle 49, Fig. 2, and the pitman or rod 50 connected thereto, the clutch being returned to its inoperative position by means of the spring 51, connected at its lower end to the frame of the machine and at its upper end to the clutch-lever 52 in the usual manner. To provide for the forward adjustment of the cutters 20 or the adjustment of the cut-

ting edges 75 thereof with respect to the cutting edges 76 of the lower or stationary knives, we secure to the rearwardly-extending plate 16 of the bed-plate and between the edges of the plates 33 and 46 the wedge-shaped adjusting-plates 77, provided with elongated slots 78, through which pass screws 79 into said plate 16. By forcing inwardly these plates 77 the guide-plates 32 33 are carried forward toward the front of the machine, and as the cutter-arms 25 bear against the front faces of the flanges 35 these arms, with their cutters 20, are also carried forward, bringing the cutting edges 75 closer to the cutting edges 76 of the lower or stationary cutters 21. By forcing said plates 77 outwardly the guide-plates 32 may be adjusted rearwardly and to such an extent that the cutting edges of the several knives may be properly adjusted with respect to each other, the screws 79 holding or locking said plates 77 in their proper positions.

For the purpose of forming a hole or holes in the card for mounting the same upon a rod or wire we secure to the bed-plate 12 and between the vertical sides 14 thereof a punching device consisting of a base or block 53 of such size as to rest upon the shoulders 15 and provided with a vertical opening 54 for the egress of the punched-out portions of the card. This block or base 53 is provided with the curved arm or bracket 55, having formed on its end the box or receptacle 56, through which passes the punch proper, 58, having formed thereon the circular flange or shoulder 59, and around which punch is coiled a spring 57, contained within said box or receptacle 56, the lower end of said spring resting upon the bottom of said box or receptacle and the upper end against the shoulder or flange 59, the several parts being held in their proper positions by means of the lid or cover 60, screwed or otherwise secured to the upper edge of the box. The location of this punching device on the bed-plate is determined by the position or location of the hole to be punched in the enlargement A of the card C, as in some instances the hole is formed in one corner or the other of the enlargement A, or, as illustrated in the drawings, in the center of the enlargement. Again, the shape of the opening 54 in the base 53 and the shape of the punch proper, 58, will be determined by the shape of the hole desired to be punched in the enlargement A, that illustrated in the drawings being round or circular. It will be understood, however, that this hole or opening may be formed of any desired shape and size, and in some instances may be omitted altogether. In the latter case the punching device may be readily removed by loosening the screw 61, which passes through one of the vertical sides 14 of the bed-plate and impinges against the front side of the base or block 53, tightly holding the latter against the opposite vertical side

14 of the bed-plate. For operating the punch we secure to the sliding plate 37 a plate 62, having formed integral therewith the horizontal arm 63, this plate 62 63 being so located that when the sliding plate 37 is lowered, as heretofore described, for operating the cutting-knives the horizontal arm 63 will strike the upper end of the punch proper, 58, forcing the same downwardly, and, coacting with the upper edge of the opening 54 in the base 53, will cut or punch the opening B in the enlargement A. When the plate 37 is raised, the punch proper will be released and returned to its normal position by means of the spring 57.

To assist the operator in properly placing within the machine the card or blank to be cut, we form in one of the plates 22 and near the forward edge of the latter a series of holes or openings 64 to receive the thumb-screw 65, adapted to hold in position a guide-plate consisting of the horizontal plate 66, provided with the elongated slot 67, through which said thumb-screw passes, and the vertical plate 68, against which latter one edge of the card is placed while being cut, said guide-plate being thus adapted to be laterally adjusted to properly locate the card in such direction. To each of the plates 22 are also adjustably secured the vertical stops or guides 69, each formed with the horizontal arms 70, adapted to fit into recesses 71, formed in said plates 22, said plates 70 being provided with elongated slots 72, through which pass the thumb-screws 73 into the said plates 22, whereby said stops or guide-plates 69 may be adjusted toward or away from the front of the machine, the arms 25 and cutters 20 being recessed or hollowed out, as shown at 74 in Fig. 7, to prevent interfering with said stops or guides. By adjusting these guide-plates rearwardly it will be understood that the card or blank is allowed to be further inserted within the machine, thereby increasing the height of the enlargement A on the cut card, and by adjusting said stops or guides 69 toward the front of the machine, or, in other words, toward the cutting edges of the knives, the height of the enlargement A on the card will be decreased.

After the several parts of the machine have been properly adjusted, as hereinbefore described, motion is transmitted through the pulley 43 to the shaft 42 by depressing the treadle 49, and thereby drawing into operation the clutch 48. As the shaft 42 rotates the sliding plate 37 is raised, carrying with it the inner ends of the arms 25 with their attached cutters or knives 20. The operator then inserts a card or blank having straight sides or edges, one edge being placed against the guide 68 and another—that is, the edge to be cut—against the stops or guides 69. As the shaft 42 is rotated the plate 37 is carried downwardly and with it the cutters 20, the edges 75 of which, acting or coöperating

with the edges 76 of the lower or stationary knives, shear or cut the edge of the card, the finished outline thereof depending, of course, upon the shape or outline of the cutters, as before described. Simultaneously with the lowering of the knives or cutters 20 the punch proper, 58, is forced downwardly through the card, forming a hole or opening B therein. The card is then removed, and as the knives or cutters are again raised another card is inserted and the operation repeated.

From the foregoing description it will be seen that our invention is exceedingly simple, the proper shape or outline being given to the card at one operation and, if necessary, a hole or holes punched therein simultaneously with the cutting operation. The parts are easily and readily adjusted to their proper positions, and when desired to substitute different knives or cutters it is necessary only to withdraw the screws 39 and 28, whereupon both the upper and lower cutters may be removed with their attached parts and others placed in position.

Having fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a card-cutting machine, the combination with a bed-plate, of two independent plates secured to said bed-plate and adjustable thereon toward or away from each other, stationary knives secured to said independent plates, movable knives or cutters pivoted at their outer ends to said independent plates, and means connected with the inner or adjustable ends of said movable knives whereby the same are raised and lowered, substantially as described.

2. In a card-cutting machine, the combination with a bed-plate, of independent knife plates or carriers connected with and movable on said bed-plate, and adjustable toward and away from each other, stationary knives secured to said independent plates, arms pivoted at their outer ends to said adjustable plates and carrying the upper or movable knives, a slotted sliding plate to which the inner ends of said arms are adjustably secured, and means secured to said sliding plate whereby a vertically-reciprocating motion is imparted thereto and to the inner ends of said knife-carrying arms, substantially as described.

3. In a machine of the character described, the combination with a bed-plate, of knife plates or supports independent of each other, and each adjustable toward or away from the center of the machine and moving on said bed-plate, stationary knives secured to said independent knife-plates, arms pivoted at their outer ends to said plates and carrying movable knives or cutters, a guide-plate secured to said bed, a vertically-reciprocating sliding plate mounted on said latter and engaging with the inner ends of said arms, and means for moving said sliding plate and there-

by operating said arms and cutters, substantially as described.

4. In a machine of the character described, the combination with a bed-plate, of plates 22
5 adjustably secured to said bed-plate, stationary knives secured to said plates 22, arms 25 pivoted at their outer ends to said plates 22 and provided with cutters 20, an adjustable guide-plate 32 secured to the bed-plate, the
10 sliding plate 37 engaging with the inner ends of said arms 25, and means for raising and lowering said sliding plate whereby the inner ends of said arms 25 and attached cutters are operated, substantially as described.

15 5. In a machine of the character described, the combination with a bed-plate, of stationary and movable cutters indirectly mounted on

said bed-plate, a guide-plate secured to said bed-plate, a sliding plate vertically reciprocating on said guide-plate and connected with 20 said movable cutters, and wedge-shaped plates adjustably secured to said bed-plate and bearing against said guide-plate, whereby the latter and movable arms are adjusted forwardly and rearwardly, substantially as 25 described.

Signed at New York, borough of Manhattan, county of New York, and State of New York, this 4th day of June, 1902.

JAMES CORNELIUS.

JOHN S. EUBANK.

Witnesses:

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