

No. 865,525.

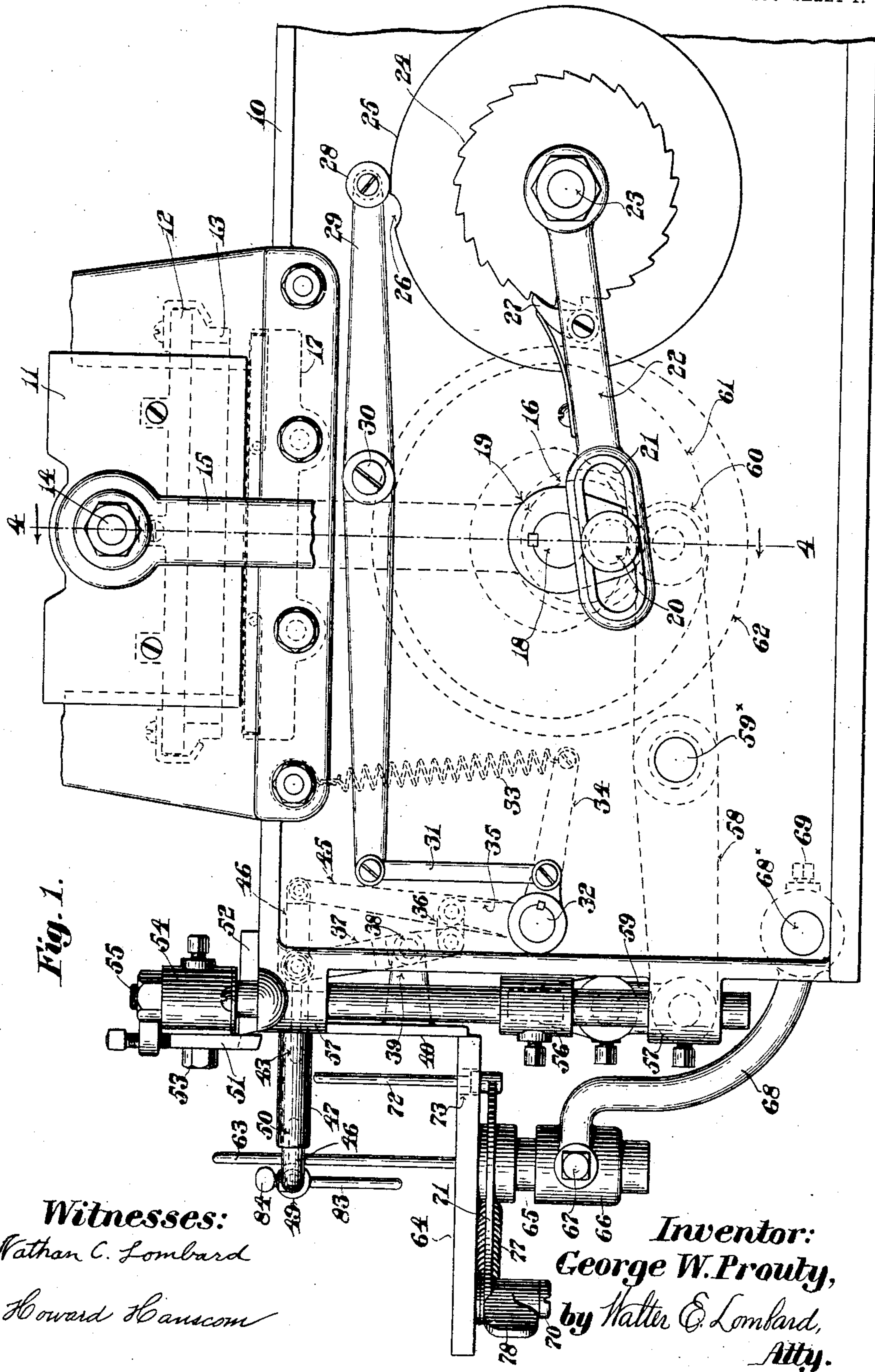
PATENTED SEPT. 10, 1907.

G. W. PROUTY.

DELIVERY MECHANISM FOR PRINTING PRESSES AND SIMILAR MACHINES.

APPLICATION FILED DEC. 26, 1906.

3 SHEETS—SHEET 1.

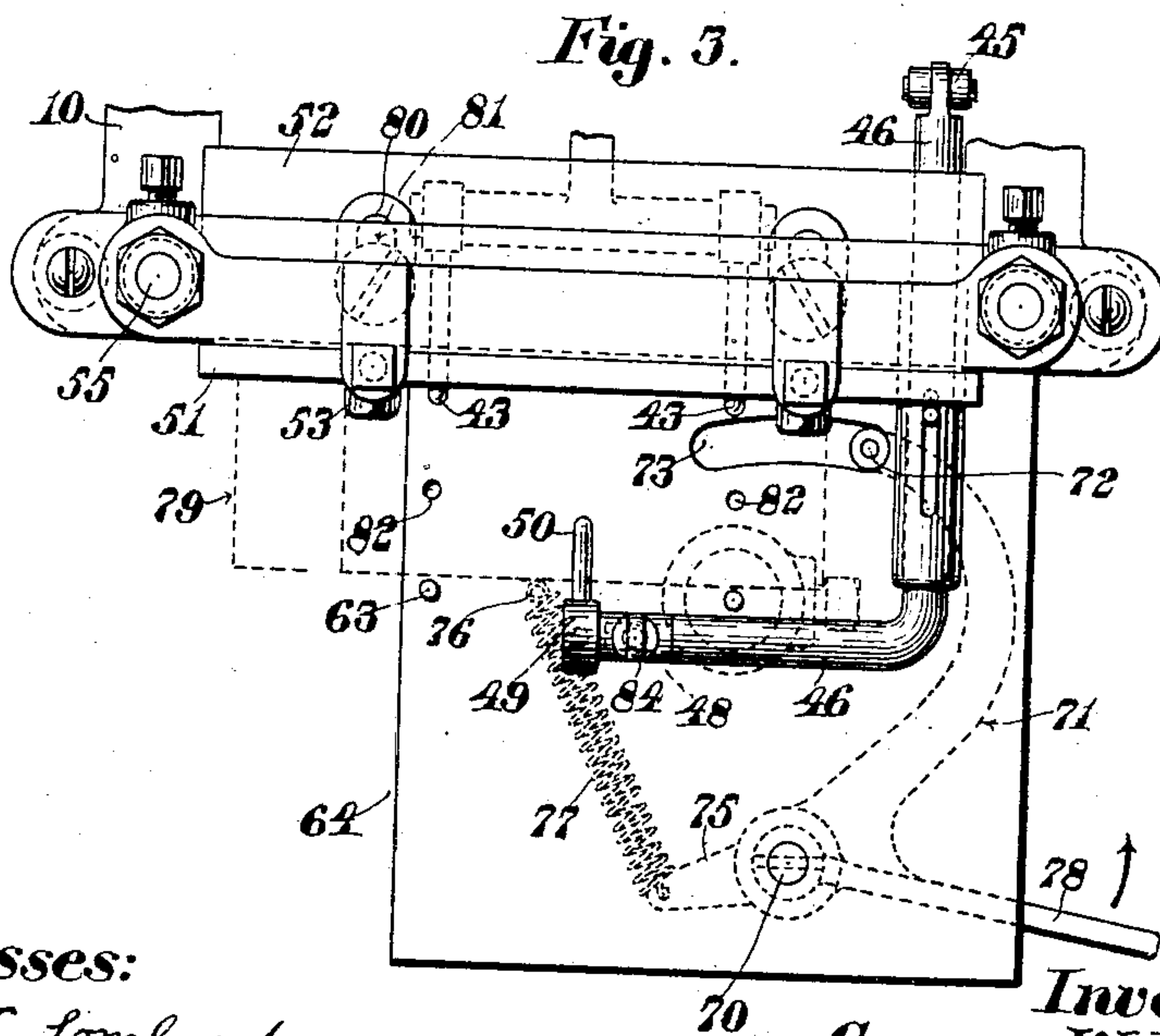
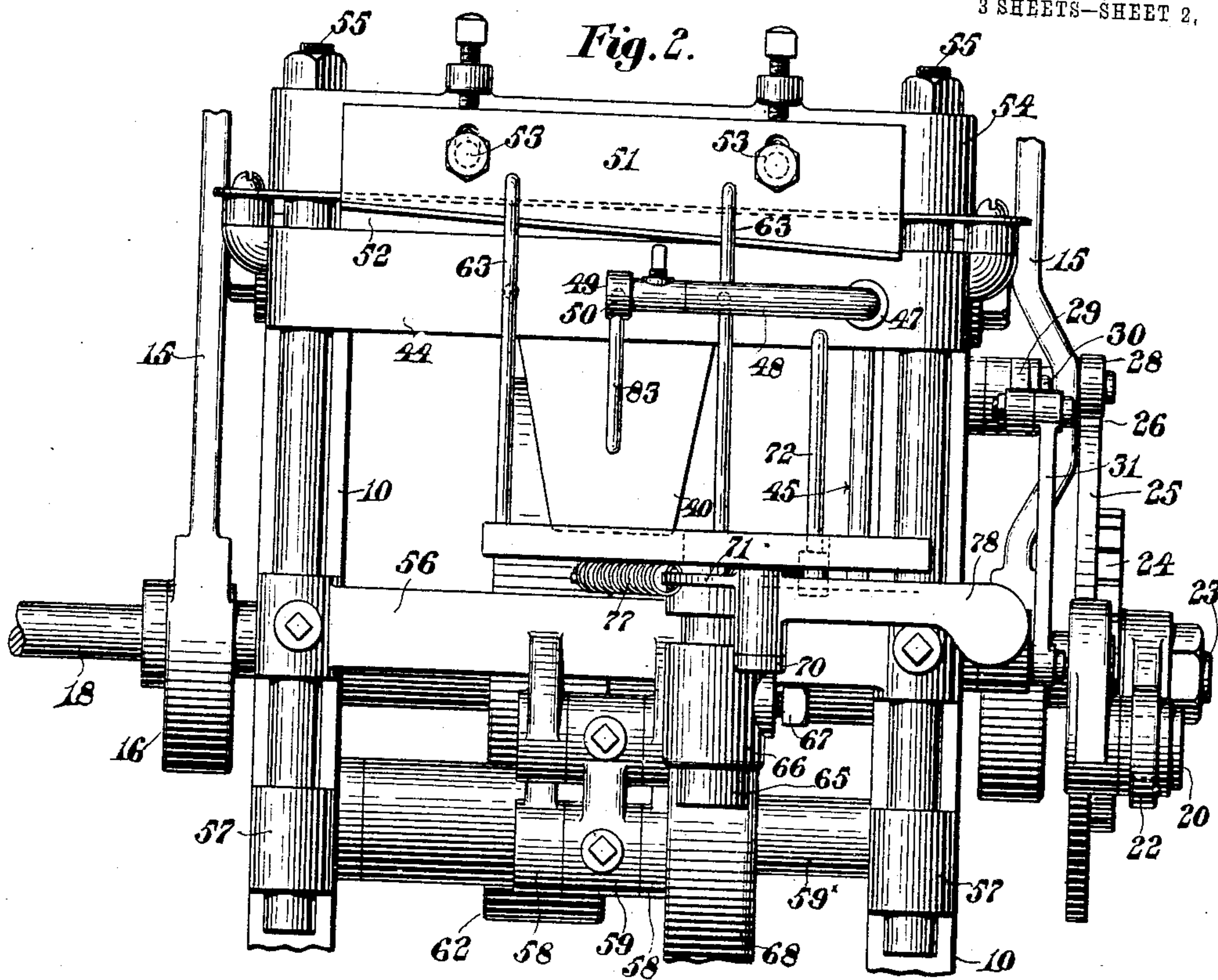


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Atty.



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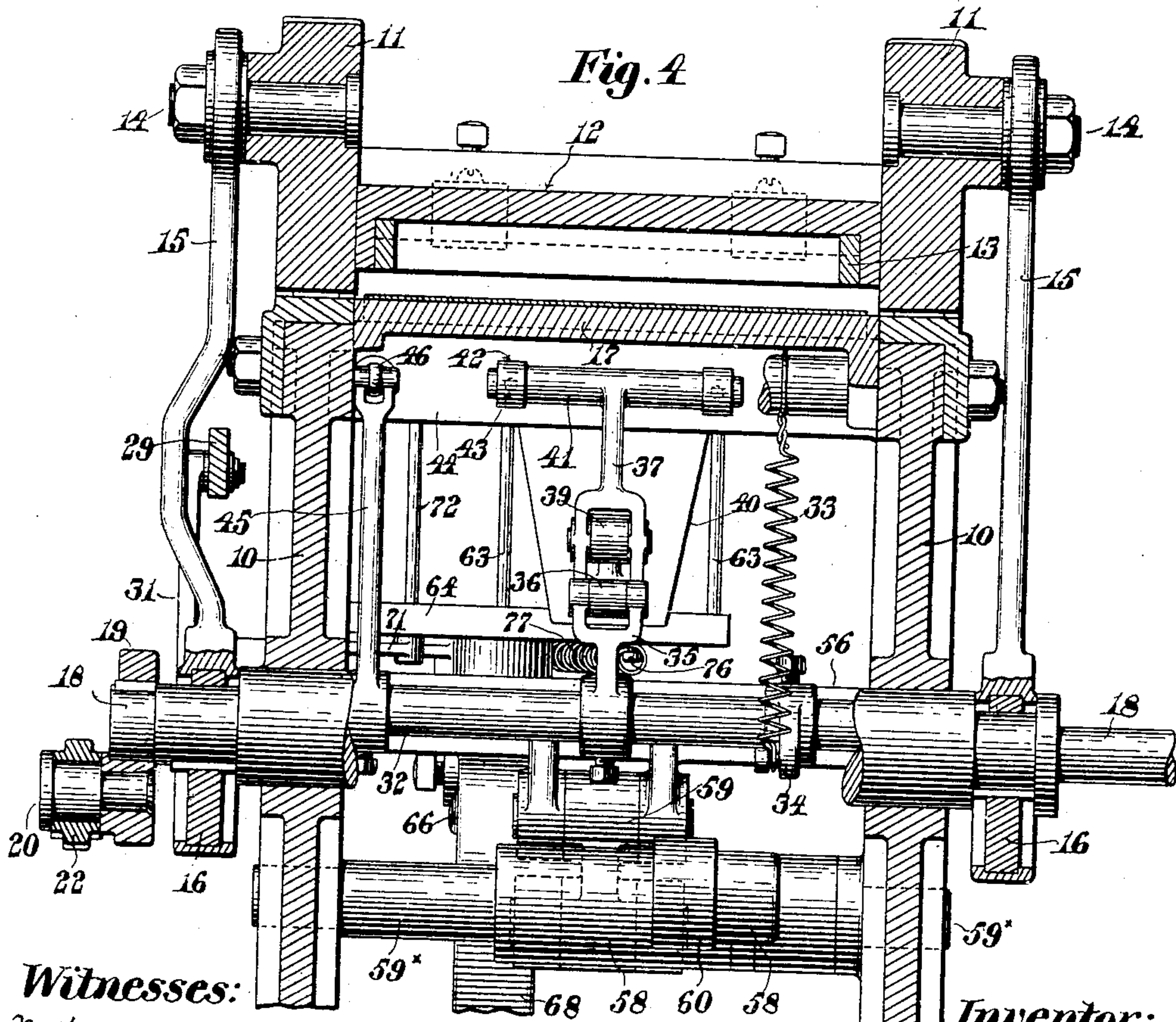
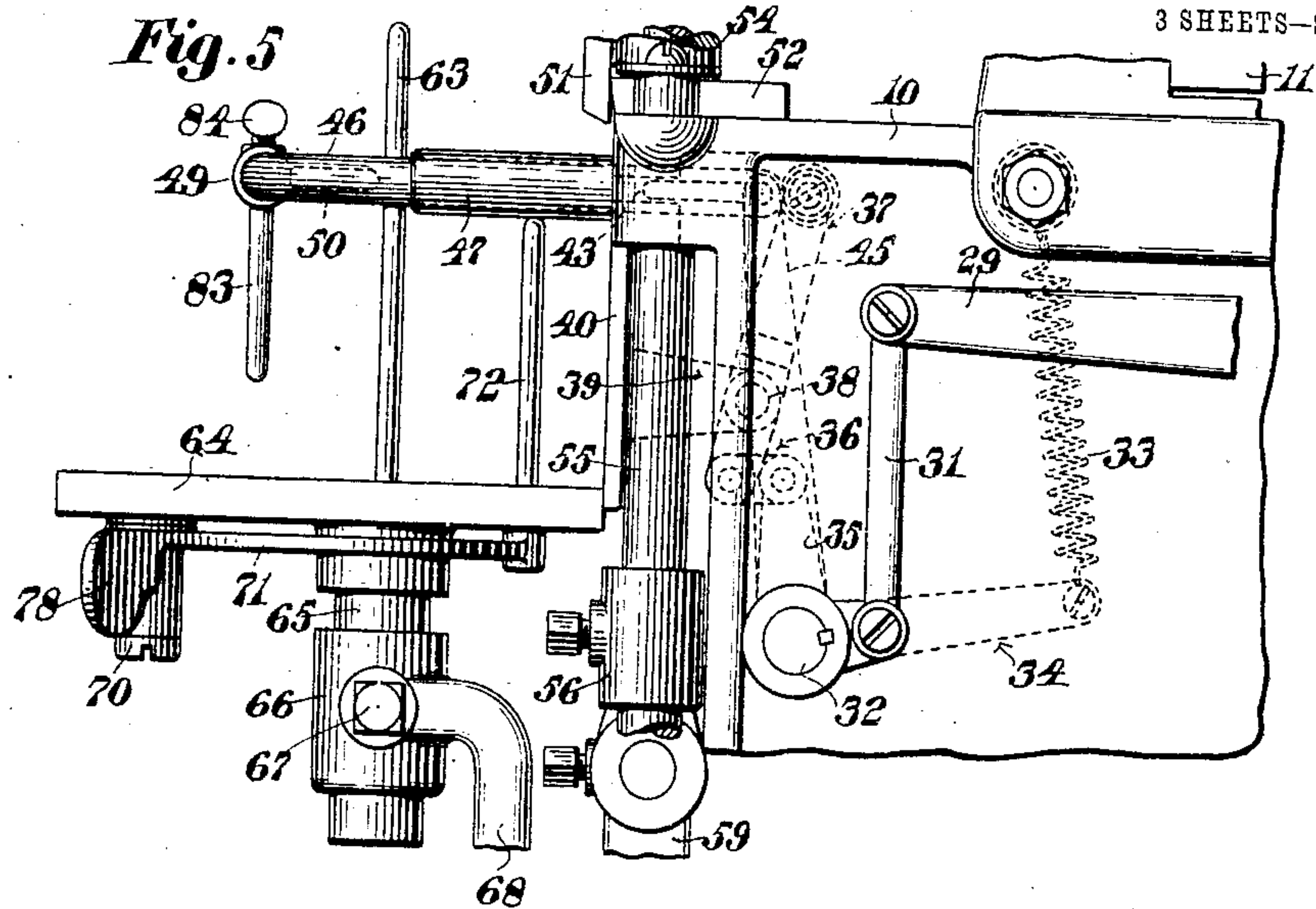
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Howard Hanson

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# UNITED STATES PATENT OFFICE.

GEORGE W. PROUTY, OF DORCHESTER, MASSACHUSETTS.

## DELIVERY MECHANISM FOR PRINTING-PRESSES AND SIMILAR MACHINES.

No. 865,525.

Specification of Letters Patent.

Patented Sept. 10, 1907.

Application filed December 26, 1906. Serial No. 349,590.

*To all whom it may concern:*

Be it known that I, GEORGE W. PROUTY, a citizen of the United States of America, and a resident of Dorchester, in the county of Suffolk and State of Massachusetts,

5 have invented certain new and useful Improvements in Delivery Mechanisms for Printing-Presses and Similar Machines, of which the following is a specification.

This invention relates to a delivery mechanism and particularly to devices in this class adapted for use in connection with a printing press, punching machine, numbering device, or similar apparatus adapted to print, impress, punch, or perforate cards or similar material. Its principal object is to provide a support for the output of the machine which will receive a predetermined

10 number of articles being operated upon and then at a predetermined time operate to deliver the pile of articles to a work supporting table.

The invention consists further in suitable mechanisms adapted to be actuated by the operator to remove

20 from said table the pile of finished material delivered thereto.

The invention further consists in certain novel features of construction and arrangement of parts which will be readily understood by reference to the description of the drawings and to the claims hereinafter given.

25 Of the drawings: Figure 1 represents a side elevation of a portion of a printing press embodying the features of the present invention. Fig. 2 represents a left hand end view of the delivery mechanism. Fig. 3 represents a plan of the same. Fig. 4 represents a section on line 4—4 on Fig. 1 looking in the direction of the arrow, and Fig. 5 represents a side elevation of the delivery mechanism with the work supporting members separated to drop the material previously supported thereby onto

30 the work supporting table.

Similar characters designate like parts throughout the several figures of the drawings.

In the drawings, 10 represents a side frame of a printing press provided with a slidable frame 11 carrying a suitable type bed 12 and chase 13. The frame 11 has connected thereto at 14 a draw bar 15 the opposite end of which is mounted upon an eccentric 16 which gives the necessary reciprocation to said slidable frame 11 to secure an impression upon the material passed over the

45 platen 17. This material is fed between the type bed 12 and platen 17 in any well-known manner from a continuous roll (not shown). The eccentric 16 is mounted upon the revoluble shaft 18 driven in any suitable manner and said shaft has keyed thereto the crank arm 19 provided with a pin 20 extending through the slot 21 in the connecting member 22 loosely mounted upon the shaft 23 supported by the side frames 10. This shaft 23 has secured thereto the ratchet wheel 24 and the cam disk 25 provided at one point in its periphery with a

50 cam throw 26. The ratchet 24 is provided with a predetermined number of teeth which are engaged by the

spring-pressed pawl 27 to cause an intermittent step by step motion to be imparted thereto and to the cam disk 25 by means of the movement of the connector 22 about the shaft 23 as the crank pin 20 moves in its path about

60 the axis of the shaft 18.

A roller 28 mounted upon the end of a lever 29 pivoted at 30 to the side frames 10 engages with the periphery of the cam disk 25 and once in each revolution of the cam disk 25 is operated upon by the throw 26 therein. This action of the cam throw 26 upon the roller 28 causes a movement of the lever 29 about its pivot 30 thereby through the connector 31 moving the rocker shaft 32 about its axis. The roller 28 is always retained in engagement with the periphery of the cam disk 25 by means of the spring 33 acting upon the lever 34 secured to the shaft 32. To the rocker shaft 32 is secured a lever 35 connected by a link 36 to the lever 37 pivoted at 38 to ears 39 extending from the plate 40 depending from the side frames 10.

75 The lever 37 has at its upper end outwardly extending cylindrical bosses 41 on which is loosely mounted collars 42 each provided with a horizontal supporting member 43 having bearings in the cross member 44 in which they are adapted to reciprocate when the lever 29 and the intermediate levers are operated. The rocker shaft 32 is also provided with a lever 45 having pivoted to its upper end a rod 46 having a bearing in the boss 47 extending from the connecting member 44. The rod 46 is provided with an end at right angles to the main portion thereof and has at its outer end a reduced portion 48 shown in dotted lines in Fig. 3 on which is mounted a member 49 having a horizontal supporting member 50 oppositely opposed to the supporting members 43. It is obvious from an inspection of the drawings that the supporting members 43 and 50 are so connected through the various levers to the rocker shaft 32 that an oscillation of said rocker shaft through the action of the cam throw 26 will cause the members 43 and 50 to separate quickly and as quickly return to their normal position so that they are prepared to support any material which may subsequently be cut off by means of the vertically reciprocating knife 51, co-acting with the knife 52.

100 The knife 51 is adjustably mounted by means of the nuts 53 on the cross member 54 supported by the rods 55 secured to the cross member 56 and mounted in bearings 57, in the cross member 44, and the side frames 10 are adapted for vertical reciprocation therein. This vertical reciprocation of the members 55 is secured by means of the lever 58 connected by a link 59 to the cross member 56 and pivoted to the side frames at 59\*. The opposite end of this lever 58 is provided with a truck or roller 60 which coöperates with a cam path 61 in the cam member 62 mounted upon and revoluble with the shaft 18. It is obvious that every revolution of the cam member 52 causes

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the reciprocation of the members 55 and a consequent operation of the cutting off devices. It is also obvious that inasmuch as the cam disk 25 is operated through the ratchet wheel 24 the cooperating pawl of which  
 5 actuates once at each revolution of said shaft 18 that the cam disk 25 will make one complete revolution when the pawl 27 has been operated as many times as there are teeth in the ratchet wheel 24. For instance, if the ratchet wheel contains 25 teeth the cutting off devices would operate twenty-five times before the supporting members 43 and 50 were separated. This means in other words that as the material passes through the machine to be printed upon or otherwise operated upon twenty-five portions of the material  
 10 would be cut therefrom and delivered in a pile one on top of the other on the supporting members 43 and 50, the rods 63 serving as guides to register said pile.

When a pile of twenty-five cards or other output of the machine are collected upon the supporting members 43 and 50 the cam throw 26 will cause a separation of these members and the pile of 25 will be dropped from their elevated position onto an adjustable table 64 supported by means of the central spindle 65 mounted in a suitable bearing 66 in which it is held in adjusted position by means of the set screw 67, said bearing being formed on the end of a curved support 68 which is mounted upon a rod 68\* extending transversely of the machine and fixedly mounted in the side frames 10. The support 68 may be adjusted  
 20 about the rod 68\* and secured in adjusted position by means of the set screw 69.

The table 64 has pivoted thereto, at 70, a curved lever 71 provided at one end with a vertical member 72 extending through a slot 73 in the table 64. This  
 35 lever 71 is also provided with a short arm 75 between which and a fixed pin 76 in the bottom of said table 64 is interposed a spring 77 which normally retains the lever 71 in the position shown in Fig. 3 of the drawings. The lever 71 is also provided with a finger  
 40 pad 78 by which said lever may be operated against the tension of the spring 77 to force the ejector 72 along the slot 73 to cause the pile of material upon the table 64 to be forced into the position shown in dotted lines at 79 beyond the edge of the table 64 so that the  
 45 pile may be grasped by the operator and removed from the table.

When the stock is cut by means of the cutting devices and dropped upon the movable supporting members 43 and 50, if these members were separated with a  
 50 single card thereon the card in dropping onto the table 64 would be liable to drop on its edge or in some other undesirable manner. For this reason the stock is delivered upon these supporting members until a pile has accumulated thereon of sufficient weight to cause  
 55 the whole pile by its weight to drop bodily onto the table 64 when these supporting members have been withdrawn from beneath the same. By such a device as this the operation of delivering the output is greatly facilitated and at the same time by providing an intermittent step by step mechanism for operating these supporting members at a predetermined time a pile of  
 60 cards of a predetermined number may be accumulated thereon, as, for instance, twenty-five at a time and when this number has been delivered to the supporting  
 65 members these members will be separated to drop the

pile of twenty-five upon the table. The table is adjusted so that it is adapted to receive, for example, four piles of twenty-five each. When these four piles have accumulated upon the table the operator presses upon the pad 78 and pushes them beyond the edge of the  
 70 table as indicated at 79 and seizes the pile of one hundred and removes it to be wrapped or otherwise disposed of.

The knife 52 may be adjusted in relation to the vertical knife 51 by means of the slots 80 and clamped in  
 75 adjusted position by means of the clamping screws 81. The guide pins 63 are positioned in openings extending through the table 64. When it is desired to deliver a narrower card or other article openings 82 are provided in the table into which said guide pins 63 are transferred. When the pins 63 are inserted in the openings 82 it is necessary that the horizontal supporting member mounted in the end of the rod 46 should be longer and extend beyond the edge of the cards to be supported. To provide for this the member 49 has at right  
 85 angles to the supporting member 50 another supporting member 83 of greater length which may be moved into a horizontal position by loosening the set screw 84, moving the member 49 about the shank 48, and again securing the member 49 to said shank 48 when the  
 90 longer supporting member 83 has been moved into a horizontal position. When this has been done and the pins 63 transferred into the openings 82 the mechanism is adapted to operate upon the narrower cards without any further changes in the apparatus. The depending  
 95 plate 40 serves as a guide for one side of the cards when dropped upon the table 64 while the vertical guide members 63 serve as a guide for the opposite edges.

It is believed that from the foregoing description the  
 100 invention will be thoroughly understood and that the advantages of such an apparatus applied to printing presses and other machines of this class is sufficiently apparent without further description.

Having thus described my invention, I claim: 105

1. In a delivery mechanism, the combination with a platen and an impression device; of two sets of opposed supporting members adapted to receive the output of a machine of the class described; and means for moving said members longitudinally in opposite directions in lines  
 110 parallel to each other at a predetermined time to separate the two sets.

2. In a delivery mechanism, the combination with a platen and an impression device; of two sets of horizontally movable opposed supporting members adapted to receive the output of a machine of the class described; and means for moving said members endwise in opposite directions in lines parallel to each other at a predetermined time to separate the two sets. 115

3. In a delivery mechanism, the combination of two sets of horizontally movable opposed supporting members adapted to receive the output of a machine; guides independent of but cooperating with said members to position the output on said members; and means for separating said members at a predetermined time. 120

4. In a delivery mechanism, the combination of two sets of horizontally movable opposed supporting members adapted to receive the output of a machine; adjustable guides independent of but cooperating with said members to position the output on said members; and means for separating said members at a predetermined time. 125

5. In a delivery mechanism, the combination of two sets of horizontally movable opposed supporting members adapted to receive the output of a machine; adjustable guides independent of but cooperating with said members 130 135



to position the output on said members; a table beneath said supporting members; and means for separating said members at a predetermined time and permitting the output supported on said members to drop onto said table.

5 6. In a delivery mechanism, the combination of two sets of opposed supporting members adapted to receive the output of a machine; adjustable guides independent of but cooperating with said members to position the output on said members; an adjustable table beneath said supporting members; and means for separating said members at a predetermined time and permitting the output supported on said members to drop onto said table.

15 7. In a delivery mechanism, the combination of two sets of opposed supporting members adapted to receive the output of a machine; adjustable guides to position the output on said members; an adjustable table beneath said supporting members; means for separating said members at a predetermined time; and a device movable upon said table to remove the output therefrom.

20 8. In a delivery mechanism, the combination of two sets of opposed supporting members adapted to receive the output of a machine; adjustable guides to position the output on said members; an adjustable table beneath said supporting members; means for separating said members at a predetermined time; and a spring retracted device movable upon said table to remove the output therefrom.

25 9. In a delivery mechanism, the combination of two sets of opposed supporting members adapted to receive the output of a machine; adjustable guides to position the output on said members; an adjustable table beneath said supporting members; means for separating said supporting members at a predetermined time; a lever pivoted to said table; a vertical member extending therefrom through a slot in the table; and means whereby said lever may be operated to remove from the table the output thereon.

30 10. In a delivery mechanism, the combination of two sets of opposed supporting members adapted to receive the output of a machine; adjustable guides to position the output on said members; an adjustable table beneath said supporting members; means for separating said supporting members at a predetermined time; a lever pivoted to said table; a vertical member extending therefrom through a slot in the table; means whereby said lever may be operated to remove from the table the output thereon; and a spring for returning said lever to its normal position.

35 11. In a delivery mechanism, the combination of a pair of horizontal supporting members; an arm parallel therewith provided with an extension at right angles thereto; a two-armed supporting member pivoted thereto; one arm being longer than the other; means for clamping said supporting member with one arm extending horizontally toward said pair of supporting members; and means for separating said horizontal supporting members at a predetermined time.

40 12. In a delivery mechanism, the combination of two sets of horizontally movable opposed supporting members adapted to receive the output of a machine; a revoluble cam; and means interposed between said cam and supporting members to cause an endwise movement of said members by the revolution of said cam to effect a discharge of the output from said supporting members.

45 13. In a delivery mechanism, the combination of two sets of opposed supporting members movable endwise in opposite directions in lines parallel to each other adapted to receive the output of a machine; a revoluble cylindrical disk provided with a cam throw at one point in its periphery; a pivoted lever provided with an end cooperating with said disk; and means interposed between said lever and said supporting members to cause an endwise movement and separation of said members whenever said lever end passes over said cam throw.

50 14. In a delivery mechanism, the combination of two sets of horizontally movable opposed supporting members adapted to receive the output of a machine; an intermittently revoluble cam; and means interposed between said cam and supporting members to cause an endwise movement and separation of said members by the revolution of said cam.

55 15. In a delivery mechanism, the combination of two

sets of opposed supporting members movable endwise in opposite directions in lines parallel to each other adapted to receive the output of a machine; a revoluble cam; a ratchet wheel for intermittently moving said cam; and means for moving said ratchet.

85 16. In a delivery mechanism, the combination of two sets of opposed supporting members adapted to receive the output of a machine; a revoluble cam; a pivoted lever operated thereby; a second pivoted lever connected thereto and adapted to move one set of supporting members; a third pivoted lever connected to the other set of supporting members; and a link connecting said member operating levers.

90 17. In a delivery mechanism, the combination of two sets of opposed supporting members adapted to receive the output of a machine; a revoluble cam; a pivoted lever operated thereby; a second pivoted lever connected thereto and adapted to move one set of supporting members; a third pivoted lever connected to the other set of supporting members; a link connecting said member operating levers; and a spring for retaining said supporting members normally in supporting position.

100 18. In a delivery mechanism, the combination of two sets of opposed supporting members adapted to receive the output of a machine; a revoluble cam disk; a cutting off device; means for revolving said cam disk in a predetermined number of steps; means for moving said cam disk one step at each operation of the cutting off device; and means for separating said supporting members once during each rotation of said cam.

105 19. In a delivery mechanism, the combination of two sets of opposed supporting members adapted to receive the output of a machine; a revoluble cam disk; a cutting off device; a second cam for operating said cutting off device; a revoluble shaft therefor; means for revolving said cam disk in a predetermined number of steps; means for moving said cam disk one step at each operation of the cutting off device; and means for separating said supporting members once during each rotation of said cam.

110 20. In a delivery mechanism, the combination of two sets of opposed supporting members adapted to receive the output of a machine; a revoluble cam disk; a cutting off device; a second cam for operating said cutting off device; a revoluble shaft therefor; means for revolving said cam disk in a predetermined number of steps; means for moving said cam disk one step during each revolution of said shaft; and means for separating said supporting members once during each rotation of said cam.

115 21. In a delivery mechanism, the combination of two sets of opposed supporting members adapted to receive the output of a machine; a revoluble cam disk; a cutting off device; a second cam for operating said cutting off device; a revoluble shaft therefor; a ratchet for revolving said cam disk in a predetermined number of steps; a pawl operated by said shaft for moving said cam disk one step during each revolution of said shaft; and means for separating said supporting members once during each rotation of said cam.

120 22. In a delivery mechanism, the combination of two sets of opposed supporting members adapted to receive the output of a machine; a revoluble cam disk; a cutting off device; a second cam for operating said cutting off device; a revoluble shaft therefor; a ratchet; a crank on said shaft; a pivoted lever operated thereby; a pawl thereon engaging said ratchet; and means for separating said supporting members once during each rotation of said cam.

125 23. In a delivery mechanism, the combination of two sets of opposed parallel supporting pins adapted to receive the output of a machine; and means for moving said pins longitudinally in opposite directions in lines parallel to each other at a predetermined time to discharge said output therefrom.

130 24. In a delivery mechanism, the combination of two sets of horizontally movable opposed supporting pins in the same horizontal plane and parallel to one another adapted to receive the output of a machine; a horizontal table beneath said pins and parallel thereto; vertical guides secured to said table adapted to position the output on said pins; and means for separating said pins at a

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predetermined time to discharge the output therefrom onto said table.

25. In a delivery mechanism, the combination of two sets of horizontally movable opposed supporting pins in the same horizontal plane and parallel to one another adapted to receive the output of a machine; a horizontal table beneath said pins and parallel thereto; vertical guides adjustably secured to said table adapted to position engaging said ratchet; and means for separating said

pins at a predetermined time to discharge the output therefrom onto said table.

Signed by me at Boston, Mass., this 14th day of December, 1906.

GEORGE W. PROUTY.

Witnesses:

WALTER E. LOMBARD,  
EDNA C. CLEVELAND.