

E. JAGENBERG.  
MACHINE FOR MOUNTING SHEETS OF PAPER OR OTHER MATERIAL.  
APPLICATION FILED JUNE 19, 1908.

924,163.

Patented June 8, 1909.

4 SHEETS—SHEET 1.

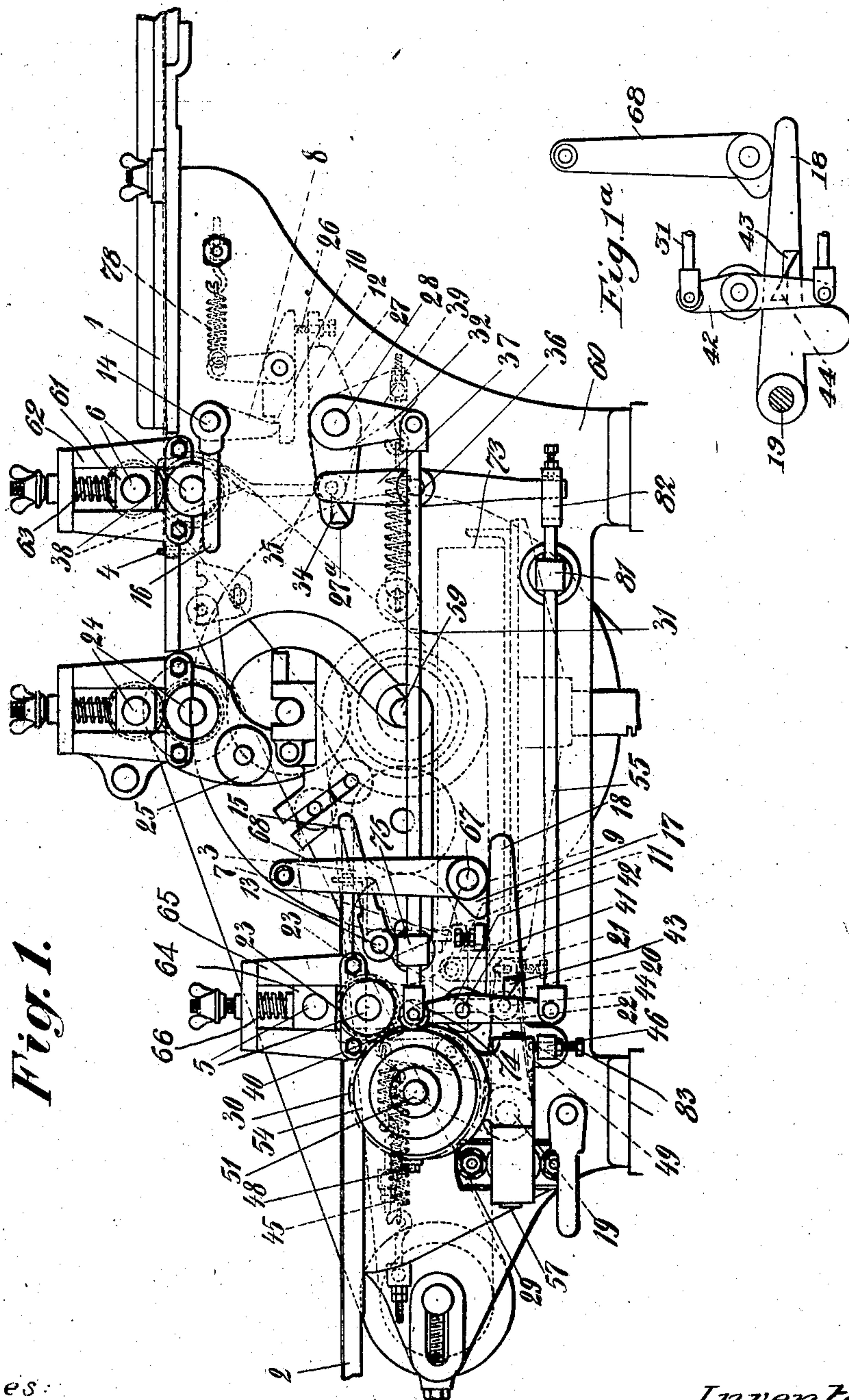


Fig. 1.

Witnesses:  
Arthur E. Zimmer  
H. P. Schulz

Inventor  
Emil Jagenberg  
by Frank J. Sierew Atty.

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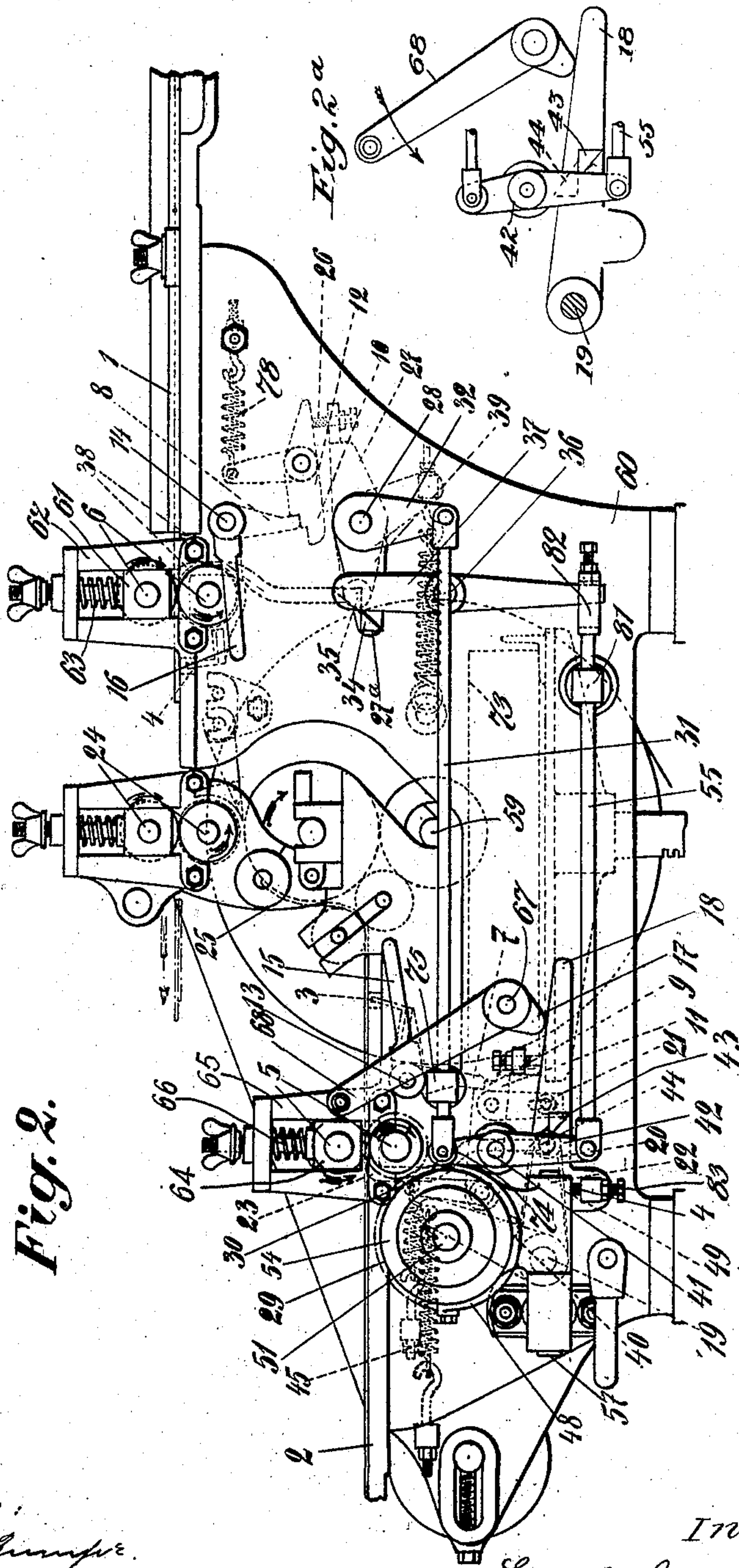


Fig. 2.

Witnesses:  
Arthur C. Jumper  
H. R. Schuk.

Inventor:  
Emil Jagenberg  
by Frank W. Biesem, Atty.

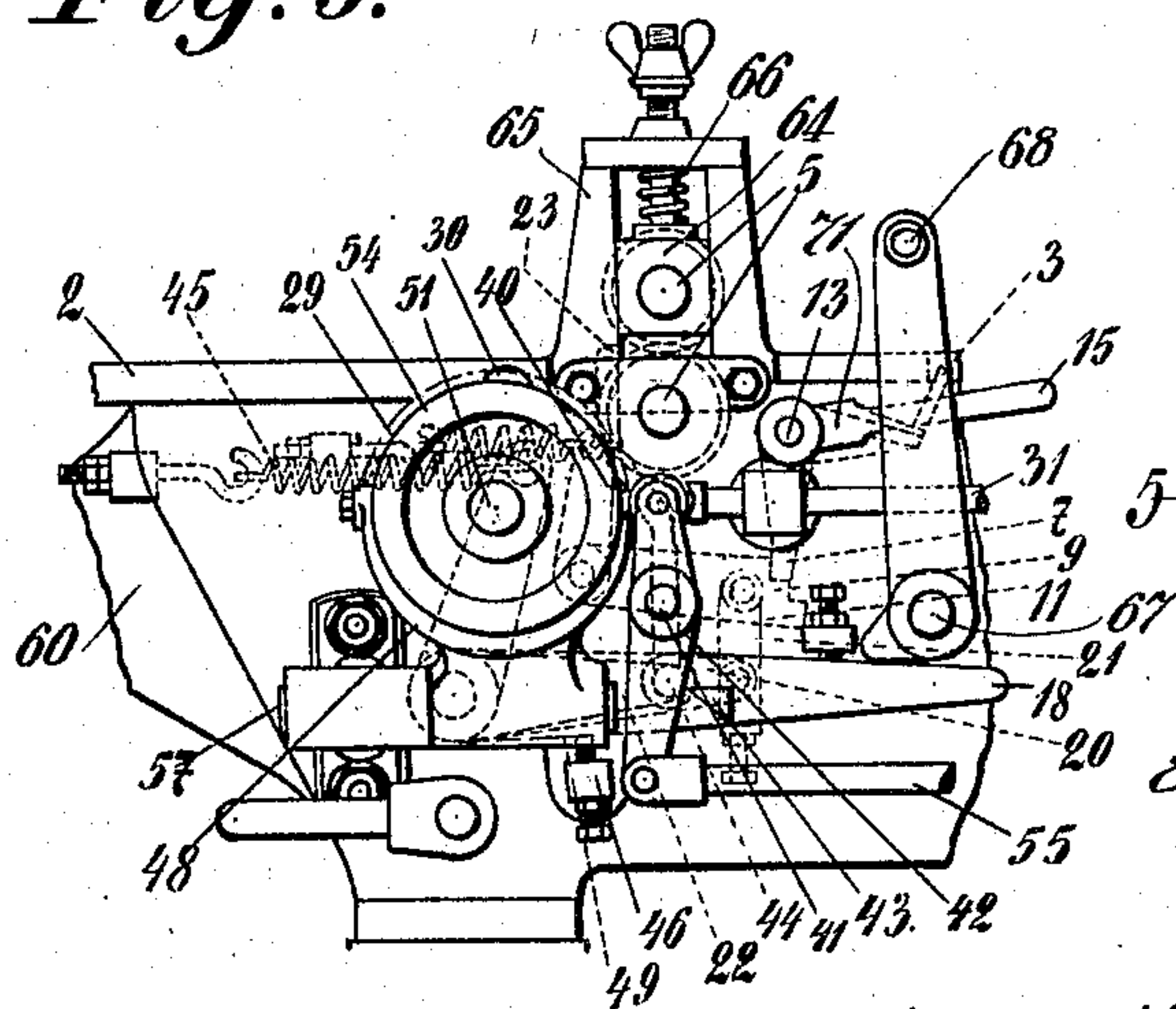


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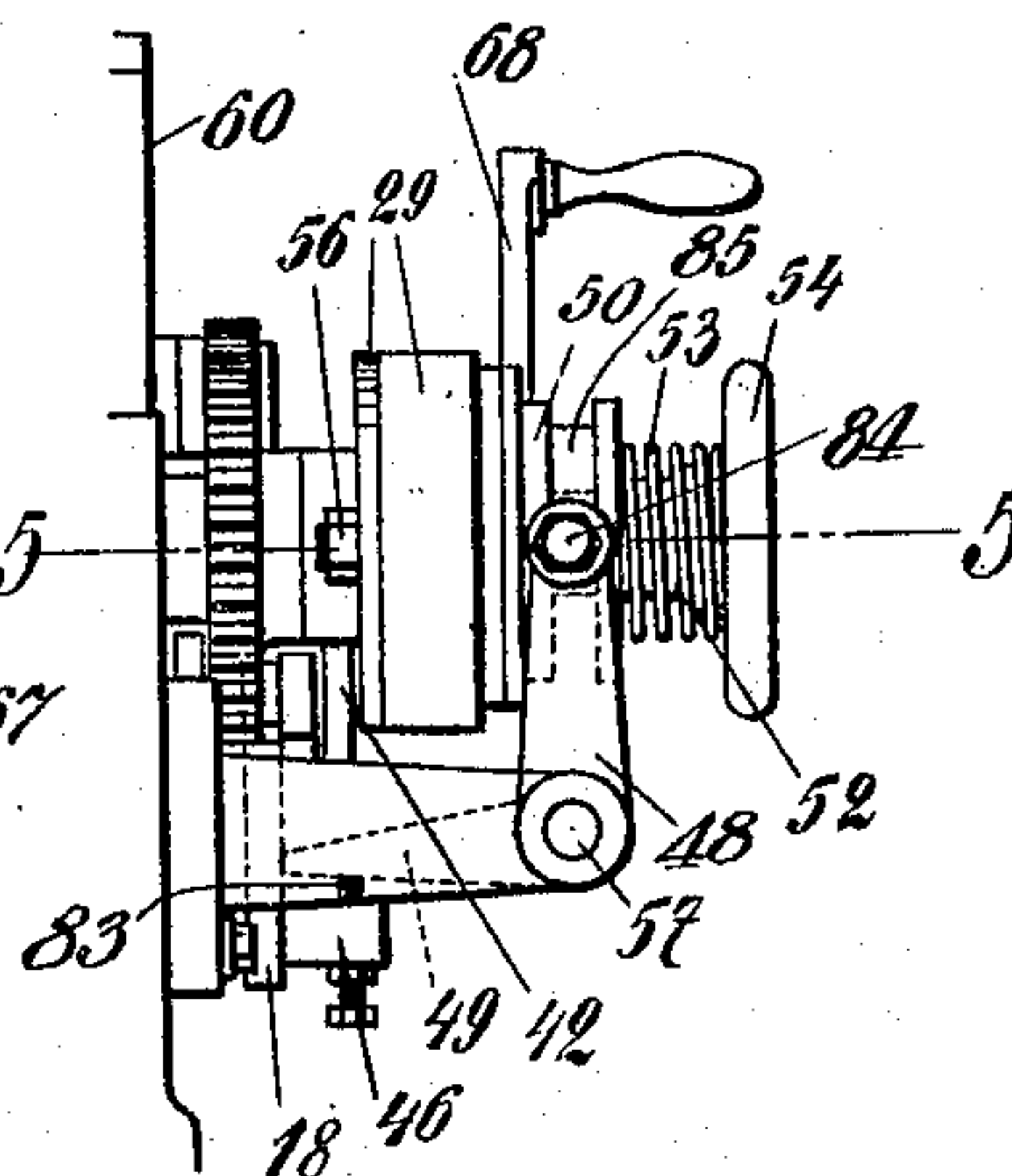
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4 SHEETS—SHEET 3

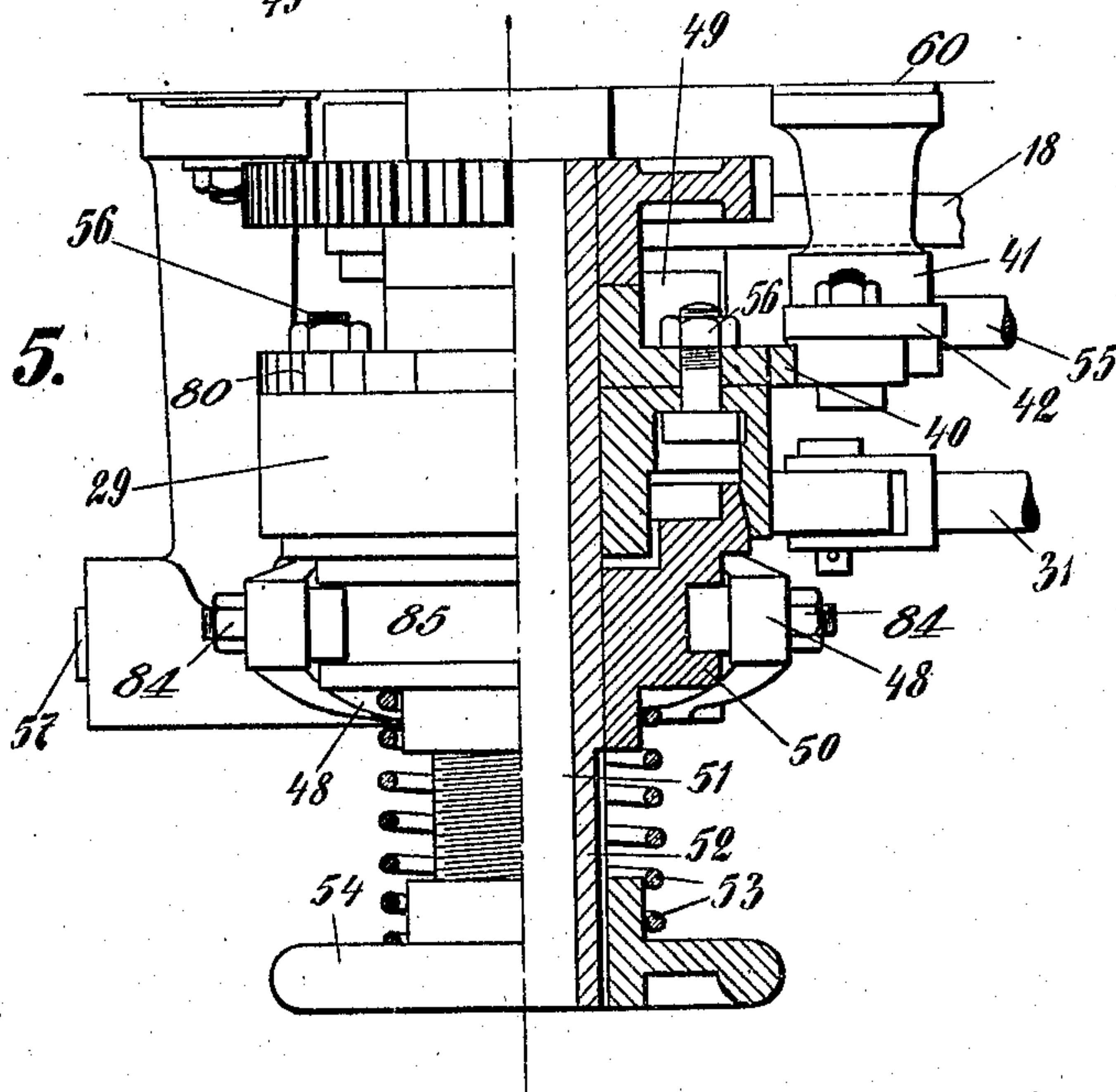
*Fig. 3.*



*Fig. 4.*



*Fig. 5.*



Witnesses:  
Arthur E. Jumper.  
H. R. Schulz.

Inventor:  
Emil Jagenberg  
By Frank P. Brierley Atty.

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4 SHEETS—SHEET 4.

Fig. 6.

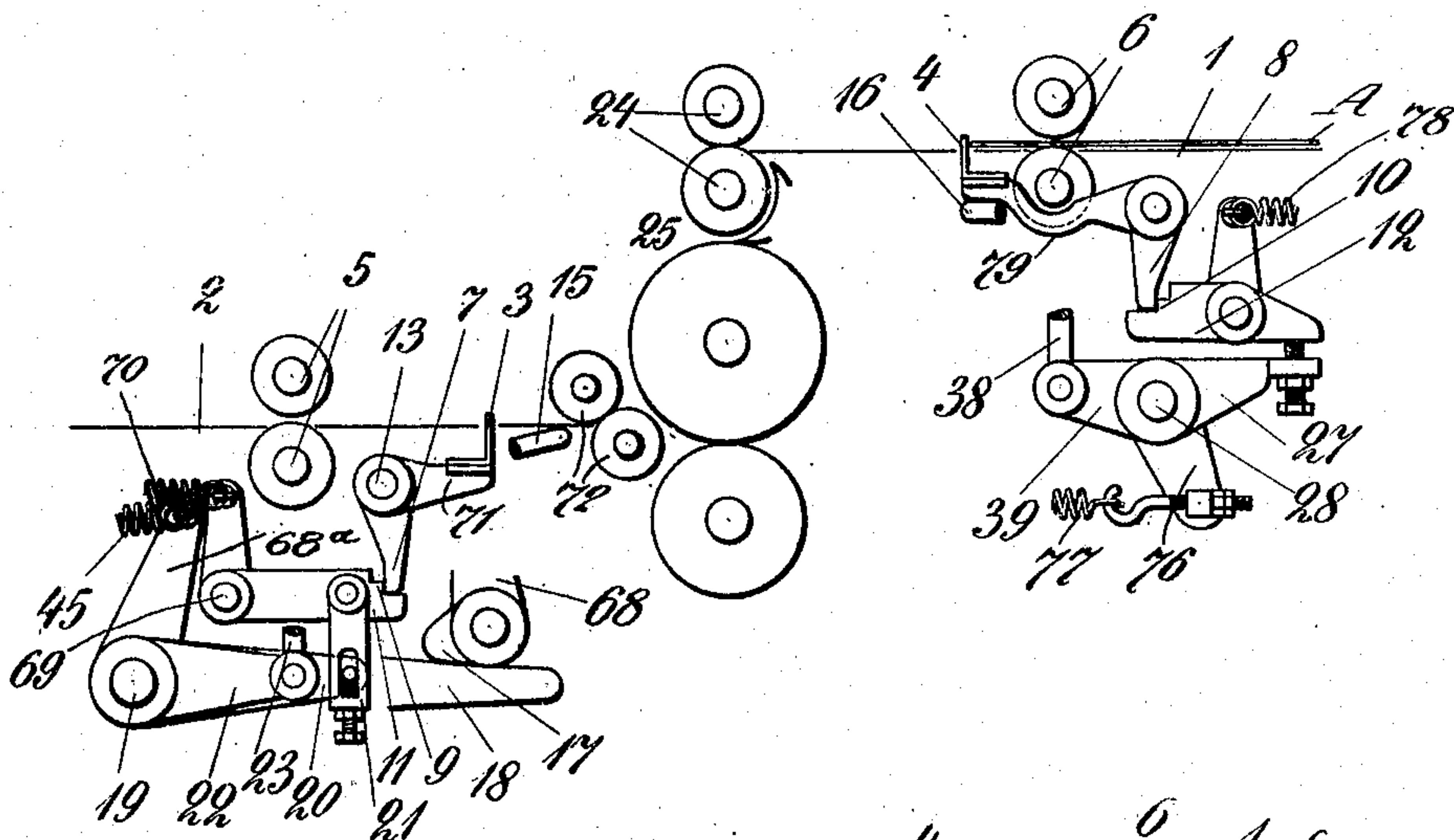
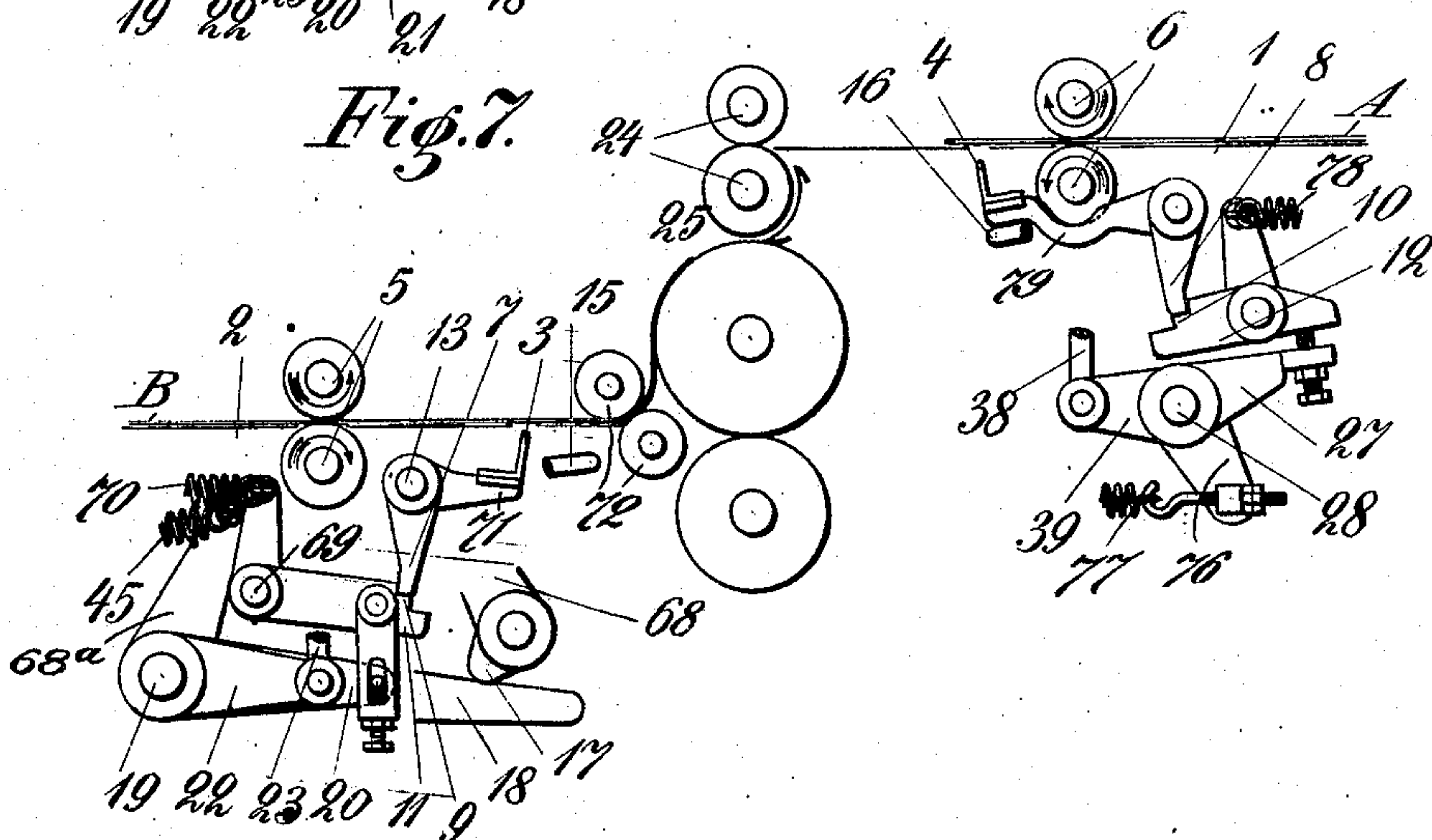


Fig. 7.



Witnesses:  
Arthur E. Zumpfer  
W. B. Schulz

Inventor:  
Emil Jagenberg  
By Frank J. Friesen Atty.



# UNITED STATES PATENT OFFICE.

EMIL JAGENBERG, OF DUSSELDORF, GERMANY.

MACHINE FOR MOUNTING SHEETS OF PAPER OR OTHER MATERIAL.

No. 924,163.

Specification of Letters Patent.

Patented June 8, 1909.

Application filed June 19, 1908. Serial No. 439,335.

*To all whom it may concern:*

Be it known that I, EMIL JAGENBERG, a citizen of the German Empire, residing at Dusseldorf, Germany, have invented new and useful Improvements in Machines for Mounting Sheets of Paper or other Material, of which the following is a specification.

This invention relates to an improved machine for mounting a sheet of paper or other material upon a suitable backing in such a manner that the latter projects beyond the former to form a surrounding margin.

In the accompanying drawings: Figure 1 is a side elevation of my improved sheet mounting machine; Fig. 1<sup>a</sup> is a detail of lever 18 and connecting parts; Fig. 2 is a view similar to Fig. 1, showing the parts in a different position; Fig. 2<sup>a</sup> is a view similar to Fig. 1<sup>a</sup>, showing the parts in a different position; Fig. 3 a side view of part of the machine; Fig. 4 an end view of Fig. 3; Fig. 5 an enlarged section on line 5—5, Fig. 4; Fig. 6 a diagrammatic view of the backing and paper releasing means and adjoining parts, and Fig. 7 a similar view, showing the parts in a different position.

The numeral 1 indicates a table adapted for the support of the backing A, which may consist of a sheet of card board, metal, wood veneering, etc. A similar table 2 is provided for the support of the facing or sheet of paper B, to be mounted upon backing A. Both tables 1 and 2 have means for advancing the backing and facing, respectively, and are so constructed that the facing is automatically pasted upon the backing, in such a manner, that the desired margin is left around the same. For this purpose table 1 is provided with a transverse bar 4 which serves as an abutment for the backing when the attendant places the latter upon table 1. After the backing has thus been properly positioned, bar 4 is withdrawn and the feeding means for the backing are started. The latter comprise a pair of superposed and preferably intergeared feed rollers 6, of which the lower roller is mounted in a fixed bearing of the machine frame 60 and receives rotary motion from power-shaft 59 by a belt or otherwise. Upper roller 6 is journaled in bearings 61 slidably mounted in standards 62 of the machine frame and normally pressed downward by springs 63.

During the insertion of a new backing, upper roller 6 is raised, while upon the withdrawal of bar 4, said roller is automatically lowered to start the feed movement of the backing. The means for obtaining this result are hereafter fully described. Table 2 is provided in like manner with a displaceable bar or abutment 3, and with a pair of feed rollers 5, of which the lower roller engages a fixed bearing and receives rotary motion in suitable manner, while the upper roller is journaled in bearings 64 guided in standards 65 and influenced by a spring 66.

The means for operating the bars and feed rollers are as follows: To frame 60 is pivoted at 67, a hand lever 68 provided with a nose 17 which is adapted to engage a lever 18 secured to a shaft 19. The latter carries an arm 68<sup>a</sup> influenced by a spring 45 which tends to turn lever 18 upward. To shaft 19 is keyed an arm 20 which is by an adjustable link 21 connected to a lever 11 pivoted at 69 and normally drawn upward by a spring 70. Lever 11 is provided with a pair of stepped shoulders 9 adapted to be engaged by the free end of an arm 7 secured to a shaft 13. The latter carries a hand-lever 15 and an arm 71, to which bar 3 is connected. While bar 3 is in its raised position, upper roller 5 is also raised, for which purpose shaft 19 is provided with a pair of levers 22 which are, by lifters 23, connected to the slidable bearings 64 of upper rollers 5.

As thus described, the operation is as follows: When the machine is ready to receive a new charge, the parts assume the position shown in Figs. 1 and 6, in which position levers 18, 22 and 11 are raised by springs 45 and 70, respectively, while arm 7 engages lower shoulder 9 to correspondingly raise bar 3. Upper roller 5 is thus also lifted off the lower roller by levers 22 and lifters 23. The attendant first slips a sheet of paper B, to be provided with a backing, into the gap formed between the spaced rollers 5, until the paper abuts with its forward edge against raised bar 3. (The backing A, is inserted at the same time into the machine, its movement being hereafter more fully referred to). Hand-lever 68 is then swung into the position shown in Fig. 2, so that nose 17 will depress lever 18 to correspondingly lower lever 11 by link 21. Lower shoulder 9 will thus be withdrawn from arm 7, to cause bar 3 to descend by gravity until



arm 7 engages upper shoulder 9, (Fig. 7). In this way bar 3 clears paper B, and as the descent of lever 18 has also caused a corresponding downward movement of levers 22 and lifters 23, the upper rotating roller 5 will, by springs 66, be forced against the paper and the lower roller 5, so that a corresponding forward movement of the paper takes place.

10 The paper, after leaving table 2, is conveyed by a pair of guide rollers 72, to means which cover it on its back with a thin layer of glue or paste. These means are shown to consist of a roller 25 which receives a charge  
15 of glue from a box 73 in any suitable manner. From roller 25 the glued paper is guided partly around the lower of a pair of rollers 24, and passes finally between such rollers by means of which it is glued upon  
20 the backing which has been advanced toward rollers 24, in manner hereinafter described.

As will be seen from the drawings, the run of paper B, from table 2 to rollers 24 is considerably longer than that of backing A, from table 1 to such rollers. As feed rollers 5, 5, and 6, 6, rotate with the same speed, means must be provided which permit the start of the forward movement of the backing only after the paper has already been advanced for some distance. In order to obtain this result, the following construction has been devised: To the outer end of a counter-shaft 51 driven from main shaft 59,  
35 by a belt or otherwise, is keyed a sleeve 52, upon which is loosely mounted a cam wheel 29. The latter is adapted to be coupled to sleeve 52 by a friction clutch 50 slidably mounted upon sleeve 52 and participating in  
40 its rotation by a suitable groove and feather connection. Clutch 50 is normally pressed into engagement with cam wheel 29 by a spring 53 interposed between the clutch and a hand wheel 54. Wheel 54 is screwed upon  
45 the threaded end of sleeve 52, so that by turning the hand wheel, the tension of spring 53 may be properly adjusted.

Cam wheel 29 is provided with a peripheral projection 30 which is adapted to be  
50 engaged by a roller 74. The latter is carried by one end of a reciprocating rod 31 guided in a bearing 75 of frame 60. The other end of rod 31 is pivotally connected to an arm 32 fast on a shaft 28 having an arm 76 which  
55 is influenced by a spring 77. To shaft 28 is secured an arm 27 provided with an adjustable abutment 26 engaging the rear end of a lever 12 influenced by a spring 78. Lever 12 is provided at its forward end with a pair  
60 of stepped shoulders 10 adapted to be engaged by an arm 8 fast on a shaft 14. The latter being provided with a hand-lever 16, carries bar 4, by means of arms 79 fast on said shaft. To shaft 28 are further secured

a pair of arms 39 connected by lifters 38 to 65 slidable bearings 61 of upper roller 6.

When the machine is in its position of rest, (Fig. 1), arm 8 engages lower shoulder 10 of lever 12, so that bar 4 is raised above table 1. Arms 39 are also raised by the action of  
70 spring 77, so that upper roller 6 is lifted off the lower roller. The attendant is thus enabled to slip a backing sheet A, between rollers 6, until it abuts against raised bar 4.

As above described, the operation of the  
75 machine is started by turning hand-lever 68 to cause the forward movement of paper B. After the latter has traveled for a certain distance, bulge 30 of cam wheel 29, which is now coupled to counter-shaft 51, arrives op-  
80 posite roller 74 to shift rod 31 to the right, (Fig. 1). In this way shaft 28 is turned to raise arm 27, which will, by abutment 26, tilt lever 12, so as to withdraw lower shoulder 10 from arm 8. Bar 4 will thus descend  
85 by gravity, while, owing to the simultaneous downward movement of levers 39 and lifters 38, upper roller 6 will, by springs 63, be pressed against backing A, and lower roller 6. The backing will thus be advanced to-  
90 ward rollers 24 hereinabove referred to. The various parts are so positioned, and their movements are so timed, that backing A, arrives between pressure rollers 24 shortly before paper B, is fed to this point. In this  
95 way the desired margin on the backing is obtained when the paper is pasted thereto during their passage between rollers 24.

Additional means are provided for locking upper rollers 5 and 6 in their lowered posi-  
100 tion, and for automatically raising them when the facing and backing, respectively, have been grasped by pressure rollers 24. For this purpose there is adjustably secured by screws 56, to cam wheel 29, a disk 80 hav-  
105 ing a projection 40 which is adapted to engage a lever 42 pivoted at 41 to machine frame 60. Lever 42 is provided with nose 44 which engages a corresponding nose 43 of lever 18 when lever 68 is swung to the left,  
110 (Fig. 2). To lever 42 is pivoted a rod 55 guided within a bearing 81 of frame 60 and provided with a slotted end-piece 82. The latter is engaged by the lower end of a lever 37 pivoted at 36 and provided with a nose 35  
115 adapted to engage a nose 34 of a lever 27<sup>a</sup> fast on shaft 28. It will thus be seen that when lever 18 is lowered through hand-lever 68, its nose 43 will snap underneath nose 44 of lever 42. When, subsequently, bulge 30  
120 of cam wheel 29 pushes rod 31 to the right, arm 27<sup>a</sup> will also be lowered, so that its nose 34 engages nose 35 of lever 37. In this way bars 3 and 4 are maintained in their lowered position, while upper rollers 5 and 6 are  
125 simultaneously locked in their lowered position.

The parts are so set that when the backing



A, and facing B, have been properly grasped by rollers 24, projection 40 engages lever 42 and tilts the same, so that nose 44 clears nose 43. Spring 45 will thus turn shaft 19 to correspondingly raise upper roller 5 off paper B, as described. Simultaneously, the movement of lever 42 is, by rod 55; transmitted to lever 37, so that nose 35 clears nose 34 and permits spring 77 to turn shaft 28 and correspondingly raise upper roller 6 off backing A.

Simultaneously with the ascent of upper rollers 5 and 6, cam disks 29 and 80 are uncoupled from shaft 51 in the following manner: Lever 18 is provided with a laterally extending arm 46 into which is tapped a screw 83. The latter rests against an arm 49 of a fork 48 pivoted at 57. Fork 48 is provided with a pair of screws 84 engaging a peripheral groove 85 of clutch 50. It will thus be seen that the ascending lever 18 will, through arm 46 and screw 83, cause fork 48 to be swung outward to uncouple clutch 50 from cam wheel 29.

After the paper B, provided with a backing A, has left rollers 24, hand-levers 15 and 16 are raised until arms 7 and 8 engage lower shoulders 9 and 10 of levers 11 and 12, respectively. Bars 3 and 4 will thus be raised to be in proper position for the introduction of new sheets of facing and of backing. After these sheets have been properly positioned, as described, lever 68 is turned to the left, to firstly, withdraw bars 3 and 4, sec-

ondly, depress upper rollers 5 and 6, and thirdly, couple clutch 50 to cam wheel 29, so that the operation described is repeated.

I claim:

1. In a machine of the character described, means for feeding a facing, a removable abutment for said facing, means for feeding a backing, a removable abutment for said backing, means for withdrawing the facing-abutment prior to withdrawing the backing-abutment, and means for starting the facing feeding means prior to starting the backing feeding means, substantially as specified.

2. In a machine of the character described, an abutment for a facing, an abutment for a backing, hand-operated means for withdrawing the facing-abutment, and a cam wheel adapted to withdraw the backing-abutment subsequent to the withdrawal of the facing-abutment, substantially as specified.

3. In a machine of the character described, a power shaft, a first cam and a second cam carried thereby, a clutch intermediate said shaft and cams, an abutment operatively connected to the first cam, and means operated by the second cam for releasing said clutch, substantially as specified.

Signed by me at Dusseldorf, Germany this fourth day of June 1908.

EMIL JAGENBERG.

Witnesses:

PETER LIEBER,  
WILHELM FLASCHE.