

H. G. LA SOR.  
 INSETTING MECHANISM.  
 APPLICATION FILED DEC. 28, 1907.

908,469.

Patented Jan. 5, 1909.  
 3 SHEETS—SHEET 1.

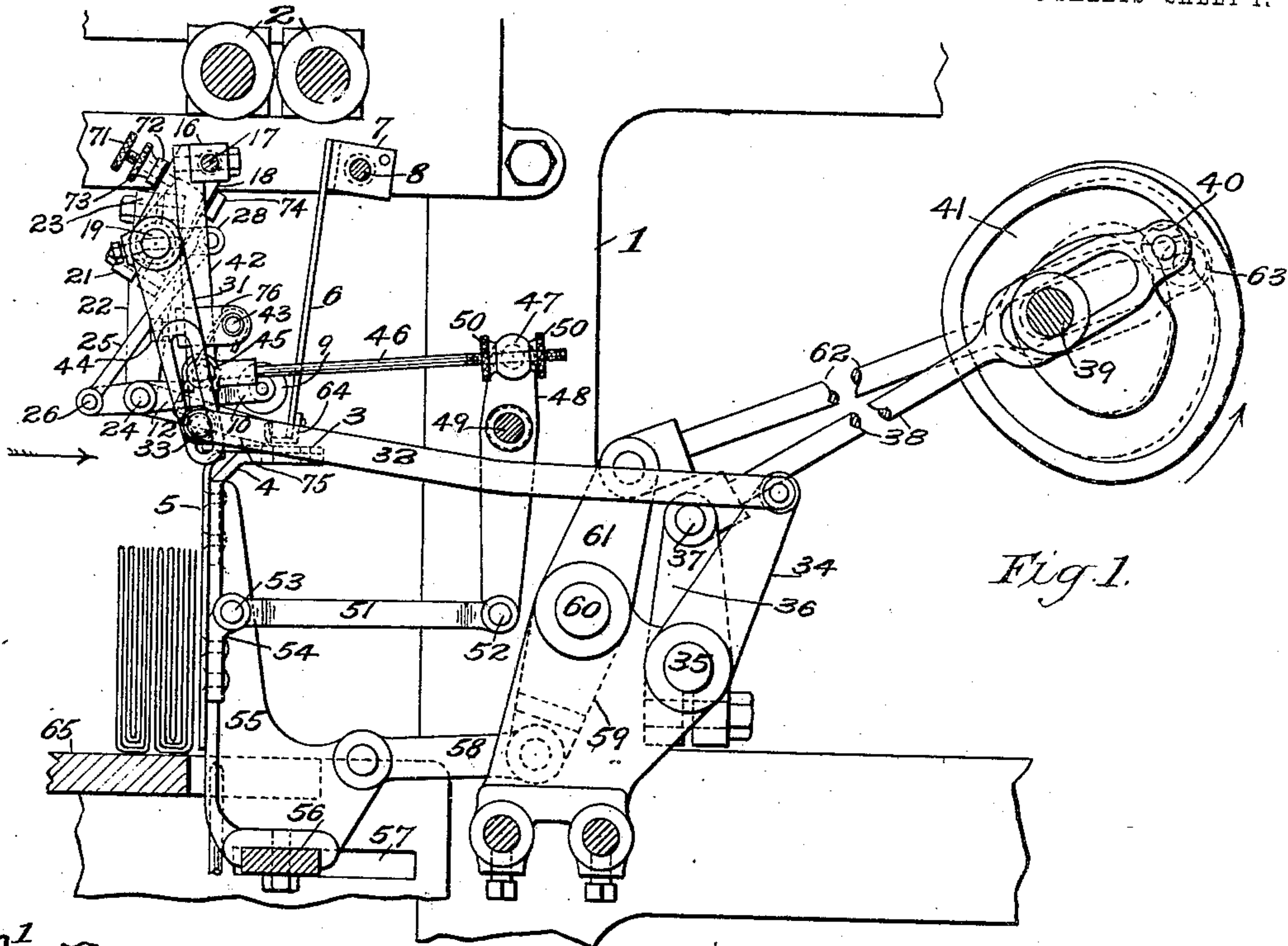


Fig. 1.

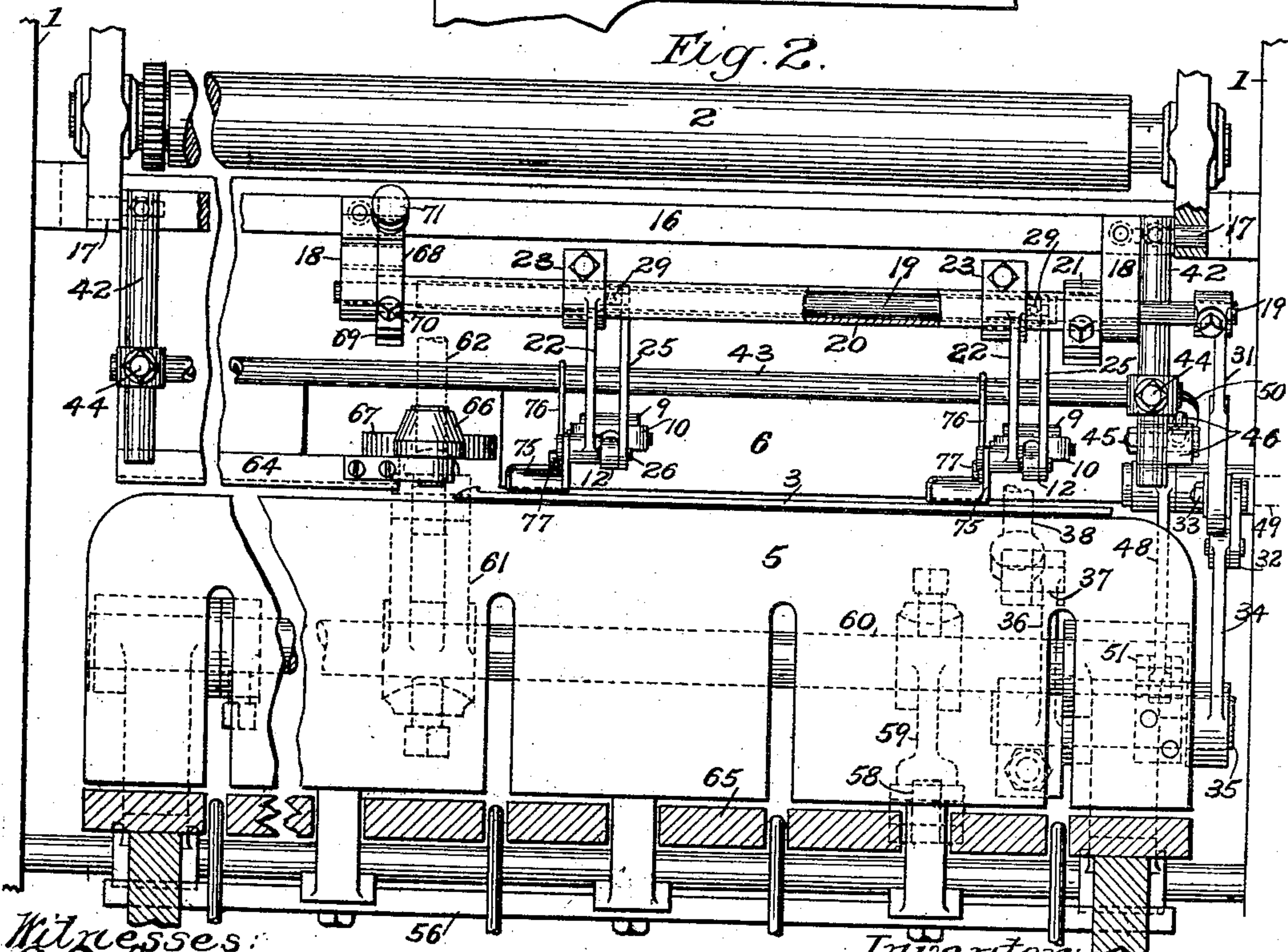


Fig. 2.

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Fig. 3.

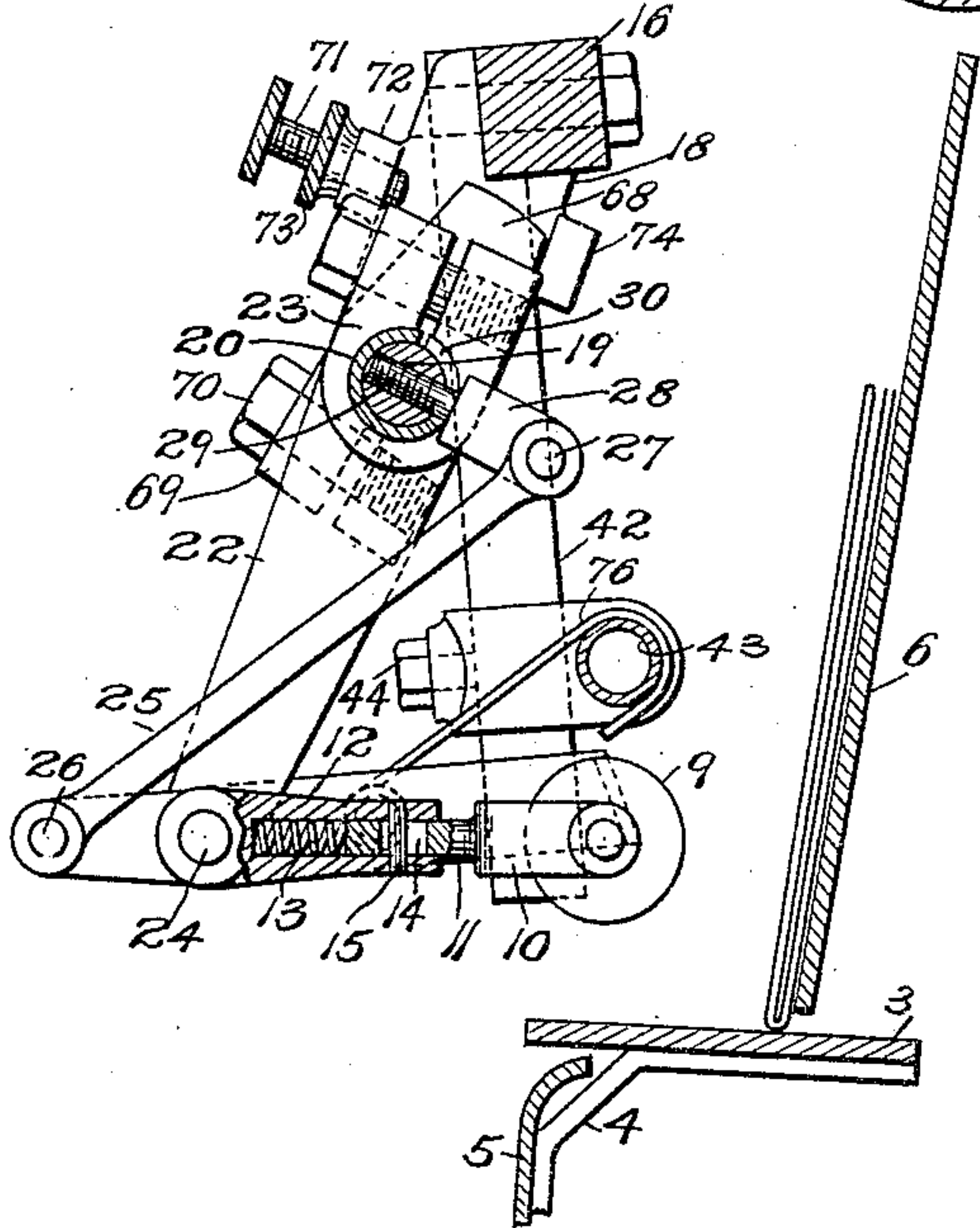


Fig. 4.

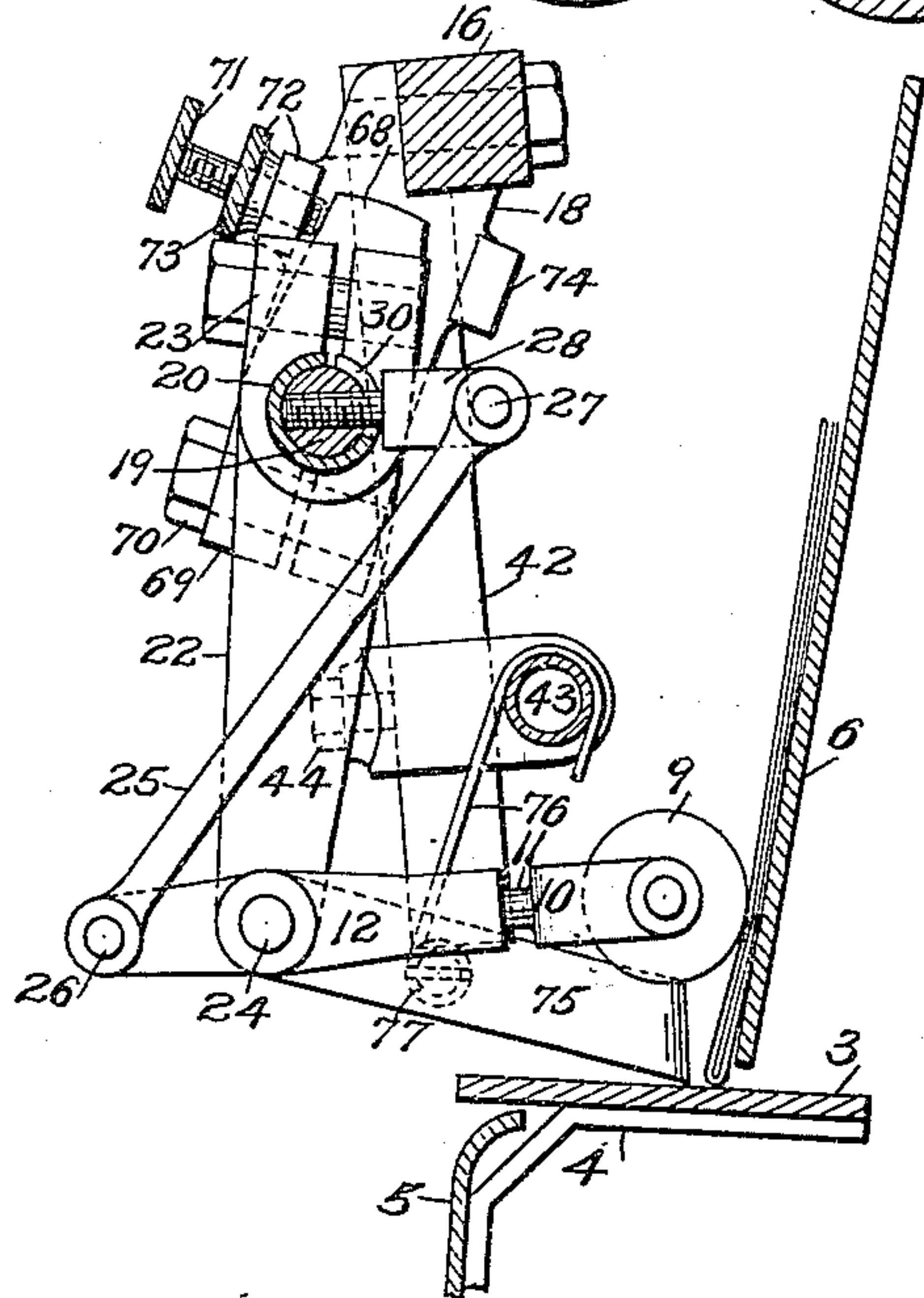


Fig. 5.

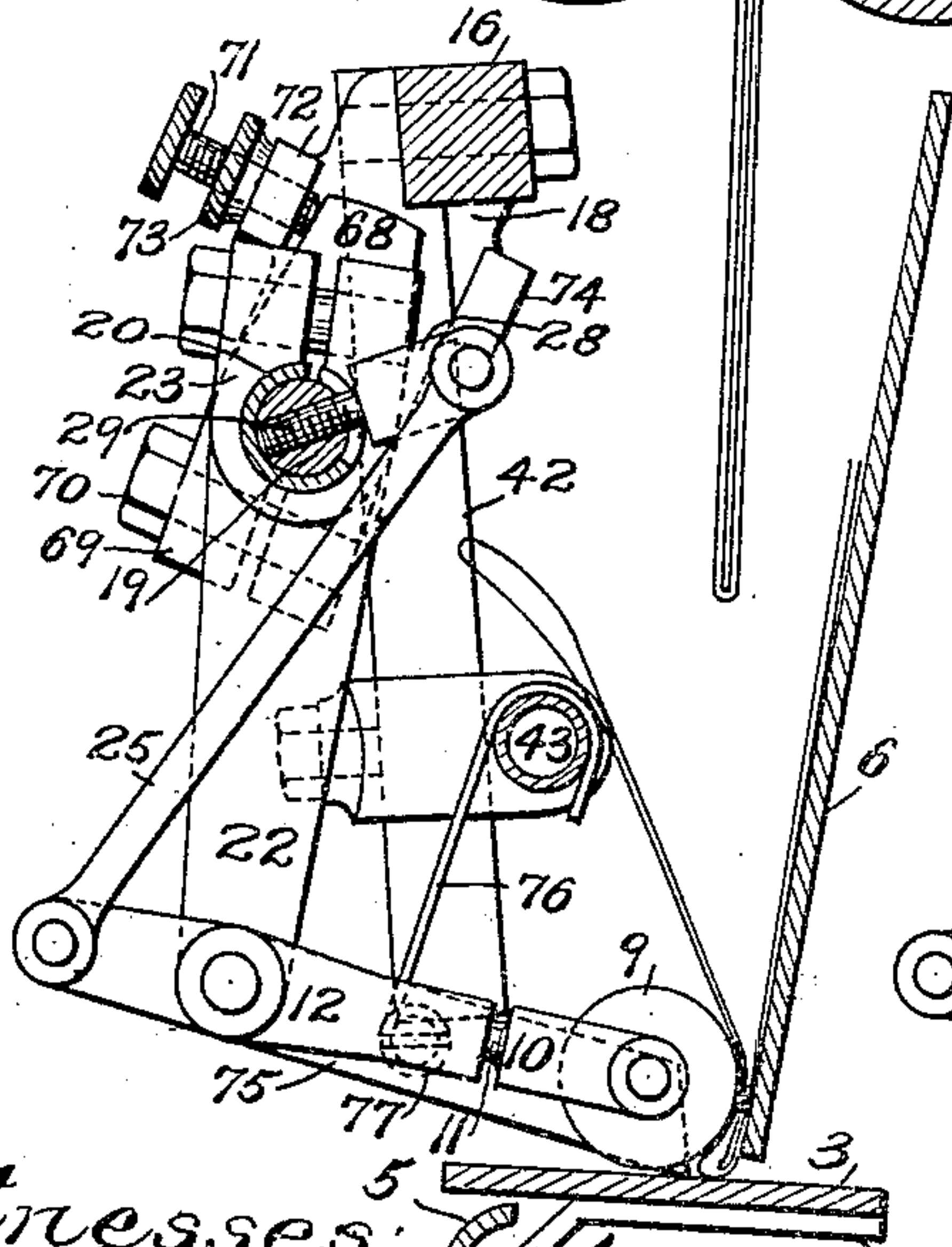
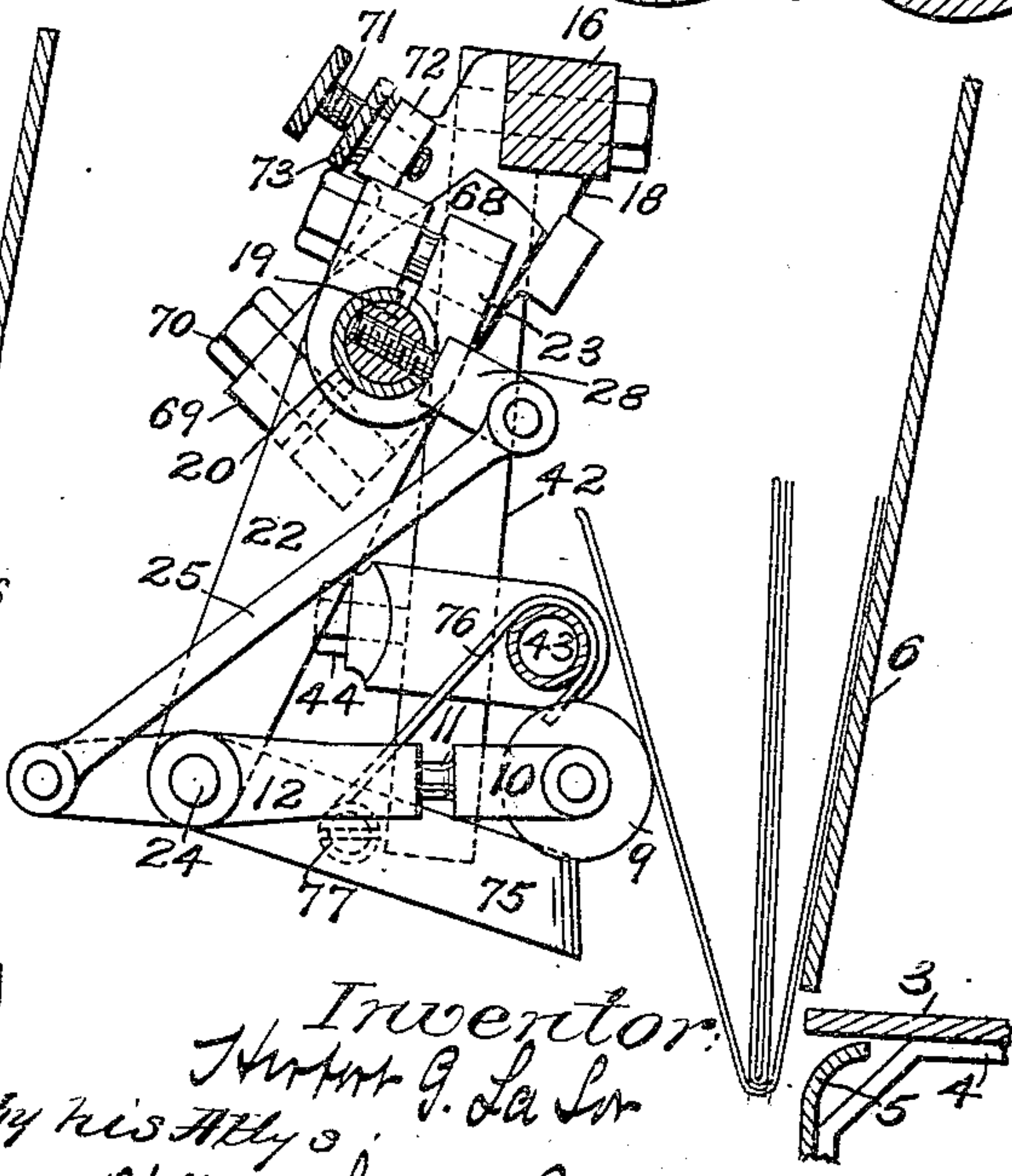


Fig. 6.



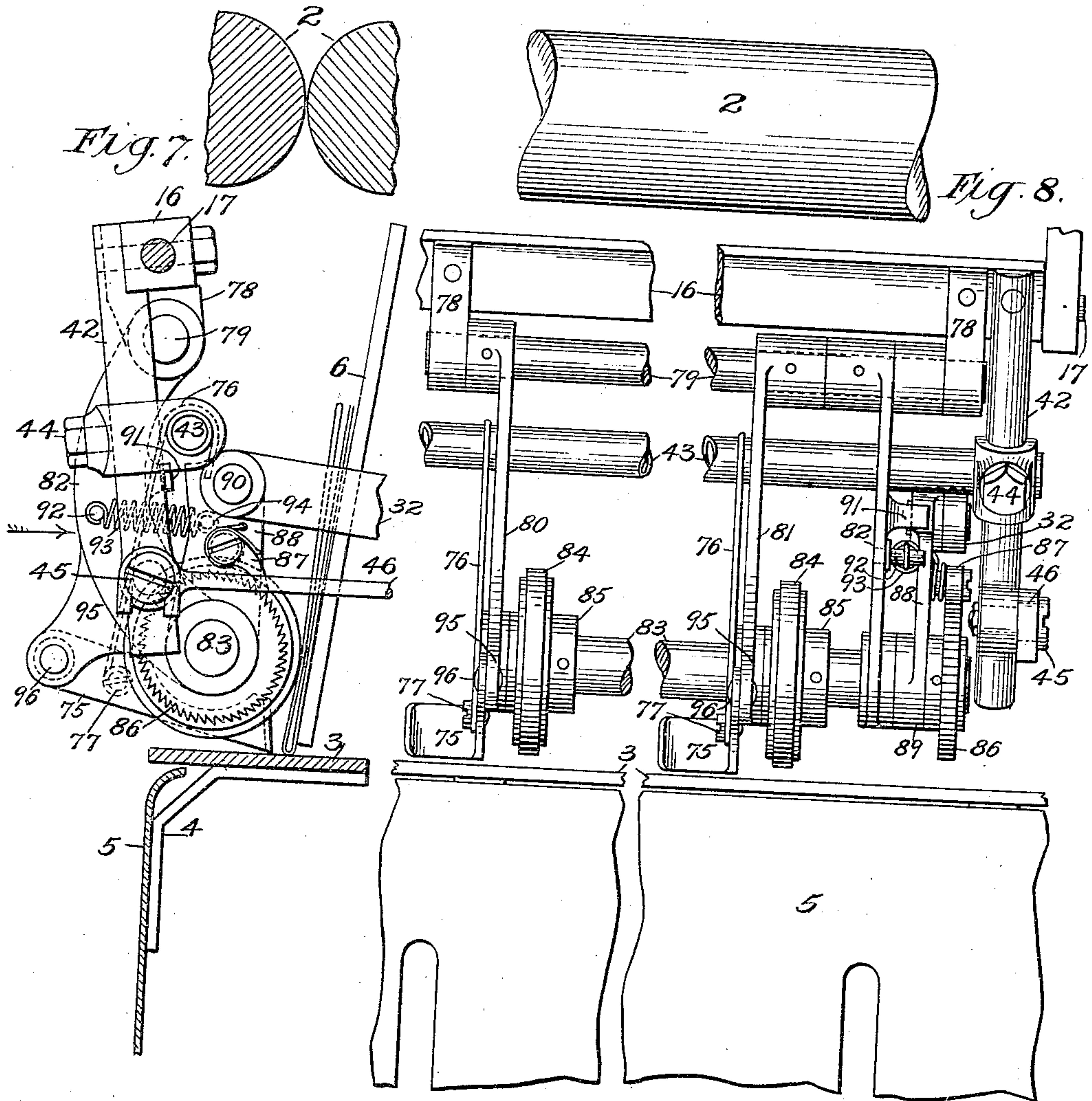
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# UNITED STATES PATENT OFFICE.

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## INSETTING MECHANISM.

No. 908,469.

Specification of Letters Patent.

Patented Jan. 5, 1909.

Application filed December 28, 1907. Serial No. 408,435.

*To all whom it may concern:*

Be it known that I, HERBERT G. LA SOR, a citizen of the United States, residing at New Haven, county of New Haven, and State of Connecticut, have invented certain new and useful Improvements in Insetting Mechanism, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention relates to certain improvements in inseting mechanism.

It is desirable to use in connection with sheet folding machines constructions by which one part of the product of such machines after folding will be placed within or, as it is termed, "inset" within the other part of the product. It has been proposed to accomplish this by causing the successive sheets after folding to pass between a pair of rolls, and after the sheet has partly passed between these rolls to stop the movement of one of the rolls, the moving roll acting to comb the ply next it away from the other ply so as to open the sheet. When the sheet was thus opened, the roll which had been stopped was again started, so that the sheet thus opened was dropped onto a support. Successive sheets were treated in the same manner, so as to assemble them into a pack and after the desired number of sheets had been accumulated, the pack was discharged. The mechanism for accomplishing the inseting operation thus described was complicated and expensive, and for that and other reasons, this mechanism has not gone into general use. Another proposed method of accomplishing this inseting operation involved the use of an air blast. In the mechanism referred to, the folded sheets were dropped into a receiver, after which a blast of air was directed against the edge of the sheets, the idea being to thus force the sheets open. The use of this air blast required that the sheets have a fold at right angles to what may be termed the final fold line, and further that this right angle fold face the air blast at the time it is delivered against the folded sheet. This is so, because should it be attempted to direct an air blast against the edges of a folded product which presented a number of plies, the air would be liable to enter between any of

the plies, and therefore, might not separate the sheets into two parts on the fold line as required. Further, it has been found that this air blast mechanism is not suitable for light paper or for sheets of large dimensions, and it also requires considerable time for its operation, so that the output of the folding mechanism is reduced.

The present invention has for its object to produce an improved inseting mechanism for folding machines which is positive in its action, thus being adapted for paper of all grades and sizes, is simple in its construction, and can be operated at a rate of speed which adapts it for use on rapidly operating folding machines.

A further object of the invention is to produce an improved inseting mechanism which operates against the flat side of a folded product while the product is supported on its fold line to shift the position of that part of the product which lies on one side of the fold line with respect to that part of the product lying on the other side of the fold line, so that the mechanism is adapted to the opening of products folded in any way.

With these and other objects in view, the invention consists in certain constructions, and in certain parts, improvements and combinations as will be hereinafter fully described and then specifically pointed out in the claims hereunto appended.

Referring to the drawings—Figure 1 is a side elevation of one embodiment of the improved inseting mechanism, certain parts of the construction being shown in section. Fig. 2 is a front elevation of the construction shown in Fig. 1, certain parts being broken away and being shown in section. Figs. 3, 4, 5 and 6 are detailed views, on an enlarged scale, illustrating successive positions of the sheet opening mechanism during different stages of the inseting operation. Figs. 7 and 8 are detail views also on an enlarged scale illustrating a modified form of the construction.

It will be understood that the improved inseting mechanism forms a part of or will be applied to a folding machine. The frame of this machine is indicated at 1, but the folding elements of the machine are not shown, as they may be of any suitable de-



scription. A pair of fold laying rolls, such as are usually employed in such machines, are, however, illustrated at 2.

In machines constructed in accordance with the invention, a support will be provided for the folded sheet which is to be opened and into which the entire sheet is to be inset. While the construction of this support may be varied, in the best constructions the support will operate to support the sheet on its fold line. In the particular construction illustrated, this support for the fold line of the sheet consists of a plate 3, this plate being made movable so as to permit the discharge of the sheets after the inseting operation. While this plate may be mounted and supported in any desired manner, in the particular machine shown, it is carried on brackets 4 which may be fast to the packer plate 5 where such plate, as is usual, is employed. In the best constructions, furthermore, a back support for the sheet will be employed which should be arranged so that the sheet as it rests on the fold line support 3 before referred to may stand at an angle to the vertical. While the construction of this back support may be widely varied, it may conveniently consist of a plate 6 provided with supporting ears 7 which embrace a rod 8 extending across the machine from side to side.

The sheet opener employed may be varied in construction and may be mounted and operated in various ways. In the particular construction illustrated in Figs. 1 to 6, this opener comprises a pair of rolls 9, each of these rolls being mounted in a fork 10, the stem 11 of which enters a socket formed in a lever 12. Provision may be made for permitting the roll to yield after it has been, by mechanism which will be hereinafter described, brought into contact with the paper and this may best be effected by a suitable spring. In the particular construction illustrated, this spring, marked 13, is located in the socket of the lever 12 and behind the stem 11, provision being made for permitting the stem to move, thus placing the spring under compression, by slotting the stem, as shown at 14, the stem being held in the lever 12 by means of a pin 15 which passes through the slot 14.

As has been indicated, the operating mechanism for the opener may be varied widely in its construction. In Figs. 1 to 6, this operating mechanism includes a carrier in the form of a square rocking bar 16, this bar being trunnioned, as indicated at 17, in suitable bearings in the machine frame. This carrier 16 is provided with a pair of hangers 18 which serve to support a shaft 19. This shaft 19, in the particular machine shown in Figs. 1 to 6, is surrounded by a long sleeve 20, this sleeve being clamped

on the shaft by means of a friction collar 21 of usual construction. Depending from the sleeve 20 are a pair of arms 22, these arms being secured to the sleeve by means of a split hub 23 of the usual type. These arms 22 serve to support the levers 12 which carry the opener rolls 9, the levers being pivoted on studs 24 carried by the arms. In the particular construction illustrated in Figs. 1 to 6, the ends of these levers 12 have pivoted to them links 25, the pivots which connect the links and levers being marked 26. The other ends of these links 25 are pivoted at 27 to studs 28, these studs being provided with reduced threaded ends 29 which are screwed into the shaft 19 before referred to. The sleeve 20 is provided with slots, indicated at 30, to permit the sleeve and shaft to have independent movements as will be hereinafter described.

The mechanism so far described is first given a movement which is, in effect, a positioning movement by which the parts are brought into position to enable the movements of the opener to begin. This may be effected in various ways, it being understood, of course, that the operating means will vary in accordance with the particular mechanism in which the invention is embodied. In the construction shown in Figs. 1 to 6, the end of the shaft 19 is provided with a slotted arm 31 to which is pivoted a connecting rod 32. The connection between the arm and the rod is effected, as is usual, by a bolt 33, this bolt being adjustable in the slot of the arm. At its other end, this connecting rod 32 is pivoted to an arm 34, which is fast on a rock-shaft 35 mounted in suitable bearings in the frame. This rock-shaft 35 has extending from it an operating arm 36 to which is pivoted, at 37, a cam rod 38. This cam rod is slotted at its outer end to embrace a cam shaft 39 and is provided with a roll 40 working in a cam 41 mounted on the shaft. With the mechanism so far described, it will be understood that the cam, through the connections described, will rock the square carrier bar 16 and the parts mounted thereon.

Suitable devices which may be varied widely in construction are provided for defining the limits of this positioning movement of the bar 16 and the parts carried thereby. In the particular construction illustrated, the bar carries a pair of arms 42, these arms being tied together by a cross bar 43 which is adjustably connected to the arms by means of bolts 44. One of these arms 42 is provided with a pin 45 over which takes the hooked end of a rod 46. This rod is threaded at its outer end and passes through a boss 47 pivoted on a lever 48, this lever being swung on a stud 49 projecting inward from one side of the frame. The rod 46 is



provided with two knurled nuts 50, these nuts being located on opposite sides of the boss 47. It is apparent that the limit of movement given to the square bar 16 depends on the amount of movement which the lever 48 has. In the particular construction shown in Figs. 1 to 6, the amount of movement of this lever 48 is controlled from the packer plate; the lower end of this lever being connected to the packer plate by means of a link 51 pivoted at 52 to the lever and at 53 to a bracket 54 fast on the packer plate 5.

The packer plate may be moved in various ways. In the construction shown, the packer plate is supported on a series of brackets 55, these brackets being mounted on a bar 56 working in slots 57 in the side frames. The brackets 55 are or may be connected by links 58 to arms 59 (see dotted lines in Fig. 1) carried by a rock-shaft 60 supported in suitable bearings in the machine frame. This rock-shaft has an operating arm 61 to which is connected a cam rod 62, the outer end of this rod embracing the cam-shaft 39 before referred to and carrying a cam roll 63 working in a cam groove in a cam located just behind the cam 41 before described.

In the particular folding mechanism which has been selected to illustrate the invention, two sheets are forwarded through the fold laying rolls simultaneously. It being assumed that the machine is beginning its operation one of these sheets drops onto the supporting plate 3 and the other sheet drops on a supporting plate 64 which is located on the left hand side of the machine as is shown in Fig. 2. The movement of the various mechanisms, including the packer plate, now takes place, this plate being moved back, and the sheet which is resting in the plate 3 drops through onto the receiving table 65 and goes to waste. The sheet which is resting on the plate 64 is then caught between a pair of suitably operated rollers 66—67 and transferred from the plate 64 to the plate 3. The mechanism by which these rolls 66 and 67 are operated is no part of the present invention and a description of the means for operating them would in no way conduce to an understanding of this invention. The operating mechanism for these rolls is, therefore, not illustrated. The position of the various parts of the mechanism at the time the waste sheet and the subsequent inset product are being discharged from the plate 3 onto the receiving table 65 is indicated in Fig. 6. As the packer plate carrying the fold line supporting plate 3 starts forward, the shaft 35 is rocked by its cam and cam rod. This, through the connecting rod 32 and the arm 33, causes the carrier bar 16 to rock, moving the sheet opener mechanism toward the back supporting plate 6. The rocking movement of the bar will be due not only to the con-

nections from the shaft 35, however, but also to the pull exerted on the rod 46 by the packer plate which is moving forward at this time. This movement of the bar 16 continues until the packer plate reaches the end of its forward movement. During the time the packer plate is moving the arm 48 is swinging on its stud 49. When the packer plate comes to rest, however, the movement of the bar is stopped through the agency of the rod 46 and the arm 42. The inward limit of this movement which has heretofore been referred to as the positioning movement can be closely determined by the adjustment of the knurled nuts 50 on the bar 46. After the positioning movement has ceased, however, the shaft 35 continues its movement and this continued movement causes the shaft 19 to turn in its bearings. The movement of the shaft 19 causes the sleeve 20 which is frictioned to it to also turn, and this swings the arms 22 from the position shown in Fig. 3 to the position shown in Fig. 4. The extent of this movement of the arms should be accurately determined, and mechanism which may be varied widely in its construction is provided for this purpose.

As shown in Figs. 1 to 6, the sleeve carries a stop block 68, this block having a split hub 69 which embraces the sleeve and is secured thereto by a bolt 70. This stop block coöperates with a set screw 71 which is tapped through a plate 72 carried on one of the brackets 18 before referred to as supporting the shaft 19. The screw is or may be locked in position by means of a lock nut 73. A stop plate 74 also mounted on a hanger 18 is provided which limits the movement of the sleeve in the opposite direction. By adjusting the position of the stop block 68 the point of engagement of the opener rolls with the paper may be varied.

The movement of the arms 22 from the position shown in Fig. 3 to the position shown in Fig. 4 brings the opener rolls 9 into contact with the folded sheet which as before described has been transferred from the plate 64 to the plate 3. Although the sleeve and arms have been brought to a stop by the stop block and the stop screw 71 as before described, the shaft 19 continues its movement. This movement rocks the stud 28 from the position shown in Fig. 4 to the position shown in Fig. 5 which movement through the link 25 rocks the lever arms 12 from the position shown in Fig. 4 to the position shown in Fig. 5. This movement of the arms causes the rolls 9 to comb the outer ply of the folded sheet down and bends it out from the position shown in Fig. 4 to the position shown in Fig. 5, thus opening the sheet. While these sheet opening operations have been going



on, a second pair of sheets, in the operation of the machine shown, is coming through the fold laying rolls, and as the sheet on the plate 3 is opened, the sheet above it is dropped into it, thus being inset therein.

The opening mechanism through the various agencies described is now swung back into the position shown in Fig. 6, the packer plate at the same time retreating and carrying the plate 3 out of the path of the inset sheets, so as to permit them to be dropped onto the receiving table 65.

There is danger that, under the action of the combing rolls, the outer ply of the sheet might be forced back under the opening rolls 9 and along the table 3, and it also might happen that the position of the entire sheet would be shifted under the action of the rolls. To prevent this, a sheet controller may be employed. While this controller may be varied in its construction, as shown, it comprises two shoes 75, each of these shoes being mounted on the pivot 24 which supports the levers 12 on the arms 22. These shoes are or may be connected by hooks 76 to the bar 43 before described as connecting the arms 42. These hooks may be pivoted to the shoes 75 by pivots 77. As the arms 22 swing in from the position shown in Fig. 3 to the position shown in Fig. 4, the shoes 75 drop into the position shown in Fig. 4 and prevent any outward movement of the sheet under the operation of the combing rolls at the fold line, as is clearly indicated in Fig. 5. It is apparent that by adjusting the position of the bar 43 on the arms 42 the amount of drop of the controller shoes may be adjusted. As the combing rolls move down from the position shown in Fig. 4 to that shown in Fig. 5, the distance between the center on which the roll carrying levers swing and the plate 6 decreases owing to the angular position of the plate. The springs 13 before referred to, however, prevent the sheet from being nipped too severely between the rolls and the plate, these springs permitting the rolls to move backward.

Referring to the modification illustrated in Figs. 7 and 8, the rolls 2, the fold line supporting plate 3, the back supporting plate 6 and the squared carrier bar 16 and the arms 42 and the cross bar 43 are all constructed and arranged as in the construction just described. In this construction, the positioning movement of the mechanism is determined, as in the prior construction, by a rod 46 which hooks over a pin 45 on the arm 42, and it may be connected to the packer mechanism in the same manner as the rod 46 is connected in Fig. 1. The bar 16, however, supports by hangers 78 a shaft 79. This shaft has depending from it three curved arms 80, 81 and 82, the lower ends of these arms supporting a shaft 83. This shaft has mounted on it a sheet opener con-

sisting of two combing rolls 84, these rolls being mounted on hubs 85 which are pinned or otherwise secured to the shaft. The outer end of this shaft 83 is provided with a ratchet wheel 86 with which coöperates a spring pawl 87, this pawl being pivoted on a pawl carrying arm 88, the hub 89 of which is loosely mounted on the shaft 83. The connecting rod 32 and the rocking arm 34 described in the preceding construction may be employed in this construction, but the inner end of the connecting rod instead of being pivoted to an arm, as 33, in the preceding construction, may be pivoted on a stud 90 carried on the pawl carrying arm 88. The arm 82 referred to is provided with a stop 91 and also with a pin 92. A pull spring 93 is connected to this pin and to a pin 94 on the pawl carrying arm 88. The arms 80 and 81 are provided with rearward projections 95 and to these projections are pivoted the controller shoes 75 referred to in the preceding construction, the pivots of these shoes being marked 96. These shoes, as in the preceding construction, may be connected to the bar 43 by hooks 76.

In the operation of this modification, as the packer plate starts to move forward, the rod 46 exerts a pull on the arm 42. At the same time, the connecting rod 32 exerts a pull on the pawl carrying arm 88, this arm 88 being connected to the arm 82 by the spring 93. The result is that under the influence of both the rods 46 and 32, the entire opening mechanism moves forward, getting, as it has been heretofore referred to, its positioning movement. This movement stops just before the opener rolls 84 reach the paper, owing to the fact that the movement of the packer plate stops and therefore prevents any further movement of the arms 42. The rod 32, however, continues to move and under the influence of the spring 93 swings the arms 81 and 82 and the shaft 83 forward until the rolls strike the paper. After this happens, the rod 32 continues its movement, but the shaft 83 can no longer move toward the paper. The continued movement of the rod 32, therefore, operates to cause the pawl 87 operating on the ratchet 86 to turn the rolls, thus combing down the outer ply of the paper. When the combing movement is completed, the pawl carrying arm moves back until its upper end strikes the stop 91, after which the entire opening mechanism swings back, the carrier bar 16 rocking in the reverse direction. In the modification just described, Fig. 7 illustrates the position of the parts just after the combing action is begun.

Throughout this specification, reference has been made to the "outer ply" of the folded product. This term will be understood to mean that part of the product which lies on that side of the fold line which



is next the opening mechanism whether this consists of a single or a number of thicknesses of paper.

Changes and variations in the constructions by which the invention is carried into effect may be made, and it will be understood that certain features of the construction may be used independently of the other features. The invention is not, therefore, to be limited to the precise constructions hereinbefore described and illustrated in the accompanying drawings.

What is claimed is:—

1. In an inseting mechanism, the combination with a back support for a folded sheet, of a sheet opener normally out of contact with the sheet, means for causing the opener to engage with and operate on the sheet to cause it to open on the fold line, and means for depositing a second folded sheet in the sheet thus opened.

2. In an inseting mechanism, the combination with means for supporting a folded sheet, of means for separating one ply of said sheet from the other, and a controller acting on the sheet near the fold line to limit the movement of this part of the ply.

3. In an inseting mechanism, the combination with means for supporting a sheet on its fold line, of a sheet opener normally out of contact with the sheet, means for operating the opener to engage with and shift the position of one ply of the sheet with respect to the other, whereby the sheet is opened, and means for depositing a second folded sheet in the sheet thus opened.

4. In an inseting mechanism, the combination with means for supporting a sheet on its fold line, of a sheet opener normally out of contact with the sheet, means for operating the opener to shift the position of one ply of the sheet with respect to the other, whereby the sheet is opened, a controller for limiting the movement of the sheet near the fold line, and means for depositing a second folded sheet in the sheet thus opened.

5. In an inseting mechanism, the combination with means for supporting a folded sheet on its fold line, of means for combing one ply of the sheet toward the fold line, whereby the sheet is opened, and means for depositing a second folded sheet in the sheet thus opened.

6. In an inseting mechanism, the combination with means for supporting a folded sheet on its fold line, of means for combing one ply of the sheet toward the fold line, whereby the sheet is opened, a controller for limiting the movement of the sheet near the fold line, and means for depositing a second folded sheet in the sheet thus opened.

7. In an inseting mechanism, the combination with means for supporting a folded

sheet, of a sheet opener, means for operating the opener to cause it to engage the sheet between its fold line and its edge and after engagement to move toward the fold line whereby the sheet is opened, and means for depositing a second folded sheet in the sheet thus opened.

8. In an inseting mechanism, the combination with means for supporting a folded sheet, of a sheet opener, means for operating the opener to cause it to engage the sheet between its fold line and its edge and after engagement to move toward the fold line whereby the sheet is opened, a controller for limiting the movement of the sheet near the fold line, and means for depositing a second folded sheet in the sheet thus opened.

9. In an inseting mechanism, the combination with means for supporting a folded sheet, of a sheet opener, means for operating the opener to cause it to engage the sheet between its fold line and its edge and after engagement to move toward the fold line, whereby the sheet is opened, means for varying the point of engagement, and means for depositing a second folded sheet in the sheet thus opened.

10. In an inseting mechanism, the combination with means for supporting a folded sheet, of a sheet opener, means for operating the opener to cause it to engage the sheet between its fold line and its edge and after engagement to move toward the fold line, whereby the sheet is opened, a controller for limiting the movement of the sheet near the fold line, means for varying the point of engagement, and means for depositing a second folded sheet in the sheet thus opened.

11. In an inseting mechanism, the combination with a sheet support for a folded sheet, of a carrier, a sheet opener supported by the carrier, means for giving the carrier a positioning movement, means for causing the opener to move independently of the carrier to separate one ply of the folded sheet from the other, and means for depositing a second folded sheet in the sheet thus opened.

12. In an inseting mechanism, the combination with a sheet support for a folded sheet, of a carrier, a sheet opener supported by the carrier, means for giving the carrier a positioning movement, adjustable devices for determining the amount of said movement, means for causing the opener to move independently of the carrier to separate one ply of the folded sheet from the other, and means for depositing a second folded sheet in the sheet thus opened.

13. In an inseting mechanism, the combination with means for supporting a folded sheet in a position inclined to the vertical, of means operating on the sheet to separate



one ply from the other to open it on the fold line, and a controller for limiting the movement of the sheet near the fold line.

14. In an inseting mechanism, the combination with means for supporting a folded sheet on its fold line and in a position inclined to the vertical, of means operating on the outside of the sheet to separate one ply from the other, thus causing the sheet to open on the fold line, and means for depositing a second folded sheet in the sheet thus opened.

15. In an inseting mechanism, the combination with means for supporting a folded sheet on its fold line and in a position inclined to the vertical, of means operating on the outside of the sheet to separate one ply from the other, thus causing the sheet to open on the fold line, a controller for limiting the movement of the sheet near the fold line, and means for depositing a second folded sheet in the sheet thus opened.

16. In an inseting mechanism, the combination with means for supporting a folded sheet including an inclined back support, of a spring mounted opener, means for giving the opener a combing movement to shift the outer ply of the sheet with respect to the other, whereby it is opened, and means for depositing a second folded sheet in the sheet thus opened.

17. In an inseting mechanism, the combination with means for supporting a folded sheet including an inclined back support, of a spring mounted opener, means for giving the opener a combing movement to shift the outer ply of the sheet with respect to the other, whereby it is opened, a controller for limiting the movement of the sheet near the fold line, and means for depositing a second folded sheet in the sheet thus opened.

18. The combination with means for supporting a sheet on its folded edge, of a combing member, means for giving the combing member a movement which brings it into contact with and to cause it to move the sheet, and a spring which permits the member to move after it has been brought into contact with the paper and prior to a movement of the sheet.

19. The combination with means for supporting a sheet on its folded edge, of a combing roll, an arm in which the roll is mounted, means for operating the roll to cause it to operate on the paper, and a spring which permits the roll to yield after it has been brought into contact with the paper.

20. The combination with means for supporting a folded sheet, of a carrier, means for giving the carrier a swinging movement, adjustable means for determining the amount of said movement, a pair of arms supported by the carrier, means for giving the arms a swinging movement independent

of the carrier, a sheet opener carried by the arms, and means for giving the opener a movement to separate the plies of the folded sheet.

21. The combination with means for supporting a folded sheet, of a carrier, means for giving the carrier a swinging movement, adjustable means for determining the amount of said movement, a pair of arms supported by the carrier, means for giving the arms a swinging movement independent of the carrier, a sheet opener carried by the arms, adjustable means for determining the amount of this swinging movement of the arms, and means for giving the opener a movement to separate the piles of the folded sheet.

22. The combination with a sheet support, of means for depositing a folded sheet thereon with its fold line thereagainst, an inclined back support, a sheet opener, a controller for limiting the movement of the sheet near the fold line, means for moving the opener and controller into and out of operative position and for causing the opener to open the sheet, means for depositing a second folded sheet in the sheet thus opened, and means for moving the sheet support out of the path of the sheets thus assembled to deliver the sheets.

23. In an inseting mechanism, the combination with means for supporting a folded sheet on its fold line, of means for drawing one ply of the folded sheet toward the fold line, whereby the position of said ply is shifted with respect to the other ply and the sheet is opened, and means for depositing a second folded sheet in the sheet thus opened.

24. In an inseting mechanism, the combination with means for supporting a folded sheet on its fold line, of means for drawing one ply of the folded sheet toward the fold line, whereby the position of said ply is shifted with respect to the other ply and the sheet is opened, a controller for limiting the movement of the sheet near its fold line, and means for depositing a second folded sheet in the sheet thus opened.

25. In an inseting mechanism, the combination with a support, of means for depositing a sheet thereon with its fold line resting on the support, a back support, an opener roll, means for giving the roll a movement to shift the outer ply of the sheet with respect to the other ply, means for depositing a second sheet in the sheet thus opened, and means for moving the fold line support to permit the delivery of the sheets thus assembled.

26. In an inseting mechanism, the combination with a support, of means for depositing a sheet thereon with its fold line resting on the support, a back support, an opener roll, means for giving the roll a



movement to shift the outer ply of the sheet with respect to the other ply, a controller for limiting the movement of the ply near the fold line, means for depositing a second sheet in the sheet thus opened, and means for moving the fold line support to permit the delivery of the sheets thus assembled.

In testimony whereof, I have hereunto set my hand, in the presence of two subscribing witnesses.

HERBERT G. LA SOR.

Witnesses:

CHAS. H. LAMB,

J. W. TERRY.