

No. 684,286.

Patented Oct. 8, 1901.

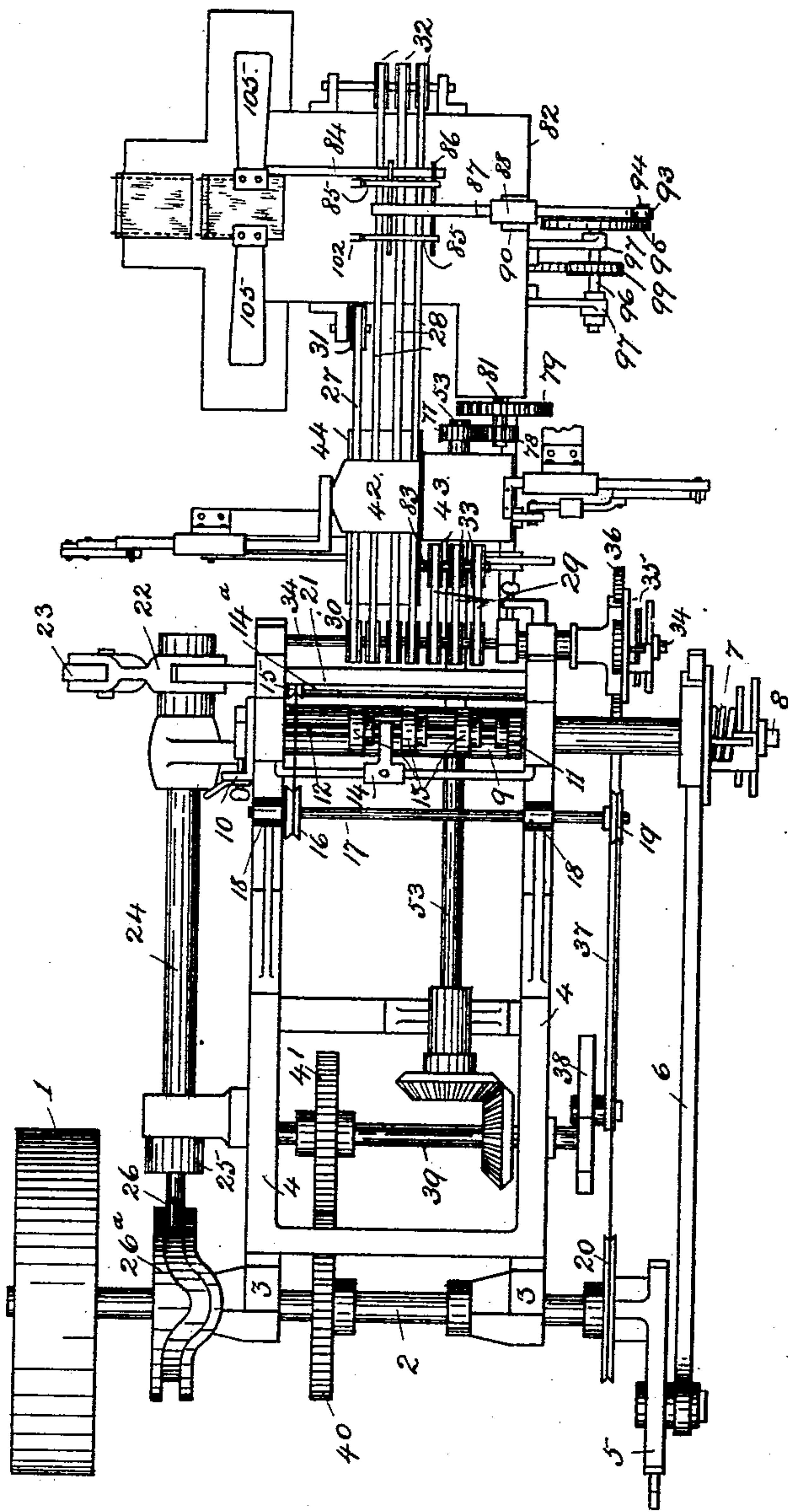
C. MILLHISER & C. L. A. DOEPPE.
BAG MACHINE.

(Application filed Oct. 11, 1899.)

(No Model.)

3 Sheets—Sheet 1.

Fig. 1.



WITNESSES:

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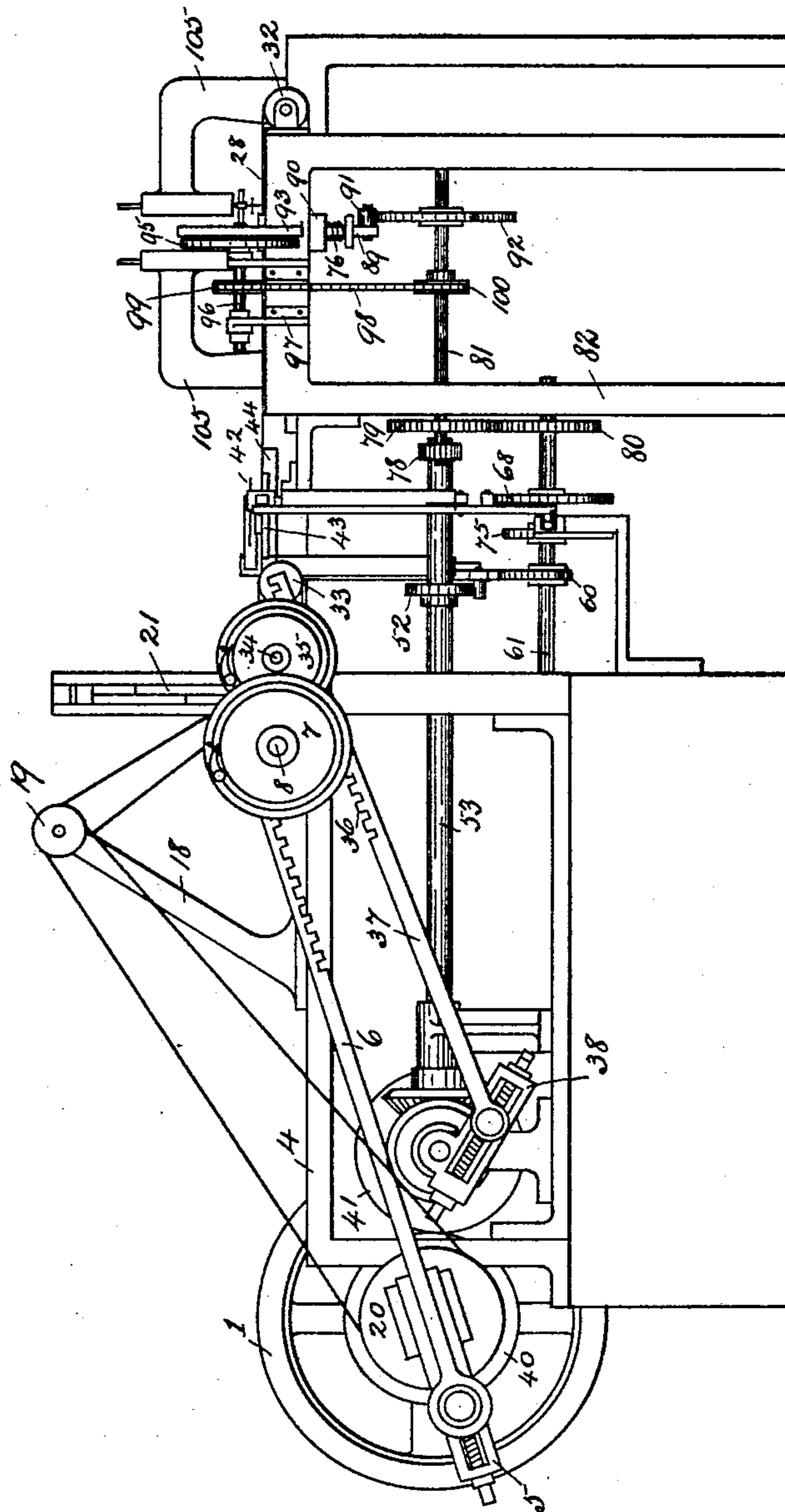
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Fig. II.



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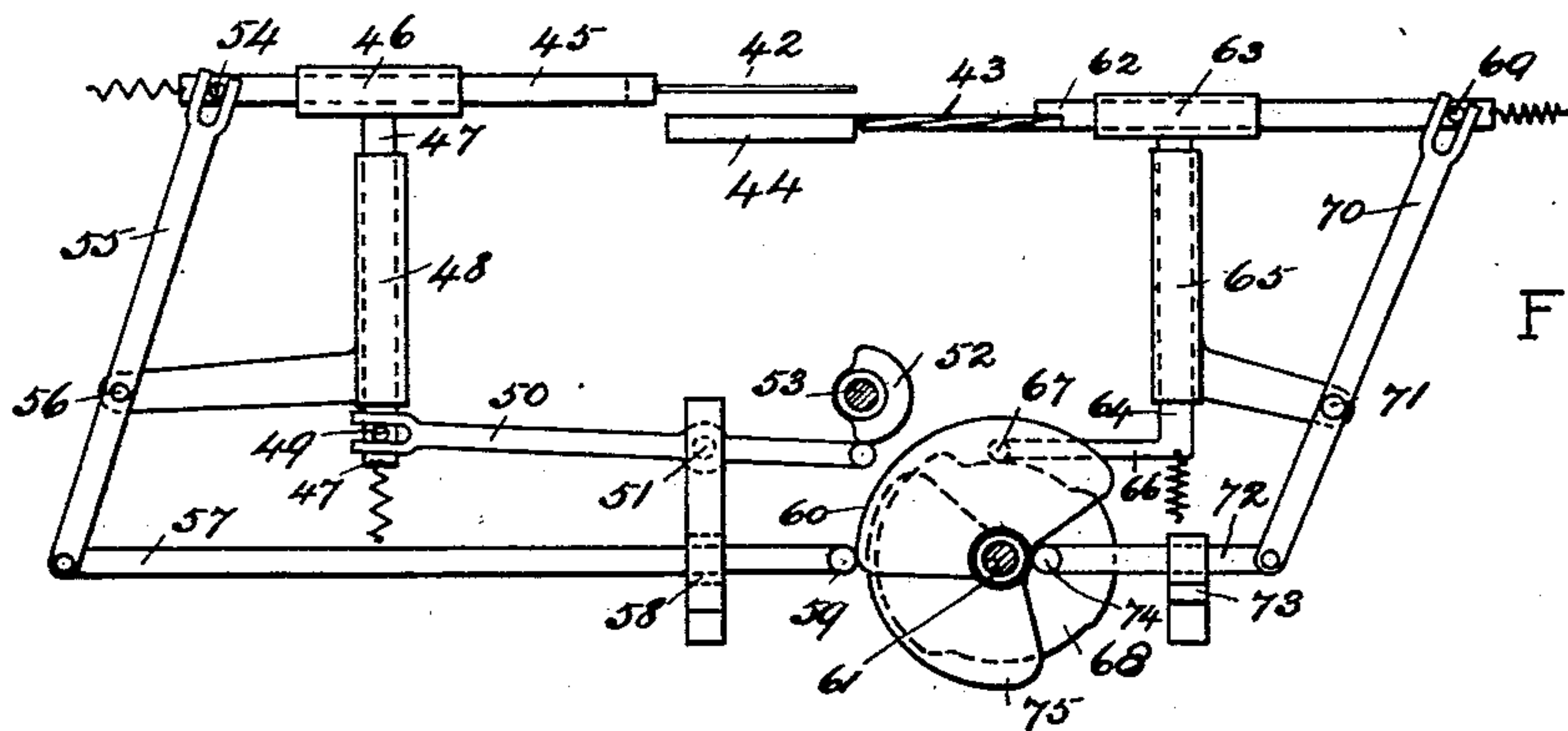


Fig. III.

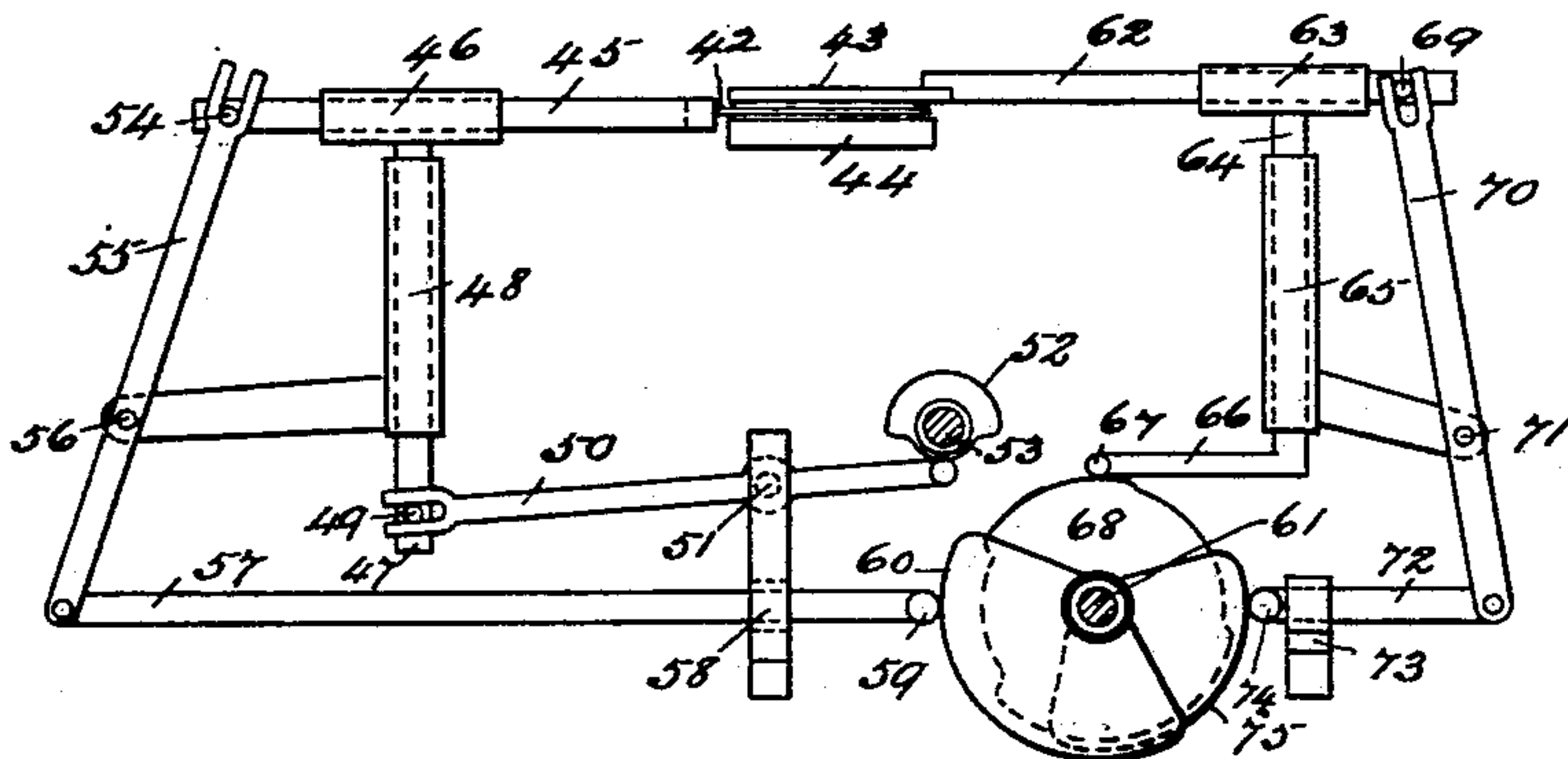


Fig. IV.

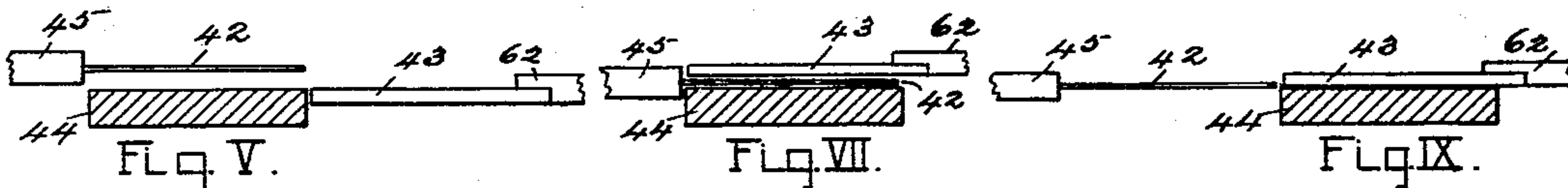


Fig. V.

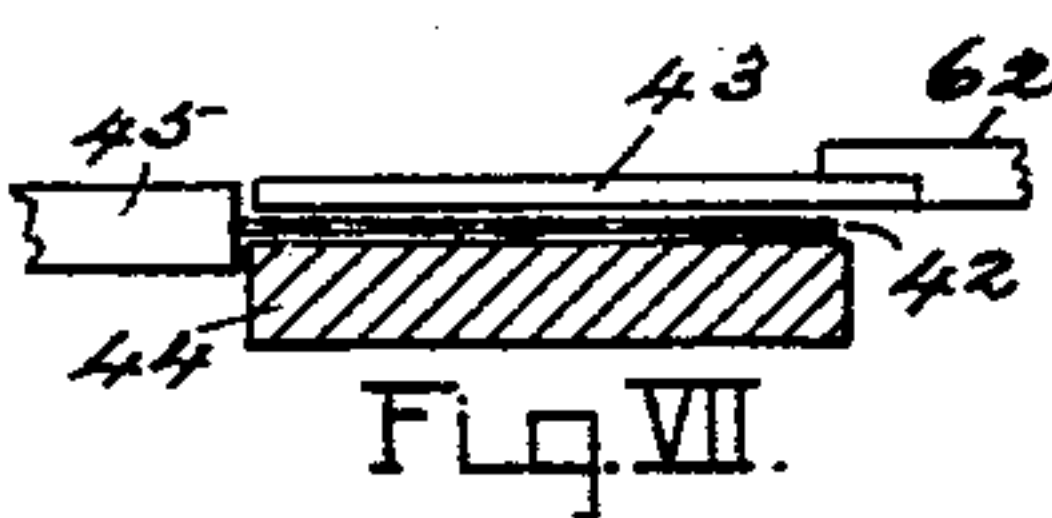


Fig. VII.

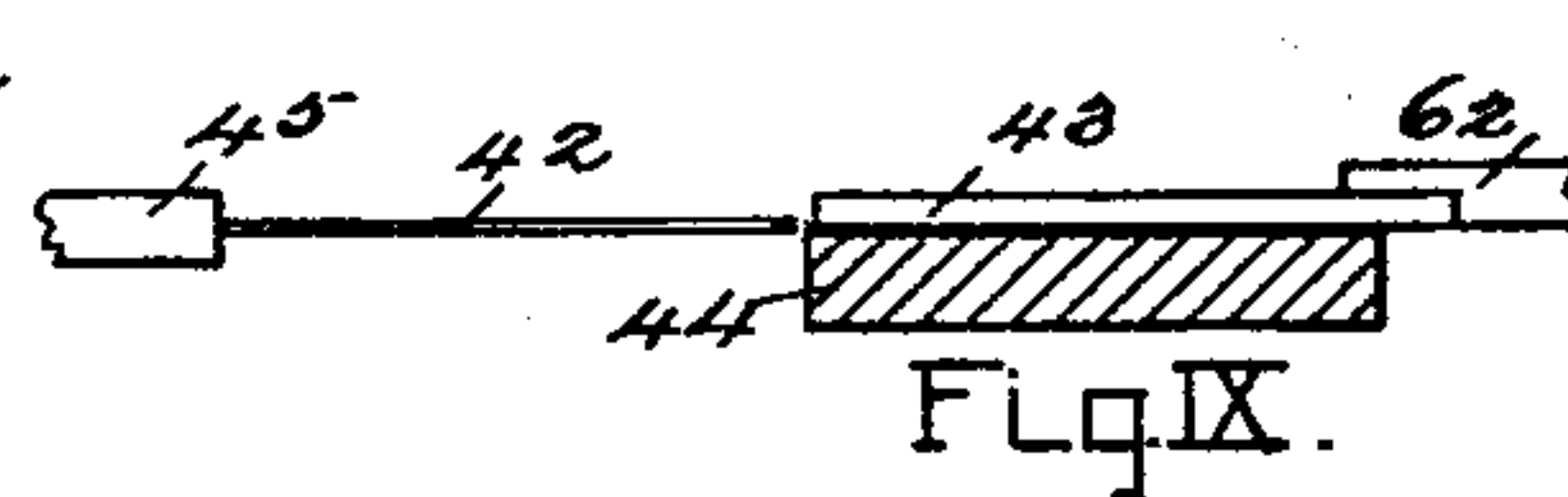


Fig. IX.

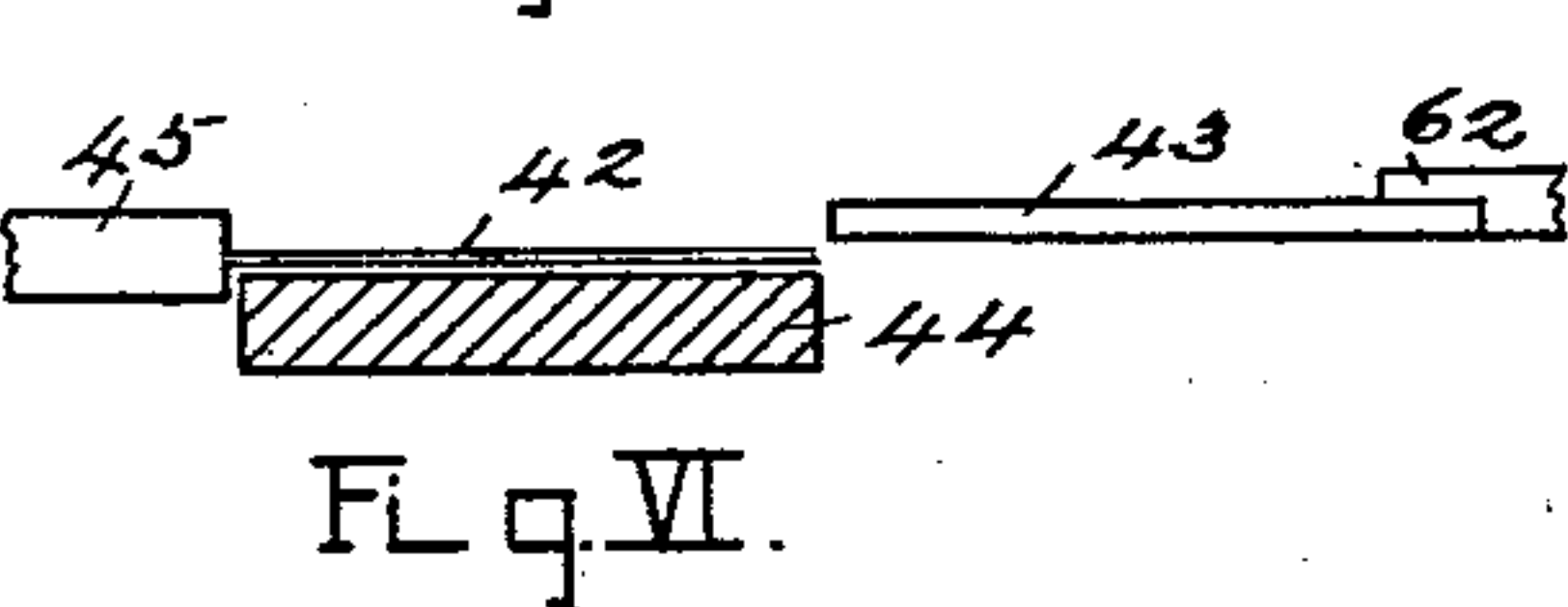


Fig. VI.

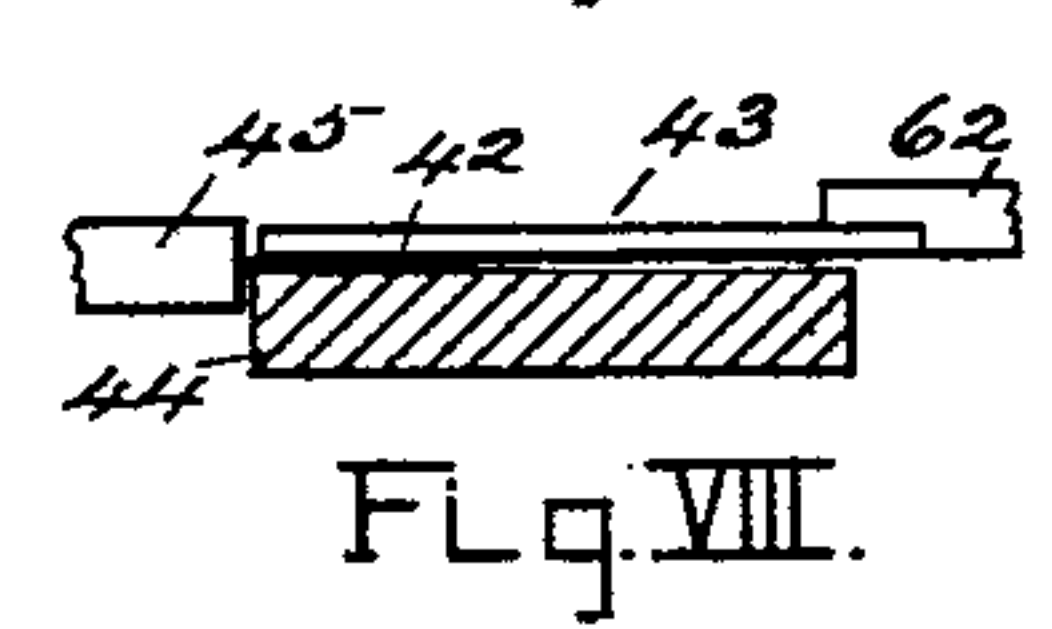


Fig. VIII.

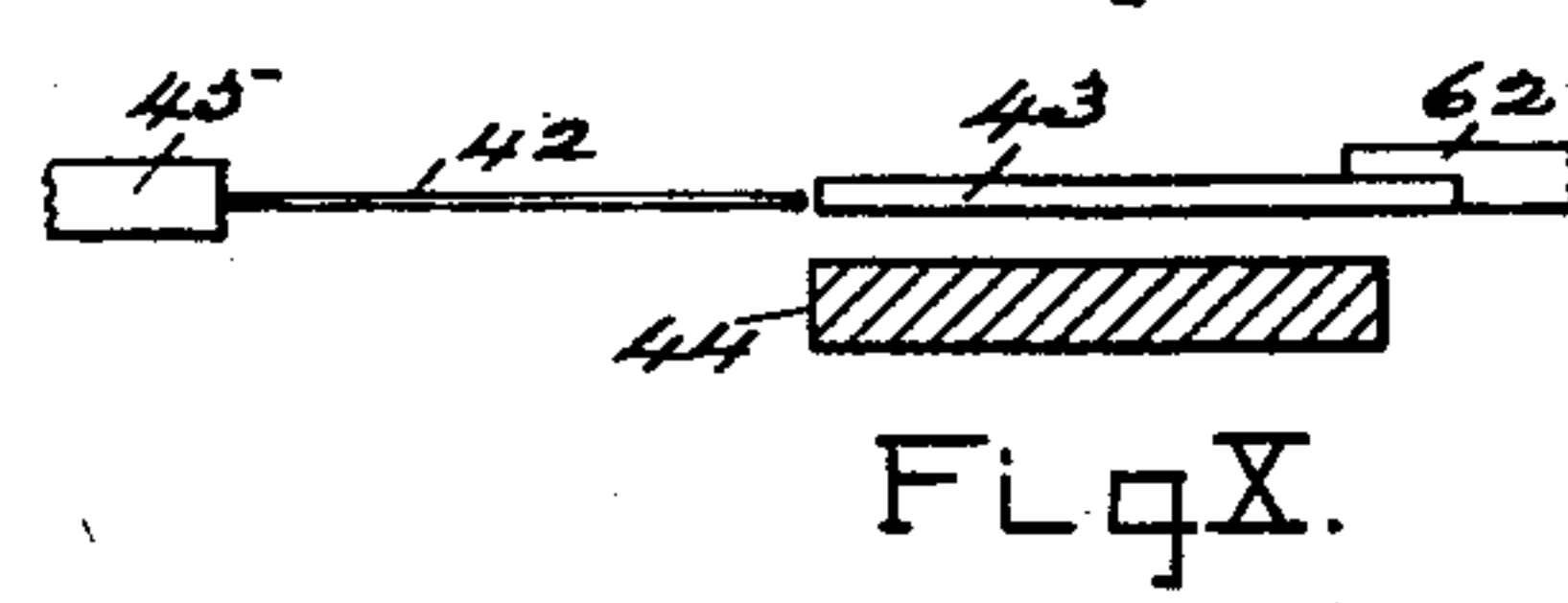


Fig. X.

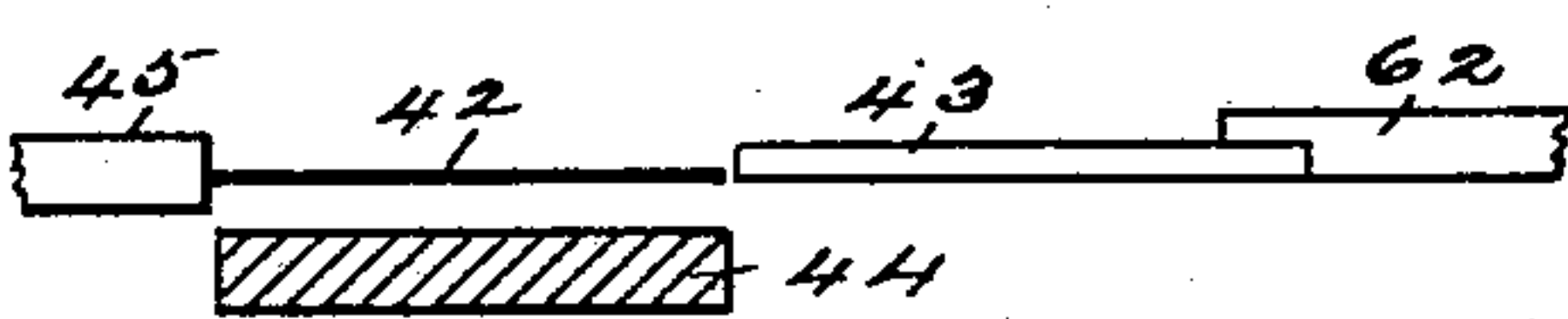


Fig. XI.

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UNITED STATES PATENT OFFICE.

CLARENCE MILLHISER AND CHARLES L. A. DOEPPE, OF RICHMOND, VIRGINIA, ASSIGNORS TO THE MILLHISER MANUFACTURING COMPANY, OF SAME PLACE.

BAG-MACHINE.

SPECIFICATION forming part of Letters Patent No. 684,286, dated October 8, 1901.

Application filed October 11, 1899. Serial No. 733,260. (No model.)

To all whom it may concern:

Be it known that we, CLARENCE MILLHISER and CHARLES L. A. DOEPPE, citizens of the United States of America, and residents of Richmond city, State of Virginia, have invented certain new and useful Improvements in Folders, of which the following is a specification.

Our invention relates to folders for cloth, paper, and similar materials; and it has for its object the provision of means for folding portions of fabric such as are used in the manufacture of bags, sacks, &c., and it may be advantageously used in connection with bag and sack making machines.

In order that the operation and use of our improved folder may be readily understood, we shall describe it in connection with a machine for making bags of cloth, the operation of such a machine being, briefly stated, as follows: The forward end of a continuous strip of fabric is fed beneath a cutter, the quantity of fabric fed beyond the cutter being sufficient for the formation of a bag. The cutter then severs from the strip of fabric the portion fed beyond it. The severed portion of fabric is then carried to the folder, which folds it in such a manner that it may be sewed on two of its open edges to form a bag. The folded portion of fabric is then transferred to sewing mechanism, which is so arranged that it may sew the folded portion of fabric to form a bag.

Referring to the drawings which accompany and form a part of this specification, and in which like numerals refer to like parts, Figure I is a plan of the machine, the feeding-table being removed in order to allow the driving mechanism to be clearly seen. Fig. II is a side elevation of the same. Figs. III and IV show the folder and the mechanism for operating it. Figs. V, VI, VII, VIII, IX, X, and XI are diagrams illustrating the operation of the folder.

In Fig. I, 9 and 13 are the feed-rolls which feed the continuous strip of fabric forward to the cutters 21. Upon the cutters severing a portion of fabric from the strip the said portion is carried by the intermittently-moving endless tapes 27 28 29 to the folder, which consists of two principal parts, the clamp 42

and the platen 43, that part of the portion of fabric which lies on the tapes 27 and 28 being carried under the clamp 42 and that part which lies on the tapes 29 being carried upon the folding-platen 43.

44 is a fixed table which supports the tapes 27 and 28 when the clamp 42 descends upon the portion of fabric.

The operation of the folding mechanism will be more easily understood on referring to Figs. III to XI. In Figs. III and IV, 44 is the supporting-table. 42 is the clamp, carried by an arm 45, which slides in a sleeve 46. The sleeve 46 is mounted on a rod 47, which slides in an upright sleeve 48, the rod 47 having at its lower end a pin 49, which is engaged by the end of a lever 50, pivoted at 51, and given a rocking motion by means of the cam 52, mounted on the shaft 53. (See Figs. I and II.) As the cam 52 revolves the platen 42 is given a rising-and-falling motion. Engaging a pin 54 in the arm 45 is a lever 55, pivoted at 56 and connected at its other end to the rod 57, which slides in the guide 58. At the other end of the rod 57 is a roller 59, which bears against the cam 60, mounted on the shaft 61. When the cam 60 revolves, the arm 45 is given a horizontal motion, causing it to slide in the sleeve 46. The platen 43 is attached to the arm 62, which slides in the sleeve 63. The sleeve 63 is mounted on a rod 64, which slides in the vertical sleeve 65. At the lower end of the rod 64 is an arm 66, which carries a roller 67, which bears upon the cam 68, mounted on the shaft 61. The cam 68 is so formed as to raise and lower the rod 64, and consequently the platen 43, given distances at certain intervals. Engaging a pin 69 in the arm 62 is a lever 70, pivoted at 71 and connected at its other end to the rod 72, which slides in the guide 73. At the other end of the rod 72 is a roller 74, which bears against the cam 75, mounted on the shaft 61. As the cam 75 revolves the arm 62 is given a horizontal motion, causing it to slide in the sleeve 63. As soon as the tapes have carried the portion of fabric into the proper position the clamp 42 and the platen 43 being in the position shown in Fig. V, the clamp 42 descends, (see Fig. VI,) holding one-half of the portion of fabric firmly down upon the table

44. Thereupon the platen 43 rises until its lower surface is just above the level of the clamp 42 (see Fig. VI) and advances until it is immediately over the clamp, (see Fig. VII,) 5 folding that part of the portion of fabric which was lying upon it over upon the top of the clamp. The platen now descends a distance sufficient to press the folded part of the portion of fabric firmly down upon the upper 10 face of the clamp. (See Fig. VIII.) The clamp is now withdrawn from between the folds of the portion of fabric, (see Fig. IX,) it being preferably made of a sheet of polished metal, while the under surface of the 15 platen is somewhat rougher, enabling it to hold the folded portion of fabric in position while the clamp is being withdrawn. As soon as the clamp 42 is withdrawn from between the folds of the portion of fabric both clamp 20 and platen rise (see Fig. X) and travel back to the position shown in Fig. XI. The platen then falls to the original position shown in Fig. V, when the folder is ready to receive the next portion of fabric to be folded. The 25 falling of the clamp and the platen may be effected simply by the weight of the arms, sleeve, and rods which operate them or by means of springs suitably placed or by means

of what are known as "inside cams" used in place of the "outside cams" 52 and 68 shown 30 in the drawings. The return motions of the clamp and platen in a horizontal direction may be effected by means of springs or by means of inside cams in place of the outside 35 cams 60 and 75 shown in the drawings.

Having now described our invention, what we claim, and desire to protect by United States Letters Patent, is—

Folding mechanism consisting of a clamp having the four movements forward, down, 40 back, and up, to clamp one-half of a portion of fabric to a fixed support and a platen having the six movements up, forward, down, up, back, and down, to lift and fold the free half 45 of the portion of fabric being folded over upon the other half, and means to impart to the clamp and platen the motions and in the order specified, substantially as described.

Signed by us at Richmond this 3d day of October, 1899.

CLARENCE MILLHISER.
CHARLES L. A. DOEPPE.

Witnesses:

C. W. THROCKMORTON,
ARTHUR SCRIVENOR.