

(No Model.)

2 Sheets—Sheet 1.

J. WEST.

MACHINE FOR STRINGING PAPER BAGS.

No. 416,819.

Patented Dec. 10, 1889.

Fig. 1.

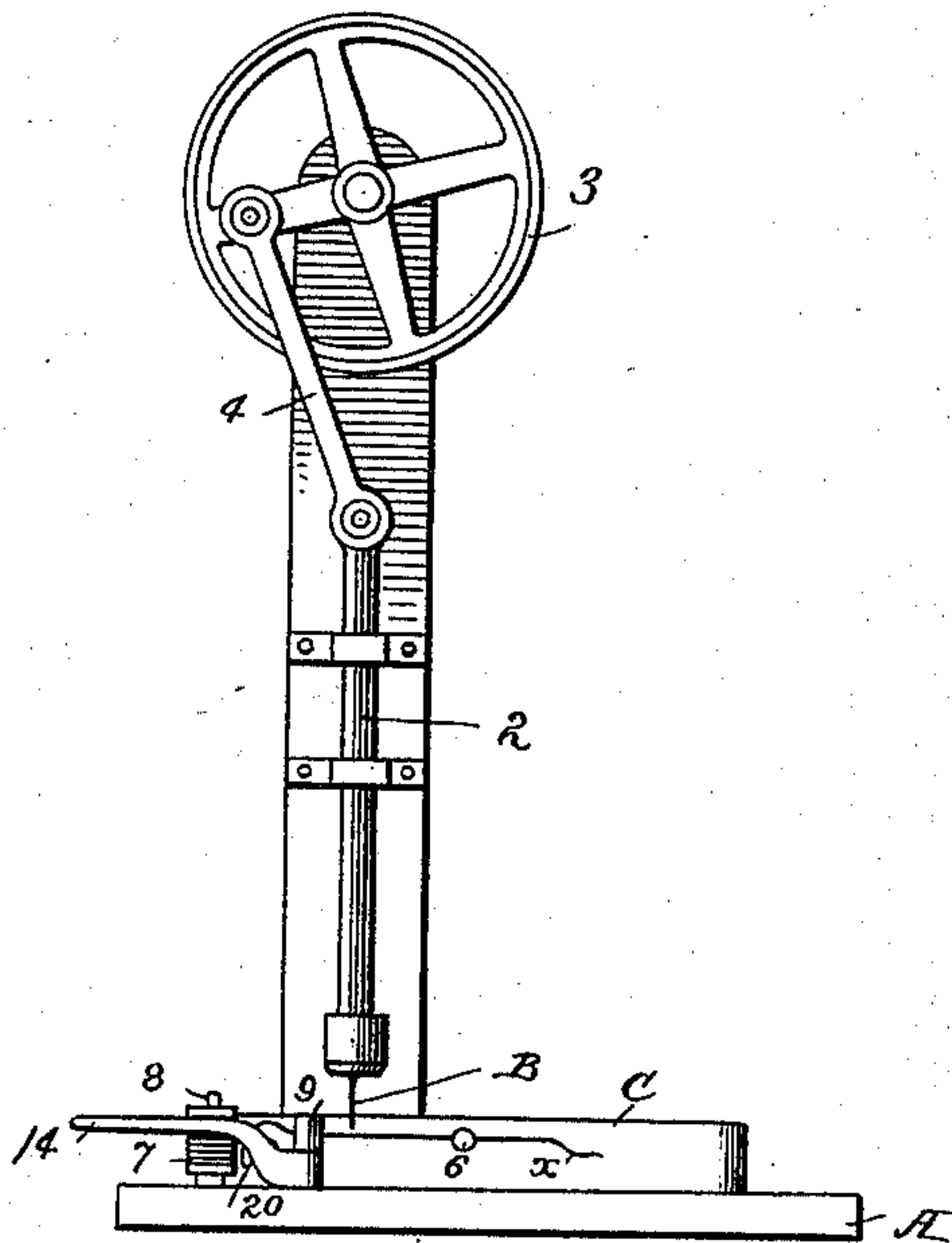


Fig. 4.

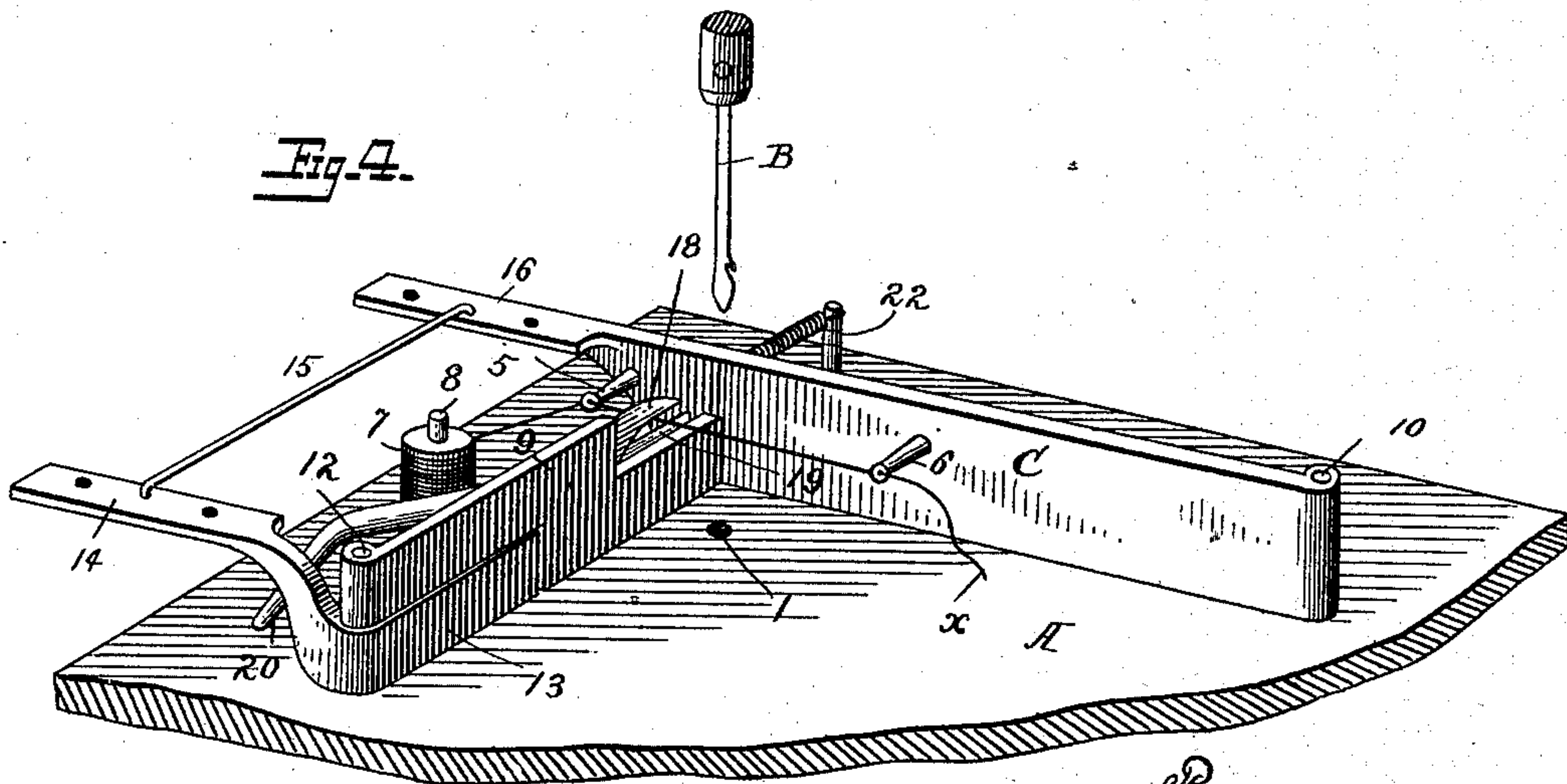


Fig. 5.

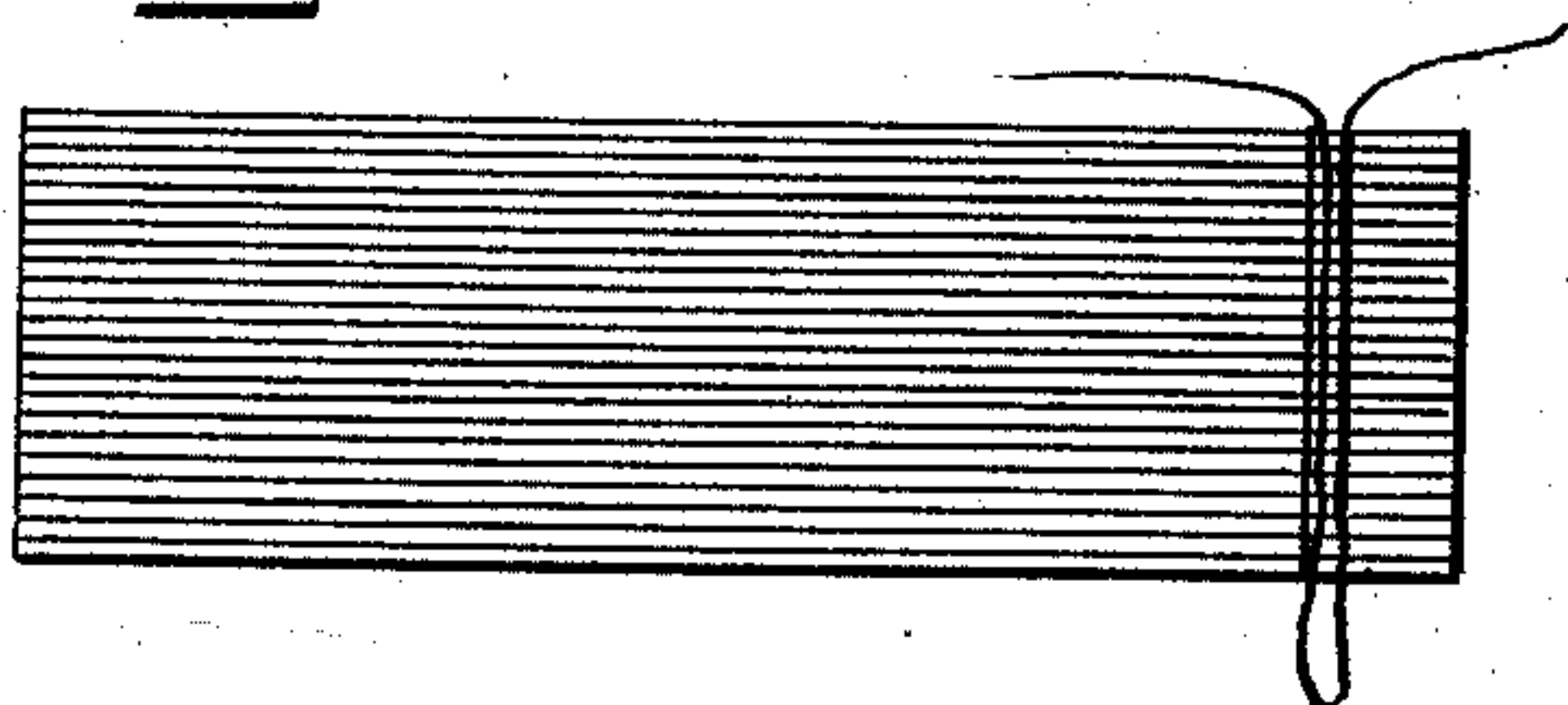
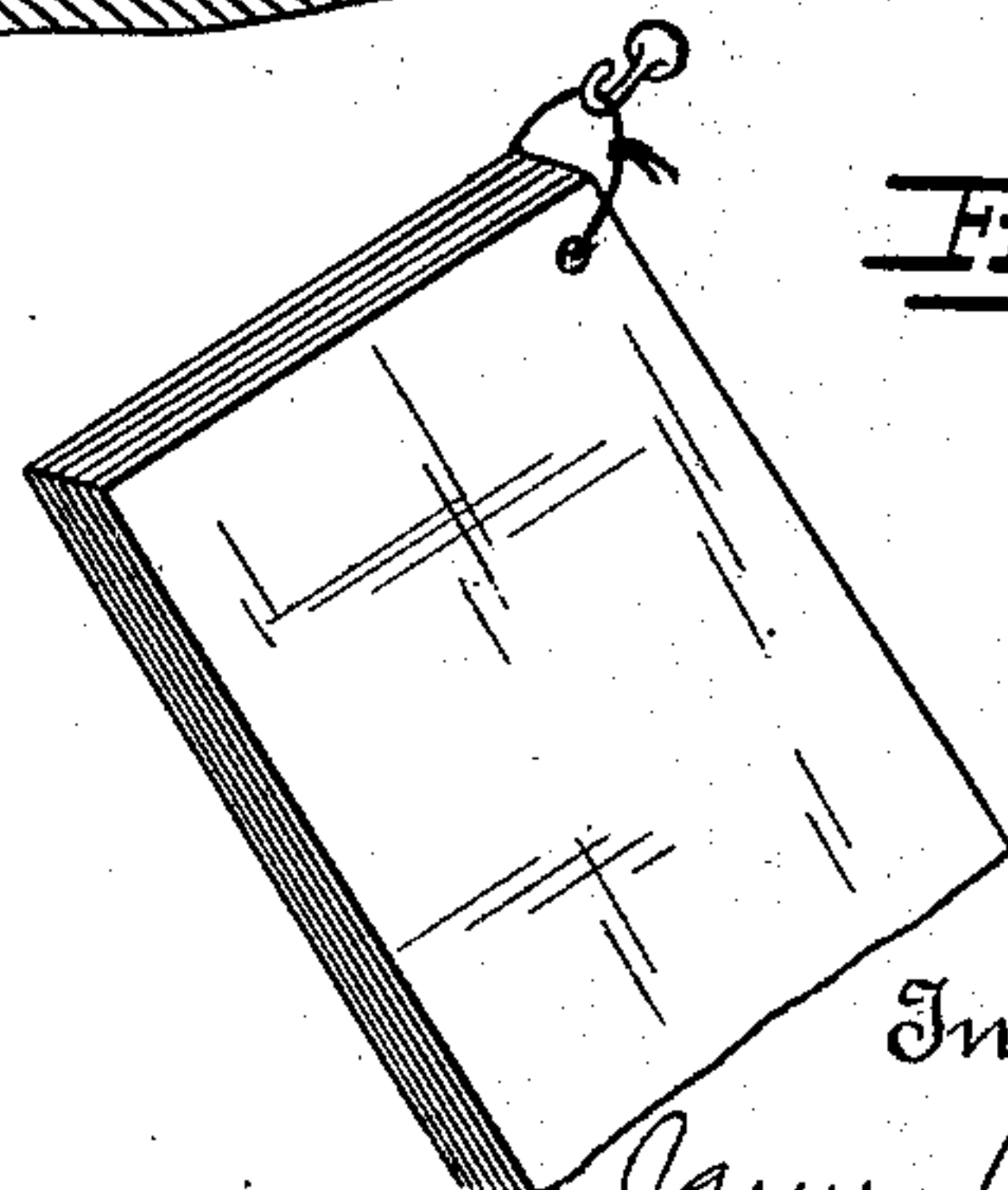


Fig. 7.



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Fig. 2.

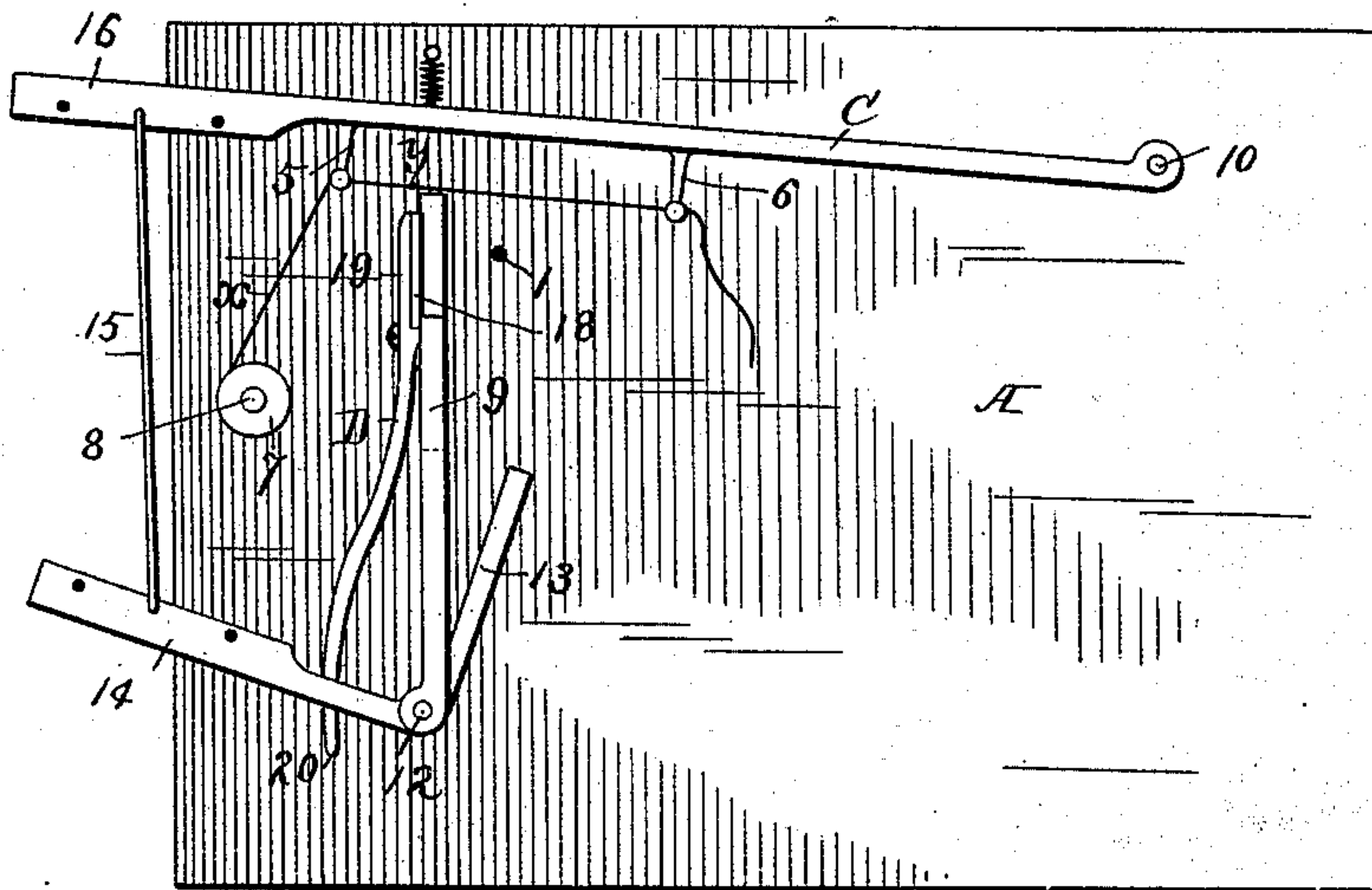


Fig. 3.

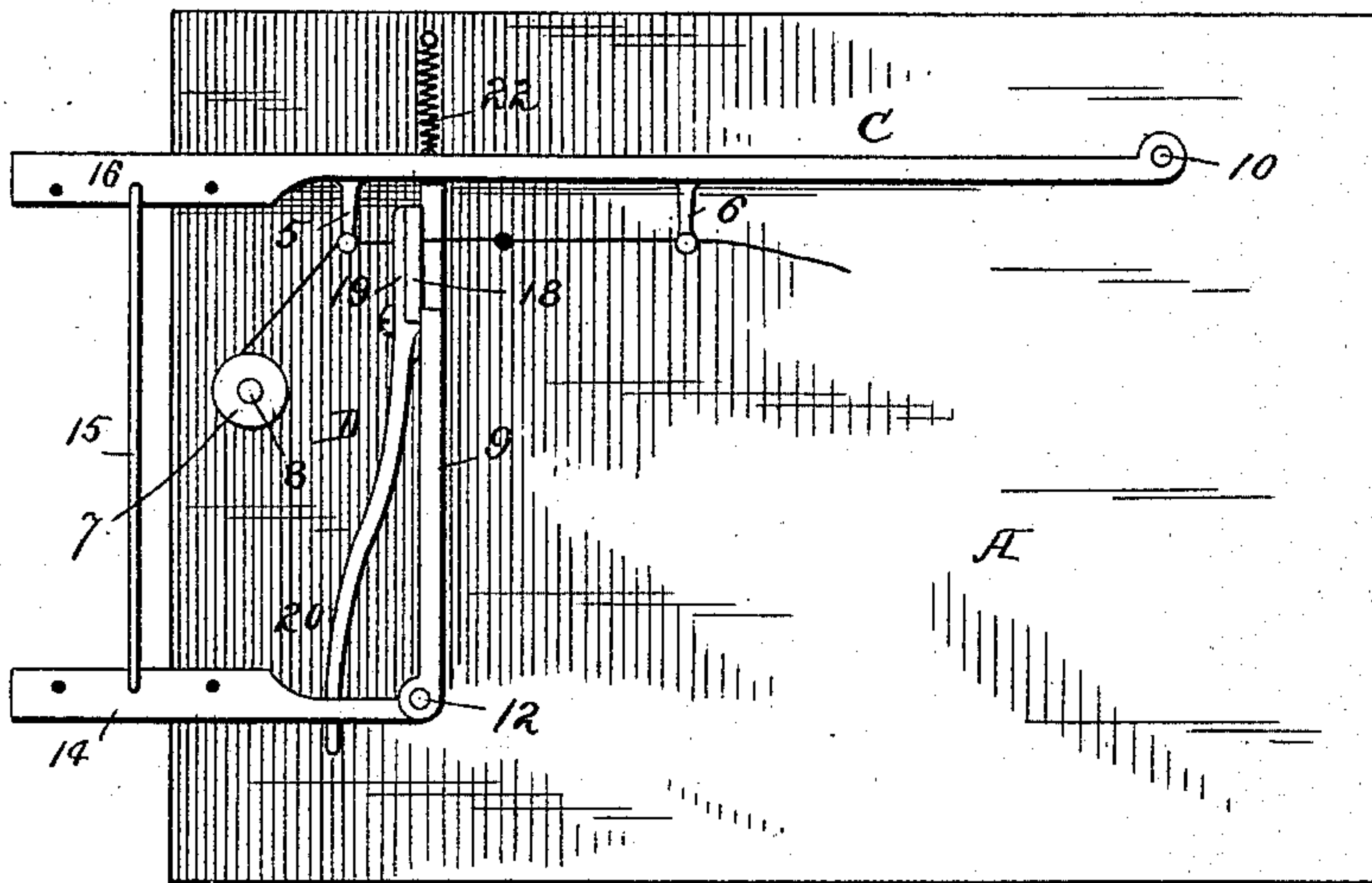
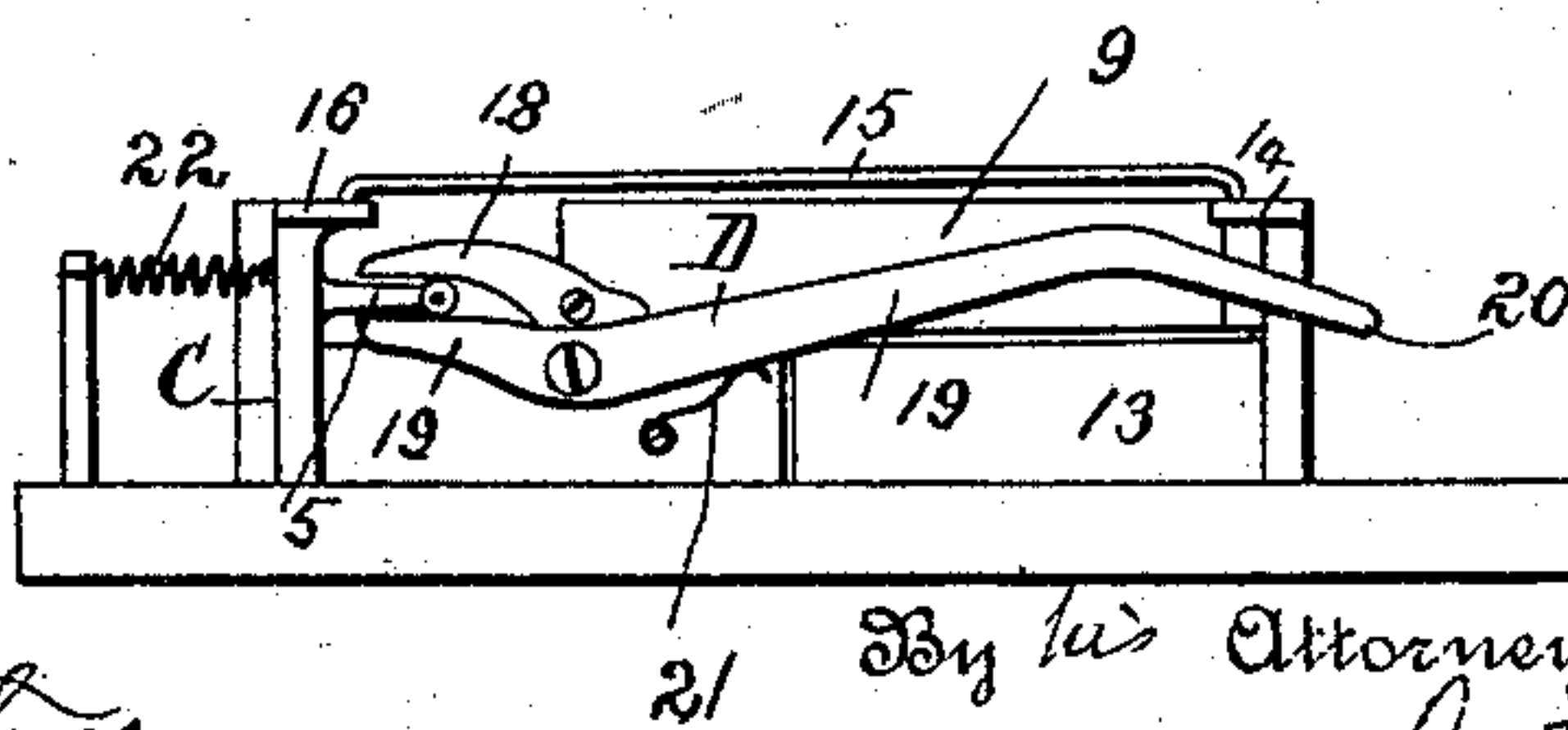


Fig. 5.



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# UNITED STATES PATENT OFFICE.

JAMES WEST, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF TO SAMUEL CUPPLES, OF SAME PLACE.

## MACHINE FOR STRINGING PAPER BAGS.

SPECIFICATION forming part of Letters Patent No. 416,819, dated December 10, 1889.

Application filed July 9, 1889. Serial No. 316,938. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES WEST, a citizen of the United States, residing at St. Louis, Missouri, have invented certain new and useful Improvements in Machines for Stringing Paper Bags, of which the following is a specification.

My invention is a machine for stringing or inserting threads through packages of paper bags and like paper articles required to be bundled together, the said machine being constructed and arranged to operate as fully set forth hereinafter and as illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of the machine. Figs. 2 and 3 are plans showing the workplate and parts thereon in different positions. Fig. 4 is a perspective view of the operating parts of the machine. Fig. 5 is a side view of said parts; Fig. 6, a sectional view showing the loop as placed in a bundle of bags, and Fig. 7 a view illustrating the bundle of bags connected by the loop.

A is a table or platform in which is an opening or perforation for the passage of a thread or cord carrier B, which may be carried by suitable appliances above or below the table, but as shown is fitted to a socket in a sliding bar 2, to which a reciprocating movement is imparted from a crank-wheel 3 through the medium of a connecting-rod 4.

Suitably supported in a position to move to and from the path of the thread-carrier B is a thread-conductor C, which may be of any desired construction, and is provided with eyes 5 6 for the passage of the thread or cord  $x$ , which is supported by a bobbin 7, turning upon a pin 8, projecting from the face of the table. The thread-carrier B is shown in the form of a slotted needle, and when the conductor is swung into the position shown in Figs. 1, 3, 4, and 5 the slot in the carrier will receive the thread held by the conductor, and will carry the thread in a loop through a bundle of paper bags or other like articles placed upon the table above the opening 1.

In order to facilitate the placing of the bags in position with rapidity and certainty, I secure to the table a plate 9, which constitutes a guard against which the edges of the bundle of bags are placed, and I form the thread-

conductor C from a plate pivoted to a vertical pin 10, so that when thrown inward, as shown in Figs. 3 and 4, the conductor will be at right angles to the guard 9 and define the position of the edges of the bundle of bags, the two guards  $C^9$  meeting at a point adjacent to the opening 1. The conductor C might be moved by hand to introduce the thread into the slot in the thread-carrier B; but I prefer to effect this operation automatically, so that the act of placing the bundle of bags in position will cause the conductor to move to bring the thread in line with the path of the needle. Thus to a pin 12, extending through the end of the guard 9, I hinge a wing 13, which fits within an opening formed by cutting away the guard 9, and which may be swung into line with the guard or outward at an angle thereto, as shown in Fig. 1. An arm 14, projecting at right angles from the wing 13, is connected by a rod 15 to an arm 16, extending from the conductor C, and these parts are so arranged that when the wing 13 is at an angle to the guard 9, as shown in Fig. 2, the conductor C will hold the thread out of the path of the needle; but when the bundle of bags is brought to position against the guard 9, the wing 13 is swung inward and the conductor C is thereby swung toward the guard 9, and the thread  $x$  is carried into the path of the needle or thread-carrier, so that when the latter descends it will catch the thread and perforate the bundle of bags, carrying the thread in the thread-carrier doubled in the form of a loop through the opening thus made, as shown in Fig. 6. When the thread-carrier rises, the loop is left in the opening, the thread is severed at the point  $y$ , and the bundle is then withdrawn from the table, after which one of the double portions of the loop is drawn from the opening and the two ends of the thread are tied together, so as to connect the bags of the bundle and afford a means of suspending them, as shown in Fig. 7. After this operation the end of the thread adjacent to the eye 5 is seized by the operator and the thread is drawn out and laid into the eye 6, when the above-described operations are performed upon another bundle of bags.

I prefer to provide means for automatically



severing the thread when the conductor begins to swing outward. Any suitable cutter actuated from any suitable part of the machine may be used for this purpose. As shown, there is a shearing device D, consisting of a fixed jaw 18 and a movable jaw 19, the arm 20 of which extends back and is bent downward under the arm 14, so that when the arm 14 moves in the direction of the arrow, Fig. 4, it will depress the arm 20 and close the jaws of the shears, severing the thread passing between them. A spring 21 opens the shears as soon as the wing 13 is swung inward, when a new bundle of bags is placed in position, and a spring 23 tends to throw back the conductor. (Shown in Fig. 2.)

It will be evident that the conductor might be fixed and the needle shifted as equivalent of the shifting of the conductor, and that any other suitable form of contact-piece than that shown may be substituted therefor to shift the needle or conductor when the bags are put into position to thereby introduce the thread, wire, or cord into the path of the needle.

Without limiting myself to the precise construction and arrangement of parts shown, I claim—

1. A machine for stringing bags, having a perforated table, a reciprocating notched thread-carrier, and a movable thread-guide supporting the thread and arranged to carry the same to and from the path of the needle, substantially as set forth.

2. The combination, in a bag-stringing machine, of a perforated table, a reciprocating thread-carrier, and a thread-conductor consisting of a plate pivoted to swing above the table and provided with eyes for carrying the thread, substantially as set forth.

3. The combination, with the perforated

table, thread-carrier, and thread-conductor, of a movable wing connected to swing the conductor and arranged in position to be moved as the bags are placed in position upon the table, substantially as set forth.

4. The combination of the perforated table, reciprocating thread-carrier, thread-conductor, movable wing connected with the conductor, and guard 9, substantially as set forth.

5. The combination, with the table, thread-carrier, and conductor, of a thread-cutter and appliances for operating the same to sever the thread after the carrier has inserted a loop of thread in the bags upon the table, substantially as set forth.

6. The combination, in a bag-stringing machine, of a needle, a conductor, and a movable piece arranged to make contact with the bags when in position to be penetrated by the needle and connected with the conductor to shift the latter into position to place the thread, cord, or wire in the needle when the bags are put in place, substantially as set forth.

7. A bag-stringing machine provided with a reciprocating needle for penetrating the bags, a conductor for supporting the thread, cord, or wire, a cutter for severing the latter, and a movable piece connected with the conductor to shift the latter into operative position only when the bags are in position to be penetrated by the needle, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES WEST.

Witnesses:

N. G. PIERCE,  
J. M. KERR.