

(No Model.)

J. A. CAMPBELL.

LOOM FOR WEAVING LOOPED OR TERRY FABRICS.

No. 373,175.

Patented Nov. 15, 1887.

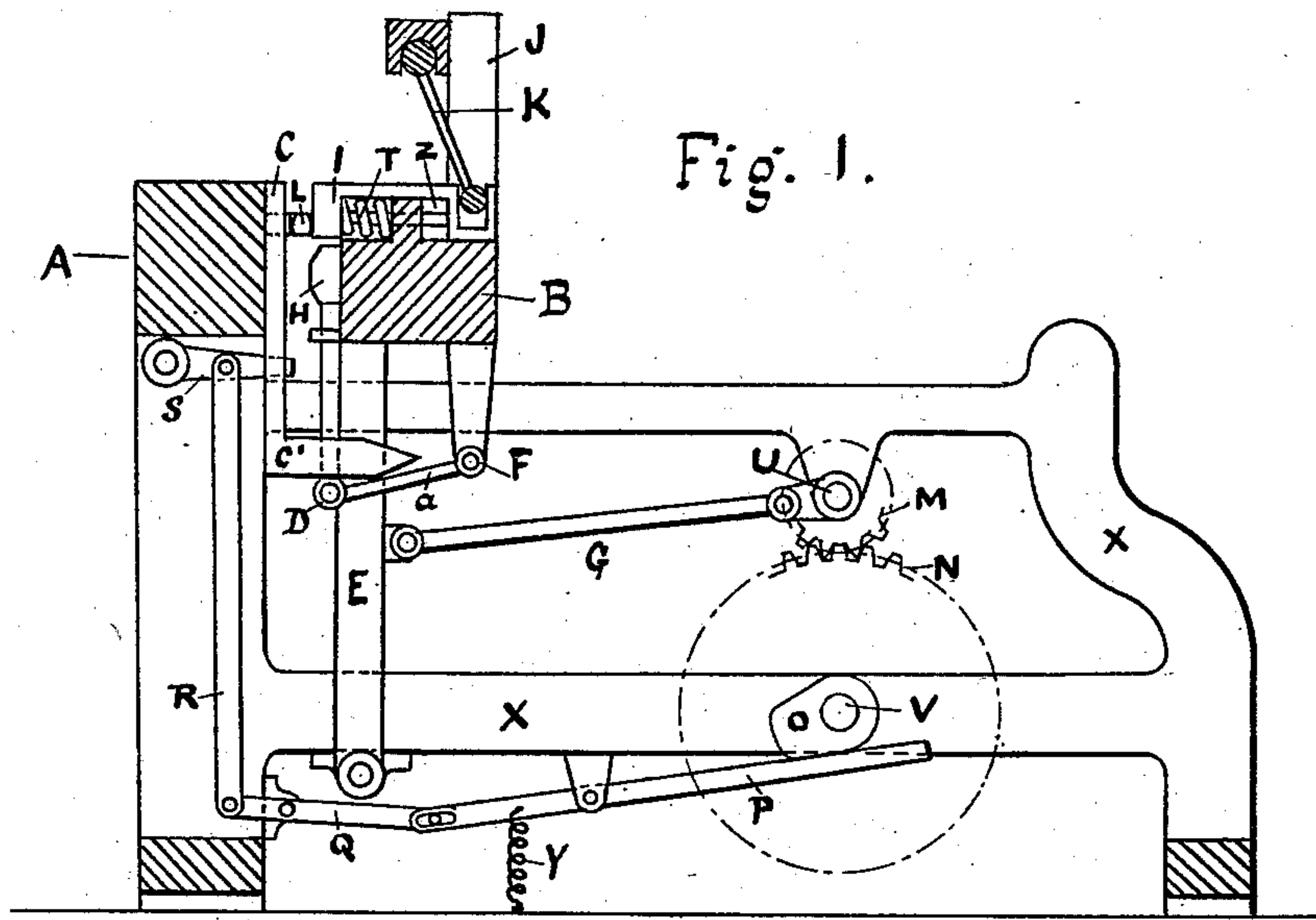


Fig. 2.

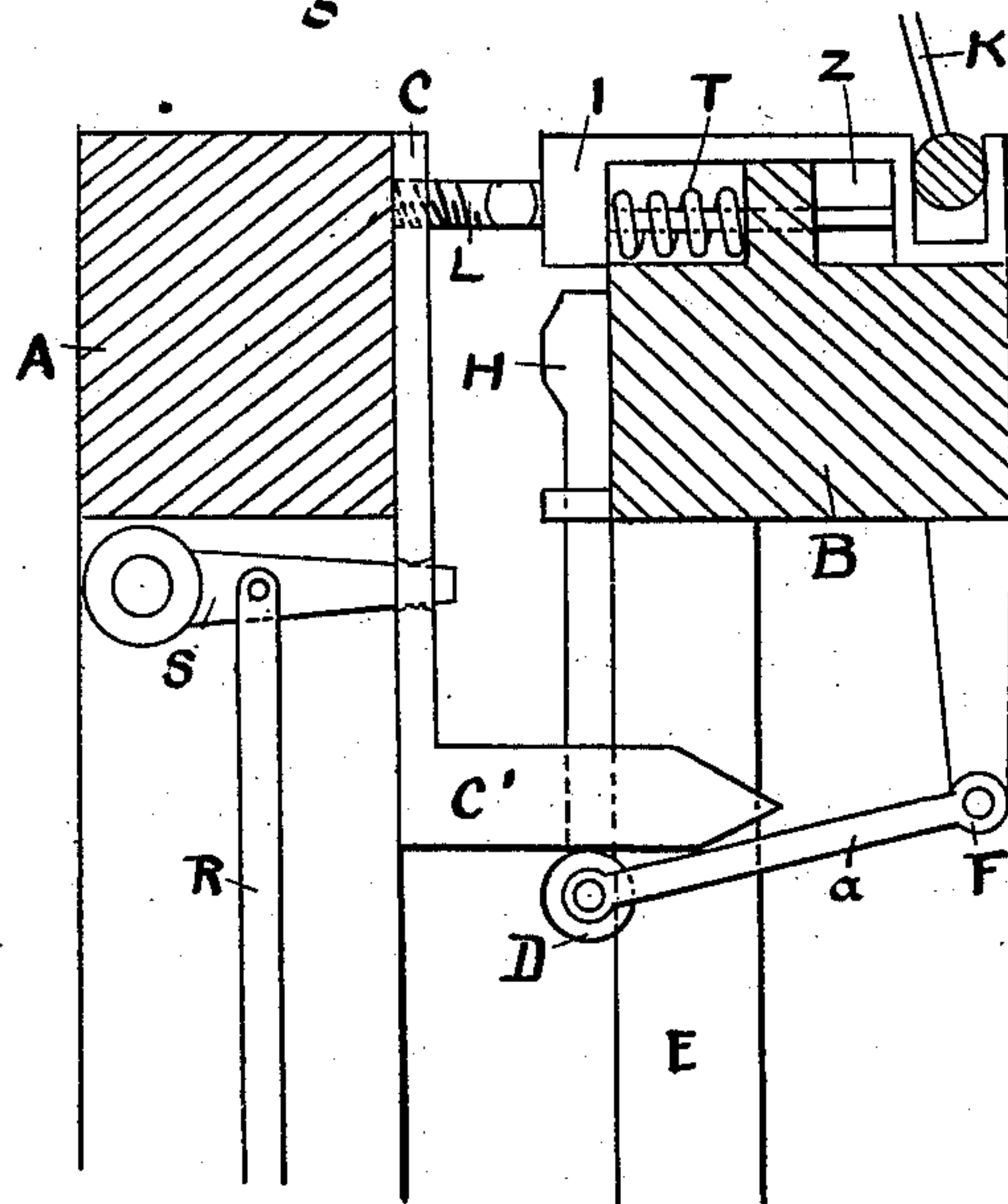
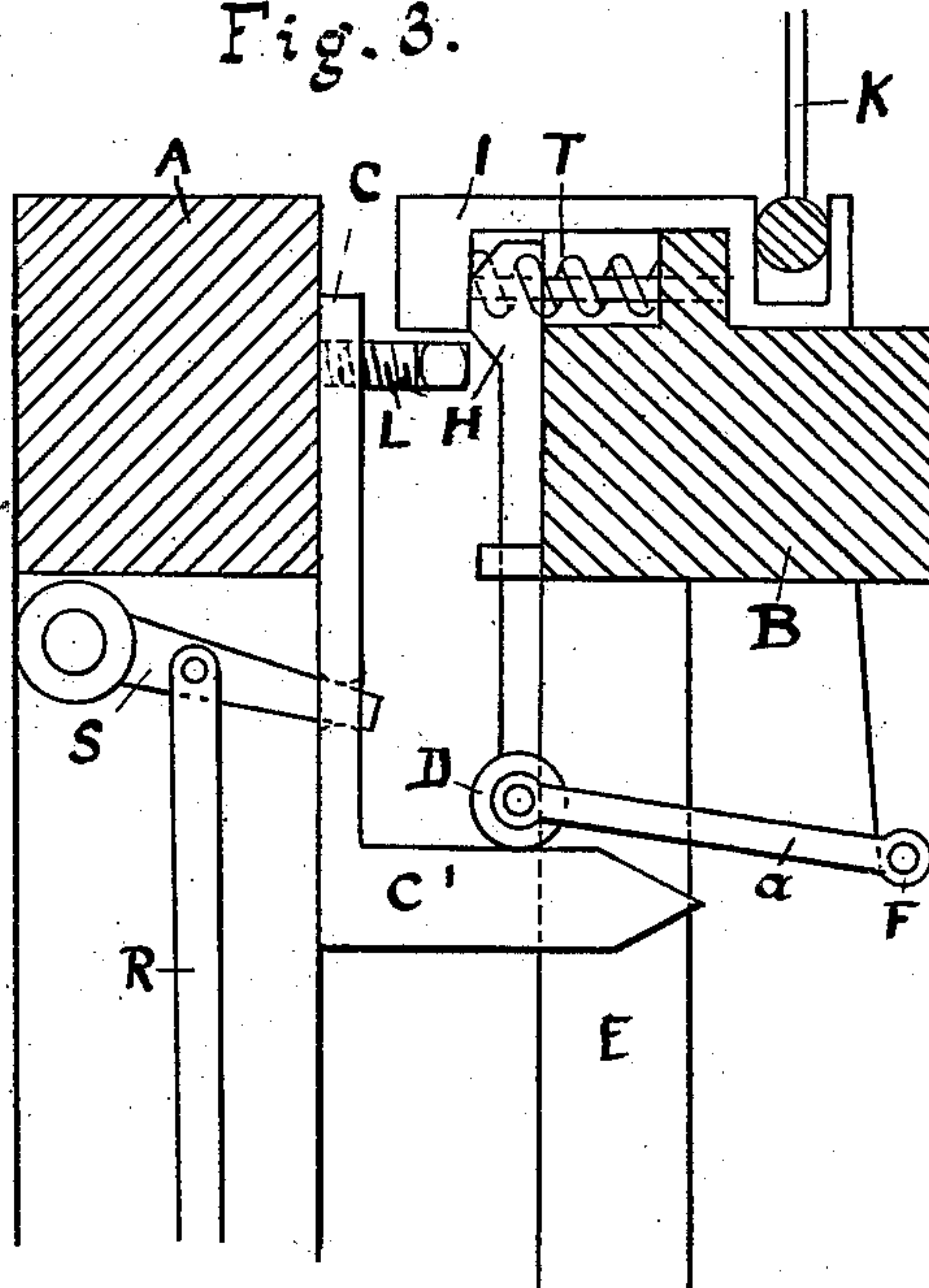


Fig. 3.



Witnesses:

Henry H. Supplee
W. E. London

Inventor.

J. Addison Campbell.

UNITED STATES PATENT OFFICE.

J. ADDISON CAMPBELL, OF PHILADELPHIA, PENNSYLVANIA.

LOOM FOR WEAVING LOOPED OR TERRY FABRICS.

SPECIFICATION forming part of Letters Patent No. 373,175, dated November 15, 1887.

Application filed January 31, 1887. Serial No. 225,982. (No model.)

To all whom it may concern:

Be it known that I, J. ADDISON CAMPBELL, of the city and county of Philadelphia, State of Pennsylvania, have made certain new and useful Improvements in Looms for Weaving Looped or Terry Fabrics, of which the following is such an exact, full, and clear description as to enable any person skilled in the construction of such looms to make and use the same, reference being had to the annexed drawings.

This invention relates to a class of looms for weaving the looped pile fabric known as "terry-cloth;" and the object of the improvement is the simplification of the mechanism and the protection of the parts from the accumulation of dust, which would otherwise choke and clog the action.

In weaving terry-cloth the operation consists in partially beating up certain picks of weft-thread, and afterward further beating up or driving home those picks, causing certain of the warp-threads to rise up from the body in loops.

In the drawings, Figure 1 is a sectional elevation of a loom, showing the improvement attached. Fig. 2 is a sectional view showing the parts in the position for partially beating up the weft-threads, and Fig. 3 is a similar view of the parts in the position for driving the weft-threads home and causing the loops to rise up.

Similar letters refer to similar parts throughout the drawings.

X X is the frame of the loom, and A is the breast-beam.

B is the lay of the loom, which is mounted to swing in the usual manner, motion being given to it by the pitmen G and crank-shaft U.

On the lay B is the shuttle-race I, which carries the lower part of the reed K, the upper part of the reed K being carried by supports rising from the lay B, as shown at J. The shuttle-race I is fitted on the lay B in such a manner that it is free to slide backward or forward as it may be acted upon by the other parts.

T is a spiral spring recessed into the lay B, and acting to force the shuttle-race I and reed K toward the breast-beam A.

C is a slide attached to the inside of the

breast-beam A, and carrying on its lower portion a pointed guide, C', while in the upper portion of the slide C is an adjustable set-screw, L.

H is a sliding catch attached to the front of the vibrating lay B, and carrying at its lower end a roller, D, which roller D is connected by a link, a, to a bearing, F, attached to the lay B.

S is an arm pivoted to the frame of the loom and inserted into the slide C in such a manner as to be capable of moving the slide C up or down, as the case may be.

V is the cam-shaft of the loom, which is driven from the crank-shaft U by means of the gear-wheels M and N, which gear-wheels may be of any desired ratio.

O is a cam revolved by means of the said gears, and P and Q are levers to transmit the motion imparted by the cam to the arm S through the rod R.

Y is a spring for the purpose of keeping the lever P in contact with the cam O.

The action of the various parts is as follows: The crank-shaft U being set in motion, the lay B vibrates back and forth through the action of the pitmen G. The slide C, with the set-screw L and pointed guide C', being in the position shown in Figs. 1 and 2, which is its normal position, the roller D rolls under the pointed guide C', and so draws the sliding catch H into its lower position, as shown in Fig. 2, when the lay B makes its forward stroke. During the forward stroke of the lay B under these circumstances the reed K pushes the weft-thread before it until the sliding shuttle-race I comes in contact with the head of the set-screw L. This prevents the reed from moving farther forward, and so the lay B continues to move through the remainder of its stroke, while the shuttle-race I and reed K remain stationary, this action of the lay B compressing the spring T. As the lay B thus moves under the sliding shuttle-race I a space or gap, Z, is formed equal in width to the amount of space moved over by the lay B after the shuttle-race I has been stopped by the set-screw L. A gap of this character is also formed in looms already in use for weaving terry-cloth where the lower part of the reed only moves upon the lay; but I arrange the entire shuttle-

race to slide upon the top of the lay, so as to
 cover up this gap and prevent the admission
 of dust, as already described. As the crank-
 shaft U continues to revolve several strokes
 5 or vibrations of the lay B are thus made and
 several picks of weft beaten up close together,
 the number being determined by the ratio of
 the gear-wheels M and N. As the cam-shaft
 V revolves the cam O presses down the lever
 10 P, extending the spring Y, and through the
 means of the lever Q and connecting-rod R
 the arm S is depressed and the slide C, with
 its pointed guide C' and set-screw L, moves
 downward, assuming the position shown in
 15 Fig. 3. As the set-screw L is now down out
 of the way, the spring T keeps the sliding
 shuttle-race I forced forward, and as the lay
 B makes its forward stroke the roller D rides
 up on the pointed guide C', pushing the slid-
 20 ing catch H between the overhanging ledge of
 the shuttle-race I and the lay B, so that the
 sliding shuttle-race I makes the full forward
 stroke of the lay, carrying with it the reed K,
 and beating up the picks previously thrown,
 25 and causing the warp-threads to rise up in
 loops, as previously described. When the
 cam O revolves farther, the spring Y draws
 the lever P into the position shown in Fig. 1,
 and the parts assume the normal position
 30 shown in Figs. 1 and 2, and so remain until
 the cam-shaft has made another revolution.

It is evident that by changing the configu-
 ration of the cam O and the ratio of the gear-
 wheels M and N the loops may be produced
 35 at any required intervals.

I am aware that looms have been constructed
 in which the lower part of the reed is arranged
 to move upon the lay; but in such arrange-
 ments the shuttle-race has been rigidly fastened
 to the lay, and so when the lay moves forward 40
 and the lower part of the reed is arrested there
 is an open gap left between the shuttle-race
 and the lower part of the reed. By having
 the shuttle-race to slide with the reed this
 space is covered at all times and the action of 45
 the loom thereby much improved.

Having thus described my invention, what I
 claim as new, and desire to secure by Letters
 Patent, is—

1. The combination, with a loom-frame and 50
 lay, of a sliding shuttle-race, a swinging reed
 connected to said shuttle-race, adjustable set-
 screws for engagement with said sliding shut-
 tle-race in the forward movement of the lay,
 and means, substantially as described, for rais- 55
 ing and lowering the adjustable set-screws into
 and out of position for engagement with the
 sliding shuttle-race and swinging reed.

2. The combination of the adjustable set-
 screw L, movable shuttle-race I, slide C, car- 60
 rying the set-screw L, means for moving the
 slide vertically, the lay B, the spring T, reed
 K, and the latch H and its operative devices,
 substantially as described.

J. ADDISON CAMPBELL.

Witnesses:

W. E. LONDON,
 HENRY H. SUPLEE.