

(No Model.)

T. DOWNWARD.

LOOM FOR WEAVING SADDLE GIRTHS, &c.

No. 246,480.

Patented Aug. 30, 1881.

Fig. 1.

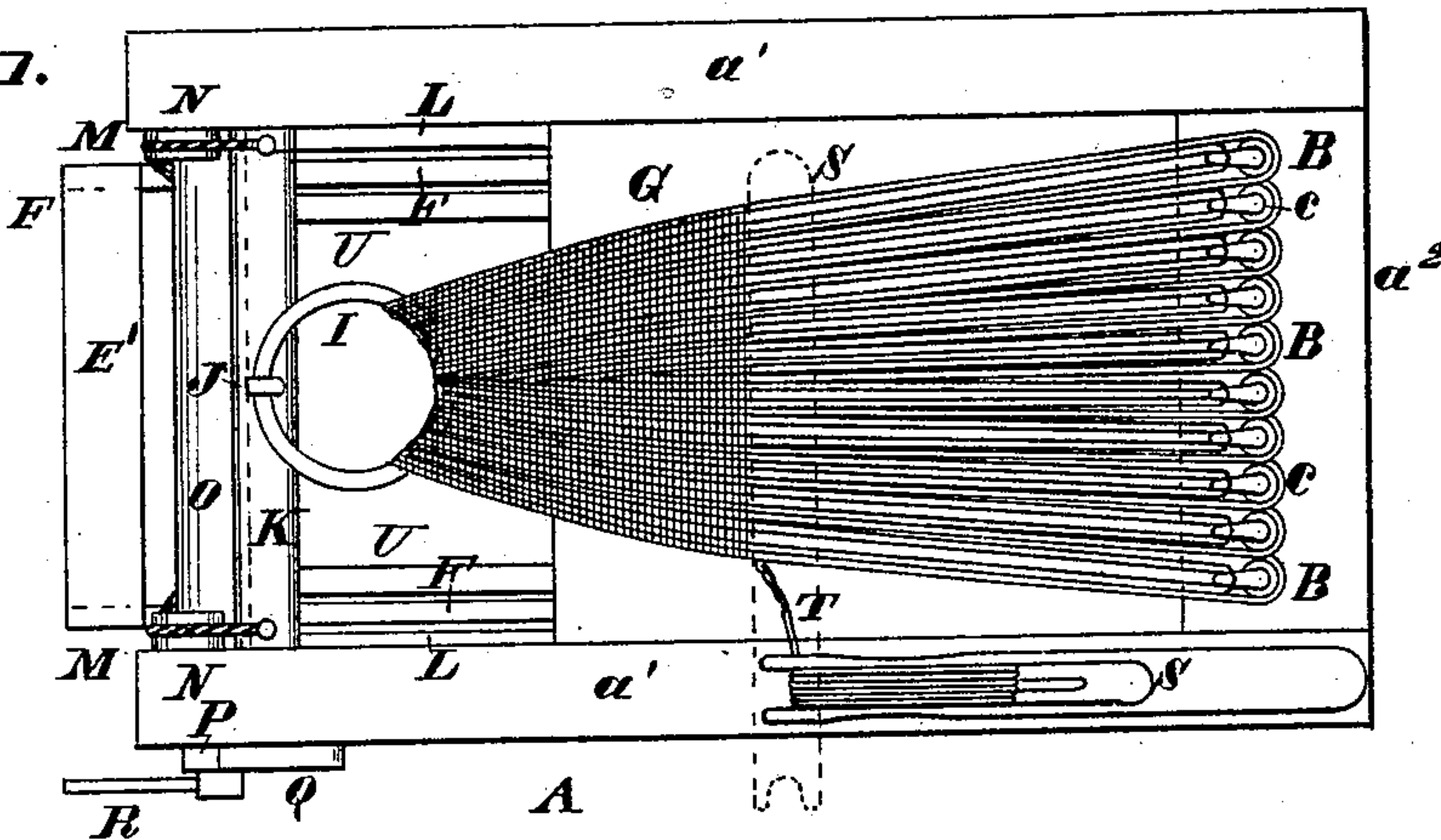


Fig. 2.

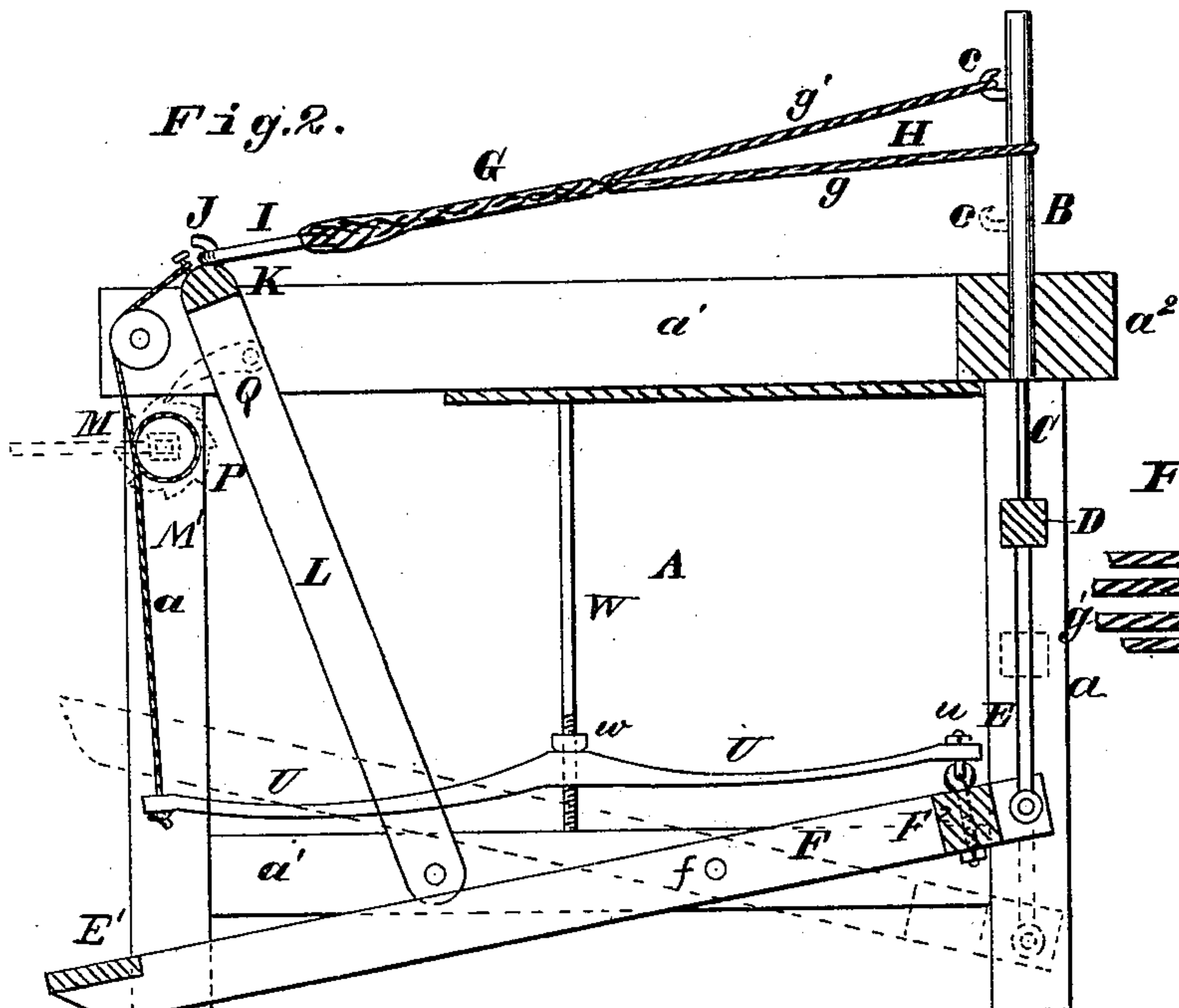


Fig. 3.

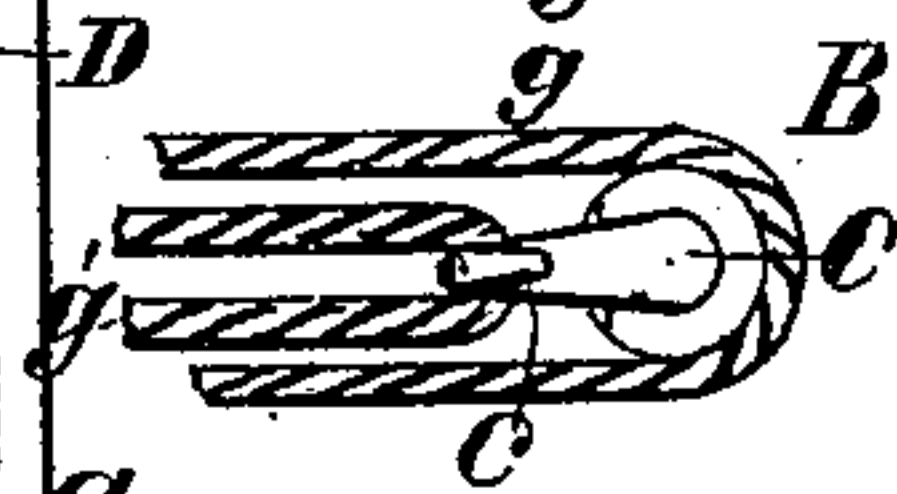


Fig. 4.

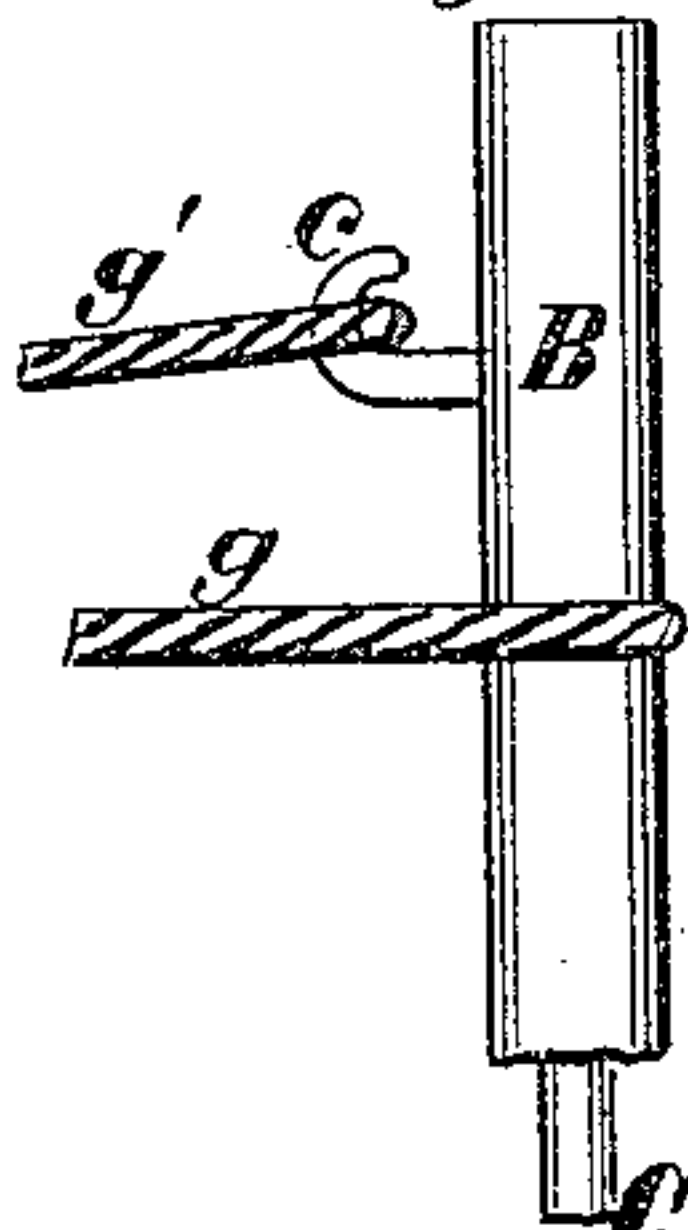


Fig. 5.

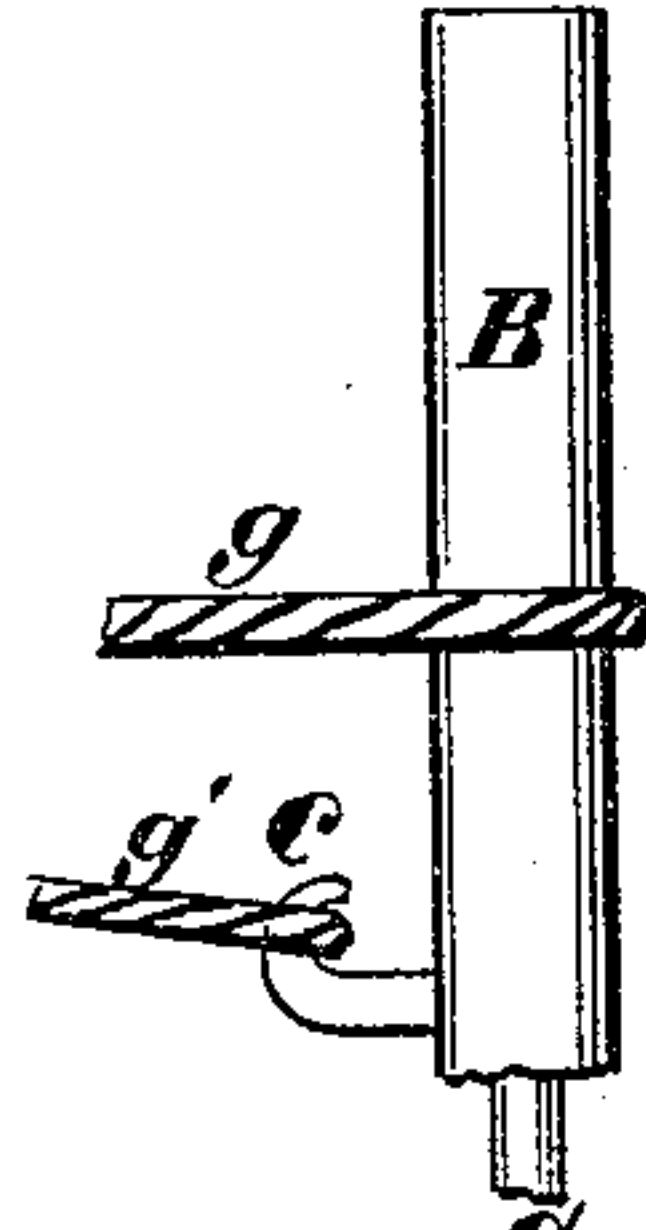


Fig. 6.

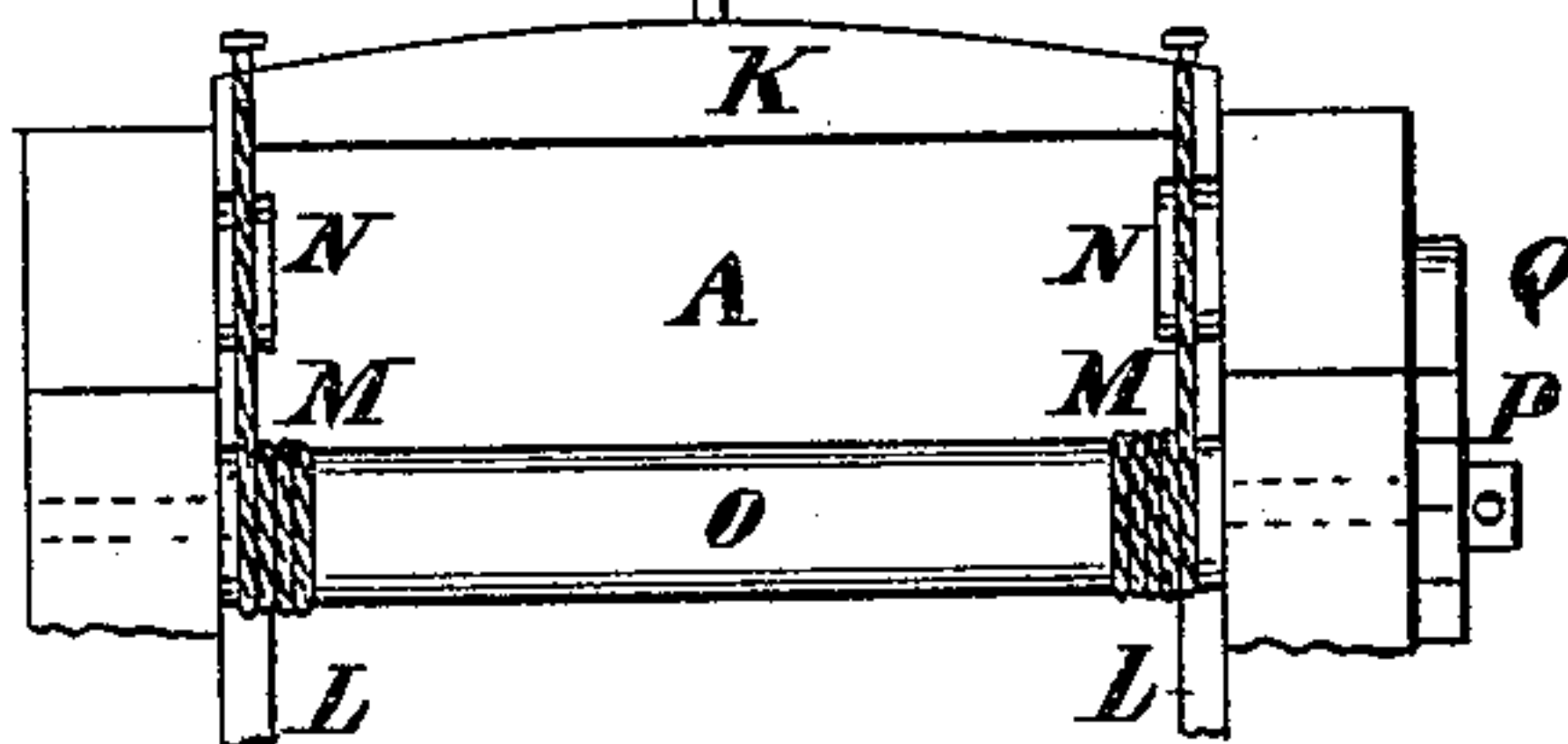
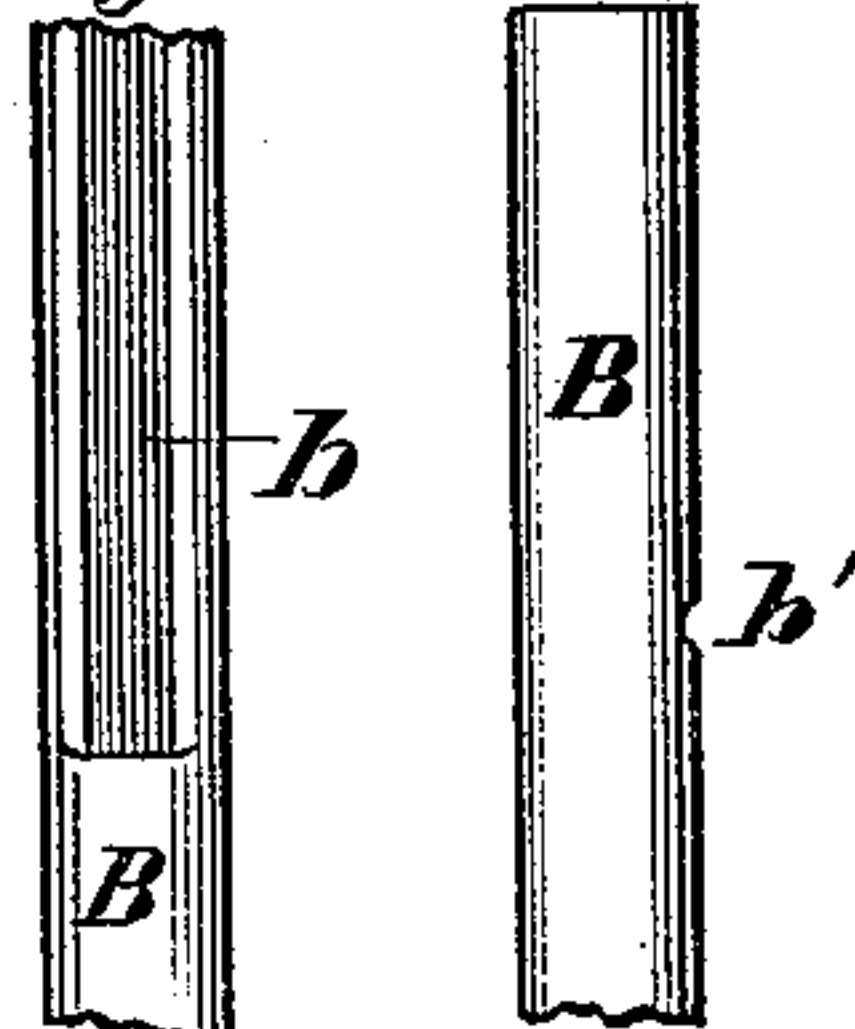


Fig. 7.



Attest:

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LOOM FOR WEAVING SADDLE-GIRTHS, &c.

SPECIFICATION forming part of Letters Patent No. 246,480, dated August 30, 1881.

Application filed September 3, 1880. (No model.)

To all whom it may concern :

Be it known that I, THOMAS DOWNWARD, of Jefferson City, in the county of Cole and State of Missouri, have invented a certain new and useful Improvement in Looms for Weaving Saddle-Girths, &c., of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification.

My improvement applies especially to looms for weaving narrow heavy fabrics, such as saddle-girths; and it consists, first, in a number of fixed upright tubes having slots at one end and containing movable rods having hooks extending through the slots.

My improvement consists, second, in the described appliances for working the hooked rods in the tubes and for the support of the warp, one end of the warp being supported upon a ring when a girth is under construction, as shown, and the other ends of the warp threads or cords being looped upon the tubes and hooks, the latter moving up and down, so as to form the shed alternately above and below the stationary threads upon the tubes.

In the drawings, Figure 1 is a top view of the loom. Fig. 2 is a vertical longitudinal section thereof with the two positions of the treadle shown in full and broken lines respectively. Fig. 3 is a detail front view. In Figs. 4 and 5 are shown enlarged details in side view, showing the two positions of the warp-hooks. Figs. 6 and 7 are respectively enlarged detail front and side views of part of the warp-tubes; and Fig. 8 is a top view of the same. Fig. 9 is an enlarged top view of one of the warp-tubes and hooks with the warp-loops upon them.

The loom is represented as having a saddle-girth in process of manufacture; but, of course, it is applicable for the manufacture of other things.

The main frame A may be of any suitable construction. I have shown it with uprights *a*, longitudinal bars *a'*, and cross piece or bar *a''*, in which are inserted a number of upright tubes, B, which extend through the bar and above the same. The portions of the tubes above the bar have slots *b*, through which project hooks *c* upon the rods C. The rods C fit the insides of the tubes B so as to have free end-

wise motion therein. Thus the tubes act as guides for the rods. The lower ends of the rods are attached to a frame or bar, D, which is connected to the end of the treadle F by a rod, E. The treadle is fulcrumed to the bars *a'* of the frame A at *f*, and is forced down to elevate the rods C by the pressure of the foot of the operator upon a foot-bar, F'.

The warp G consists of a number of double threads, *g* and *g'*, looped alternately around the upright tubes and on the hooks *c* of the rods C. The tubes B are notched at *b'* to prevent the vertical misplacement of the loops. The tubes B serve to keep the loops upon them open, so that the loops upon the hooks will pass through them readily as the hooks are alternately lifted above and carried below the threads *g* upon the tubes. The end of the warp next to the operator has its threads passed through a ring, I, which becomes a permanent fixture of the girth, a ring being inserted in the loops of the other end after weaving.

The ring I is supported upon a hook, J, projecting from the bar K, which forms the upper bar of the hinged frame K L L, the legs L of which are hinged to the lower bars, *a'*, of the main frame.

M M are cords or belts attached to the ends of the bar K, and extending over pulleys N to a windlass, O, carrying at one end a ratchet-wheel, P, engaged by a dog, Q, to keep the cords M from unwinding from the windlass. The windlass may be turned by a handle or bar, R, to adjust the position of the bar K, according to the length and requirements of the article under construction.

S is a hand-shuttle of a not uncommon form, carrying the filling-thread T. The foot end of the treadle may be lifted by spring or weight.

U U are springs, which I have used of both wood and metal. One end of the spring is attached by a hinge, *u*, to the end bar, F², of the treadle, and the other end of the spring is attached by a cord, M', or otherwise to the front part of the loom. The springs are fulcrumed on upright rods W, which pass through the springs, and the springs have bearing beneath nuts *w*, which screw on the rods to adjust the tension of the springs.

The operation is as follows: The warp being

in the position shown and described, the shuttle with the filling is passed through the shed H. Then the treadle is moved, reversing the position of the hooks and the threads g' relatively with the threads g . The shuttle may be used as a reed to press home the filling-thread. The filling-thread is drawn with sufficient force to contract the girth transversely as it is being woven, and when the last end is taken from the tubes and hooks.

As a modification, the hooks c may be stationary and the tubes B movable, for the purpose stated.

I claim as my invention—

1. The combination of the tubes B and means for supporting the same with rods C, having hooks c , and means for operating said hooks, constructed to operate substantially as set forth.

2. The combination of tubes B, hooked rods C, treadle F, frame D, and rod E with the frame K L, means for drawing the same forward to stretch the warps, and the supporting frame-work, substantially as set forth.

THOMAS DOWNWARD.

Witnesses:

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