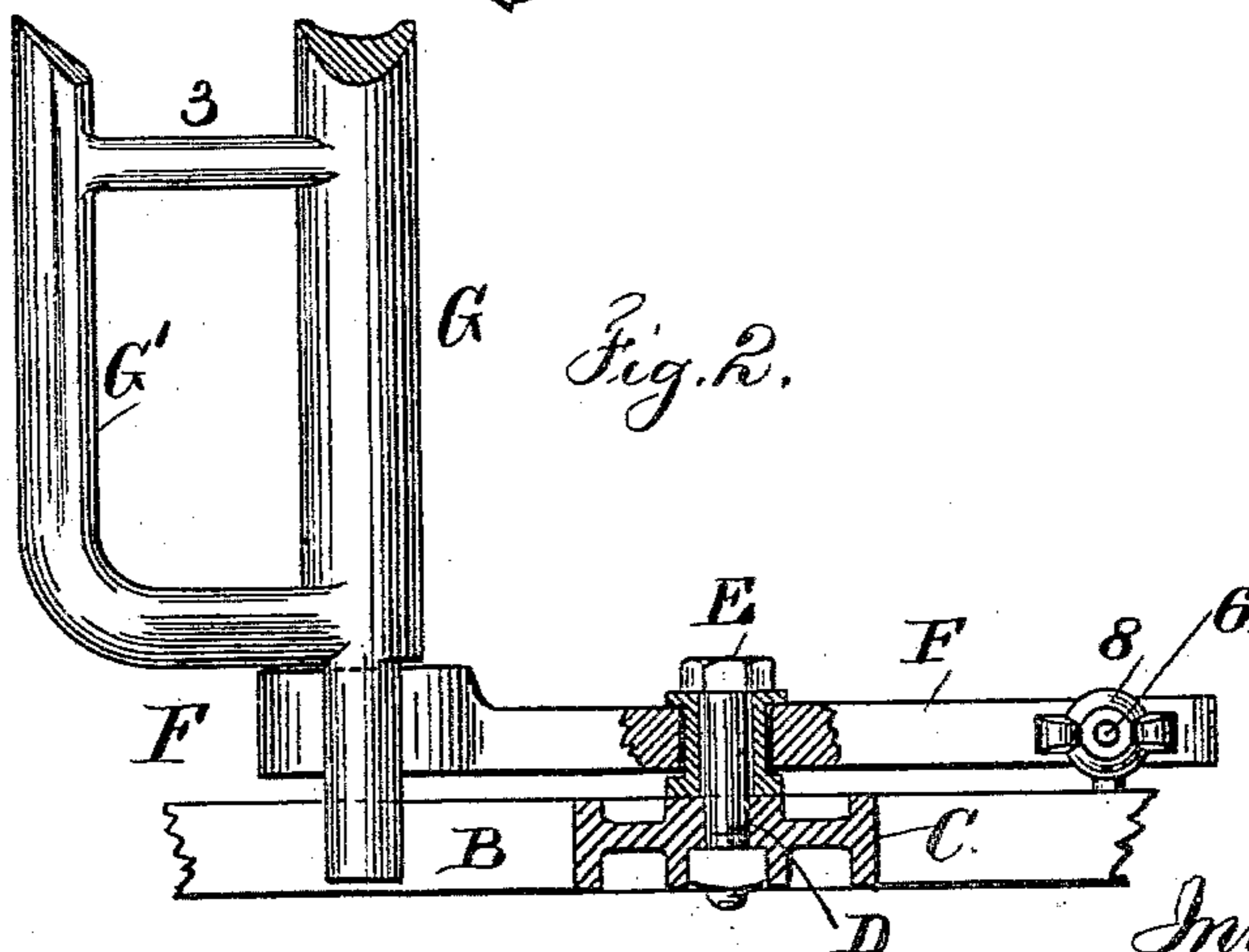
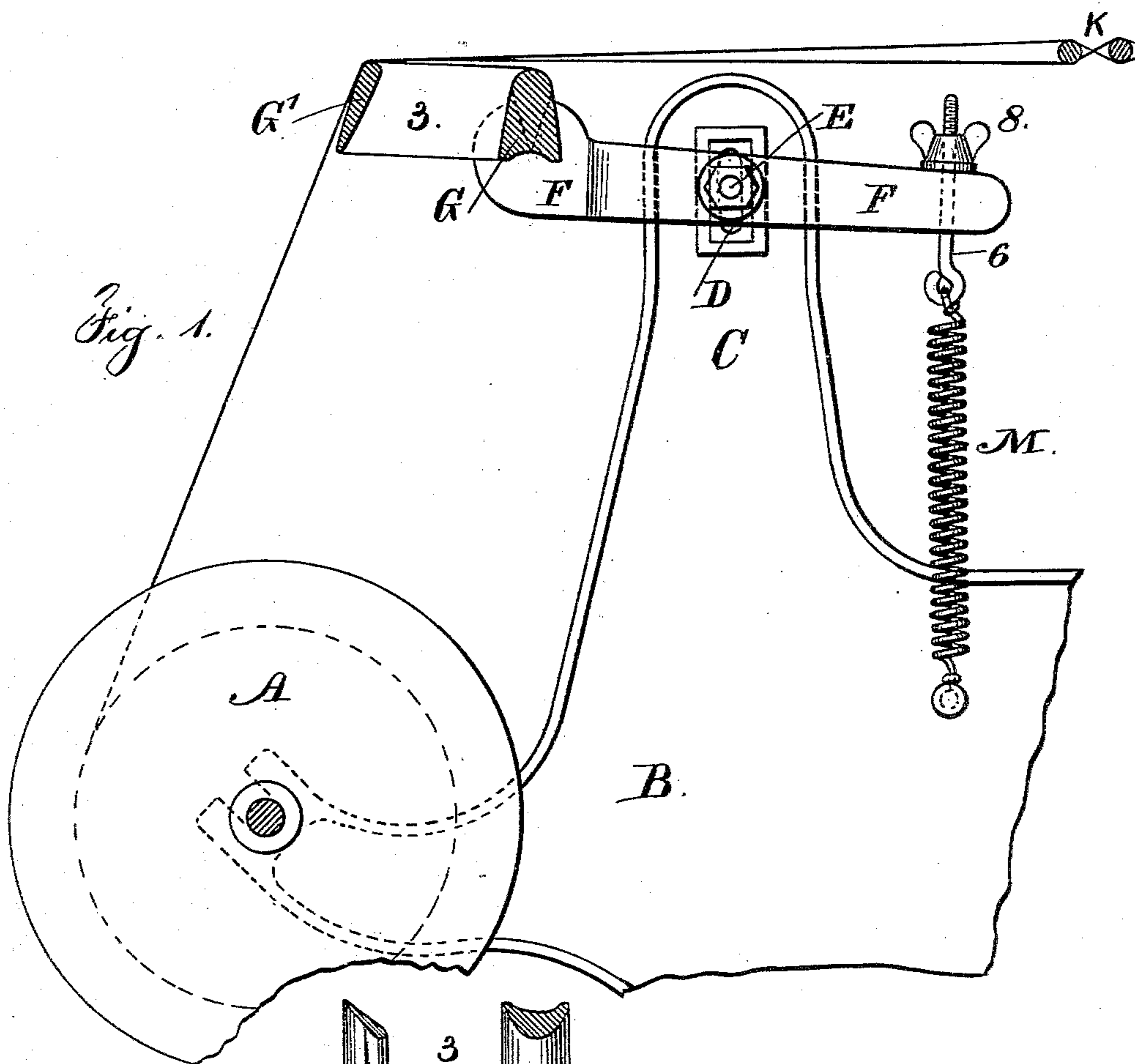


(No Model.)

A. F. PARKER.
WHIP ROLL FOR LOOMS.

No. 381,720.

Patented Apr. 24, 1888.



Witnesses.

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UNITED STATES PATENT OFFICE.

ANTHONY F. PARKER, OF CHARLESTON, SOUTH CAROLINA.

WHIP-ROLL FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 381,720, dated April 24, 1888.

Application filed August 22, 1887. Serial No. 247,612. (No model.)

To all whom it may concern:

Be it known that I, ANTHONY FRANCIS PARKER, of Charleston, in the State of South Carolina, have invented an Improvement in Whip-Rolls for Looms, of which the following is a specification.

The yarn from the beam in looms passes usually over a whip roller or bar and thence to the heddles and lay.

In some instances the whip-roller has been supported upon yielding levers, so that the weaving may be rendered more uniform in consequence of the whip-roller yielding under the tension of the warps.

My improvement is designed to render the whip-bar and friction devices more uniform in allowing the warps to be drawn along by varying the angle at which the warps pass over the yielding whip-bar as the weaving progresses, so as to cause the tension to turn the warp-beam whenever warp is to be given off, and then tightening up the warps by the whip-bar to maintain uniformity of tension thereon.

In the drawings, Figure 1 is a vertical section of part of a loom, illustrating my improvement; and Fig. 2 is a plan view, partly in section, at one end of the support for the whip-bar.

The yarns or warps are wound upon the beam A, the journals whereof are received in suitable bearings in the frames B, and a friction is applied to the beam to regulate the let-off in any usual manner.

Upon the frames B there are stands or brackets C, that are slotted at D for the reception of the pivot-studs E of the levers F, and these levers F, near their back ends, are notched to receive the V-shaped ends of the whip-bar G. This whip-bar G and bearing-bar G' extend across the loom, and upon them the warps rest as they pass up from the yarn-beam, and thence horizontally to the brace-rods K and heddles. The bearing-bar G' is at one side of and parallel with the whip-bar G and the two are permanently connected by the cross-pieces or arms 3 3, and the edges of the whip-bar and bearing-bar are rounding and smooth, so that the warps will not be injured and will be subjected to the proper friction in passing over the surfaces.

At the forward ends of the levers F the contractile helical springs M are applied. The lower end of each spring is connected to the

frame and the upper end to a screw, 6, passing through the corresponding lever and receiving the adjusting-nut 8. By raising or lowering the pivot-studs E the levers and whip-bar can be raised or lowered to bring the warps to the proper level, and by adjusting the nuts 8 the tension of the springs M may be so changed that the levers F will tend to become inclined more or less, as desired. By these adjustments the relative level of the whip-bar G and bearing-bar G' will be varied, as may be advantageous for different kinds of warps. When the parts are properly adjusted, the action is uniform and the fabric is of the same density from end to end. As the weaving progresses, the whip-bar rises or falls slightly under the varying strain occasioned by the shedding. When the friction on the yarn-beam yields and the beam partially turns under the tension of the warps, the springs M contract and the edge of the bearing-bar G' is elevated and takes up the slack. As the weaving progresses, the warps are drawn over the whip-bar and that is depressed and the springs M elongated. When the warps take a bearing on the upper surface of the whip-bar G, they have less leverage against the springs, and the pull on the warps will turn the yarn-beam and the operations are repeated, thus insuring great uniformity in the weaving.

In consequence of making the whip-bar G and bearing-bar G' separate from the levers F, I am able to take the bars G and G' out of the loom without disturbing the levers F, to give more room for introducing the yarn-beam and threading up the warps, and when replaced the V-shaped connections of the whip-bar G to the levers F are tightened and rendered firm by the pressure of the warps. In cases where the whip-roll has been upon arms extending out from a shaft in fixed bearings the shaft has no rising-and-falling movement. In my improvement the whip-bar and bearing-bar rise and fall together, and as they descend the angle at which the warps are drawn becomes more obtuse, and there are two obtuse bends as soon as the warps come into contact with the whip-bar G; hence the tension is more direct upon the yarn-beam, tending to turn the same and give off more yarn, and the springs M also act through the levers, bars, and warps to turn the yarn-beam, and when this has taken

place and the whip-bar rises the angle becomes less obtuse and the greater strain is taken upon the whip-bar and the tendency to turn the yarn-beam is lessened.

5 I claim as my invention—

1. The combination, with the yarn-beam, of the levers F, the adjustable pivot-studs for the same, the springs M, the whip-bar G, having V-shaped ends resting in notches in the levers F, the bearing-bar G', and the arms that connect the same to the whip-bar, substantially as set forth.

10 2. The whip-bar G and bearing-bar G', parallel to each other and connected by arms, and

the V-shaped ends to the whip-bar, in combination with the levers F, notched to receive the whip-bar, the pivot-studs E and the slotted stands C for receiving the same, the springs M, and the screws and nuts connected therewith for adjusting the levers F, substantially as set forth.

Signed by me this 10th day of August, A. D. 1887.

A. F. PARKER.

Witnesses:

CHAS. W. STEIN,
ALONZO F. DUKES.