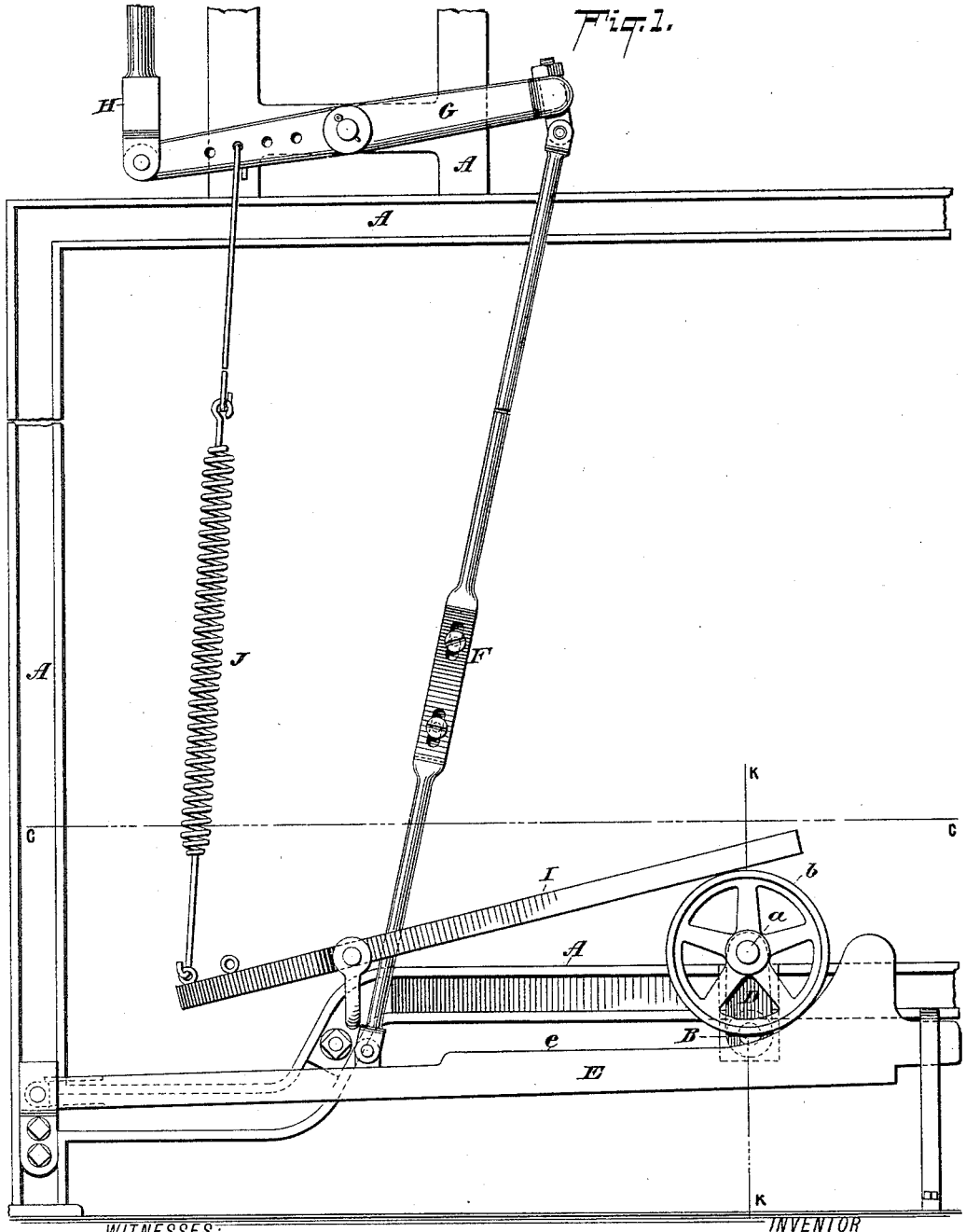
(No Model.) 2 Sheets—Sheet 1.

J. COUCHE.

LOOM.

No. 453,625. Patented June 9, 1891.

Fig. 1.



WITNESSES:

Gustave Dieterich.

William Goebel.

INVENTOR

Jules Couche

BY Briesen & Knauth

ATTORNEYS.

(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

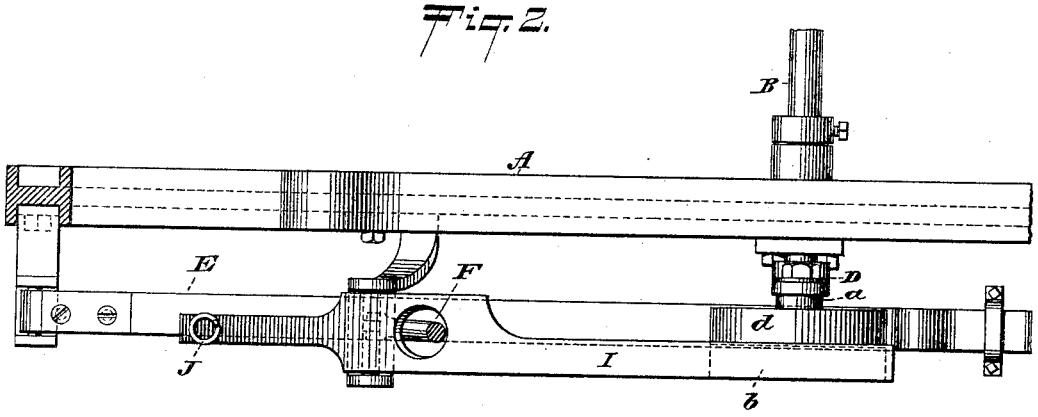
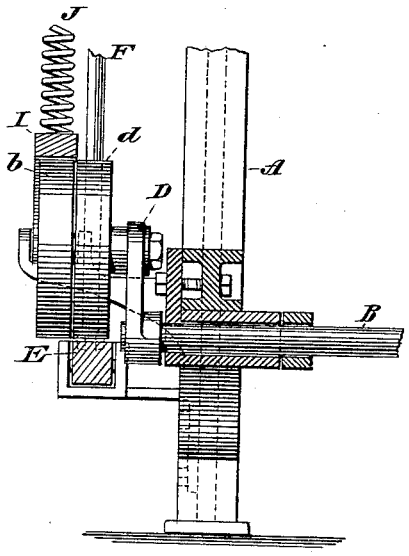


Fig. 3.



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ATTORNEYS

UNITED STATES PATENT OFFICE.

JULES COUCHE, OF UNION HILL, NEW JERSEY, ASSIGNOR TO R. & H. SIMON, OF SAME PLACE.

LOOM.

SPECIFICATION forming part of Letters Patent No. 453,625, dated June 9, 1891.

Application filed June 13, 1890. Serial No. 355,295. (No model.)

To all whom it may concern:

Be it known that I, JULES COUCHE, a resident of Union Hill, Hudson county, New Jersey, have invented a new and useful Improvement in Looms, of which the following is a specification.

The object of my invention is to provide mechanism which shall equalize the strain on the driving mechanism during the raising and lowering of the heddle-frames or jacquards of looms; and the invention consists, mainly, in the application to the driving mechanism of a counter-spring, which is strained during the idle motion and released during the working stroke of the driving mechanism.

Reference is had to the accompanying drawings, forming a part of this specification, wherein—

Figure 1 represents a side view of my improved attachment for looms. Fig. 2 is a sectional top view on the line *c c* of Fig. 1. Fig. 3 is a vertical section on the line *k k* of Fig. 1, parts intersected by that line being shown in elevation.

In the drawings, the letter A represents the frame of the loom; B, the driving-shaft, moving in suitable bearings in the frame and carrying a crank D or equivalent eccentric. The wrist-pin *a* of this crank may constitute the axis for one or more anti-friction rollers *b d*. A pedal or lever E, suitably pivoted to the frame, is located beneath the roller *d* and in contact therewith, and connects by a rod F with a rocking beam G, which is pivotally supported by the frame A, and which by a rod H connects in the usual manner with the dobby or jacquard.

Pivoted to the frame A, or a projection thereof, is a lever I, which connects with a strong spring J and in contact with the upper edge of the anti-friction roller *b*. The upper end of the spring J is or may be connected to the beam G. Any other known means of connecting the rod F with the actuating-shaft B may be employed.

Having now described the mechanism of my improvement, I will describe its operation: The driving-shaft B receives rotary motion, and thereby revolves its crank D. In so moving the roller *d* depresses the pedal E and the rod F and at the same time oscillates the rocking beam G and raises the dobby. The downward motion of the pedal E constitutes its working stroke. This operation continues until the pedal E has reached its lowermost position, when the spring J, whose strain was relaxed during the downward motion of E, will become more and more strained, and keeping the lever I in contact with the wheel *b* will apply friction to the driving mechanism at a time when otherwise the same is not under resistance, thus causing the heddle-frames to descend slowly and without jar, and rendering the action of the loom accurate and the weaving much more expeditious. In other words, the spring-lever I acts as a counter-brake on the shaft B at the same time said shaft is released from the resisting strain of the heddles or the weights of the dobby or jacquard, rendering any sudden movement in either direction impossible.

Having now described my invention, what I claim is—

1. In a loom, the combination of the actuating-shaft B with mechanism substantially as described for imparting motion to the beam G and with the counter-lever I and spring J, said counter-lever being adapted to bear strongest on a crank on said shaft when the shaft is released from resistance of the beam G, substantially as described.

2. The combination of the shaft B with the lever E, rod F, and beam G, and with the spring J and lever I, said lever I being adapted to bear against a crank on said shaft with increasing pressure after the lever E has completed its working stroke, as specified.

JULES COUCHE.

Witnesses:
HENRY SCHLATTER,
JOHN A. ROSS.