

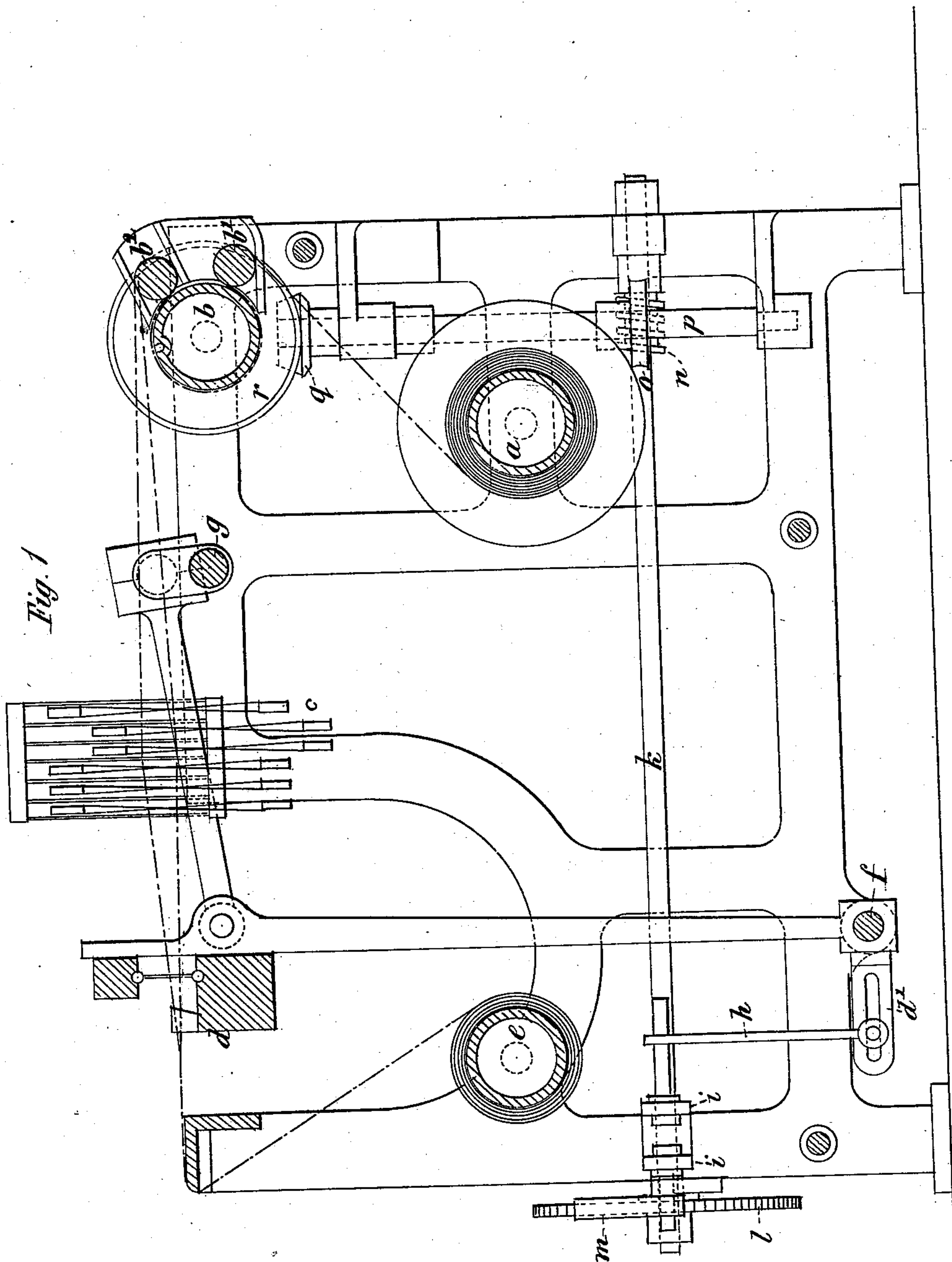
(No Model.)

3 Sheets—Sheet 1.

S. O'NEILL.
Loom.

No. 236,073.

Patented Dec. 28, 1880.



Witnesses
by *Frederick Haynes*
E. P. Jessup

Inventor:-
Samuel O'Neill
by his Attorney
Brown & Brown

(No Model.)

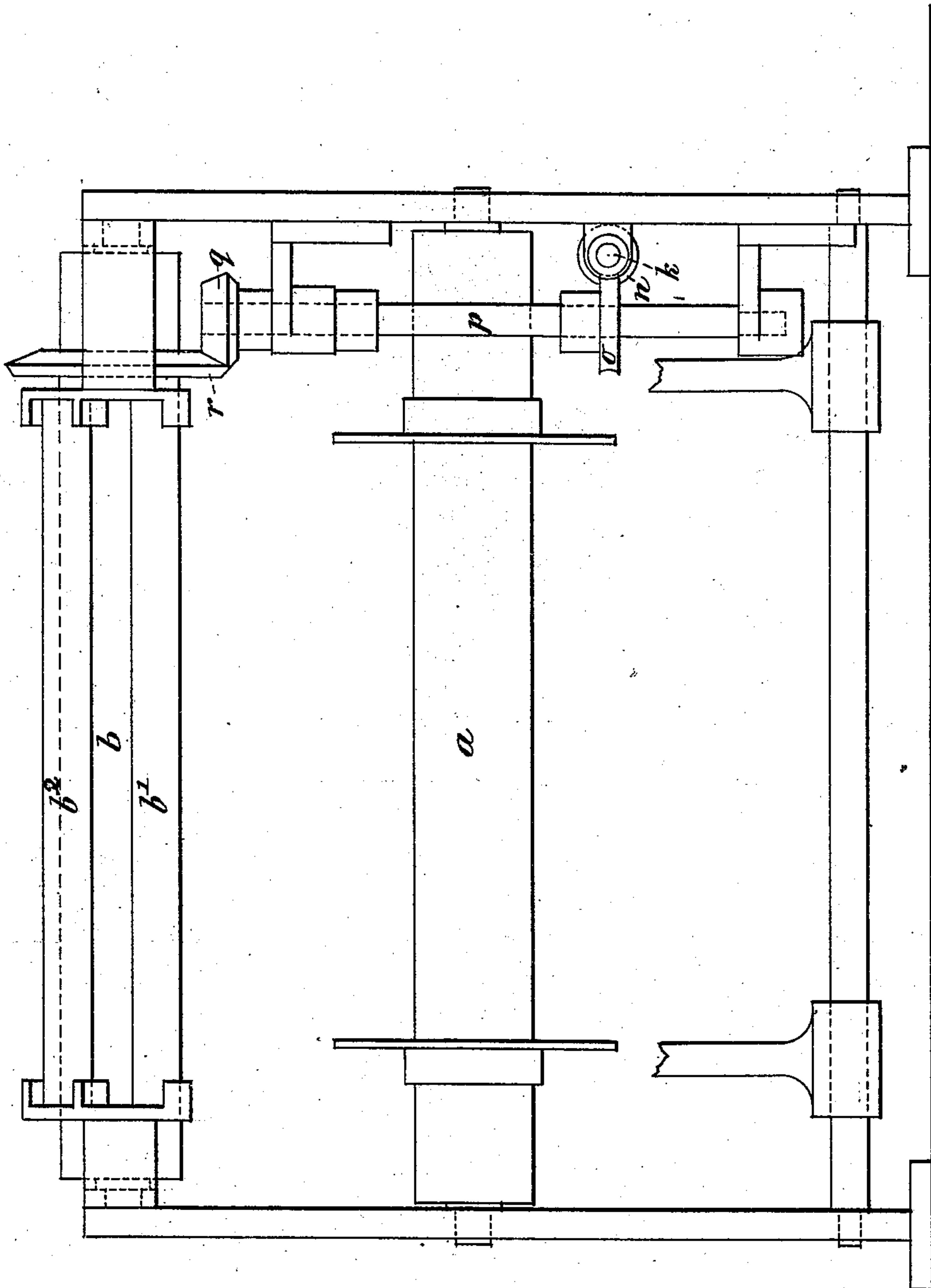
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Fig. 2



Witnesses:—

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E. P. Jessup

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Brown & Brown

(No Model.)

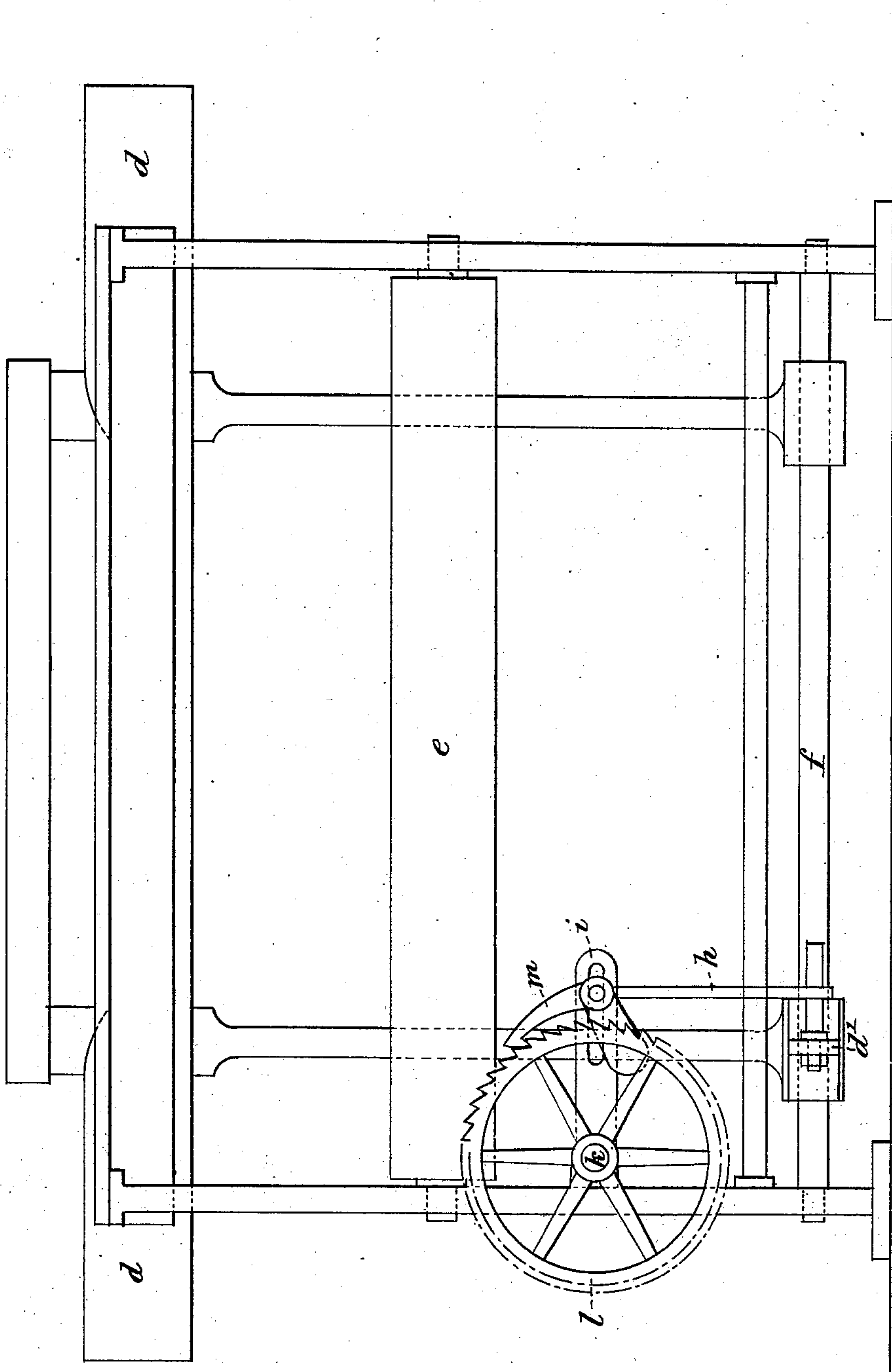
3.Sheets—Sheet 3.

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Fig. 3.



Witnesses:-

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UNITED STATES PATENT OFFICE.

SAMUEL O'NEILL, OF ECCLES, COUNTY OF LANCASTER, ENGLAND.

LOOM.

SPECIFICATION forming part of Letters Patent No. 236,073, dated December 28, 1880.

Application filed May 12, 1880. (No model.) Patented in England September 22, 1879.

To all whom it may concern:

Be it known that I, SAMUEL O'NEILL, of Eccles, in the county of Lancaster, England, have invented certain Improvements in Looms for Weaving, of which the following is a specification.

This invention relates to novel means for delivering the warp from the yarn or warp beam of looms, in place of depending on the blow of the reed and drag of the cloth-roller, as heretofore, for drawing off the warp.

The object of my invention is to produce, by the batten and intermediate connections, an intermittent or step-by-step motion of the warp-delivery roller.

In the accompanying drawings I have shown an arrangement of mechanism whereby the object of my invention is attained.

Figure 1 is a longitudinal sectional elevation of an arrangement of loom in which the delivery of the warp from the warp-beam is effected by the forward motion of the batten at the time the beating up takes place. Fig. 2 is a back elevation, and Fig. 3 is a front elevation, of the same.

a is the warp-beam, mounted, as usual, in the loom-framing, and weighted, so as to maintain the requisite tension of the warps. *b* is a delivery-roller covered with cloth, against which the warp-threads are held on their way to the harness *c*. To insure a proper friction-contact between the warp-threads and this roller, pressing-rollers *b'* *b''* are employed. Thus the warp-threads, as they leave the warp-beam *a*, pass over the pressing-roller *b'*, under the delivery-roller *b*, and over the pressing-roller *b''*, and thence to the harness. The delivery-roller *b* receives an intermittent axial motion, the rate of which is determined by the speed of the weaving, and it thus, in rotating, will draw off the warp-threads from the beam at the rate they are required for the work.

d is the batten, fitted with a reed, as usual, through which the warps pass to the cloth-roller *e*. This batten rocks on the short axle *f*, and receives its motion, as usual, from the main or crank shaft *g* of the loom.

Projecting from the front of the batten, and near its fulcrum, is a slotted bracket, *d'*, which

carries an adjustable pivot-pin for connecting it with a rod, *h*. The upper end of this rod is coupled by a pin to the slotted arm of a forked lever, *i*, which is mounted loosely upon a longitudinal shaft, *k*, having its bearings inside the framing of the loom. Keyed to this shaft *k* is a ratchet-wheel, *l*, which is actuated by a pawl, *m*. This pawl is pivoted to the second arm of the rock-lever *i*, and thus, as the batten is rocked forward, the lever *i* being drawn down, by reason of its connection through the rod *h* with the batten, the pawl *m* will be caused to pull round the ratchet-wheel, and with it the longitudinal shaft *k*, a portion of a rotation. This intermittent motion of the shaft *k* is transmitted to the warp-delivery roller *b* in following manner: *n* is a worm keyed on the shaft *k*, and taking into a worm-wheel, *o*, which is keyed on a short vertical shaft, *p*, carried in bracket-bearings. To the upper end of this shaft is keyed a bevel-pinion, *q*, which gears into a bevel-wheel, *r*, attached to the axle of the roller *b*. It will now be understood that at each beat of the batten an axial motion will be imparted to the roller *b*, and a suitable length of warp will be drawn off the warp-beam *a*. To regulate the supply of warp to suit the requirements of the work it will only be necessary to replace the ratchet-wheel by one having a greater or less number of teeth, and it is in order to permit the ready replacement of said wheel that it is mounted upon the end of shaft *k* projecting outward beyond the loom-frame.

I am aware that an intermittent motion has been transmitted from the batten or lay, through intermediate connections, to the warp-beam or delivery-roller—as, for instance, in the expired patent of B. Slingerland, dated April 1, 1845, No. 3,977—and I do not claim such an arrangement, broadly.

Having now explained the object and nature of my improvements in looms for weaving, I would have it understood that I claim—

The combination, with the loom-frame and warp-delivery roller *b*, having a gear, *r*, of the shaft *f*, the batten mounted thereon, and provided with a slotted bracket, *d'*, the link *h*, adjustable in said bracket, the slotted rock-lever

i, connected to said link, the pawl *m*, connected with the lever, the horizontal shaft *k*, projecting beyond the loom-frame, the ratchet-wheel *l*, mounted on the end of said shaft, the vertical shaft *p*, intermediate devices for imparting a rotary motion to said vertical shaft by the rotation of the horizontal shaft, and the bevel-gear *g*, mounted on the upper end of the

vertical shaft and meshing with the gear *r* on the delivery-roller *b*, all substantially as described.

Dated this 2d day of March, 1880.

SAMUEL O'NEILL.

Witnesses:

W. SIXSMITH BOARDMAN,

WM. SYKES.