

C. Rodier
Hand Loom.

N^o 41,863.

Patented Mar. 8, 1864

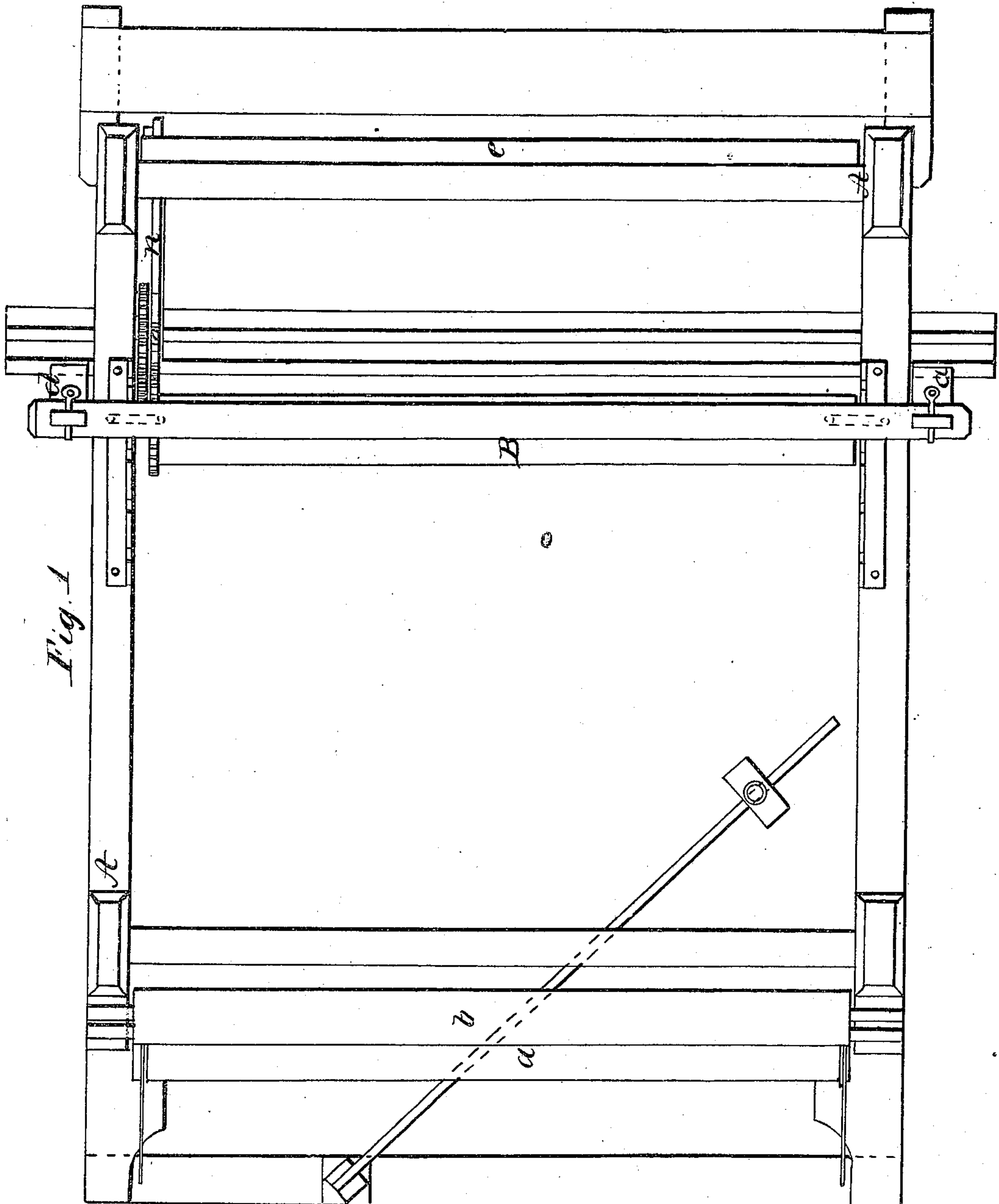


Fig. 1

Witnesses,

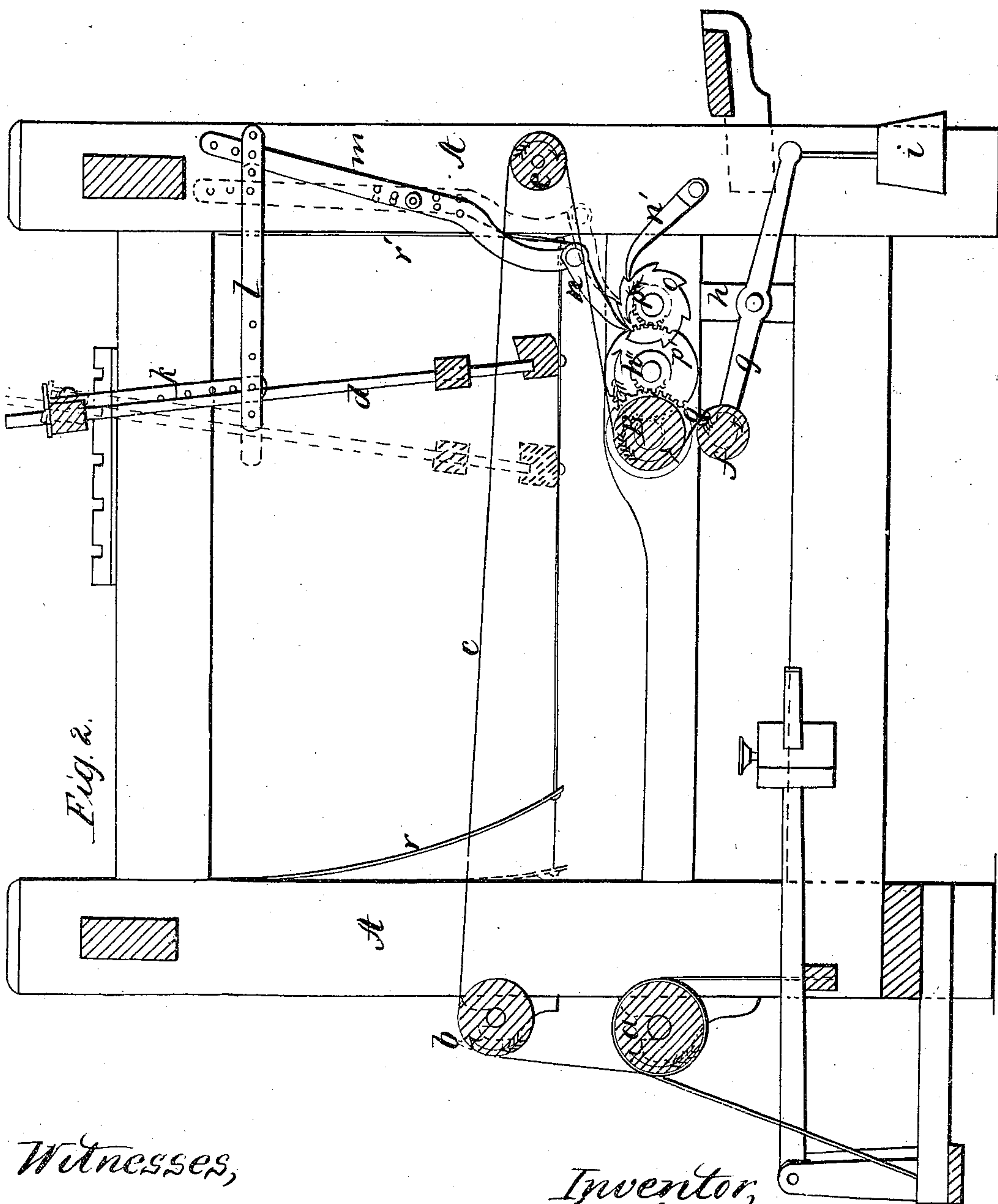
D. L. Reid
H. Norton

Inventor,
C. Rodier
attng

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Witnesses,
D L Reid
H Horton

Inventor,
C Roder
Atty

UNITED STATES PATENT OFFICE.

CONRAD RODER, OF CERALVO, KENTUCKY.

IMPROVEMENT IN HAND-LOOMS.

Specification forming part of Letters Patent No. 41,863, dated March 8, 1864.

To all whom it may concern:

Be it known that I, CONRAD RODER, of Ceralvo, in the county of Ohio and State of Kentucky, have invented a new and useful Improvement in Hand-Looms; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings and letters of reference marked thereon, forming part of this specification.

My invention consists in a device for taking up the web of cloth or other fabric uniformly and evenly as fast as it is woven, so that the fabric being thus wound upon the web-beam by an equal and continuous strain, from the commencement to the end of the operation, the web, when completed, is caused to be quite regular and uniform in thickness.

Ratchet-wheels differently graduated are employed adapted to fabrics made with warp of coarser or finer thread, as will be explained.

My invention also relates to certain springs so arranged in connection with the batten as to facilitate the operation thereof by hand.

In the accompanying drawings, Figure 1 is a top view of a loom in which my improvements are represented. Fig. 2 is a vertical section of the same.

Like letters of reference indicate like parts in the different figures.

The working parts of the loom are supported in a rectangular frame, A. *a* is the warp-beam, placed in the rear of the machine. *b* is a free beam, over which the warp *c* is conducted on its way to the heddles. (Not shown in the drawings.) *d* is the batten. *e* is the breast-beam, around which the web passes, from whence the web passes around the beam B, which I denominate the "tension-beam." The surface or circumference of this beam is coated with sand or other substance of like nature, by which it is roughened, and the web thereby prevented from slipping on the beam when the latter is rotated, as will be explained. *f* is the web-beam, or the part upon which the woven fabric is finally wound. This beam is journaled in the ends of weighted levers *g*, which are pivoted, as represented at *h*, and carrying weights *i* at the opposite

ends. The construction and arrangement of these parts are such that the beam *f* is held by the weighted levers *g* in contact with the tension-beam B, and as the web accumulates, enlarging the circumference of the web-beam, the levers *g* permit it to be accommodated, yet without materially affecting the pressure by which it is held in contact with B.

k is an arm carried by the batten *d*, communicating a vibrating motion, through connecting-bar *l*, to the vibrating lever *m*.

n is a pawl carried by the lower end of *m*, which operates the ratchet-wheel *o*.

n' is a fixed pawl adapted to *o*.

p is a pinion carried by *o*, in gear with wheel *p'*, and *p''* is a pinion in gear with wheel *q* on the end of tension-beam B.

As the batten is vibrated in the operation of weaving, motion is communicated, through the parts *k l m n*, to the ratchet *o*, and thence by the gearing to the tension-beam B, by which the web, as fast as woven, is taken up and given off to the web-beam *f*, the latter being rotated by contact with the tension-beam.

It will now be seen that by employing a ratchet-wheel of greater or less number of teeth, and by changing the stroke of the pawl *n* to correspond therewith, the tension-beam B may be made to receive a motion adapted to different fabrics.

A complement of ratchet-wheels (marked or numbered to correspond with the number or size of yarn ordinarily used as filling) will accompany each loom.

The stroke of the pawl may be regulated by changing the position of bar *l* relatively to the arm *k* or lever *m*, as will readily appear.

r r' are springs secured to the upright parts of frame A, connected by cords with batten *d*, the arrangement being such that the momentum of the latter as it is rapidly vibrated by hand in weaving is in part arrested, and the labor of operating the machine much reduced.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is the following:

1. Communicating motion to the tension-beam B from the batten *d* by means of the

arm *l*, lever *m*, pawl *n*, ratchet *o*, and intermediate gearing, substantially as specified.

2. In combination with the tension-beam *B*, the use of the removable ratchet *o*, or a series of similar ratchets spaced or adapted to the thread or yarn used as filling in the web, as herein set forth.

3. In combination with the batten *d*, the use of the springs *r r'*, substantially as and for the purpose specified.

CONRAD RODER.

Witnesses:

D. L. REID,
W. V. CLOUGH.