

J. LYALL.

TAKE-UP MOTION FOR LOOMS.

No. 171,396.

Patented Dec. 21, 1875.

Fig. 1.

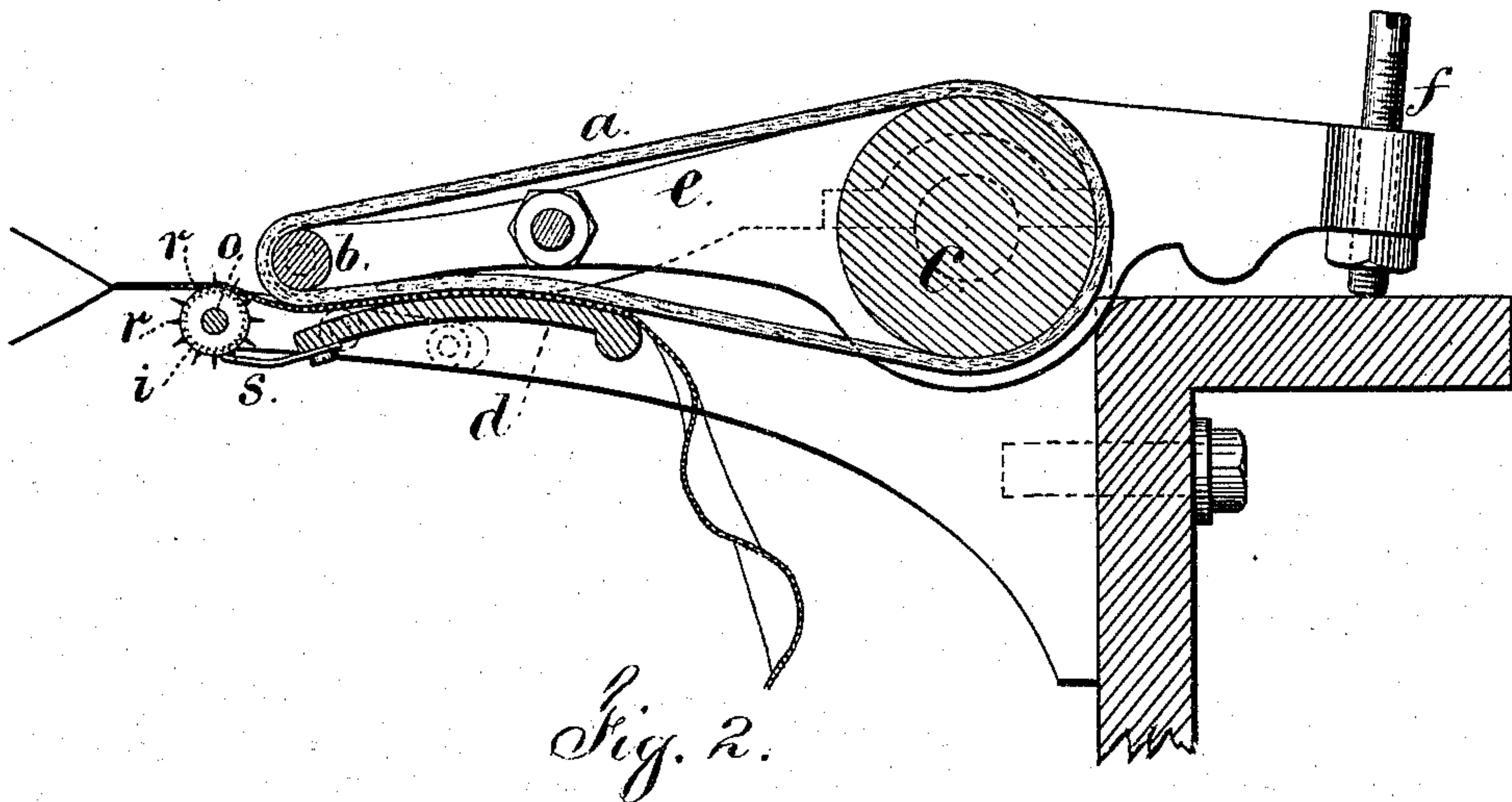
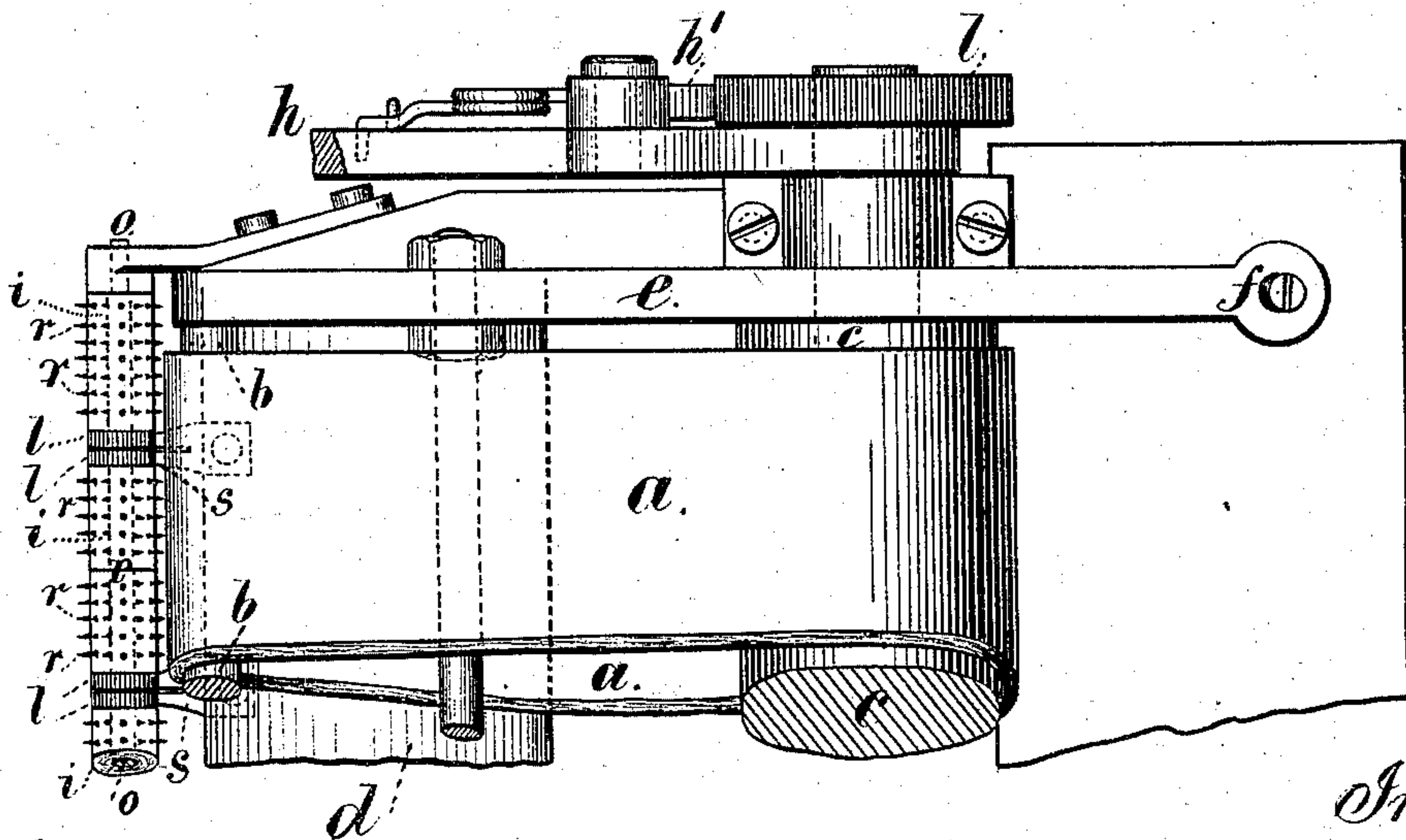


Fig. 2.



Inventor

Witnesses,

Charles Smith
Harold Perrell

James Lyall
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Atty.

UNITED STATES PATENT OFFICE.

JAMES LYALL, OF NEW YORK, N. Y.

IMPROVEMENT IN TAKE-UP MOTION FOR LOOMS.

Specification forming part of Letters Patent No. **171,396**, dated December 21, 1875; application filed October 25, 1875.

To all whom it may concern:

Be it known that I, JAMES LYALL, of the city and State of New York, have invented an Improvement in Take-Up Motions for Looms, of which the following is a specification:

Looms for weaving corsets and other irregular fabrics have been provided with automatic take-ups, in which there are needle-points to hold the goods from receding toward the lay, and over which points the take-up proper draws the cloth when the filling is beaten in by the lay. This operation keeps the cloth moving back and forth constantly and on and off the needle-points a great number of times, especially while a gore is being woven; hence it frequently happens that the holes become so much enlarged in the progress of the weaving, both by displacing the warps and straining the weft-threads, that they are visible even after the fabrics have been washed, bleached, and blocked, and, in some instances, the filling-threads are cut by being drawn over the sharp needle-points. My present invention is for avoiding this; and consists in combining a sectional roller of needle-points and ratchet-teeth and pawls with a progressive take-up. By this combination the sectional rollers turn upon their axis as the cloth moves back and forth by the pressure from the lay, and the relief of that pressure and such sectional rollers vibrate until the cloth as woven allows the ratchet-teeth to be taken successively by the pawls. The needle-points do not draw out of the holes and re-enter the same, but the needles continue in the same holes and hold in the cloth until the weaving has progressed far enough for the cloth to be drawn off the particular needle-points of the roller successively. Thus the fabric is not injured, and the needle-holes are not noticeable in the completed article.

In the drawing, Figure 1 is a vertical section, and Fig. 2 is a partial plan, of said take-up.

The elastic band *a*, or several bands, passing around the rollers *b* and *c*, and pressing the fabric upon the bed *d*, and drawing the same progressively as made, and with the required force, is substantially the same as that shown in Letters Patent No. 133,868, granted to me. The levers *e* that carry the roller *b* are adjustable by the screws *f* to regulate the pressure of the band or web *a* upon the fabric, and a lever, *h*, and pawl *h'*, acting upon the ratchet-wheel *l* of the roller *c*, serve to give the progressive movement to the said band *a*, and this lever *h* may be moved by the lay or otherwise. The sectional roller *i* is made of suitable lengths upon the shaft *o*, and each length is provided with numerous needle-points, *r*, and with a ratchet-wheel, *l*, and spring-pawls *s* serve to hold these sectional holding-rollers to whatever place they may be turned by the movement of the cloth as drawn along by the band *a*, when the lay passes on the fell. These sectional rollers *i* should be made of sufficiently short lengths to allow the fabric to be properly taken up according to character of the irregular weaving.

I claim as my invention—

1. The sectional rollers *i*, provided with numerous needle-points, *r*, and each having a ratchet, *l*, and pawl *s*, in combination with the take-up band *a* and its rollers *b* *c*, substantially as set forth.

2. In a take-up mechanism for weaving irregular fabrics, a sectional roller, having numerous needle-points, in combination with ratchet-wheels and holding-pawls applied to the respective sections, substantially as set forth.

Signed by me this 21st day of October, A. D. 1875.

JAMES LYALL.

Witnesses:

GEO. P. PINCKNEY,
HAROLD SERRELL.