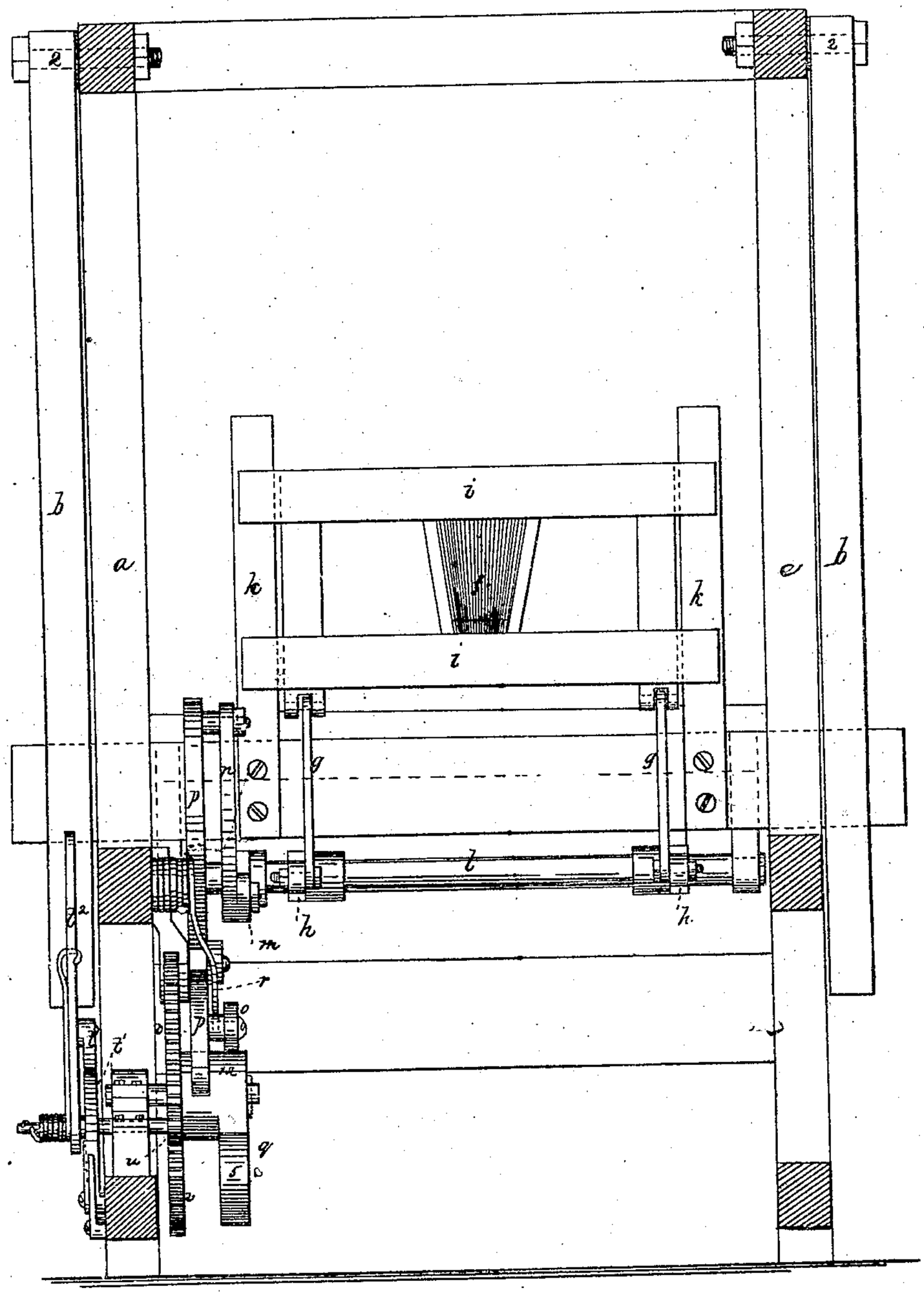
Sheet 1.
2 Sheets.

Silberman & Unger

Loom

No. 75062 Patented Mar. 3. 1868

Fig. 1.



WITNESSES.

Chas. A. Smith

Sc. T. Pinckney

INVENTORS.

Jacob Silberman

Gustav Unger.

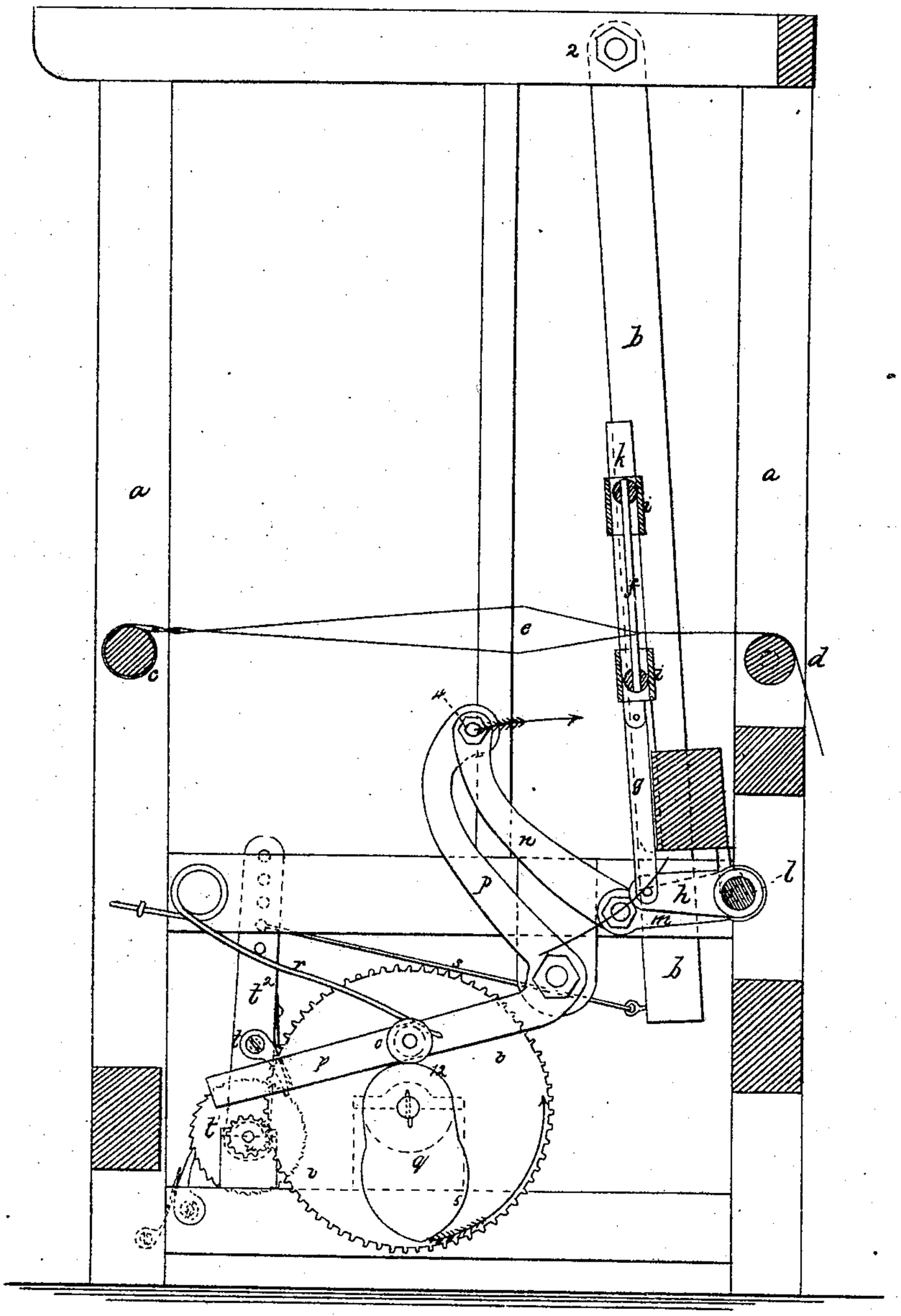
Sheet 2.
2 Sheets

Silberman & Unger

Loom

No. 75062 Patented Mar. 3. 1868

Fig. 2.



WITNESSES.

Chas. H. Smith

F. C. Pinckney

INVENTORS.

Jacob Silberman

Gustav Unger

United States Patent Office.

JACOB SILBERMANN AND GUSTAV UNGER, OF NEW YORK, N. Y., ASSIGNORS TO THEMSELVES AND JACOB HEINEMANN, OF SAME PLACE.

Letters Patent No. 75,062, *dated March* 3, 1868.

IMPROVEMENT IN LOOM.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that we, JACOB SILBERMANN and GUSTAV UNGER, of the city and State of New York, have invented, made, and applied to use, a certain new and useful Improvement in Weaving Fabrics of Varying Widths; and we do hereby declare the following to be a full, clear, and exact description of said invention, reference being had to the annexed drawing, making part of this specification, wherein—

Figure 1 is a rear view of the loom, showing our improvement, part of the frame being removed, and

Figure 2 is a longitudinal section of the same.

Similar marks of reference denote the same parts.

The object of our invention is to weave a continuous fabric that is varied in width as the weaving progresses, and to effect the same without the aid of jacquard-mechanism, and without any portion of the warp-threads being subsequently cut out.

Our invention is primarily intended for weaving neck-ties, in which the middle portion is narrow, and the ends gradually widened, so that the narrower part of said neck-tie may pass around the back of the neck, and the wider ends be tied together, but our said improvement may be applied to weaving any article of varying width to which it may be adapted.

The nature of our said invention consists in a reed, with diverging plates set so as to be raised or lowered in respect to the fabric, in combination with mechanism that raises and lowers said reed in the lay as the weaving progresses, and also causes the diverging reed to occupy the proper position in respect to the diverging warps passing from the heddles to the fabric, so that there will not be undue strain or wear upon said warps.

In the drawing, *a* represents the loom-frame; *b*, the swords of the lay, hung from the joints 2; *c* is the whip-roller; *d*, the breast-beam or roller; and *e* the point at which the heddles are applied to the warps. These parts being well known, and of any ordinary character, do not require further description. *f* is the diverging reed, set in a frame, *i*, that slides in the vertical frame *k*, of the lay, and *g g* are connecting-rods from the frame *k* to cranks *h h*, upon the shaft *l*, that is suspended along the under part of the lay-frame. Near one end of the shaft *l* is a crank, *m*, that has a link, *n*, connected to a bent lever, *p*, on which is a roller, *o*, in contact with the cam *q*. *r* is a spring, keeping the roller *o* into contact with the cam *q*, and *s* is a connection from the lay to the lever t^2, on which is a pawl, *t*, to the wheel t^1, that has a pinion, *u*, gearing with the wheel *v*, that is connected to the cam *q*.

The parts are so timed that the cam *q* will make one complete revolution in weaving each complete article or pattern, and the cam itself is to be shaped to produce the desired width of fabric at the proper place. Thus when the roller *o* rests on the part 12 of the cam *q*, the link *n* will have swung to the point 4, and allowed the diverging reeds to descend as the lay comes back, thus bringing a wider portion of the reed down to the line of the warps, as that reed comes back to where the warps are wider apart, by the heddles, and in coming forward again to beat up the filling, the reed will be lifted by *n*, and the fabric be narrow. As the cam *q* turns and the portion 5 moves the end, 4, of said lever *p*, in the direction of the red arrow, the link *n* hangs more nearly vertical, and does not lift the reed so much, hence the weft will be beaten up by a wider part of the reeds, and be correspondingly wider; thus the fabric can be woven narrower from a wider portion, or the reverse, and the shape of the cam *q* is such that the increase or decrease of width will occur at the proper time; and it will be apparent that the cam *q* might have two or more projecting points, to produce a corresponding number of variations in the width of the fabric each complete revolution of the cam *q*.

The fabric woven may be of one thickness, or it may be woven double or tubular, the heddles and shuttle being controlled and moved in the manner well known for such characters of weaving. A number of diverging reeds may be mounted in one lay, so as to weave several pieces simultaneously.

What we claim, and desire to secure by Letters Patent, is—

1. A reed, supported in slides in the lay, in combination with mechanism, substantially as described, that gives an end movement to said reed, each reciprocation of the lay, in order that the wider portion of the diverg-

ing reed may come into the warps where they stand wider apart near the heddles, for the purposes and as set forth.

2. The cam *q*, lever *p*, link *n*, and shaft *l*, or its equivalent, in combination with the lay and diverging reed, fitted to slide in the lay, and operate in the manner and for the purposes set forth.

In witness whereof, we have hereunto set our signatures, this 20th day of December, 1867.

JACOB SILBERMANN,
GUSTAV UNGER.

Witnesses:
CHAS. H. SMITH,
GEO. T. PINCKNEY.