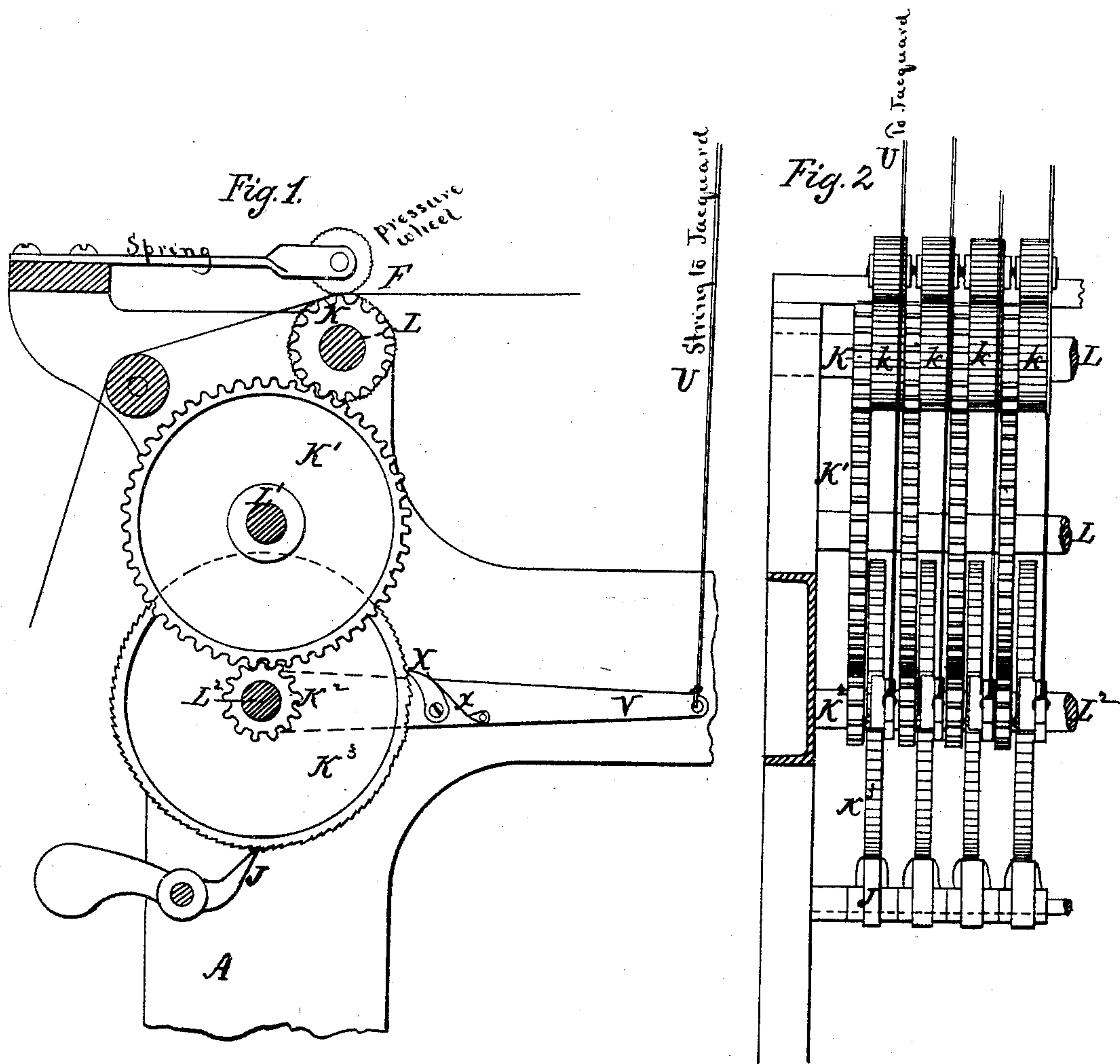


W. Breitenstein.
Take-Up for Loom.
N^o 38,195. *Patented Apr. 14, 1863.*



Witnesses:
Chs. Wehle
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Inventor.
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UNITED STATES PATENT OFFICE.

WILLIAM BREITENSTEIN, OF NEW YORK, N. Y., ASSIGNOR TO M. FISCHER
& CO., OF SAME PLACE.

IMPROVEMENT IN LOOMS.

Specification forming part of Letters Patent No. 38,195, dated April 14, 1863.

To all whom it may concern:

Be it known that I, WILLIAM BREITENSTEIN, of the city, county, and State of New York, have invented a new and useful Improvement in looms for weaving corsets and for weaving other irregular goods; and I do hereby declare that the following is a full and exact description of the same, reference being had to the annexed drawings, which form a part of this specification.

Figure 1 is a cross-section through the take-up roller and through the novel portions of my loom. Fig. 2 is a rear view of the same parts, or of a portion of them.

Similar letters of reference indicate like parts in both the figures.

My invention is an improved means of operating a divided take-up for irregular weaving. I have found by experiment that the fabric cannot so easily and certainly be woven of a uniform texture by other means.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation by the aid of the drawings and of the letters of reference marked thereon.

A is the frame of the loom, and F is the irregular fabric which is being woven.

K K, &c., are the several sections of a divided take-up roller, which are mounted side by side upon a fixed shaft or cylindrical bar, L, so as to turn easily thereon, either altogether alike, so as to produce the effect of an ordinary take-up, or some faster than others, as may be required. This divided or sectional take-up roller is the subject of another and separate application for patent by me, and will be here described only in brief. Each section is adapted to act independently of the other sections, so that when required it may turn while its neighboring sections remain at rest, and vice versa. Each section has a part of its surface adapted to act properly upon the fabric, as at *k*, and another part properly toothed, so as to mesh into and be driven by another wheel, as at K. The surface *k* is finely fluted longitudinally, as represented, and the cloth is forcibly pressed thereon by corresponding rollers or wheels mounted in springs above, as represented, there being one pressure-wheel and one spring to perform this duty upon one wheel or section of the divided take-

up roller, and a separate pressure-wheel and spring for each other wheel or section of the divided take-up roller. A separate gear-wheel, K', meshes into the toothed portion K of each section of the divided take-up roller. The several wheels K' are all mounted loosely on a fixed shaft or cylindrical bar, L, so that each may turn independently of those by its side. A separate gear-wheel, K², meshes into each wheel K'. A larger gear-wheel, K³, is cast on the side of each gear-wheel K², and the turning of the wheel K³ thus necessarily turns the several wheels K² K' and K *k*. The wheels K² K³ are (like the others) mounted loosely on a fixed shaft, L², and the several sections of the divided take-up are by reason of this construction of the mechanism capable of being separately operated, each having a motion corresponding to that of its corresponding wheel, K³, but slower. Each separate wheel K³ is caused to turn to a proper extent at the proper time by means of a separate lever and ratchet under the control of what is known as the "Jacquard" mechanism. The general character of the jacquard is well known to all who are familiar with complicated weaving and need not be described.

In weaving corsets and other irregular articles by power-looms the jacquard is employed to properly operate the warp-yarns so as to weave the gores. In order to adapt such to my invention it is necessary simply to add to the jacquard additional mechanism of a like character, so as to operate other strings than those which control the warp, and to connect such other or additional strings to the take-up mechanism in the manner now to be described.

U represents one of such additional strings leading down from the jacquard and subject, like the other strings, to be pulled and released at short intervals, or to be allowed to rest for a long period, according as holes are punched in the cards of the jacquard to control it.

V is a lever mounted loosely on the shaft or round bar L², so that it may turn freely thereon.

X is a ratchet mounted on the lever V and pressed against the teeth of the large wheel K³ by the spring *x*. So long as the string U is allowed by the jacquard to remain unpulled the wheel K³, and consequently the

corresponding section of the divided take-up, remains stationary, allowing the adjacent sections of the take-up to turn or not accordingly as they are respectively actuated by their several connections under the control also of the jacquard; but the moment the string U is pulled and released the lever V correspondingly reciprocates, and by the aid of the ratchet X turns the wheel K³, and its section of the take-up. The pawl J, mounted on a fixed shaft or bar below, allows the motion of the take-up in one direction only in the obvious manner, and there being separate pawls for each section of the take-up roller, connected in the manner shown, it follows that the action of each part of the divided take-up is complete in itself and entirely independent of the other parts of the same take-up, except as they are all connected to and controlled by one and the same set of Jacquard mechanism.

I do not esteem the precise form or number of the parts to be essential to the success of my invention. I can employ a greater or a smaller number of wheels K¹ K², &c., and can vary the size and arrangement indefinitely; but I prefer to employ such a train of mechanism as will allow the strings which actuate my several sections of the divided take-up to

mingle with or stand near the strings which actuate the warp. I prefer to employ levers V of such length that the ends to which the strings are attached will work freely below and without contact with the lay or batten.

The general arrangement of parts represented will operate with success, and it is easy for any skillful mechanic to find the proper reduction of motion to enable the vibrations of the strings U to induce a just sufficient amount of motion in the corresponding part of the take-up, so that the fabric will be closely and properly woven in every part.

The advantage due to my invention lies in the uniformity and certainty of the action of each section at the proper time.

Having now fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

Operating or controlling the operation of a divided take-up by Jacquard mechanism, so that the action of the several sections of the take-up shall be determined thereby, for the purpose herein set forth.

WM. BREITENSTEIN.

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