H. CARSTAEDT.

Take-Up Mechanism for Looms.

No. 168,228. Patented Sept. 28, 1875.

Fig. 1.

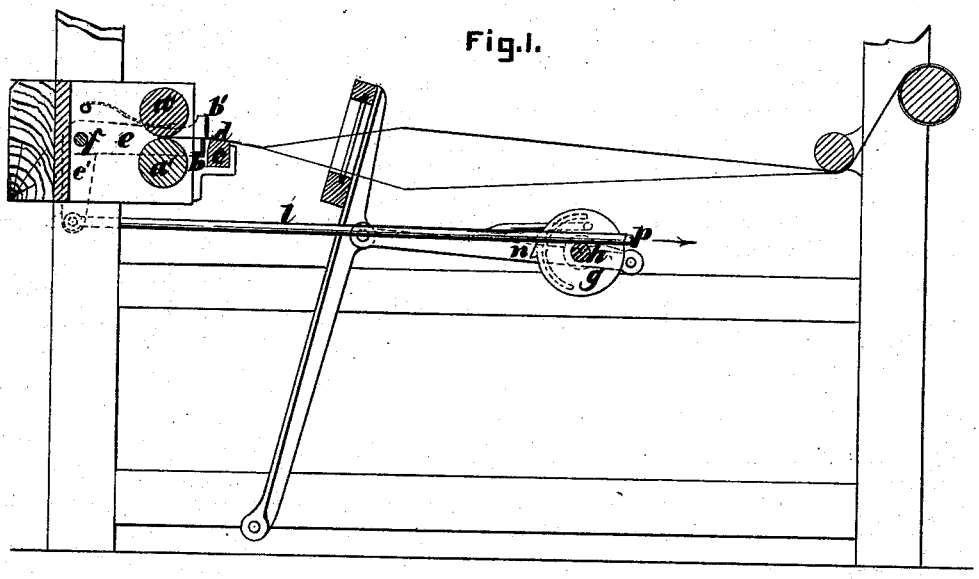


Fig. 2.

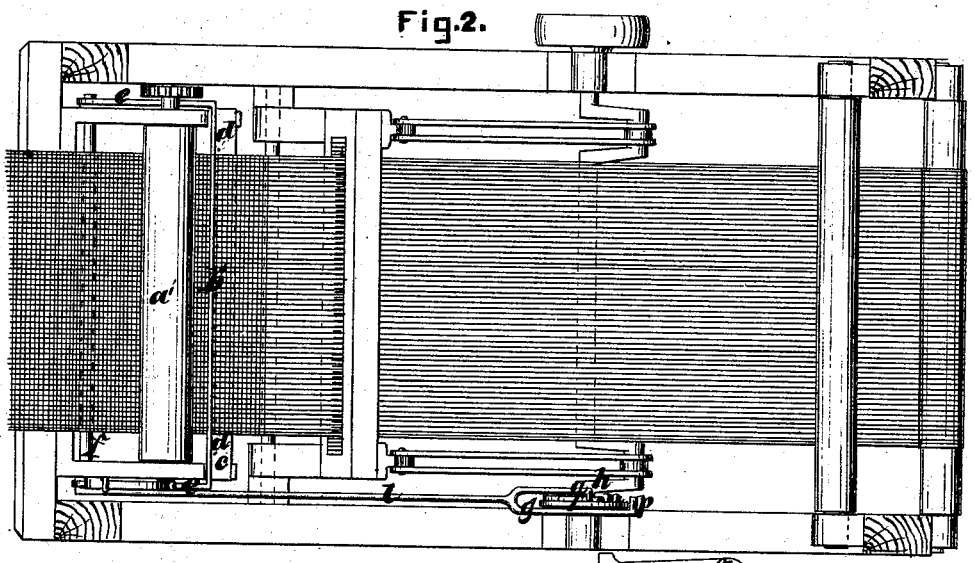
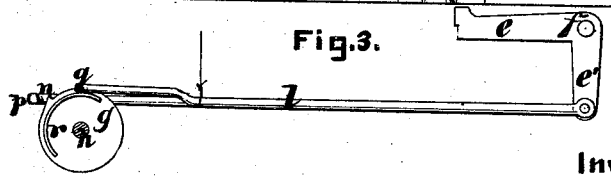


Fig. 3.



Witnesses.

Otto Hufeland

Chas. Wahlers.

Inventor.

Hugo Carstaedt

per

Van Santwood & Hauff

attys

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE

HUGO CARSTAEDT, OF NEW YORK, N. Y.

IMPROVEMENT IN TAKE-UP MECHANISMS FOR LOOMS.

Specification forming part of Letters Patent No. **168,228**, dated September 28, 1875; application filed April 2, 1875.

To all whom it may concern:

Be it known that I, HUGO CARSTAEDT, of the city, county, and State of New York, have invented a certain new and useful Improvement in Looms, of which the following is a specification:

This invention is illustrated in the accompanying drawing, in which—

Figure 1 represents a longitudinal vertical section. Fig. 2 is a plan or top view. Fig. 3 is a detached inside view of the mechanism for operating the lifter and depresser.

Similar letters indicate corresponding parts.

In weaving irregular goods, such as corsets, the fabric is not held throughout its whole width against the strain of the take-up, but a special retaining device is used. Such retaining device I have described in my Patent No. 88,365, dated March 30, 1869. It consists in a stationary bar furnished with retaining-needles. This answers very well in most cases, but in order to retain the fabric safely the needles must be made considerably longer than would be required by the thickness of the fabric, and they also must be made pretty thick, that they may not break off, and thereby injure fine fabrics. Furthermore, in order to be able to draw the fabric easily over the needles in one direction, and to arrest its motion in the opposite direction, said needles have to be inclined, and as the fabric passes down over them it slips back for the distance of the inclination.

My present improvement consists in combining, with the retaining-needles, a lifting device, which serves to raise the fabric out of the needles during the time the filling-thread is beaten up, and while the fabric is prevented by the reed from receding and the take-up is acting on it. With the lifter and the needles is combined a depresser, both the lifter and the depresser being actuated by a cam mounted on the crank-shaft and acting independent of the reed, so that the operations of lifting and of depressing the fabric can be adjusted in accordance with the motions of the reed. The cam which actuates the lifter and depresser is provided with a segmental guard, so that the lifter and depresser can be made to act at alternate picks.

In the drawing, the letters *a a'* designate the take-up rollers, which may be of any desired construction, and operated in any desired manner. The fabric in its passage to the take-up rollers passes between two blades, *b b'*, which are just far enough apart to allow the cloth to pass freely. Close in front of the blades *b b'* is a stationary bar, *c*, in which are secured the retaining-needles *d*. The blades *b b'* are secured to the arms *e* of bell-crank levers *e e'*, which are mounted on the end of a rock-shaft, *f*. The arm *e'* of one of these bell-crank levers is connected to a rod, *l*, the outer bifurcated end of which straddles a cam-disk, *g*, which is mounted on the crank-shaft *h*. From the periphery of this disk extends a nose, *n*, which, at the moment when the lay reaches the forward end of its stroke, acts on a hook, *p*, on one of the tines of the forked rod *l*, thereby pulling said rod in the direction of the arrow marked near it in Fig. 1, and causing the blades *b b'* to rise, so as to lift the fabric out of the needles *d*. As soon as the nose *n* has passed the hook *p* the rod *l* is released, and the blades *b b'* sink down by their own weight, which may be assisted by a suitable spring, so that the upper blade *b'* depresses the fabric into the needles. The whole amount of motion required by the blades *b b'* in order to accomplish the operations of lifting and depressing is not more than about one-sixteenth of an inch, and if the arms *e* of the bell-crank levers *e e'* are made considerably longer than the arms *e'*, the nose *n* can be made quite small, so that the operation of lifting the fabric out of the needles is accomplished instantaneously. The nose *n* may be so shaped that the blades *b b'* remain in their elevated position for any desired length of time, and they are raised once for every revolution of the crank-shaft, their motion being so timed that it takes place at the moment when the reed strikes the filling-thread last put in, and when the take-up receives its motion. At the inside of the disk *g* is a segmental guard, *r*, extending about half-way round, and the second or inner tine of the forked rod *l* is provided with a hook, *q*. When it is desired to throw the lifter and depresser out of operation during alternate strokes of the lay—as, for instance, in weaving the double parts or pockets for the whalebones in corsets—the rod *l* is raised by a connection with the jacquard, and

when it sinks down again the hook *q* strikes the guard *r*, retaining said rod in such a position that the nose *n* clears the hook *p*, and consequently no motion of the lifter and depresser takes place during that revolution of the crank-shaft. As the guard *r* passes from under the hook *q* the rod *l* drops back to its original position, and for the next revolution of the crank-shaft the required motion is imparted to the lifter and depresser.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the take-up of a loom, and with the retaining-needles *d*, of a lifting device, constructed substantially in the manner described, whereby the fabric is raised out of the needles during the time the filling-thread is beaten up, and while the take-up is acting on it.

2. The combination, with the take-up of a loom, with the retaining-needles *d* and lifter *b*, of a depresser, *b'*, both the lifter and depresser being actuated by a cam which acts independently of the reed, substantially as set forth.

3. The combination of the cam-disk *g* and segmental guard *r* with the forked rod *l*, bell-crank levers *e e'*, blades *b b'*, and take-up rollers *a a'*, all constructed and operating substantially as and for the purpose shown and described.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 24th day of March, 1875.

HUGO CARSTAEDT. [L. S.]

Witnesses:

W. HAUFF,

E. F. KASTENHUBER.