H. A. Remington,

Let Off for Looms.

No. 111,002. Patented Jan. 17, 1871.

Fig. 2.

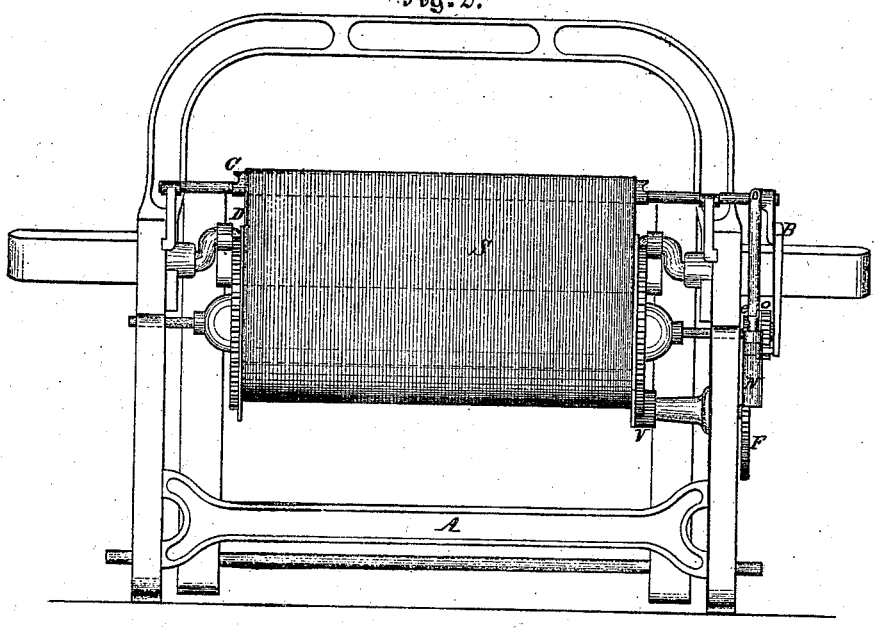


Fig. 1.

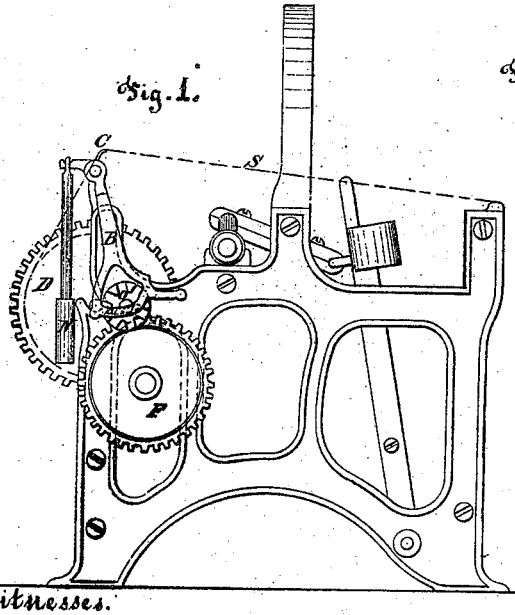
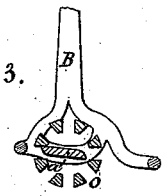


Fig. 3.



Witnesses.

James E. Arnold.

Benjamin Arnold.

Inventor.

Horatio A. Remington.

United States Patent Office.

HORATIO A. REMINGTON, OF ANTHONY, RHODE ISLAND.

Letters Patent No. 111,002, dated January 17, 1871.

IMPROVEMENT IN LET-OFF MECHANISMS FOR LOOMS.

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

To all whom it may concern:

Be it known that I, HORATIO A. REMINGTON, of Anthony, in the county of Kent and State of Rhode Island, have invented a new and useful Improvement in Let-off Motions for Looms; and do hereby declare the following to be a full and correct description thereof, reference being had to the accompanying drawing making part of this specification and to the letters and numbers of reference marked thereon, similar letters and numbers being used in all the figures to denote the same parts.

In the drawing—

Figure 1 shows the side of a loom, with the let-off motion attached.

Figure 2 is a back view of a loom.

Figure 3 shows the reverse of the stud-wheel and arm B.

This invention consists in using a small wheel, with stops or studs on its face, near the outer edge, and in the center of which a pad is held by an arm attached to the whip-roll, so that changes in the tension of the warp stretched over the whip-roll will cause the arm and pad to vibrate back and forth in the studs, thus allowing the stud-wheel to revolve, which, being connected by means of gears to the yarn-beam, will cause or allow that to turn and let off the required length of warp.

I will proceed more fully to describe its construction and operation.

A is the side frame of the loom.

D is the yarn-beam.

C is the whip-roll.

B is an arm fast on the end of the whip-roll, which has the pad *a* on its lower end.

o is the stud-wheel, on the back of which is a small gear, *e*, the gear and stud-wheel turning on a pivot fast to the frame.

F is a gear-wheel meshing into the pinion *e*, and fastened to a short shaft extending into the inside of the loom-frame.

On the inner end of this shaft is a small pinion, *v*, that meshes into the gear-wheel on the head of the yarn-beam.

S is the warp, and

N is a weight hung on an arm on the end of the whip-roll, to keep the warp tight, or a spring may be used in place of the weight.

The operation is as follows:

The tension of the warp is kept up by the weight N on the arm, on the whip-roll C, over which the warp is drawn, the yarn-beam being prevented from turning by the train of gear-wheels that connects it to the wheel *o*, which is held by one of its studs or teeth resting on the pad *a*. But when the lathe beats up the filling the strain on the warp is increased, and the whip-roll is drawn over so as to move the arm B back, throwing the pad *a* into the center of the wheel, and releasing the wheel *o* one stud, and the yarn-beam also by the train of wheels between the two, as before mentioned. As soon as the strain upon the warp is eased by the turning of the yarn-beam a little, the weight N will bring the whip-roll back, and the arm B will push the pad *a* back between the studs again, being assisted by the rounded end of the pad striking against the stud on the opposite side of the wheel, one stud of the wheel *o* only being released by the operation at a time, but this is done as often as the tension of the warp requires.

Having thus described my let-off motion,

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

The combination of the stud-wheel *o* and the centrally-located pad *a* on the arm of the vibrator, operating inside the circle of teeth of the stud-wheel, all constructed and operating substantially as herein set forth, and for the purpose specified.

HORATIO A. REMINGTON.

Witnesses:

BENJAMIN ARNOLD,

JAMES E. ARNOLD.