

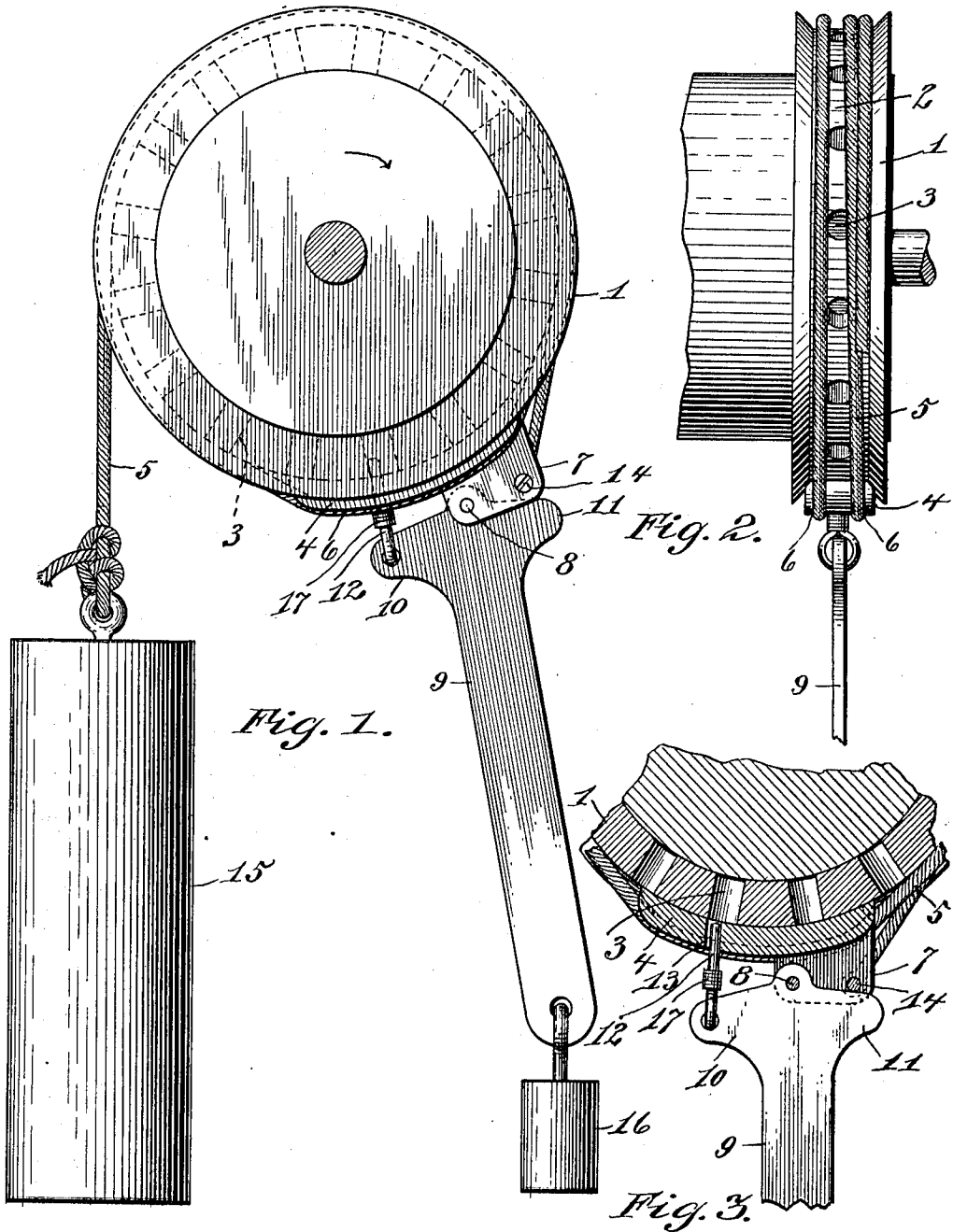
H. J. SATTLER.

LET-OFF.

APPLICATION FILED MAY 10, 1911.

1,019,993.

Patented Mar. 12, 1912.



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UNITED STATES PATENT OFFICE.

HERMAN J. SATTLER, OF EASTON, PENNSYLVANIA.

LET-OFF.

1,019,993.

Specification of Letters Patent.

Patented Mar. 12, 1912.

Application filed May 10, 1911. Serial No. 626,198.

To all whom it may concern:

Be it known that I, HERMAN J. SATTLER, a citizen of the United States, residing at Easton, in the county of Northampton and State of Pennsylvania, have invented certain new and useful Improvements in Let-Offs, of which the following is a specification.

The invention to be hereinafter described relates to warps in narrow-ware looms, as well as broad-ware looms, and more particularly to the let-off and take-up motions thereof, the only difference being the size and the strength in which this new invention must be constructed to meet the requirement, and to conform with the number of threads in the warp, and size or thickness of these threads, be they silk, cotton, wool, artificial silk, artificial fiber threads, wire, etc.

This invention may also prove of value in feeding paper or any other materials on rolls, large or small, to printing presses, or any other machine.

The object of this invention is to provide a smooth running, and safe and sure means of maintaining even tension.

The invention consists of the novel features and combinations as will hereinafter more fully appear in connection with a described embodiment of the invention.

In the drawing—Figure 1 is a side elevation of the mechanism. Fig. 2 is a front elevation. Fig. 3 is a sectional detail view.

Referring specifically to the drawing, 1 denotes the warp head which is formed with a circumferential groove 2 in the bottom of which are apertures 3. In the groove is mounted a shoe 4 which is held therein by a rope or other flexible means 5 wound around the warp head within the groove, and passing over the shoe, the back of the latter having grooves 6 in which the rope seats, whereby it is held from slipping off the shoe.

The shoe 4 has spaced ears 7 between which is pivoted at 8, a lever 9 having at one of its ends lateral extensions 10 and 11, respectively. The extension 10 carries a pin 12 which passes through a perforation 13 in the shoe, and is adapted to pass into one of the apertures 3 for a purpose to be presently described. The extension 11 works between the ears 7 and is adapted to engage a pin 14 extending therebetween, whereby the swing of the lever is limited and the pin 12 is prevented from being pulled out of the perforation 13. The pin 14 also serves as

a means for fastening one end of the rope 5, which latter, after passing around the shoe and the warp head, has attached to its other end a weight 15. The free end of the lever 9 carries a weight 16 which tends to swing the lever in a direction to bring the pin 12 into one of the apertures 3.

On the pin 12 are mounted washers 17 for the purpose of taking up wear, one washer after the other being removed as the length of the pin is reduced by wear.

Fig. 1 shows the normal position of the parts, the pin 12 extending into one of the apertures 3 and thus locking the shoe 4 to the warp head 1. It will be noted that in this position the lever is to the right of the perpendicular center of the warp head and off the center of gravity, thereby tending to move the pin 12 into locking position. As the warp head continues to rotate in the direction of the arrow shown in Fig. 1, the shoe and lever are carried bodily back to the center of gravity or perpendicular center of the warp head, and over to the left side thereof, whereupon the lever tilts and withdraws the pin 12 from the aperture 3, thus unlocking the shoe from the warp head, allowing it and the lever to slide back to the right past the center of gravity as before, whereupon the lever again tilts to the left and places the pin 12 in locking position. The movement of the shoe and lever to the right is effected by the weight 15.

I claim:

1. The combination with a warp head having apertures, a shoe slidably mounted on the warp head, a tension device connected to the shoe, a lever carried by the shoe, and a latch carried by the lever and adapted to enter the apertures of the warp head.

2. The combination with a warp head, of a shoe slidably mounted thereon, a line passing around the warp head and the shoe and having one of its ends connected to the shoe, a tension device connected to the other end of the line, a lever carried by the shoe, and means carried by the lever for locking the shoe to the warp head.

3. The combination with a warp head, of a retarding element thereon movable alternately to opposite sides of the perpendicular center line thereof, means carried by said element for locking the same to the warp head, said means locking when the element is on one side of the aforesaid line

and unlocking on the other side, and means for moving the element to the first mentioned side when unlocked.

4. The combination with a warp head, 5 of a retarding element thereon movable alternately to opposite sides of the perpendicular center line thereof, a lever carried by said element, means carried by the lever for locking the element to the warp head, 10 said lever placing the locking means in locking position when on one side of the aforesaid line and in unlocking position when on the other side, and means for moving the element to the first mentioned side 15 when unlocked.

5. The combination with a warp head, of a retarding element therefor and movable relatively thereto, an oscillating member carried by said element, means carried by

said member for locking the retarding element to the warp head, a locking action taking place when the member swings in one direction and an unlocking action when the member swings in the other direction, the swing of the member being produced by the 25 movement of the retarding element, said element moving with the warp head when locked thereto and in the opposite direction when unlocked, and a tension device for moving the element in the last mentioned 30 direction.

In testimony whereof I affix my signature in presence of two witnesses.

HERMAN J. SATTLER.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."