(No Model.)

W. WATTIE.

TAKE-UP MECHANISM FOR NARROW WARE LOOMS.

No. 454,961. Patented June 30, 1891.

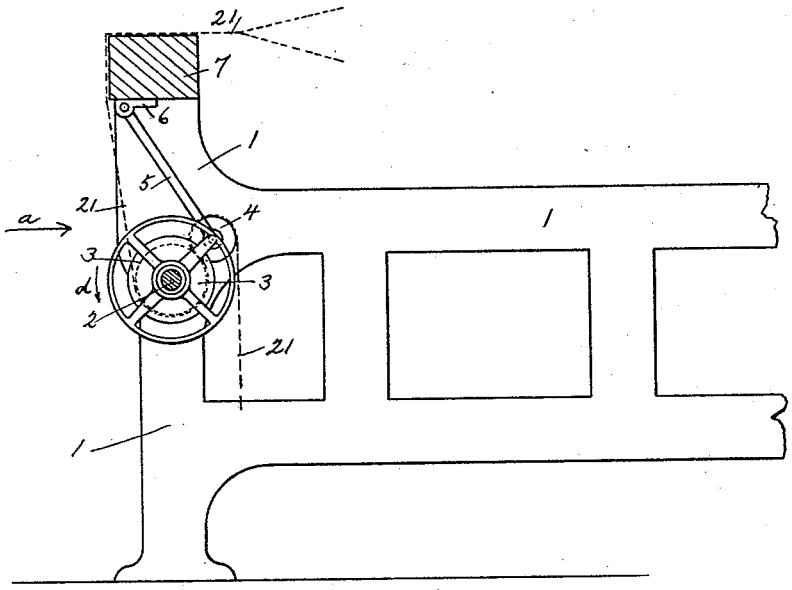

Fig. 1.

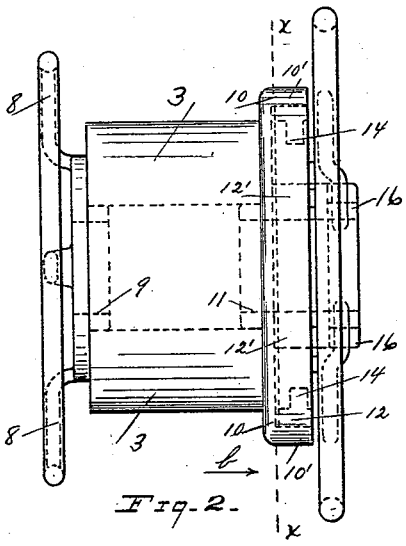

Fig. 2.

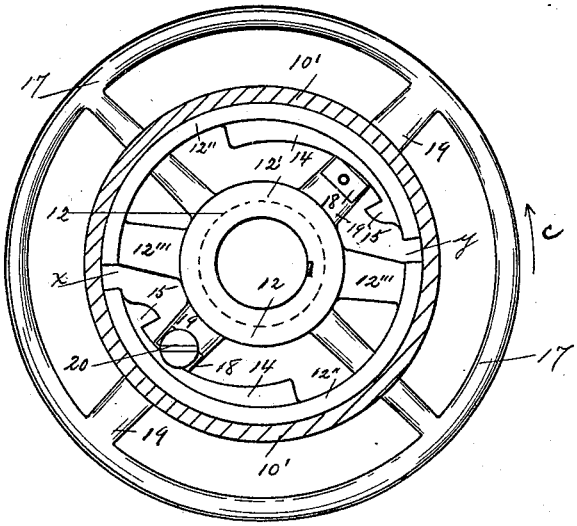

Fig. 3.

Witnesses
Chas. T. Fletcher
Wm. L. Chase

Inventor
William Wattie.

By Attorney
John C. Dewey

UNITED STATES PATENT OFFICE.

WILLIAM WATTIE, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO THE KNOWLES LOOM WORKS, OF SAME PLACE.

TAKE-UP MECHANISM FOR NARROW-WARE LOOMS.

SPECIFICATION forming part of Letters Patent No. 454,961, dated June 30, 1891.

Application filed November 7, 1890. Serial No. 370,639. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM WATTIE, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Take-Up Mechanism for Narrow-Ware Looms; and I do hereby declare that the following is a full, clear, and exact description thereof, which, in connection with the drawings making a part of this specification, will enable others skilled in the art to which my invention belongs to make and use the same.

My invention relates to the take-up mechanism for narrow-ware looms; and the object of my invention is to produce a simple and effective clutch mechanism for securing the take-up or sand roll to the take-up shaft and for releasing the same therefrom, so that said roll may be revolved independently of said shaft.

My invention consists in certain novel features of construction and operation of the take-up mechanism above referred to, as will be hereinafter fully described.

Referring to the drawings, Figure 1 is a sectional side elevation of a portion of a narrow-ware loom with my improved take-up mechanism applied thereto. Fig. 2 is a detail front elevation of the take-up mechanism and roll looking in the direction of arrow *a*, Fig. 1; and Fig. 3 is a vertical section on line *x x*, Fig. 2, looking in the direction of arrow *b*, same figure. Figs. 2 and 3 are on an enlarged scale.

In the accompanying drawings, 1 is the loom side of a narrow-ware loom. 2 is the take-up shaft, which is driven in the direction of arrow *d*, Fig. 1, in the usual manner, and 3 is the take-up roll or sand-roll, which is supported on the shaft 2 and connected therewith to revolve with said shaft or disconnected therefrom to revolve loosely thereon by means of the clutch mechanism, to be hereinafter described. A friction-roll 4 rests upon the upper side of the take-up roll 3, and is supported in the outer end of the swinging frame 5, pivoted at its upper end in the stand 6, secured to the under side of the breast-beam 7, all in the ordinary manner in this class of looms.

The take-up roll 3 is provided with the hand-wheel 8, secured on one end thereof, and the bore 9 of said hand-wheel 8 is large enough to turn freely on the take-up shaft 2. On the opposite end of the take-up roll 3 from the hand-wheel 8 is secured the flanged disk 10, the bore 11 of which is large enough to turn freely on the shaft 2. A friction-collar 12 extends within the flanged disk 10, and the hub 12′ thereof is fast on the take-up shaft 2. The rim 12″ of the friction-collar 12 is cut away at two points *x* and *y*, (see Fig. 3,) and the hub 12′ is connected with the split rim 12″ by the arms 12‴. The inner surface of the rim 12″ is provided with cam-surfaces 14 and with stops 15. The hand-wheel 17 at the opposite end of the take-up roll 3 from the hand-wheel 8 is supported loosely upon the projecting end 16 of the hub 12′ of the friction-collar 12. The hand-wheel 17 has two lugs 18 on the opposite arms 19, adapted to extend within and ride on the cam-surfaces 14. Screws 20, only one of which is shown in Fig. 3, tapped into the lugs 18, with their heads projecting over the cam-surfaces 14, prevent any longitudinal motion of the hand-wheel 17 on the hub of the friction-collar, but leave the hand-wheel free to turn in either direction on the hub of the friction-collar fast on the shaft 2. When the hand-wheel 17 is moved in the direction of arrow *c*, Fig. 3, the lugs 18 will act upon the cam-surfaces 14 and cause the rim 12″ of the friction-collar to expand and press tightly against the inner surface of the flange 10′ of the disk 10 fast on the take-up roll 3, thus causing the take-up roll to revolve with the friction-collar 12 fast on the take-up shaft 2. By turning the hand-wheel 17 in the opposite direction until the lugs 18 come in contact with the stops 15, the rim 12″ is allowed to contract, releasing the flanged disk 10 and allowing the take-up roll 3 to be moved independently of the friction-collar 12, fast on the take-up shaft 2.

The operation of my improved take-up mechanism will be readily understood by those skilled in the art from the above description, in connection with the drawings, and is as follows: The web (represented in the drawings by broken lines 21, Fig. 1) passes around the take-up roll 3, over the friction-

roll 4, to the cloth-roll. (Not shown.) The hand-wheel 17 is turned in the direction of arrow *c*, Fig. 3, until the lugs 18, riding on the cam-surfaces 14 of the friction-collar 12, expand the rim 12″ sufficiently to create an amount of friction on the flanged disk 10 that will resist the pull of the web 21 and cause the take-up roll 3 to revolve with the friction-collar 12 fast on the take-up shaft 2. When it is required to loosen up on the web for any purpose, or to revolve the take-up roll in the opposite direction, the hand-wheel 17 is turned in the opposite direction from that indicated by arrow *c*, Fig. 3, and the lugs 18 release the cam portions 14 of the friction-collar 12, relieving the friction of said collar on the disk 10, allowing the said disk and take-up roll to turn, independently of said friction-collar, on the take-up shaft. The take-up roll 3 is made fast again to the take-up shaft by revolving the take-up roll 3 by the hand-wheel 8 until there is sufficient pressure on the web, when the friction-collar 12 is operated by the hand-wheel 17 to grip the disk 10, as above described.

It will be understood that the details of construction of the clutch mechanism for connecting and disconnecting the take-up roll on the take-up shaft may be varied some from what is shown and described, if desired.

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

1. In narrow-ware looms, the take-up mechanism consisting of a take-up roll mounted loosely on the take-up shaft and provided with a hand-wheel, and a flanged disk on opposite ends thereof, in combination with a friction-collar fast on the take-up shaft, having a divided friction-rim and cam-surfaces thereon, and a hand-wheel mounted loosely on the hub of said friction-collar and provided with lugs for engaging the cam-surfaces to operate the clutch mechanism, for the purpose stated, substantially as set forth.

2. In a take-up mechanism of a loom, the combination, with the take-up roll loose on the take-up shaft and having a hand-wheel fast on one end thereof and a flanged disk fast on the other end thereof, of a friction-collar fast on the take-up shaft adapted to engage said flanged disk, and a hand-wheel operating the friction-collar and causing the same to be engaged with or disengaged from said flanged disk, for the purpose stated, substantially as set forth.

3. In a take-up mechanism of a loom, the combination, with the take-up shaft and the take-up roll loose on the take-up shaft, said roll provided with a hand-wheel fast on one end thereof and a flanged disk or rim fast on the other end thereof, of a collar fast on the take-up shaft, and a grip or friction mechanism for engaging the flanged disk on the take-up roll to connect said roll with the take-up shaft and to cause said roll to revolve therewith, and a hand-wheel connected with said collar and grip mechanism to release said grip mechanism and allow the take-up roll to be revolved independently thereof, substantially as set forth.

WILLIAM WATTIE.

Witnesses:
JOHN C. DEWEY,
EDMUND F. SEYMOUR.