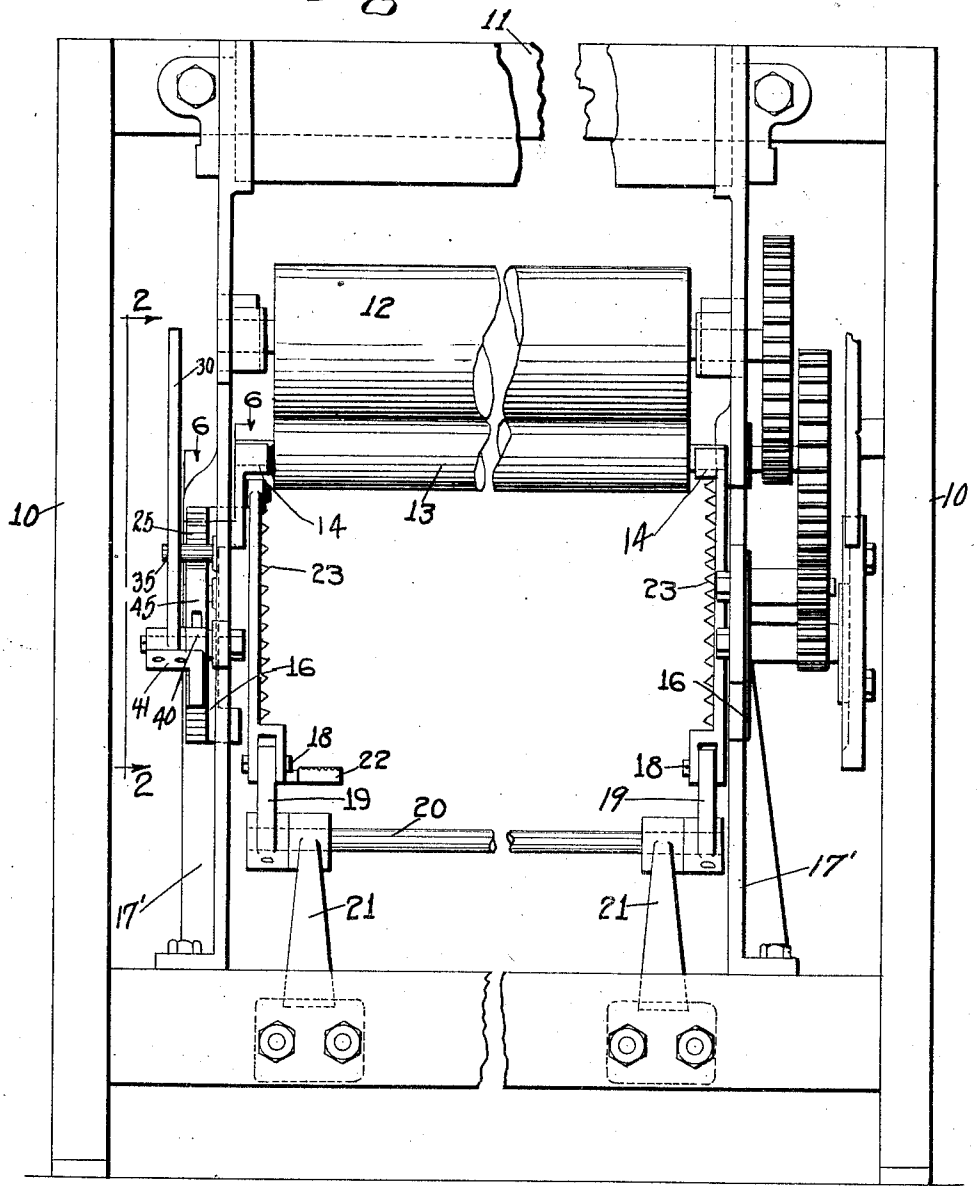
Nov. 13, 1928. 1,691,145

C. P. BERGSTROM ET AL

CLOTH ROLL SUPPORT

Filed Dec. 21, 1927 2 Sheets-Sheet 1

Fig. 1.



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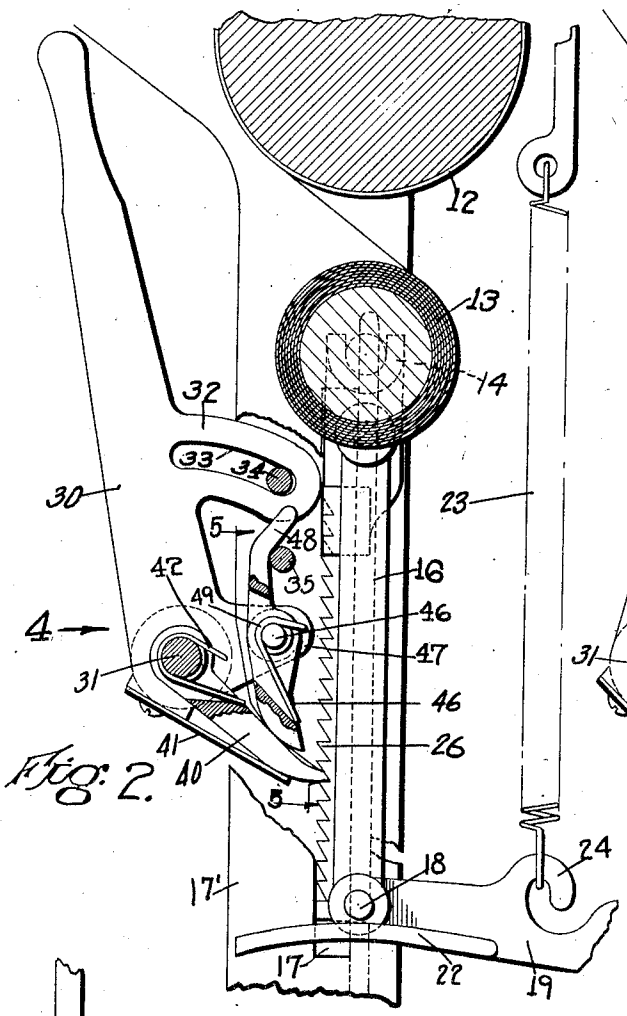


Fig. 2.

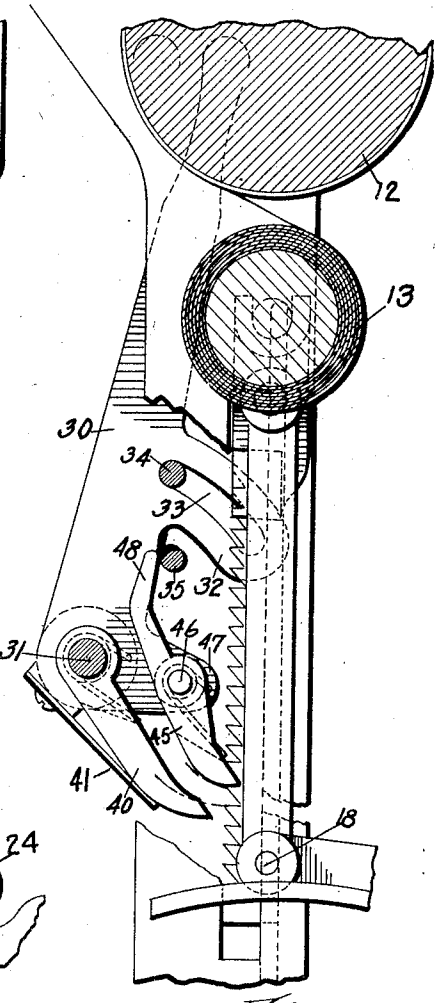


Fig. 3.

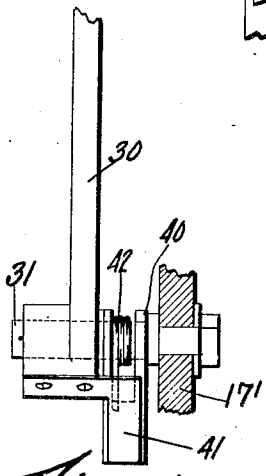


Fig. 4.

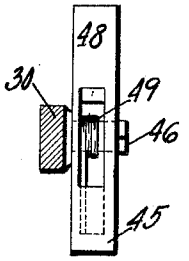


Fig. 5.

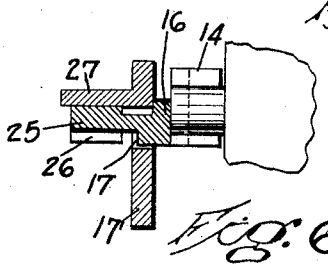


Fig. 6.

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UNITED STATES PATENT OFFICE.

CARL P. BERGSTROM AND VICTOR A. FOISY, OF WORCESTER, MASSACHUSETTS, ASSIGNORS TO CROMPTON & KNOWLES LOOM WORKS, OF WORCESTER, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

CLOTH-ROLL SUPPORT.

Application filed December 21, 1927. Serial No. 241,667.

This invention relates to a loom for weaving cloth and particularly to improved devices for supporting a cloth roll therein. In such looms, it is desirable to lower the cloth roll from time to time and to thereafter restore the roll to its raised and operative position.

It is the general object of our invention to provide improved devices by which the cloth roll may be lowered manually and by which it may be thereafter restored to raised and operative position.

A further object is to provide means by which the roll may be conveniently raised with a step-by-step movement.

Our invention further relates to arrangements and combinations of parts which will be hereinafter described and more particularly pointed out in the appended claims.

A preferred form of the invention is shown in the drawings in which,

Fig. 1 is a front elevation of our improved cloth roll supporting mechanism;

Fig. 2 is a side elevation with certain parts in section, taken substantially along the line 2—2 in Fig. 1;

Fig. 3 is a view similar to Fig. 2, but showing the parts in a different position;

Fig. 4 is a detail side elevation partly in section, looking in the direction of the arrow 4 in Fig. 2;

Fig. 5 is a detail sectional elevation, taken along the line 5—5 in Fig. 2; and

Fig. 6 is a detail sectional plan view, taken along the line 6—6 in Fig. 1.

Referring to the drawings, we have shown parts of a loom including a frame 10, a breast beam 11, a take-up roll 12, and a cloth roll 13. The roll 13 is supported in bearings 14 (Fig. 6) which are offset from the upper ends of cloth roll supporting bars 16, slidable in recesses or guide-ways 17 in the take-up stand 17′.

The supporting bars 16 are pivoted at their lower ends on studs 18 (Fig. 2) mounted in the front ends of arms 19, secured to a rock shaft 20 rotatable in fixed bearings 21 (Fig. 1). The left hand arm 19 is provided with a lateral projection 22 (Fig. 1) forming a treadle or rest on which the weaver may place his foot and exert downward pressure to depress the cloth roll when desired. Heavy coiled springs 23 (Fig. 2) are connected to hooks 24 on the arms 19 and act to yieldingly raise the arms 19 and the bars 16 supported thereby.

The left hand supporting bar 16 is extended through its guiding slot 17 as shown in Fig. 6, and is provided with a rack bar 25, preferably integral with the supporting bar 16. The rack bar is provided with teeth 26 on its front face, and a flange 27 (Fig. 6) on the take-up stand 17′ provides a guiding and supporting surface to resist the rearward thrust of the rack bar under the operating conditions to be described.

A hand lever 30 (Fig. 2) is mounted on a fixed stud 31 and has an offset projection 32 slotted at 33 to receive a stop pin 34 by which angular movement of the lever is limited in both directions. A second stop pin 35 is also provided in the take-up stand 17′ for a purpose to be described.

A holding pawl 40, also pivoted on the stud 31, is normally held against a flat plate 41 on the handle 30 by a coil spring 42. When the handle is swung forward to the position shown in Fig. 2, the holding pawl 40 engages the teeth 26 of the rack bar 25 and holds the cloth roll in lowered position against the tension of the springs 23.

A release pawl 45 is pivoted on a stud 46 in a lug 47 projecting laterally from the lower end of the lever 30. The pawl 45 has an upwardly extending cam portion 48 which is held in engagement with the stop pin 35 by a coil spring 49 on the stud 46.

Having described the construction of our improved mechanism, the operation thereof is as follows:

When it is desired to depress the cloth roll 13, the weaver places his foot upon the treadle portion 22, depressing the arms 19 and the suporting bars 16 against the tension of the springs 23. The lever 30 normally occupies the position shown in Fig. 2, so that the holding pawl 40 will engage the teeth 26 and hold the supporting bars in depressed position.

When it is desired to restore the cloth roll to raised position, the lever 30 is rocked back and forth on its stud 31 a sufficient number of times to permit the roll to rise until engaged by the take-up roll 12. Each time the handle is rocked from the position shown in Fig. 2 to that shown in Fig. 3, the release pawl will engage one of the teeth in the rack bar and will depress the rack bar

sufficiently to release the holding pawl 40, which is immediately snapped outward by its spring 42 until it engages the plate 41 as shown in Fig. 3.

As the handle is then rocked forward, the holding pawl will be moved rearward and will engage the next lower tooth on the rack bar while the release pawl will be disengaged from the rack as its cam projection 48 slides upward past the stop pin 35 to the position shown in Fig. 2.

The cloth roll is thus permitted to rise by the space of one tooth. The operation may be repeated as many times as necessary until the cloth roll engages the take-up roll. It will be seen that the cloth roll is thus easily moved upward by a step-by-step motion and that this motion is entirely under the control of the hand lever 30.

The operation may thus be quickly and easily performed while the cloth roll is always under control and may be rotated to take up the slack cloth as the supporting bars are moved step-by-step upward. The entire mechanism may be cheaply and easily manufactured and is found to be reliable and satisfactory in use.

Having thus described our invention and the advantages thereof, we do not wish to be limited to the details herein disclosed otherwise than as set forth in the claims, but what we claim is:—

1. In a loom, cloth roll supporting mechanism comprising a pair of vertically slidable supporting bars, said bars being simultaneously manually depressible, means to hold said bars depressed, and means to accomplish a yielding upward step by step movement of said bars to operative raised position.

2. In a loom, cloth roll supporting mechanism comprising a pair of vertically slidable supporting bars, said bars being simultaneously manually depressible, means providing a step by step release of said supporting bars, and yielding means to raise said bars upward as released.

3. In a loom, cloth roll supporting mechanism comprising a pair of vertically slidable supporting bars, said bars being simultaneously manually depressible, means to move said bars yieldingly upward, and a manually operated step by step releasing mechanism for said supporting bars.

4. In a loom, cloth roll supporting mechanism comprising a pair of vertically slidable supporting bars, said bars being simultaneously manually depressible, means to move said bars yieldingly upward, and means to limit such upward movement to a step by step movement which is at all times under direct manual control.

5. In a loom, cloth roll supporting mechanism comprising a pair of vertically slidable supporting bars, said bars being simultaneously manually depressible, a holding pawl and a release pawl, each successively engaging teeth on one of said supporting bars and successively releasing said teeth, and yielding means to raise said bars step by step when released.

6. In a loom, cloth roll supporting mechanism comprising a pair of vertically slidable supporting bars, said bars being simultaneously manually depressible, a holding pawl and a release pawl for one of said bars, a handle effective to operate said release pawl and to thereby cause said holding pawl to engage and release successive teeth on said supporting bar, and yielding means to raise said bars when released.

7. In a loom, cloth roll supporting mechanism comprising a pair of vertically slidable supporting bars, said bars being simultaneously manually depressible, a lever mounted on a fixed stud, a holding pawl mounted on a fixed stud, a release pawl mounted on said lever and having a projection engaging a fixed stop, and yielding means to move said supporting bars upward and to cause the teeth thereof to successively engage said pawls.

In testimony whereof we have hereunto affixed our signatures.

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VICTOR A. FOISY.