Nov. 27, 1956 C. W. HOLT 2,771,911

STOP MOTION FOR LOOMS

Filed March 8, 1955

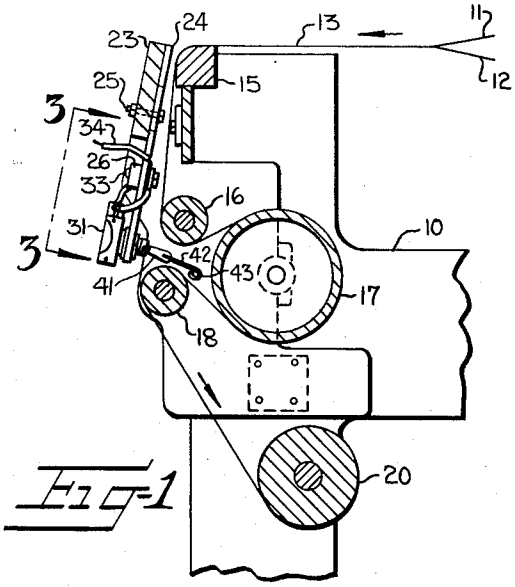

FIG-1

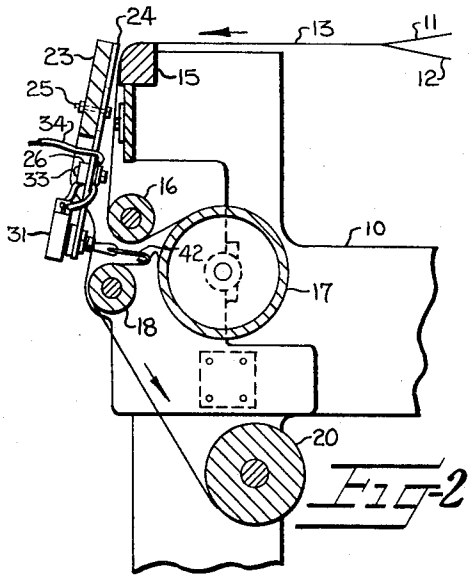

FIG-2

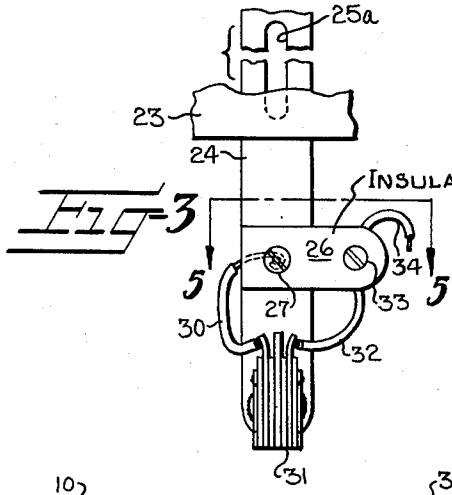

FIG-3

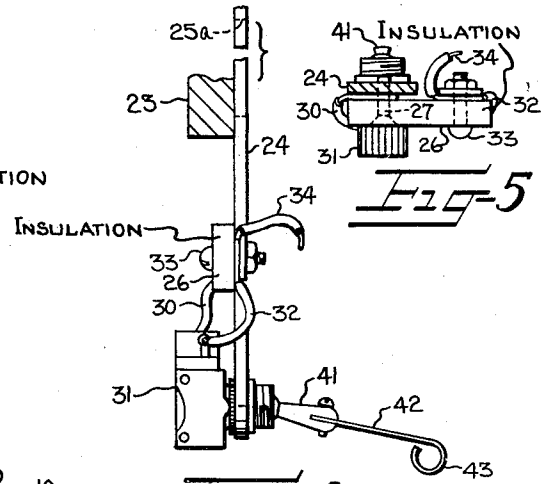

FIG-5

FIG-4

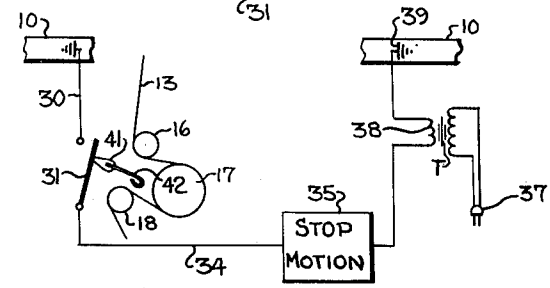

FIG-6

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STOP MOTION FOR LOOMS

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1 Claim. (Cl. 139—339)

This invention relates to improvements in a loom and more especially to means for stopping the loom when the cloth is not properly wound onto the cloth take-up roll at which time it has a tendency to wind around the sand roll more than usual and in which case it stops the loom.

It is an object of this invention to provide a stop motion mechanism adapted to be affixed to an ordinary weaving loom whereupon the loom will be stopped when the cloth woven thereby is wound around the sand roll to an undue extent.

It is another object of this invention to provide a stop motion for a loom which can be attached to existing looms without any remodeling of the loom and which will stop the loom when cloth being woven by the loom is wound more than a predetermined amount around the sand roll.

Some of the objects of the invention having been stated other objects will appear as the description proceeds when taken in connection with the accompanying drawings, in which—

Figure 1 is a fragmentary vertical sectional view of a loom, showing the take-up mechanism of the loom with the cloth following its normal path of travel and showing the invention applied thereto;

Figure 2 is a view similar to Figure 1 but showing the cloth following a path of travel to actuate the stop motion to stop the loom;

Figure 3 is an enlarged fragmentary elevation view taken along the line 3—3 in Figure 1;

Figure 4 is a side elevation of Figure 3 showing the stop motion actuating switch disassociated from the loom and in open position;

Figure 5 is a sectional plan view taken along the line 5—5 in Figure 4;

Figure 6 is a schematic wiring diagram of the loom showing the invention applied thereto.

Referring more specifically to the drawings, the numeral 10 indicates a loom frame in which warp threads, for example, 11 and 12 are woven into a piece of cloth 13 in the usual manner. The cloth 13 passes over a breast beam 15, beneath a cloth guide roller 16, partially around a sand roll 17, over a cloth guide roller 18 and is wound onto a take-up roll 20. The sand roll 17 may be of the type which is covered with a suitable abrasive, such as sand paper, or may be of the type provided with sharp projections to prevent slippage between the cloth 13 and the sand roll 17.

In normal operation, the cloth 13 is under tension as it leaves the sand roll 17. If, for any reason, the tension in the cloth is relaxed, the cloth will tend to adhere to the sand roll 17 and wind up on the sand roll 17 instead of being taken up by the take-up roll 20. In the position shown in Figure 1, the cloth is being properly taken up but in Figure 2, it is seen wherein the take-up roll 20 is

not properly taking up the cloth 13 and the cloth 13 has a tendency to wind around the sand roll 17. Secured to the frame 10 of the loom by any suitable means is a cloth protector plate 23 which extends across the loom and behind which the cloth 13 is adapted to move. The plate 23 has secured anywhere along its length a bracket 24 by means of a bolt 22 penetrating the plate 23. The bolt 25 penetrates a slot 25*a* in the bracket 24 and the slot 25*a* is provided to permit vertical adjustment of the bracket 24. An insulation block 26 is mounted on the bracket 24 by a screw 27 which serves as a contact for one end of a wire 30.

A wire 30 is secured to the screw 27 at one end and its other end is secured to a conventional toggle switch 31 which is mounted in the bracket 24. A wire 32 has one end connected to another side of the toggle switch 31 and is connected to a contact screw 33 mounted in the insulation block 26. From the contact point 33 a wire 34 is connected to the conventional electric stop motion of the loom indicated at 35 which in turn is actuated by a transformer T connected to a source of electricity on one side as at 37 and having a winding 38 which is grounded as at 39 to complete the circuit.

The toggle switch 31 has a conventional toggle arm 41 with one end of an extension wire 42 connected thereto and the free end of which is curled as at 43. When the cloth is being properly wound on the take-up roll 20 the parts will assume the position shown in Figure 1 but when the cloth begins to adhere to the sand roll and to wind around the sand roll 17 as shown in Figure 2 the cloth will contact the curled end 43 and raise the wire 42 upwardly which will close the toggle switch 31 to thus complete the electric circuit and actuate the stop motion mechanism 35 to stop the loow.

In the drawings and specification there has been set forth a preferred embodiment of the invention and although specific terms are employed, they are used in a generic and descriptive sense only and not for purposes of limitation, the scope of the invention being defined in the claim.

I claim.

In a loom having a breast beam over which cloth passes, an electric stop motion, a stationary member on said loom spaced forwardly of said breast beam, a sand roll spaced below said beam, first and second vertically spaced guide rolls spaced forwardly from the sand roll for guiding cloth to and away from the sand roll, respectively, and a take-up roll spaced beneath the second guide roll for taking up said cloth; the combination of an elongated relatively thin bracket secured for vertical adjustment to the stationary member and depending therefrom, a normally open toggle switch carried by said bracket below the stationary member and having an actuating arm projecting rearwardly therefrom and overlying the cloth between the sand roll and the second guide roll, and said switch being interposed in an electrical circuit to said stop motion whereby winding of the cloth around the sand roll beyond a predetermined amount causes the cloth to engage and move the actuating rm upwardly to close the switch and actuate said stop motion.

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