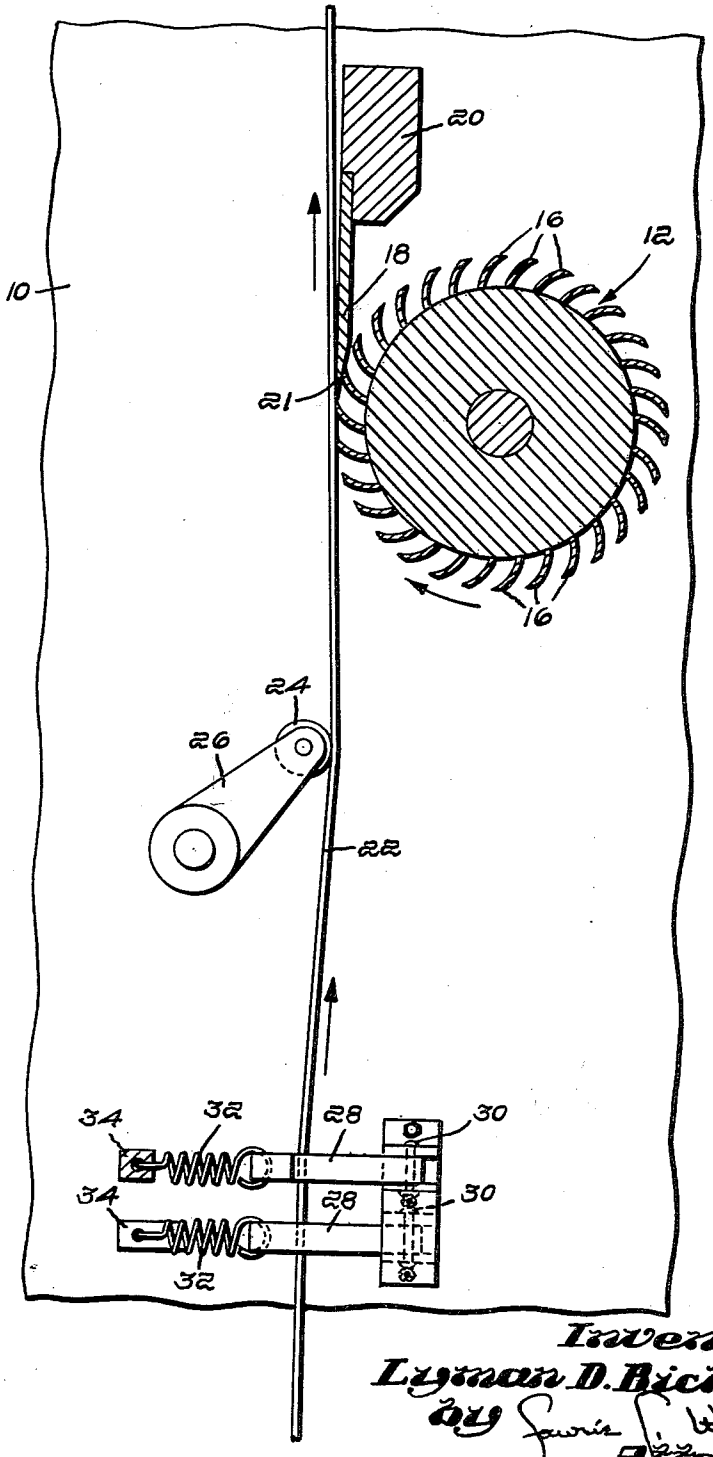
April 28, 1964 L. D. BICKFORD 3,130,472

SELVAGE TIGHTENER FOR FABRIC SHEARING MACHINES

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Fig. 1.



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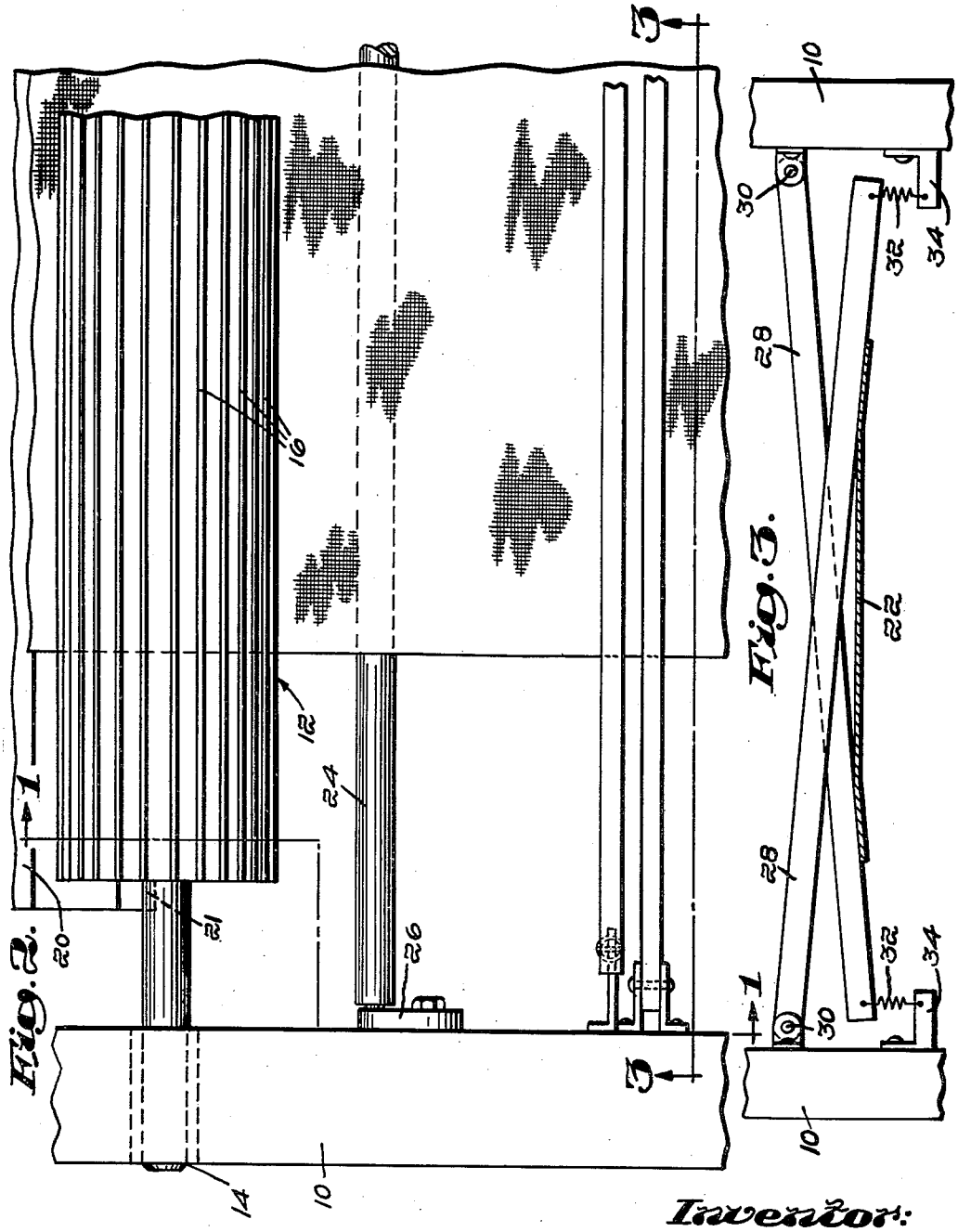


Fig. 2.

Fig. 3.

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SELVAGE TIGHTENER FOR FABRIC SHEARING MACHINES

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This invention relates to a fabric shearing machine employing a rotatably mounted cylindrical revolver having spaced shearing blades extending longitudinally thereof at its periphery and a fixed ledger knife cooperating with the blades and adapted therewith to shear loose threads from one face of the fabric as the fabric strip is moved longitudinally in open width over the knife and blades. Accurate shearing of the threads at said face without damage to the fabric requires that the strip be maintained taut especially at the selvage portions which frequently are slack and in a puckering condition. My invention herein contemplates the employment of two arm-like elements pivotally mounted on the frame of the machine respectively adjacent to and outwardly of the two margins of the strip forwardly of the ledger knife and each extending therefrom inwardly toward the opposite margin over one face of the strip. The elements are pivotally movable toward and from the strip and each is disposed to engage a marginal portion thereof under predetermined pressure contact designed to remove any slack or puckering condition and hold the strip taut throughout its width as it passes the ledger knife and blades. The production of a novel mechanism of this nature and for performing this function comprises the primary object of the invention.

These and other features of the invention will be more clearly understood from the following description of an embodiment thereof illustrated in the accompanying drawings in which:

FIG. 1 is a fragmentary view of the machine taken on line 1—1 of FIG. 2,

FIG. 2 is a fragmentary front elevation, and

FIG. 3 is a plan view taken on line 3—3 of FIG. 2.

In the drawings, 10 indicates the two opposite side wall frame portions of the machine. A cylindrical revolver 12 carried on a shaft rotatably supported at its ends 14 on the walls is disposed therebetween within the frame. Spaced shearing blades 16 extend longitudinally of and are mounted in the revolver at its periphery, and a ledger knife 18 carried on a support 20 has its cutting edge 21 disposed in cooperating shearing relation with the blades 16.

The machine is provided with means for supporting in full width and conducting longitudinally through the machine to and past the ledger knife and blades a strip of fabric 22 to be sheared. As the fabric passes the cutting edge 21 of the ledger knife, the blades 16 of the rotating revolver shear the loose threads from the forward face of the fabric. A cloth rest roll 24 supported at its ends on crank arms 26 mounted on the walls 10 is provided for maintaining the forward face of the fabric in contact with the ledger knife. While the fabric strip is supported in full width as it passes to the shearing station, the selvage portions are frequently so slack and puckered that the fabric would be damaged at these portions if fed to the shearing blades in such condition. The function of the novel feature of the invention now to be described is to remove this slack and hold the strip taut throughout its width as it passes to the ledger knife and blades.

The embodiment of the invention illustrated in the drawings comprises two arms or bars 28 pivoted at 30 respectively to the two walls 10 of the frame adjacent to and outwardly of the two margins of the strip forwardly of the ledger knife 18 and shearing blades 16. Each arm extends from its pivotal mounting inwardly over one face of the strip and toward the opposite margin. As illustrated in FIG. 3, the two pivot mountings 30 of the arms 28 are disposed in a plane spaced outwardly and forwardly from the forward face of the fabric strip 22. The arms dip downwardly about their pivots to a position inclined longitudinally relative to the strip and rest adjacent to their free ends on the two selvage portions of the strip. Removal of the slack from such portions requires a predetermined pressure contact of the arms with the selvages and in the drawings I have illustrated springs 32 for performing this function. Each spring is connected to the free end of its arm and to a bracket 34 fixed to the frame. Springs for giving the predetermined pressure desired can be provided or each spring can embody adjusting means for varying this pressure. It will furthermore be understood that other suitable means can be provided for performing this predetermined pressure producing function, such, for example, as pneumatic or hydraulic means. The pressure contact of the arms on the selvages takes up any slack therein and holds the strip taut as it passes to the ledger knife and shearing blades, thereby effecting high shearing efficiency without damage to the fabric.

Having thus disclosed my invention what I claim as new and desire to secure by Letters Patent is:

1. In a cloth shearing machine, a frame, a cylinder rotatably mounted at its ends in the frame and having a plurality of spaced shearing blades extending longitudinally thereof at its periphery, a ledger knife disposed longitudinally of the cylinder and having one longitudinal margin in shearing relation with the blades, means for supporting in full width and conducting longitudinally through the machine to and past the ledger knife and blades a strip of fabric to be sheared, two relatively long arms pivoted to the frame respectively adjacent to and outwardly of the two margins of the strip forwardly of the ledger knife and each extending therefrom inwardly toward the opposite margin over and relatively inclined longitudinally to one face of the strip and movable about its pivot axis toward and from the strip, and means for maintaining the arms pivoted in predetermined pressure contact with adjacent marginal portions of the strip at said one face, thereby removing slack from said portions and holding the strip taut as it passes to the ledger knife and shearing blades.

2. The combination defined in claim 1 in which said two arms are pivotally mounted on the frame in a plane spaced outwardly from said face of the fabric strip and said means for maintaining said pressure contact engages the arms remotely from their pivot axes.

3. The combination defined in claim 2 in which each of said arms extends from its pivot axis entirely across said face of the fabric strip and the means for maintaining each arm in said pressure contact comprises a spring connected to the arm remotely from its pivot axis and to an adjacent portion of the frame.

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