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M. R. KENDALL

THREAD CLIPPER FOR BAG MACHINES

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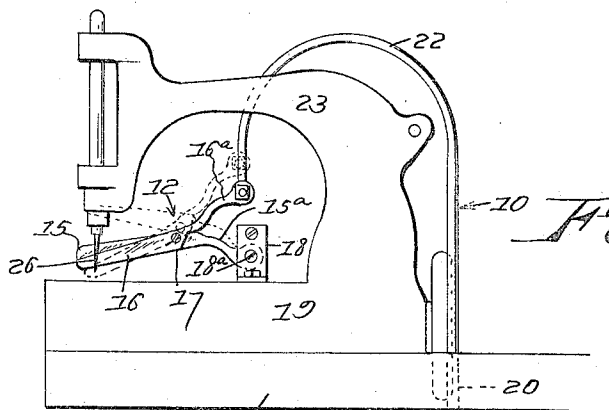


Fig. 1.

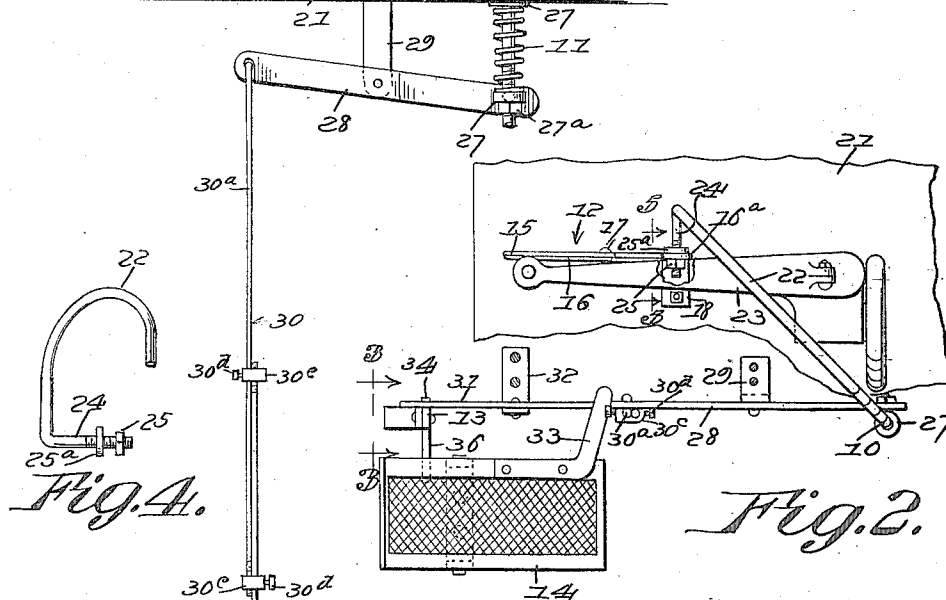


Fig. 2.

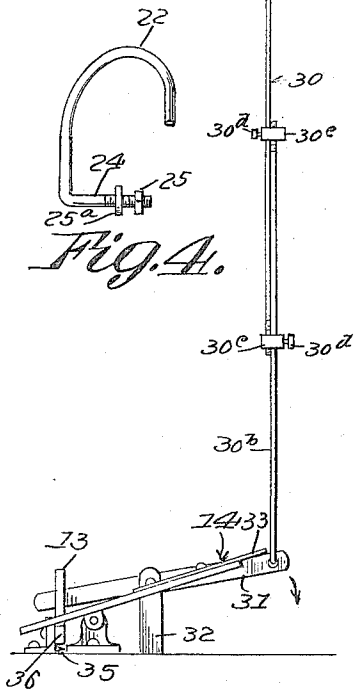


Fig. 3.

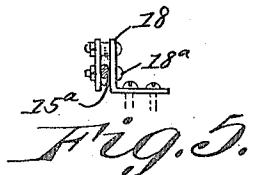


Fig. 4.

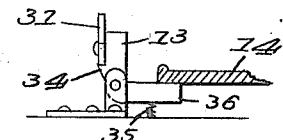


Fig. 5.

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THREAD CLIPPER FOR BAG MACHINES.

Application filed September 14, 1920. Serial No. 410,296.

To all whom it may concern:

Be it known that I, MARVIN R. KENDALL, a citizen of the United States, residing at Hutchinson, in the county of Reno and State of Kansas, have invented new and useful Improvements in Thread Clippers for Bag Machines, of which the following is a specification.

The object of the invention is to provide readily attachable means for use in connection with bag sewing machines, such as are used in bag and sack factories, for severing the thread or twine employed for sewing or stitching these receptacles without requiring special effort, manipulation, or movement on the part of the operator and therefore without interrupting the work, and consequently under such conditions as to avoid loss of time; and more particularly to provide means for the purpose indicated which may be actuated, or set and released, and controlled, for example, by the treadle which serves to start and stop the sewing or stitching machine, either through a switch, if electric motive power is used, or though any equivalent means approved in the art, to the end that when a seam or run of stitching has been completed the movement of the treadle to stop the needle will cause the severance of the thread, so that the material may be adjusted at once for the succeeding seam or line of stitching.

With this object in view the invention resides in an organization of elements of which a preferred embodiment is illustrated in the accompanying drawing, wherein:—

Figure 1 shows a side view of the apparatus applied in the operative position to a bag stitching machine, the clipper being shown in full lines in the closed or cutting position and in dotted lines in the open or "set" position.

Fig. 2 is a plan view of the same.

Fig. 3 is a detail section on the line 3—3 of Fig. 2.

Fig. 4 is a detail of one end of the yoke.

Fig. 5 is a section on line 5—5 of Fig. 2.

Essentially the device consists of a reciprocable yoke 10, actuated and yieldingly impelled in one direction by a spring 11, a cutter 12 of which one of the complemental blades is connected with the yoke, for movement thereby, and a latch or lock 13 for retaining the yoke and cutter in a set position in opposition to the cutter-actuating tendency of said spring and adapted to be

tripped by the treadle 14 of the sewing machine when the latter is moved to check or interrupt the operation of the machine.

The cutter, as shown, is in the form of shears having blades 15 and 16 pivotally connected at 17 and extended to form arms 15^a and 16^a of which the former is pivoted to a clip 18 secured to the bed-plate 19 or equivalent convenient part of the sewing machine and the latter is pivoted to the end of the yoke 10. The yoke consists of a rod having a limited resilience to accommodate the movements of the cutter, with a straight shank portion to extend through a suitable guide opening 20 in the machine table 21, so that the spring 11 may be arranged beneath the plane thereof, while the upper portion of the yoke is arched obliquely as shown at 22 to pass over the machine arm 23 and terminates in a lateral pivot 24 engaging an eye in the arm 16^a of the cutter, and fitted with a nut 25 or equivalent fastening means.

The cutter being arranged in a vertical plane at the rear side of and close to the machine arm while the stem or upright of the yoke is arranged to the right hand of the standard of the arm, the usual space occupied by the work is left unobstructed so that no change in the customary handling of the goods or material or of the sacks is made necessary by the presence of the clipping device.

It will be seen also that the connection of the blades of the cutter by what may be termed a "floating" pivot, movable in a path concentric with the pivot 18^a of the arm 15^a on the clip 18, serves in the operation of the cutter to cause a swinging movement or alternate advance and retraction of the blades,—the retraction occurring as the cutter is opened to the "set" position shown in dotted lines in Figure 1, and the advance movement occurring as the cutter closes under the action of the spring to clip the thread, so that the ends of the blades do not project objectionably beyond the needle 26 and interfere with the view of the operator or the guidance of the work during the stitching operation of the machine.

Beneath the machine table the yoke stem is connected by a swivel joint 27 with a rocking lever 28, fulcrumed upon a pendent bracket 29 attached to the table, and from the rocking lever extends a connecting rod 30 to an operating lever 31 fulcrumed upon a bracket 32 secured to the floor adjacent to

the machine treadle 14, and movable in a vertical plane parallel therewith. The operating lever is disposed in the path of an arm 33 carried by the treadle to the end that when the latter is moved in the direction of the arrow in Fig. 1 to start the machine the rocking lever is tilted to open or "set" the cutter and place the spring 11 under tension, in which positions the parts are maintained by the latch 13 which engages the operating lever as shown in Fig. 3. The latch has a shoulder 34 for this purpose, and may be yieldingly held in position to engage the lever as by a spring 35, or its equivalent. In the path of movement in the opposite direction of the treadle, necessary to stop the machine, the latch is provided with a trip arm 36, by which the latch may be withdrawn to release the operating lever, and hence the cutter, for actuation abruptly by the spring 11.

In adopting the apparatus to various types and sizes of machines in connection with which a thread clipper may be employed it is desirable to provide for certain adjustments, relatively, of the elements thereof, and therefore the pin 24 at the terminal of

the yoke is threaded for a stop nut 25^a in addition to the holding nut 25, and the stem of the yoke is threaded to receive a nut 27^a for engagement with the eye of the swivel 27. Also, the connecting rod 30 is made of extensible form with its sections 30^a 30^b overlapped and secured by the collars 30^c having set screws 30^d, or equivalent means.

What I claim is:

In combination with a controlling treadle for stitching machines, movable in opposite directions, a thread clipper including fulcrumed shear blades one of which is mounted on a fixed pivot thereby to permit the fulcrumed blades to swing in an arc, an arm connected with the other of said blades, a compressible spring connected with said arm, a lever connected with said arm and pivoted to the machine, another lever pivotally supported adjacent the treadle and operatively connected with said first mentioned lever, means carried by the treadle for engaging with the last mentioned lever at one side of its pivot, and a latch device controlled by the treadle and also adapted to engage with the said last mentioned lever.

MARVIN R. KENDALL.