

No. 769,453.

PATENTED SEPT. 6, 1904.

J. F. AMES.
MACHINE FOR SEWING BAGS.

APPLICATION FILED MAR. 23, 1904.

NO MODEL.

2 SHEETS—SHEET 1.

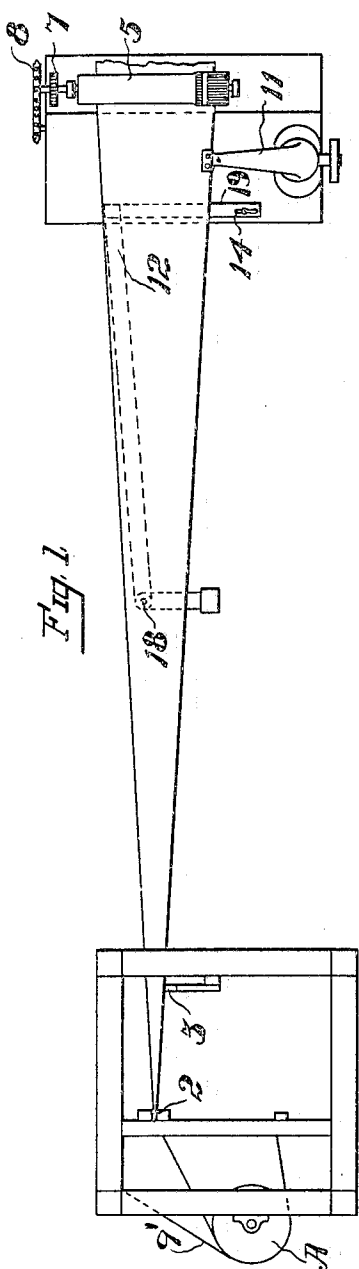


Fig. 1.

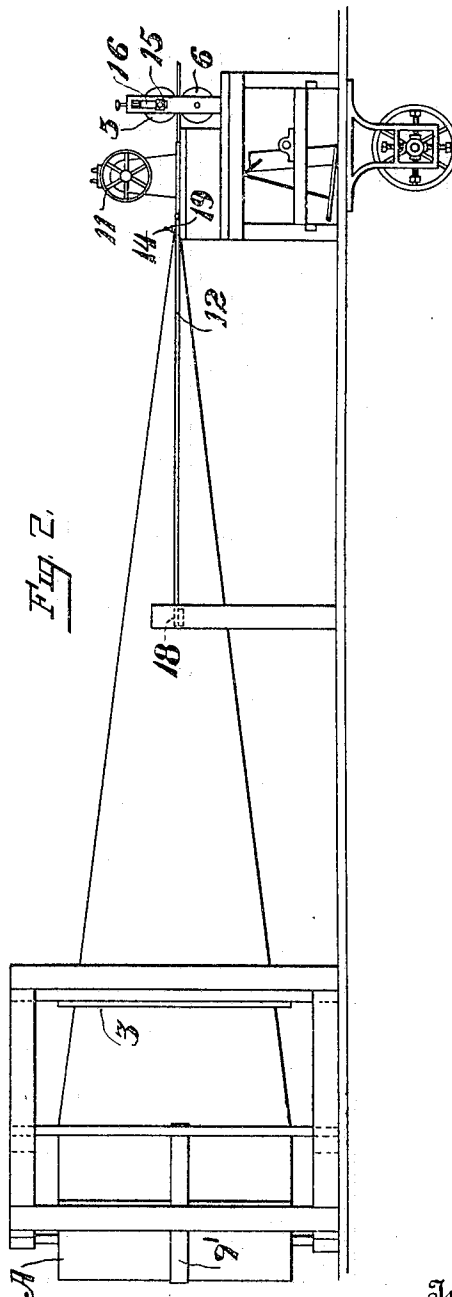


Fig. 2.

Witnesses,

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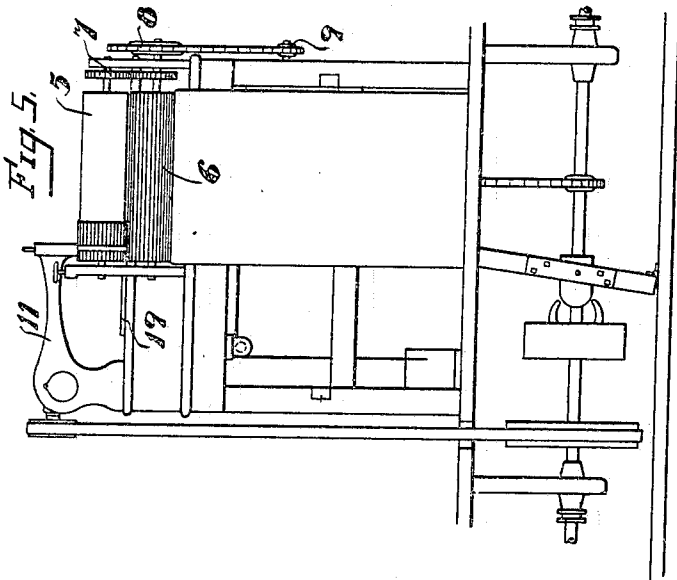
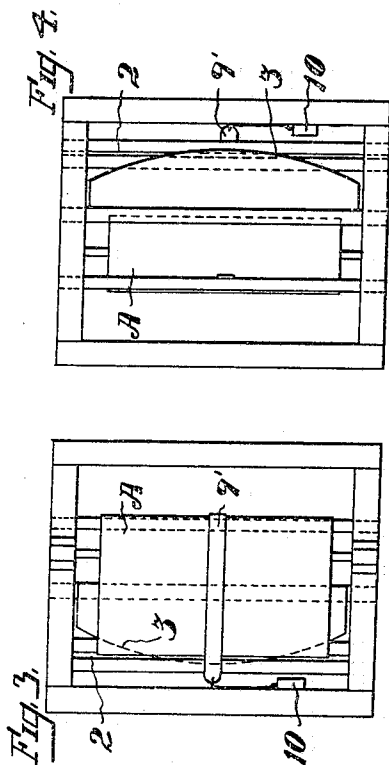
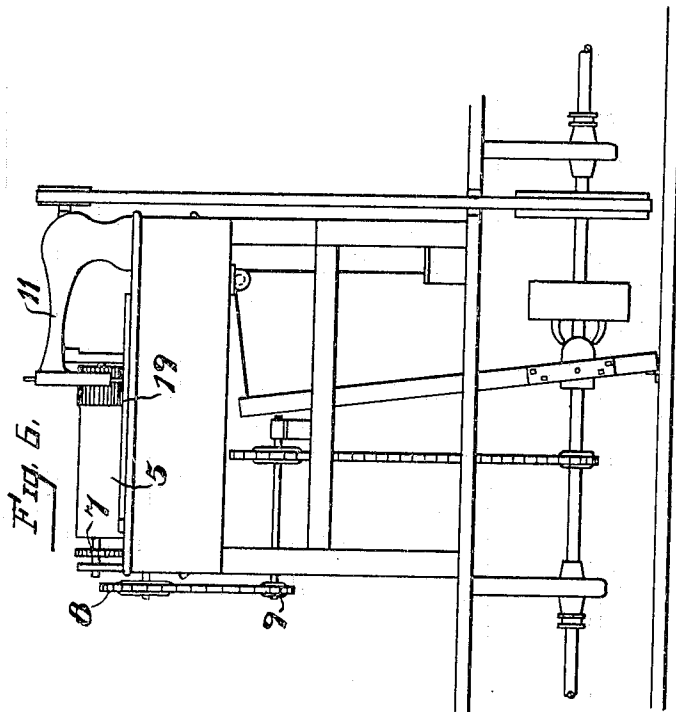
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UNITED STATES PATENT OFFICE.

JOHN F. AMES, OF PORTLAND, OREGON.

MACHINE FOR SEWING BAGS.

SPECIFICATION forming part of Letters Patent No. 769,453, dated September 6, 1904.

Application filed March 23, 1904. Serial No. 199,654. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. AMES, a citizen of the United States, residing at Portland, in the county of Multnomah and State of Oregon, have invented new and useful Improvements in Apparatus for the Manufacture of Jute and Like Bags, of which the following is a specification.

My invention relates to an apparatus which is designed for the removal of jute and like fabric from a roll, folding said material, and sewing the folded edges together.

It consists of mechanism which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a plan view of my invention. Fig. 2 is a general elevation of same. Fig. 3 is a rear elevation of roll-frame. Fig. 4 is a front elevation of same. Fig. 5 is a rear elevation of sewing-machine and tension-rolls. Fig. 6 is a front elevation of same.

The object of my invention is to provide a mechanism which will take a continuous web of jute or like material from a roll, apply the proper tension at the proper point, fold the web so as to bring the edges accurately together, and transmit them to a machine by which said edges are sewed, with means for regulating the movement of these edges to compensate for varying or irregular widths of material.

Jute fabrics are woven of a coarse material and are frequently made with a tight and a loose selvage upon opposite edges, thus making a very considerable difference in the length of the two edges. For this reason it is very difficult to make a machine which will sew the two edges together and maintain the material perfectly straight and smooth. This difficulty is overcome in my apparatus by applying a tension on the center of the roll and all the pull is brought upon the selvage edges. By this means the tight selvage is drawn out and the two selvages are maintained approximately even, so that the loose edges of the cloth are sewed smoothly and evenly.

As shown in the drawings, A is a roll journaled vertically in a suitable frame, this roll

carrying a long continuous web of the cloth which is wound thereon. The cloth is drawn from this roll, passing through a vertical slot or guide, as at 2, which is so placed that the cloth passing from this guide will always be in the same position irrespective of the diameter of the roll from which it is being taken. Leaving this guide the cloth first passes over a convex curved edge 3, which forces the central portion of the fabric outward, and a guide or folder 12 is so placed as to press centrally against the passing material, so as to fold it and bring the edges together as they approach the sewing-machine. This guide is pivoted, as shown at 18, and has an arm, as shown at 19, within reach of the operator, so that the guide may be pushed in or out and maintained in contact with the fold of the cloth, this movement compensating for any changes in width of the material. The edges are thus gradually drawn toward each other preparatory to being brought together by the complete folding of the fabric. This is effected by corrugated rollers 5 and 6, which are journaled horizontally, so that the centrally-folded material will easily bring the edges together naturally as they pass between the corrugated rolls. The rolls are both precisely the same diameter and are made to turn in unison by the intermeshing of the gear-wheels 7. The shaft of one of these wheels may have a sprocket-wheel, as 8, fixed to it, and a chain from this sprocket-wheel to a sprocket-wheel 9 on the counter-shaft transmits motion from the counter-shaft. Motion may be transmitted to the counter-shaft by a driving-shaft, which may be located below the floor, as shown. By the movement of these corrugated rolls, which are exactly the same diameter, the upper and lower folds of the cloth will be drawn from the vertical roll at the rear at precisely the same rate of speed.

In order to make the upper and lower parts of the material lie perfectly straight and smooth, I apply a tension to the center of the vertical roll, from which the material is taken. This tension is here shown as being effected by means of a tension-belt 9', one end of

which is fastened on one side of the frame, and the belt passes partly around the roll of material, as shown, and a pressure is maintained against the center of the roll by means of a weight or equivalent spring, as shown at 10. This overcomes the difficulty caused by the varying selvages, as previously described.

The sewing-machine 11 may be of any suitable or well-known form, and the two edges of the material are guided through the sewing-machine by means of the guide device shown at 12. The guide or folder 12 is also necessary, because the material varies in width, and it is desirable to have the seam made by the sewing-machine at a uniform distance from the edge. The operator can thus move the guide to correspond with the varying widths of the fabric and make an even seam.

In order to prevent the threads of the sewing from being cut when the material passes between the corrugated rolls, I have shown one of the rolls as having a groove or channel cut in the line of travel of the stitched edges, and this channel may, if desired, be filled with some soft or elastic material, so that as the line of stitching passes through it will not be liable to be cut by the sharp edges of the corrugations. This material is liable to become creased. Consequently I have shown the upper roller as mounted in journal-boxes 15, slidable in slotted guides and having a rubber or equivalent elastic pressure device, as at 16, located above, this yielding sufficiently to allow the creased material to pass without deranging the driving or other operative parts or without being cut by the corrugations in the rolls.

The upper corrugated roller 5 must be so adjusted with relation to the lower one that the greatest pressure and pull upon the material will be effected at the inner end and the selvages thus kept even. This adjustment of the roller may be made by increased pressure at one end or by tapering the roller or otherwise insuring the greatest pressure at the end where the pull is desired. In the present illustration the upper roller is shown with corrugations at the selvage edge of the cloth only.

In cloth having a tight and loose selvage, which is always present in jute and similar fabrics, the warp-threads are not at right angles with the filling, and when the cloth is cut at apparently perfectly right angles while lying flat it will assume a very irregular outline when taken up or attempt is made to sew it, and the bags will be spoiled. My invention overcomes this defect by the diagonal tension, which is considerable, and it overcomes the above irregularity and produces substantially straight seams.

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

1. In an apparatus for folding and sewing textile material, a vertically-journaled drum upon which the material is carried, means for applying tension to the surface of the roll intermediate the ends, a convex edge over which the material passes and by which it is bent after leaving the roll, an adjustable guide or folder, a sewing-machine and a pair of horizontally-journaled corrugated rolls between which the material passes, whereby the tension on the edges of the material is equalized.

2. An apparatus for folding and sewing textile fabric consisting of means for supporting a continuous roll of fabric in a vertical position, a means for applying tension to the surface of the roll intermediate of its ends, a vertically-disposed convex edge or surface over which the material passes after leaving the roll, a horizontal guide or folder, a sewing-machine, horizontally-journaled corrugated rolls between which the material is subsequently passed with the edges folded together, and a guide adapted to maintain the stitch at an approximately even distance from the edges.

3. In an apparatus for folding and sewing textile fabric, a device for delivering and folding the material, a sewing-machine through which the folded edges pass, horizontally-journaled corrugated rolls, between which the material passes, a guide attached to a hinged lever, and a means for moving said guide to maintain the stitch at an even distance from the edges of the material.

4. An apparatus for folding and sewing textile material consisting of means for folding and delivering the material, a sewing-machine to unite the edges, corrugated rolls between which the material is passed, and a groove or channel made around one of the corrugated rolls through which the stitch from the sewing-machine is passed, said groove or channel containing a filling of yielding material.

5. An apparatus for folding and sewing textile material consisting of a roll from which the material is delivered with means for applying the tension thereto, a curved edge or surface and a guide and folder, a sewing-machine by which the united edges are stitched together, succeeding corrugated rolls between which the material passes, and a groove or channel made around one of the rolls in the line of travel of the stitch, and having a filling of elastic material.

6. In an apparatus for folding and sewing textile material, a vertically-journaled roll or drum from which a web of the material is delivered, means for applying tension centrally upon said roll, a device for folding the material consisting of a convex edge or surface

and a hinged guide, a sewing-machine, horizontally-journaled corrugated rolls between which the folded material is passed, and means for automatically adjusting the rolls to varying thicknesses of the material, consisting of
5 spring-pressed journal-boxes for one of said rolls whereby said roll is movable with relation to the fixed roll.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN F. AMES.

Witnesses:

HENRY P. TRICOU,
S. H. NOURSE.