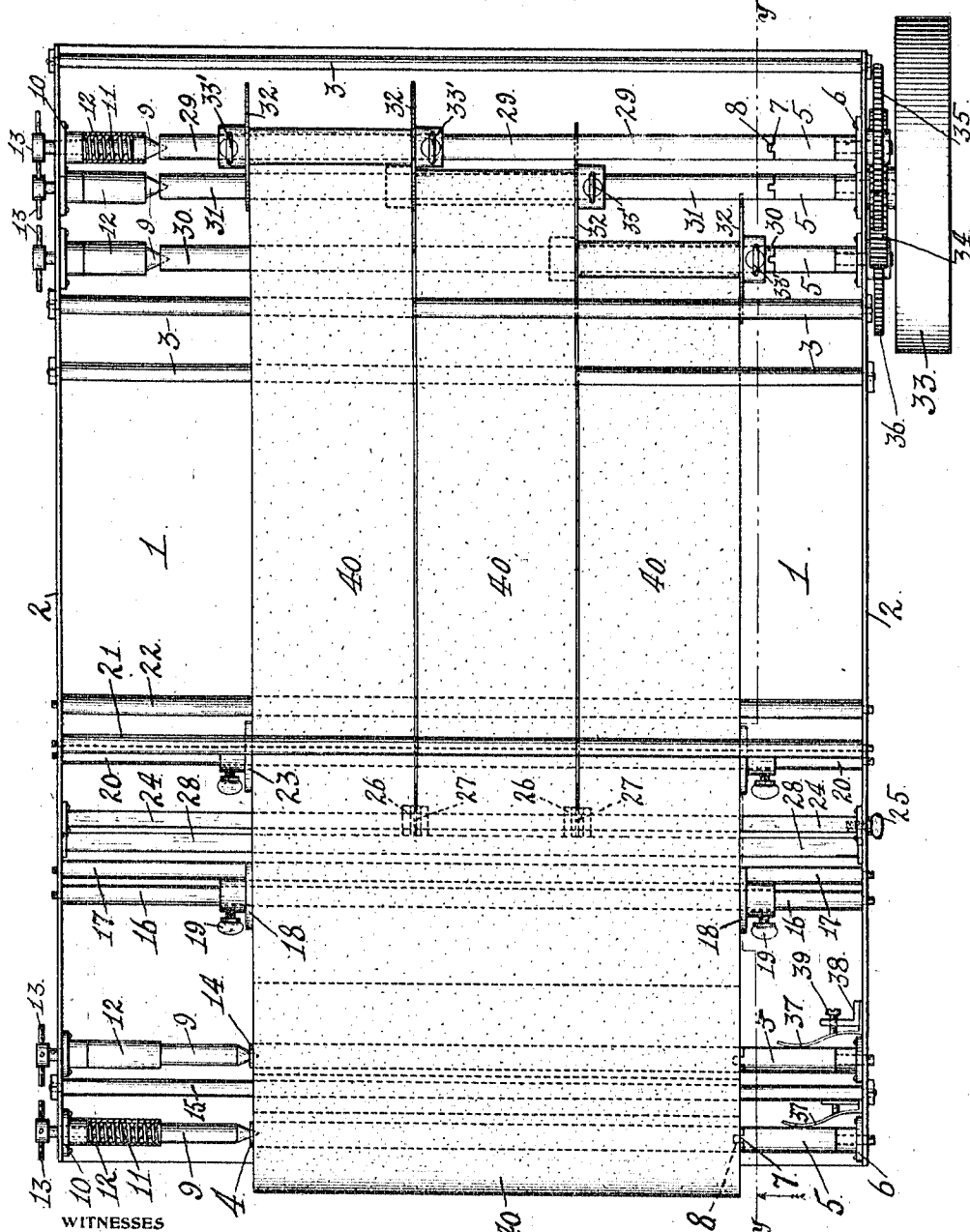


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MACHINE FOR CUTTING BUNTING INTO STRIPS.
APPLICATION FILED NOV. 25, 1912.

1,059,503.

Patented Apr. 22, 1913.

2 SHEETS—SHEET 1.



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Fig. 1.

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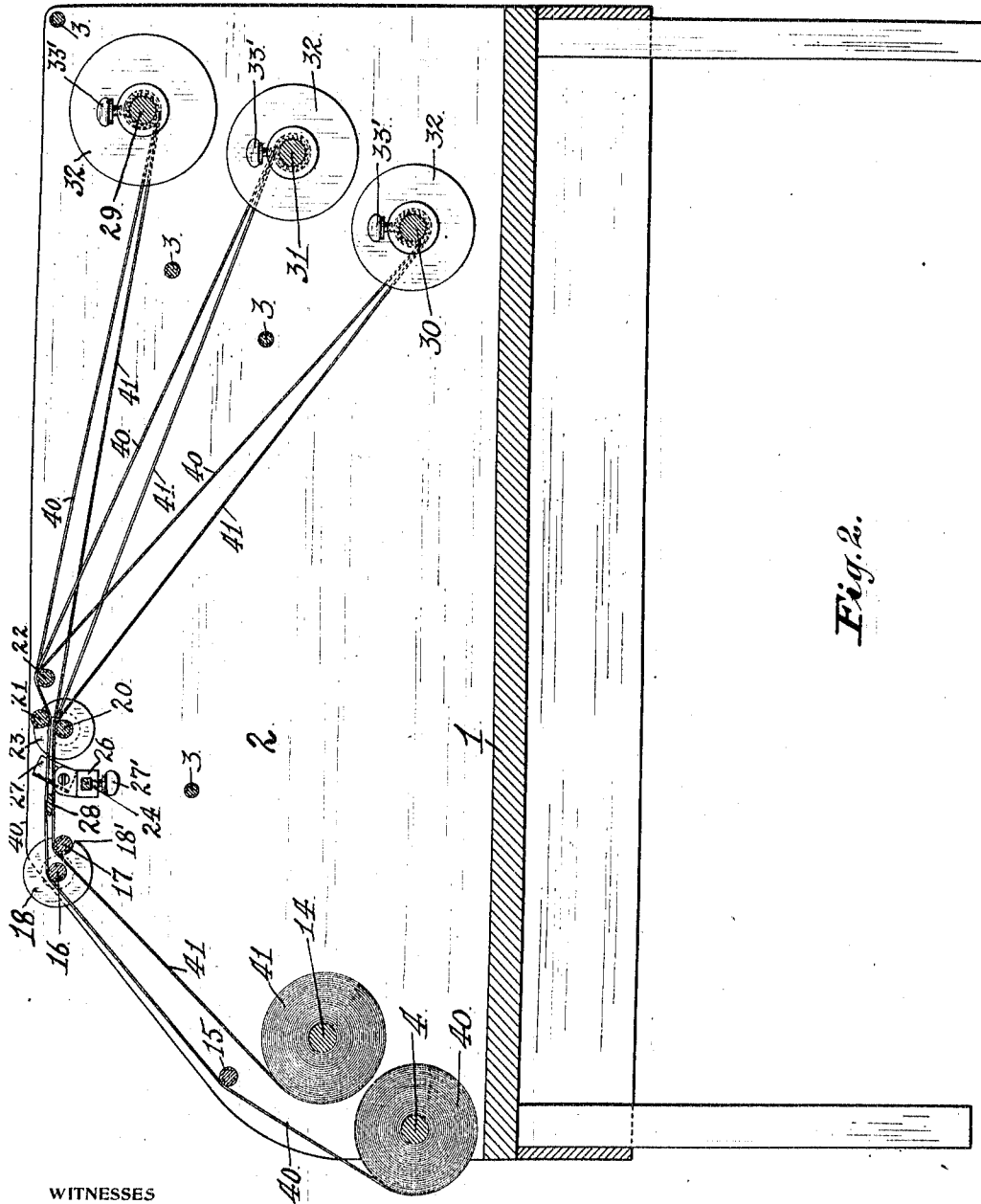


Fig. 2.

WITNESSES

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UNITED STATES PATENT OFFICE.

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MACHINE FOR CUTTING BUNTING INTO STRIPS.

1,059,503.

Specification of Letters Patent.

Patented Apr. 22, 1913.

Application filed November 25, 1912. Serial No. 733,263.

To all whom it may concern:

Be it known that I, JOHN LENARD STUART, a citizen of the United States, residing at Oakland, in the county of Alameda and State of California, have invented certain new and useful Improvements in Machines for Cutting Bunting into Strips, of which the following is a specification.

My invention relates to the class of cloth-cutting machines, and concerns particularly a machine adapted for cutting bunting into strips.

The object of my invention is to provide a simple and effective machine for this purpose, of great capacity, and accurate in its work, having in regard, particularly, the nature of bunting and the uses to which it is put; and to this end my invention consists in the novel machine which I shall now fully describe by reference to the accompanying drawings, in which—

Figure 1 is a plan of my invention. Fig. 2 is a vertical section on line $y-y$ of Fig. 1.

1 is a stand or table from which rise the end plates 2 which carry the several parts of the machine. Suitable tie rods 3 hold and stiffen the end plates.

In the front of the machine is one of the feed reels consisting of a shaft 4 mounted to revolve between the end plates 2. The means for mounting this shaft 4 are designed to permit its free revolution and to allow it to be removed and to be replaced with facility. These means comprise a chuck shaft 5 mounted to revolve in a bearing 6 in one end plate 2, said shaft having a clutch tongue 7 detachably engaging a groove 8 in one end of the reel-shaft 4; and a tail-stock shaft 9 with pointed end revolubly supporting said reel-shaft at its other end, said tail-stock shaft being slidably mounted in a bearing 10 in the other end plate 2, and held in to its work by a spring 11 housed in a sleeve 12. A handle 13 on the outer end of the tail-stock shaft enables it to be drawn back sufficiently to release the reel-shaft 4 when desired. It may be stated at this point that all the other reel and spool-shafts in the machine are similarly mounted; in view of which these

parts need not again be specifically described, though for the sake of clearness they are designated by the same numerals in so far as they appear in the drawings.

14 is a second feed-reel, a little above and back of the first feed-reel 4.

In the lower front of the machine is a guide rod 15. In the upper front of the machine is a guide rod 16 mounted in the end plates 2. Immediately back of and parallel with the guide-rod 16 and in a slightly lower plane is another similarly mounted guide-rod 17 separated from the first by a slight space and constituting with said first the front pair of guides. Slidably mounted upon the guide-rod 16 are the edge-guides 18 for the edges of the cloth. These are fitted with set screws 19 in their hubs, to fix them in whatever position they are set. These guides 18 are here shown as disks, and by being slotted, as indicated at 18', upon the adjacent rod 17 of the front pair of guide rods, they serve the further purpose of holding and stiffening the rods in their parallelism. Beyond and in a little higher plane than the front pair of guide rods is a triple guide comprising a rod 20, another rod 21 somewhat higher and farther back, and a third rod 22 still farther back and slightly lower than the rod 21. These are spaced apart and parallel and are carried by and between the end plates 2. Edge guides 23 similar to those 18 heretofore described, are adjustably mounted on the guide rod 20.

Carried by and between the end plates 2 is the knife-holder bar 24, detachably held by a thumb-screw 25 at one end. Upon this bar are slidably fitted the knife-holders 26 fitted with set-screws 27 by which their position can be defined and regulated. These holders carry the knife-blades 27, and these latter lie in a plane between the front guide rod pair and the triple guide, and they intersect the path of the cloth from the former to the latter guides. Secured to the end plates 2 is a spreader 28. This lies beyond the front pair of guide rods, but in advance of the knives. It consists of a smooth dull edged plate or bar and is

located that the cloth from one feed-reel passes under it and the cloth from the other feed reel passes over it so that the two cloths are directed and presented to the
5 knives in a separated or spaced relation.

At the back of the machine, carried by and between the end plates 2 are the strip-receiving spools. There may be two or more of these; three are here shown. Each comprises a shaft and end flanges or heads
10 mounted adjustably on the shaft. One shaft 29 is mounted in the upper portion of the end plates, another 30 is similarly mounted in the lower portion of said plates, and the
15 third 31 is mounted between the other two, so that said spools lie in different horizontal planes, in vertical series. The end flanges or heads 32 are slidable on their shafts and each is fitted with a thumb screw 33' to
20 establish its position as desired. The clutch shaft 5 of the middle spool-shaft 31 is fitted with a drive pulley 33 on its outer end. Said shaft has also a gear 34 which above meshes with a gear 35 on the clutch shaft 5 of the
25 upper spool-shaft 29 and below with a gear 36 on the clutch shaft 5 of the lower spool-shaft 30. Thus the strip-receiving spools are driven in unison.

In order to impose upon the feed-reels, a
30 tension or pressure sufficient to retard and equalize their revolution as the cloth is unwound or paid out from them, I have a spring 37 in a bracket 38 mounted on one of the end plates 2. This spring bears upon
35 the clutch shaft 5 and is held thereto with regulatable pressure by a thumb screw 39. There is one of these tension devices for each feed-reel.

The operation is as follows:—It will be
40 noted that the machine as illustrated is fitted for two separate rolls of bunting. One of these 40 is carried by the first feed-reel 4 and the other 41 by the second feed-reel 14. The particular purpose of this double feature is not merely to double the capacity of
45 the machine but to enable it to cut simultaneously into strips two rolls of bunting one of one color and the other of another color, which is particularly of advantage in the manufacture of flags, a use to which
50 bunting is most commonly put. Let us say one of the rolls is white and the other red, as applicable to the U. S. flag, and consider that the white roll 40 is on the first reel 4
55 and that the red roll 41 is on the second reel 14. Now tracing by reference to Fig. 2, the course of the cloth of the white roll 40, it will be seen that it extends from its reel 4 to the guide rod 15, and over said rod to and
60 in contact with the upper surface of the higher guide rod 16 of the front pair of guides, its edges being accurately guided by the edge guides 18 on said rod. Thence it passes upon and over the upper surface of
65 the spreader 28, and thence to the knife-

blades 27 which intersect its path and cut it into strips, here shown as three strips. Thence these three strips pass to and between the rods 21 and 22 of the triple guide, being
70 guided thereto by the edge-guides 23 on the rod 20. The strips pass thence one to the upper receiving spool 29, a second to the middle receiving spool 31, and the third to the lower receiving spool 30. Tracing now
75 the course of the cloth of the red roll 41, it passes from its reel 14 to and between the guide rods 16 and 17 of the front pair, lying in contact with the upper surface of the lower one 17 of the pair; its edges being
80 guided by the edge-guides 18. Thence it passes under the spreader 28 and thence past the knife-blades 27 which cut it into three strips. Thence these strips pass over the rod 20 of the triple guide, and thence
85 they are carried each to the same receiving spool to which the corresponding overlying white strip was carried, so that upon each receiving spool is wound a white strip and a red strip, of corresponding size and adapted
90 when taken together to the sewing machine to be easily and accurately sewed together. In this operation it will be noted that the two cloths and their strips are kept out of contact throughout, until they wind
95 together upon the receiving spools. This is of great advantage in handling fugitive material like bunting. It prevents crawling which is sure to result from contact, and enables each cloth to be separately and accurately
100 guided with such precision that the knife-blades will follow a single thread and not cross it, thereby avoiding the tendency of the strip to stretch; stretching being sure to result from anything but an absolutely
105 straight cut, such an untrue cut, for example, as follows the attempt to cut bunting by hand. The several adjustments of the edge guides and of the knives provide for this accuracy of operation and also determine
110 the width of the strips, while the number of the knives determine the number of strips into which the cloth is cut.

The advantage of mounting the several receiving spools in different horizontal positions is not only to insure the independence
115 of the strips without further guidance, but also by spreading them out behind the cutting point, to facilitate the cutting.

In case of cutting but one roll, the cloth will be carried past the guide rods through
120 any course found expedient, as can be readily seen without attempting a detailed description.

Although I have herein entitled the machine as one for cutting bunting and have
125 so described it, it will be understood that I do not confine its use to this material. It may be used for cutting other cloths into strips. It will also be understood that various changes in arrangement and construction
130

of details, such as may occur to those skilled in the art, may be made without affecting the principle and operation of the machine.

I claim:—

5 1. A machine for the described purpose, comprising a frame; a feed-reel for the cloth-roll; a cutter; a guide-rod in advance of the cutter for directing the cloth thereto; guides carried by said guide-rod acting on the edges of the cloth; a guide rod following the cutter to direct the cut strips therefrom; edge guides carried by said guide-rod last mentioned; and a receiving spool to wind up the cut strips.

15 2. A machine for the described purpose, comprising a frame; a feed-reel for the cloth-roll; a bar carried by the frame; a cutter adjustably mounted on said bar; a guide-rod in advance of the cutter-bar for directing the cloth to the cutter; guides adjustably carried by said guide-rod acting on the edges of the cloth; a receiving spool to wind up the cut strips.

25 3. A machine for the described purpose, comprising a frame; a feed-reel for the cloth-roll; a bar carried by the frame; a cutter adjustably mounted on said bar; a guide-rod in advance of the cutter-bar for directing the cloth to the cutter; guides adjustably carried by said guide-rod acting on the edges of the cloth; a guide rod following the cutter bar to direct the cut strips from the cutter; edge guides adjustably carried by said guide-rod last mentioned; and a receiving spool to wind up the cut strips.

35 4. A machine for the described purpose, comprising a frame; a feed-reel for the cloth-roll; a cutter; guide-rods in advance of and guiding-rods following the cutter for directing the cloth thereto and the cut strips therefrom; edge-guides carried by said guide-rods for acting on the edges of the cloth; and a plurality of separate receiving-spools, one for each strip, disposed in different horizontal planes, to effect a vertical divergence of the cut strips in their course to said spools.

50 5. A machine for the described purpose, comprising a frame; a plurality of separate feed-reels for separate cloth-rolls; a cutter; guides disposed to direct and present the separate cloths in superposed spaced rela-

tion to the cutter whereby they are cut into vertically grouped strips; and a receiving-spool for taking the groups of cut strips and winding up each group in superimposed relation.

6. A machine for the described purpose, comprising a frame; a plurality of separate feed-reels for separate cloth-rolls; a cutter; guides disposed to direct and present the separate cloths in superposed spaced relation to the cutter whereby they are cut into vertically grouped strips; other guides following the cutter for maintaining said superposed spaced relation; and a receiving-spool for taking the groups of cut strips and winding up each group in superimposed relation.

7. A machine for the described purpose, comprising a frame; a plurality of separate feed-reels for separate cloth-rolls; a cutter; guides disposed to direct and present the separate cloths in superposed spaced relation to the cutter whereby they are cut into vertically grouped strips; and a plurality of receiving spools, one for each group of cut strips and adapted to wind up each group in superimposed relation, said spools being disposed in different horizontal planes, to effect a vertical divergence of the groups of cut strips in their course to said spools.

8. A machine for the described purpose, comprising a frame; a plurality of separate feed reels for separate cloth-rolls; a cutter; guides disposed to direct and present the separate cloths in superposed spaced relation to the cutter whereby they are cut into vertically grouped strips; other guides following the cutter for maintaining said superposed spaced relation; and a plurality of receiving spools, one for each group of cut strips and adapted to wind up each group in superimposed relation, said spools being disposed in different horizontal planes, to effect a vertical divergence of the groups of cut strips in their course to said spools.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN LENARD STUART.

Witnesses:

WM. F. BOOTH,

S. CONSTINE.