

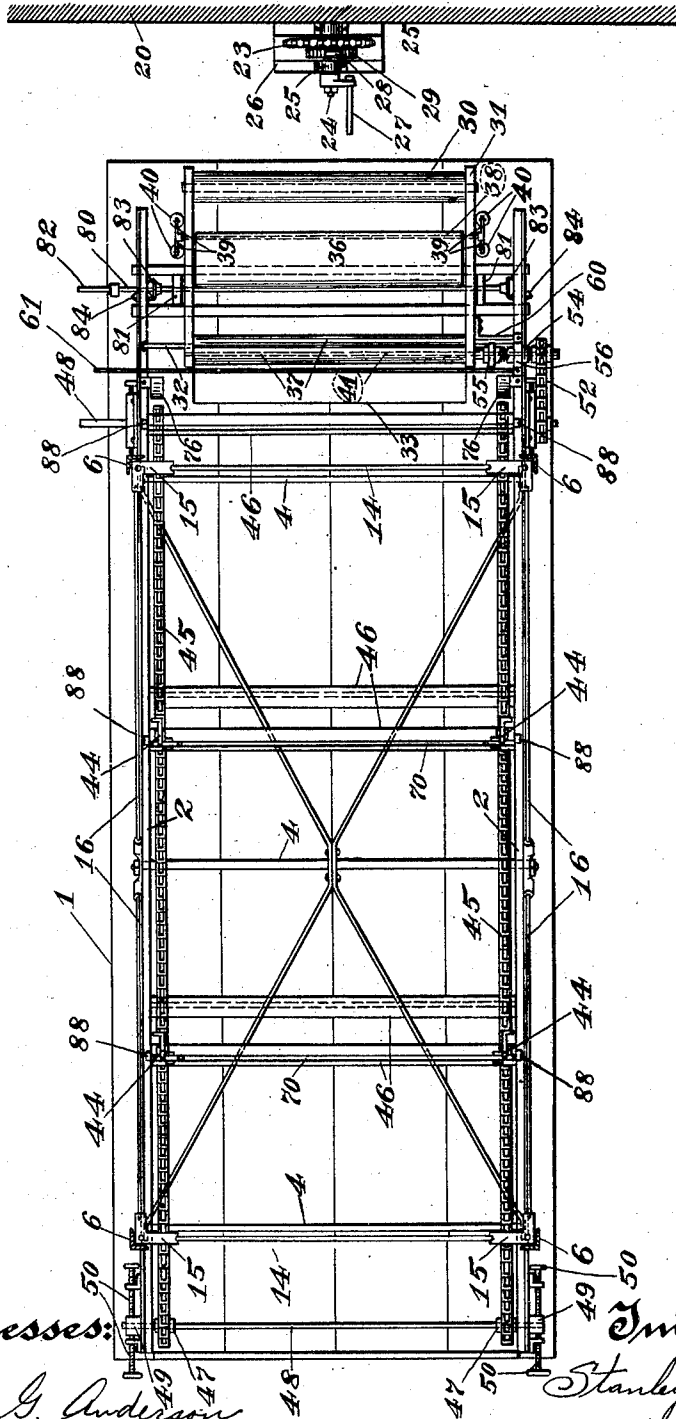
986,822.

S. HARDY.
CLOTH CARRYING MACHINE.
APPLICATION FILED APR. 29, 1910.

Patented Mar. 14, 1911.

5 SHEETS—SHEET 1.

Fig. 1—



Witnesses:

George G. Anderson.
Lottie M. Fox.

Indenter:

Stanley Hardy,

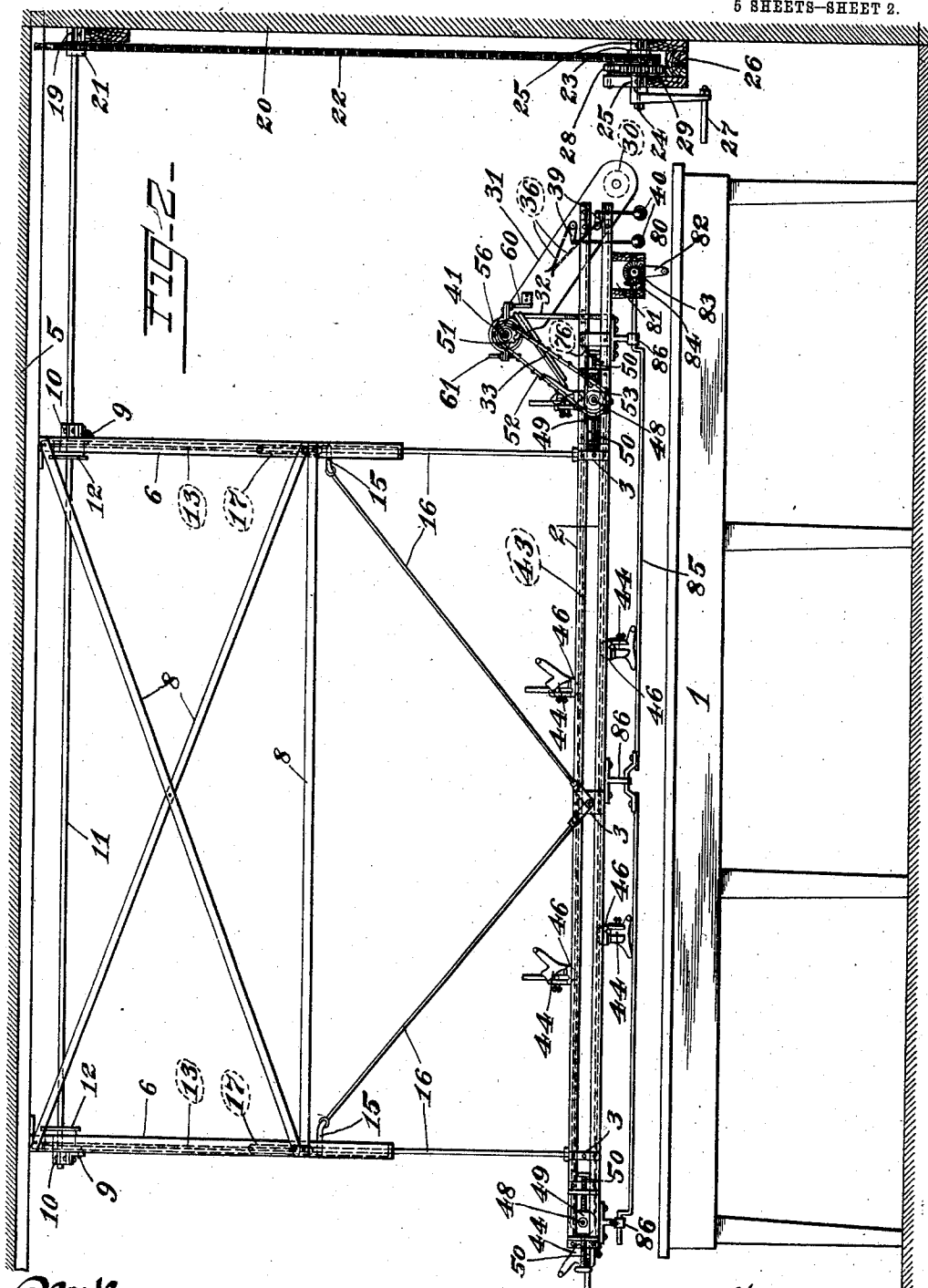
By Hugh H. Wagner,
His Attorney.

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5 SHEETS-SHEET 2.

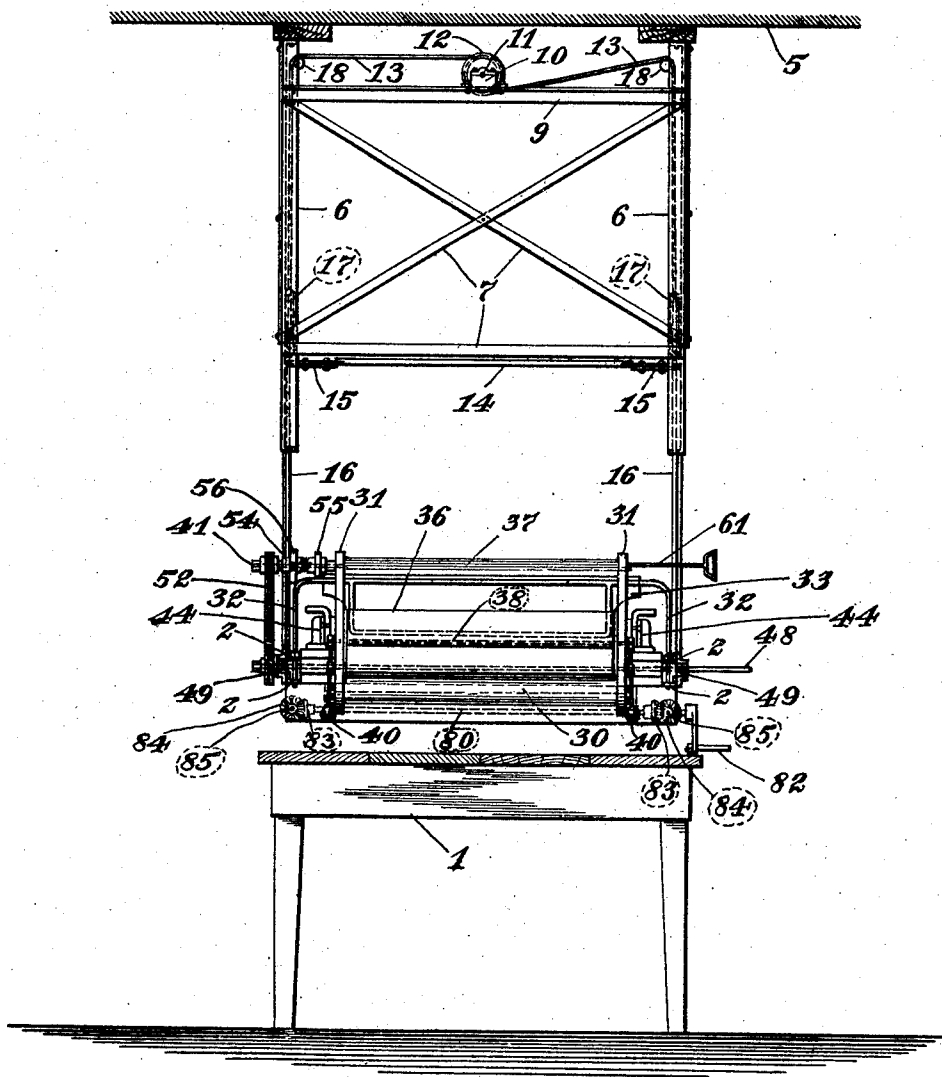


Witnesses:

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Inventor:
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FIG. 3.



Witnesses:

George L. Anderson.
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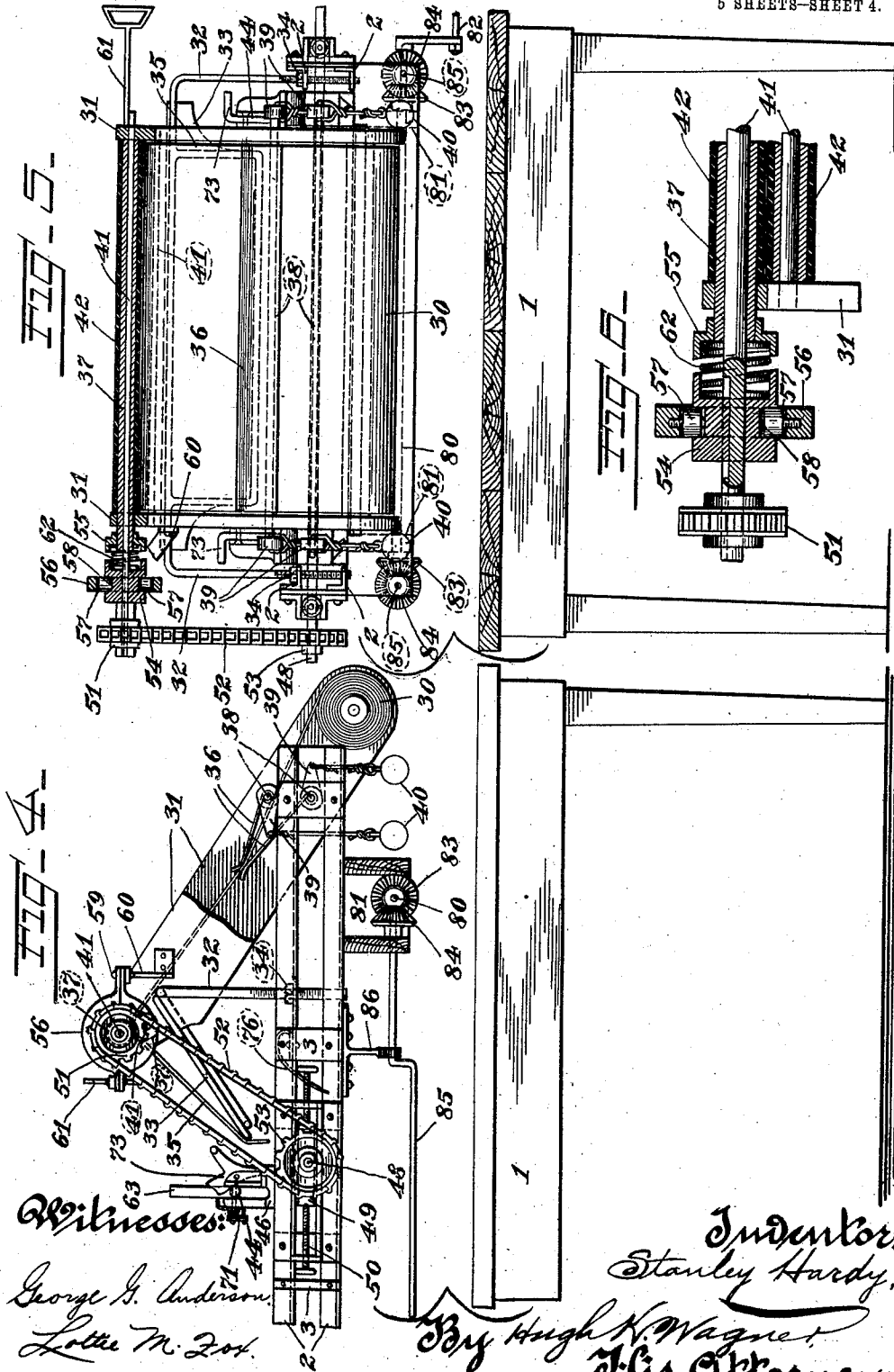
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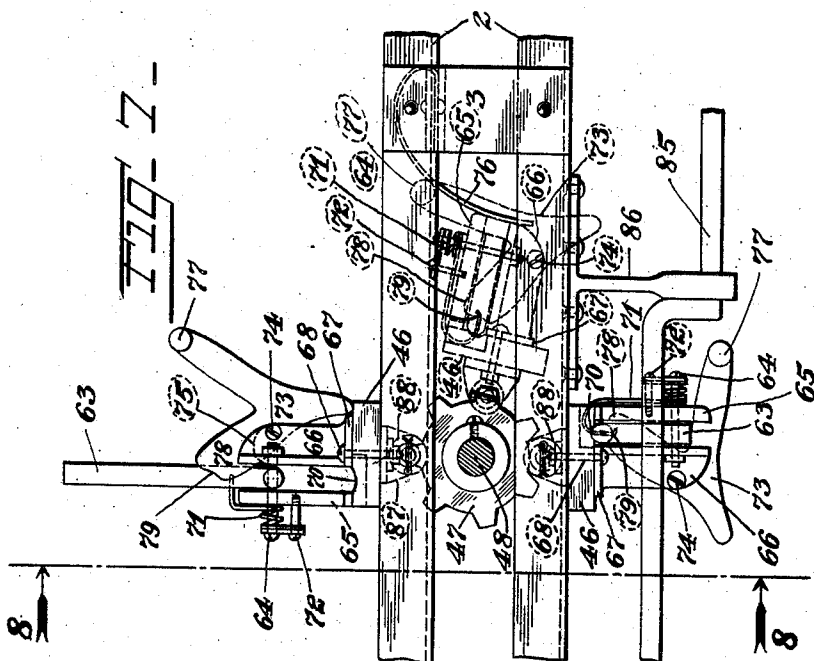
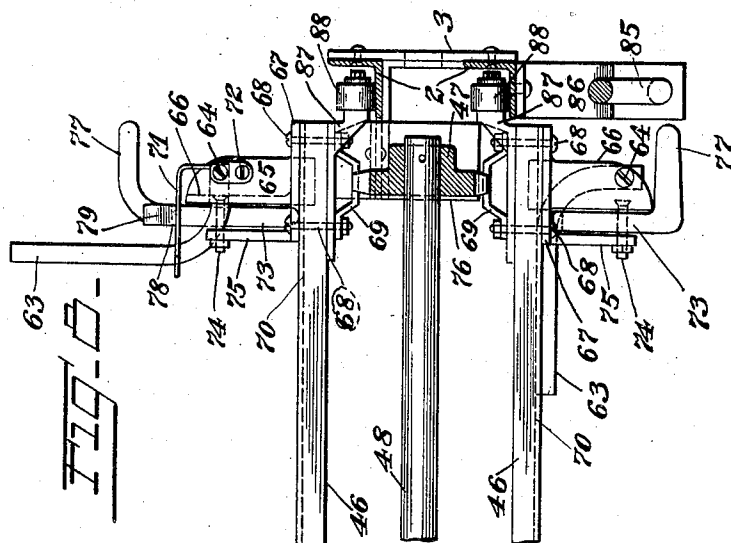
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5 SHEETS—SHEET 4.





Witnesses:
George G. Anderson.
Lottie M. L. or.

Inventor:
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UNITED STATES PATENT OFFICE.

STANLEY HARDY, OF ST. LOUIS, MISSOURI.

CLOTH-CARRYING MACHINE.

986,822.

Specification of Letters Patent.

Patented Mar. 14, 1911.

Application filed April 29, 1910. Serial No. 558,525.

To all whom it may concern:

Be it known that I, STANLEY HARDY, a citizen of the United States, residing at the city of St. Louis, State of Missouri, have invented certain new and useful Improvements in Cloth-Carrying Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention consists of an improved machine for conveying cloth and the like, and is particularly adapted for handling duck, such as is used in making awnings, tents, and similar articles.

In the accompanying drawings forming part of this specification, in which like numbers of reference denote like parts wherever they occur, Figure 1 is a top plan view of the machine; Fig. 2 is a side elevation of the machine; Fig. 3 is an end elevation of same; Fig. 4 is a side elevation, on an enlarged scale, of part of the machine, showing the cloth-feeding mechanism and parts in conjunction therewith; Fig. 5 is an end elevation of the part of the machine depicted in Fig. 4; Fig. 6 is an enlarged transverse sectional view of Fig. 4, showing the means for driving the cloth-feeding means; Fig. 7 is a detailed view, on an enlarged scale, of the cloth-clamping device; and Fig. 8 is a sectional view on the line 8—8, Fig. 7.

The main frame of the machine is disposed above a table 1 or the like and is preferably formed of angle-irons 2, which are connected in pairs by means of plates 3, said pairs being connected with cross braces 4. An auxiliary frame is supported from a ceiling 5, or other support above table 1, and is formed of angle-irons 6 that are depended from said ceiling and are connected by means of end braces 7 and side braces 8. Angle-irons 9 or the like at the ends of said auxiliary frame support journal-boxes 10 for shaft 11 upon which a pair of drums 12 are mounted, one of said drums being located at one end of said frame and the other one of said drums being disposed at the other end of said frame. Each drum 12 is provided with a pair of cords or ropes 13, preferably wire, said cords being fastened to said drum so that, when shaft 11 is rotated in one direction or another, said drum causes said cords to wind or to unwind simultaneously. A cross-piece 14 is located beneath said drum, and connects a pair of members 15 that is fastened to rods 16, which support the main frame of the ma-

chine. Members 15 are connected to a pair of turn-buckles 17 that is fastened to cords 13, respectively, said cords being arranged to pass over rollers 18 which are supported in any suitable manner from angle-irons 6. By means of the turn-buckles 17 the corners of the main frame of the machine can be raised or lowered in order to cause said frame to occupy a horizontal position. When shaft 11 is rotated in one direction or another, drums 12 wind up or unwind cords 13, whereby the main frame of the machine is raised or lowered to increase or diminish the space between said frame and table 1 in order to allow a large or small amount of cloth to be deposited upon said table in the manner hereinafter described. Shaft 11 is arranged to extend beyond one end of the auxiliary frame and is journaled in a journal-box 19 that is supported from a wall or upright 20. A sprocket 21 is secured to said shaft and is driven with a chain 22 that is driven by means of a sprocket 23 on shaft 24. Said shaft 24 is journaled in journal-boxes 25 on bracket 26, which is fastened to wall 20, there being a crank handle 27 or the like secured to said shaft 24 in order to rotate same. A pawl 28 is pivoted to one of said journal-boxes 25 and is arranged to cooperate with the teeth of a ratchet 29 on shaft 24 to prevent shaft 24 from rotating backward, thereby holding the main frame of the machine at any desired elevation.

A roll of cloth 30 is supported in any suitable manner from a pair of sideboards 31 that is supported by means of a frame 32, said frame being located adjacent one end of the main frame and arranged to support an apron 33. The ends of said frame 32 are preferably screw-threaded and are bent downwardly to extend through perforations in said pairs of angle-irons 2, respectively, each of said screw-threaded portions being provided with a nut 34 or a plurality of such nuts to hold said frame in place and, also, to adjust same vertically. The cloth 35 extends between a pair of cloth smoothers or guides 36 and then passes between a pair of feed-rollers 37. Said smoothers are preferably formed of sheet metal and are fastened to rods 38, respectively, that are supported from the sideboards 31, each of said rods being provided with an arm 39 to which a weight 40 is attached in order to press such cloth smoothers toward each

other with the result that the cloth 35 passing therebetween is freed from all wrinkles and creases before it passes between feed-rollers 37. Said feed-rollers are loosely mounted on shafts 41, respectively, and are preferably covered with rubber 42 or the like, said shafts being journaled in sideboards 31. Said rollers feed the cloth 35 over apron 33 to the point on the endless conveyer 43 where are located the clamps 44 by which the cloth is attached to the endless conveyer. When, therefore, the conveyer is in operation, it draws with it the cloth 35. Said conveyer is formed of chains 45 and slats or strips 46. Said chains travel in engagement with sprocket wheels 47 mounted on shafts 48, which are journaled in journal-boxes 49, said journal-boxes being supported by the main frame of the machine and arranged to be adjusted by means of set-screws 50 or other suitable means to regulate the tension of said chains. The conveyer extends from one end of the machine to the other, and the width thereof about equals the width of the machine. One shaft 48 is located at one end of the machine and another shaft 48 near the other end, the latter shaft being the driving shaft of the machine and being driven from any desirable source. One of the shafts 41 extends beyond a sideboard 31 and bears a sprocket 51 that is driven with a chain 52, said chain being driven by means of a sprocket 53 on said driving shaft 48. A clutch 54 is feathered to said shaft 41 and is arranged to be shifted into and out of engagement with a clutch 55 borne by feed-roller 37 on said shaft, whereby said roller is caused to rotate or to remain at rest. A member 56 encircles clutch 54 and bears a pair of rollers 57 that extends into an annular groove 58 in said clutch, said member being pivoted at 59 to a bracket 60 and arranged to be operated by means of a lever 61 or the like in order to move clutch 54 into engagement with clutch 55, a spring 62 being arranged to hold said clutch 54 normally out of engagement with said clutch 55.

Each slat 46 is provided with a pair of clamps 44. Each clamp 44 is formed of a finger 63, which is pivoted by means of a bolt 64 or the like to lugs 65 and 66 of a plate 67. Plate 67 is located at an end of a slat 46 and is fastened thereto by means of bolts 68, which, also, secure a link 69 of a chain 45 to said slat, said plate being grooved at 70 and arranged to allow said finger to move in a plane extending longitudinally of said slat so that, when said finger is depressed in the manner herein-after described, same enters a similar groove 70 in slat 46 in order to clamp the cloth to said slat. A spring 71 fastened to lug 65 by means of stud 72 is arranged to hold finger 63 out of groove 70. A member 73

is pivoted at 74 to lugs 66 and 75 and is arranged to rotate in a plane substantially at a right-angle to the plane of finger 63. Each side of the main frame of the machine is provided with a spring 76, which is arranged near apron 33, and is located in the path of travel of an arm 77 of said member 73. Another arm 78 borne by member 73 is arranged to depress finger 63 when said member is rotated toward said finger, the end of said arm 78 being notched at 79 in order to hold finger 63 in groove 70. When slat 46 travels around drive shaft 48, the arm 77 of member 73 engages spring 76 with the result that said member rotates toward finger 63 and causes arm 78 to depress said finger, thereby causing said finger to enter groove 70 and, also, to enter notch 79 in the end of arm 78 which holds said finger firmly in groove 70.

The cloth 35 passes over the edge of apron 33 and engages a slat 46 when said slat travels past said apron, and, as the fingers 63 are depressed in the manner hereinabove described, said fingers clamp said cloth against said slat and draw same over table 1. While the endless conveyer 43 travels along, the pair of clamps on the next slat 46 take hold of the cloth in the same manner, and so on until the desired length of cloth has passed over apron 33. The machine may then be stopped and the cloth cut by hand across apron 33, or if desired, the cloth-cutting device disclosed in my United States Letters-Patent No. 925,096, granted June 15, 1909, may be used for cutting said cloth. After the cloth has been cut at the desired length, it is carried by the conveyer 43 to a position to be deposited upon table 1. In order to release the cloth when same reaches the place where same is to be deposited upon table 1, a shaft 80 is provided that is arranged to extend crosswise of the main frame and is journaled in members 81 borne by said main frame, said shaft being rotated by means of a crank handle 82 or the like. A pair of miter-wheels 83 is mounted upon shaft 80, and meshes with a pair of miter-wheels 84 mounted on a pair of crank shafts 85, respectively, one shaft 85 being arranged to extend along one side of the main frame and journaled in supports 86 borne by said frame, and the other shaft 85 being arranged to extend along the other side of said frame. When the cloth 35 reaches the desired position to be deposited upon table 1, the shaft 80 is rotated, which causes the crank shafts 85 to rotate, with the result that said crank shafts strike the arm 77 of each clamp 44 adjacent thereto and cause arms 78 to release their respective fingers 63. Each of said fingers returns to its normal position by the pull of its spring 71 and allows the piece of cloth to drop upon table 1.

As an additional means for supporting the endless conveyer 43, each slat is provided with a pair of members 87 that bears a pair of rollers 88, respectively, one member 87 being located at one end of said slat and the other member at the other end. As the endless conveyer 43 travels along, the rollers 88 of each slat 46 on the upper side of said conveyer ride upon the upper angle-irons 2 of the main frame of the machine, while the rollers 88 of each slat 46 on the lower side of said conveyer ride upon the lower angle-irons 2 of said frame.

When the pieces of cloth that are deposited upon table 1 in the manner hereinabove described pile upwardly upon table 1 so that it becomes necessary to raise the main frame of the machine in order to allow more pieces of cloth to be deposited upon said table, the crank handle 27 is rotated in the direction to cause drums 12 to wind up cords 13 with the result that said cords raise the main frame of the machine to the desired elevation.

I claim:

1. In a machine of the character described, the combination of a conveyer and a cloth clamp borne thereby, said cloth clamp comprising a pivoted clamping member and a pivoted actuating member, said actuating member being arranged at a right-angle to said clamping member and adapted to actuate same, said actuating member being notched.

2. In a machine of the character described, the combination of a conveyer and a cloth clamp borne thereby, said cloth clamp comprising a pivoted clamping member, a spring arranged to hold said member in an unclamping position, and a pivoted member arranged to actuate said clamping member, said actuating member being notched.

3. In a machine of the character described, the combination of a conveyer for carrying cloth, means for feeding a material thereto, an apron located intermediate said feeding means and said conveyer for guiding the material to the latter, and means for supporting said apron.

4. In a machine of the character described, the combination of a conveyer for carrying cloth and means for feeding a material thereto, said feeding means comprising a pair of rollers, a pair of shafts supporting said rollers, means for driving one of said shafts, a clutch borne by said driven shaft, a clutch borne by the roller supported by said driven shaft and means for shifting said shaft-clutch into and out of engagement with the roller-clutch.

5. In a machine of the character described, the combination of a conveyer for carrying cloth, a source of material supply, means for feeding the material to said conveyer, and means intermediate said source and said

feeding means adapted to smooth the material, said smoothing means comprising a pair of pivoted plate-like members arranged to press the material therebetween.

6. In a machine of the character described, the combination of a conveyer for carrying cloth, a source of material supply, means for feeding the material to said conveyer, and means intermediate said source and said feeding means adapted to smooth the material, said smoothing means comprising a pair of pivoted members arranged to press the material therebetween, said members being weighted.

7. In a machine of the character described, the combination of a main frame, a conveyer, cloth clamps arranged to support a material across the width of said conveyer, a crank shaft rotatable into a position to engage said clamps to unclamp the same and means for operating said shaft.

8. In a machine of the character described, the combination of a main frame, a conveyer, an adjustable frame connected to one end of said main frame, a guide borne by said adjustable frame, a pair of members borne by said adjustable frame, and means supported by said members for feeding the material over said guide to said conveyer.

9. In a machine of the character described, the combination of a horizontally arranged main frame, a conveyer supported thereby, cloth clamps borne by said conveyer, a support, a frame depending from said support, and means supported by said depending frame for supporting said main frame.

10. In a machine of the character described, the combination of a horizontally arranged main frame, a conveyer supported thereby, cloth clamps borne by said conveyer, a support, a frame depending from said support, means borne by said depending frame for supporting said main frame, and means connected to said supporting means for adjusting the level of said main frame.

11. In a machine of the character described, the combination of a horizontally arranged main frame, a conveyer supported thereby, cloth clamps borne by said conveyer, a support, a frame depending from said support, a revoluble member, and flexible means connected to said revoluble means for supporting said main frame.

12. In a machine of the character described, the combination of a horizontally arranged main frame, a conveyer supported thereby, cloth clamps borne by said conveyer, a frame arranged above the main frame, and means for adjusting the elevation of said main frame, said adjusting means comprising a revoluble member, flexible means connected to same for supporting said main frame, and means for revolving said member.

13. In a machine of the character de-

scribed, the combination of an endless conveyer, means for feeding cloth thereto, a series of clamps carried by said conveyer for holding the cloth thereon, and means for
5 unclamping said clamps.

14. In a machine of the character described, the combination of an endless conveyer, a table arranged beneath the lower stretch of the conveyer, means for feeding
10 cloth to said conveyer, means for holding the cloth on said conveyer, and means for releasing said holding means to deposit the cloth from said lower stretch on said table.

15. In a machine of the character described, the combination of an endless conveyer, a table arranged therebeneath, means for feeding cloth to said conveyer, a series of clamps for holding the cloth on said conveyer, and rocking means for unclamping
20 said clamps to deposit the cloth on said table.

16. In a machine of the character described, the combination of an endless conveyer, a table arranged therebeneath, means for feeding cloth to said conveyer, a series
25 of clamps carried by said conveyer and movable with the same for holding the cloth on said conveyer, and rocking means for unclamping said clamps, to deposit the cloth on said table.

17. In a machine of the character described, the combination of an endless conveyer, means for feeding cloth thereto, and a series of clamps carried by said conveyer and movable with the same for holding the
30 cloth across the width thereof.

18. In a machine of the character described, the combination of a conveyer and a cloth clamp carried thereby, said clamp comprising a pivoted clamping member and
40 a pivoted member arranged to engage and move the first-named member into clamping position.

19. In a machine of the character described, the combination of a main frame, a conveyer supported thereby, an adjustable frame connected to one end of the main
45 frame, an apron carried by the adjustable

frame, a pair of side boards borne by said adjustable frame, a source of material supply supported at one end of said boards,
50 means located at the other end of said boards for feeding the material over said apron to said conveyer, and smoothing means supported in said board between said source and said feeding means.

20. In a machine of the character described, the combination of a main frame, a conveyer supported thereby, an auxiliary frame located above the main frame, revoluble members mounted in the auxiliary
60 frame, connections between said members and said main frame for supporting the latter from the former, and means for revolving said members to raise and lower said main frame.

21. In a machine of the character described, the combination of a main frame, a conveyer supported thereby, an auxiliary frame located above the main frame, revoluble members mounted in the auxiliary frame,
70 connections between said members and said main frame for supporting the latter from the former, means for revolving said members to raise and lower said main frame, and devices included in said connections for effecting an adjustment of said main frame
75 independently of said members.

22. In a machine of the character described, the combination of a main frame, an endless conveyer supported therein, a plurality of clamps carried by said conveyer,
80 a frame located above the main frame, and mechanism carried by the second-named frame and connected with said main frame for bodily elevating the latter and said conveyer.

In testimony whereof I have hereunto affixed my signature in the presence of two witnesses.

STANLEY HARDY.

Witnesses:

GLADYS WALTON,
GEORGE G. ANDERSON.