March 13, 1934. T. STOICA 1,950,578

FABRIC STRETCHING MACHINE

Filed Aug. 8, 1933 3 Sheets-Sheet 1

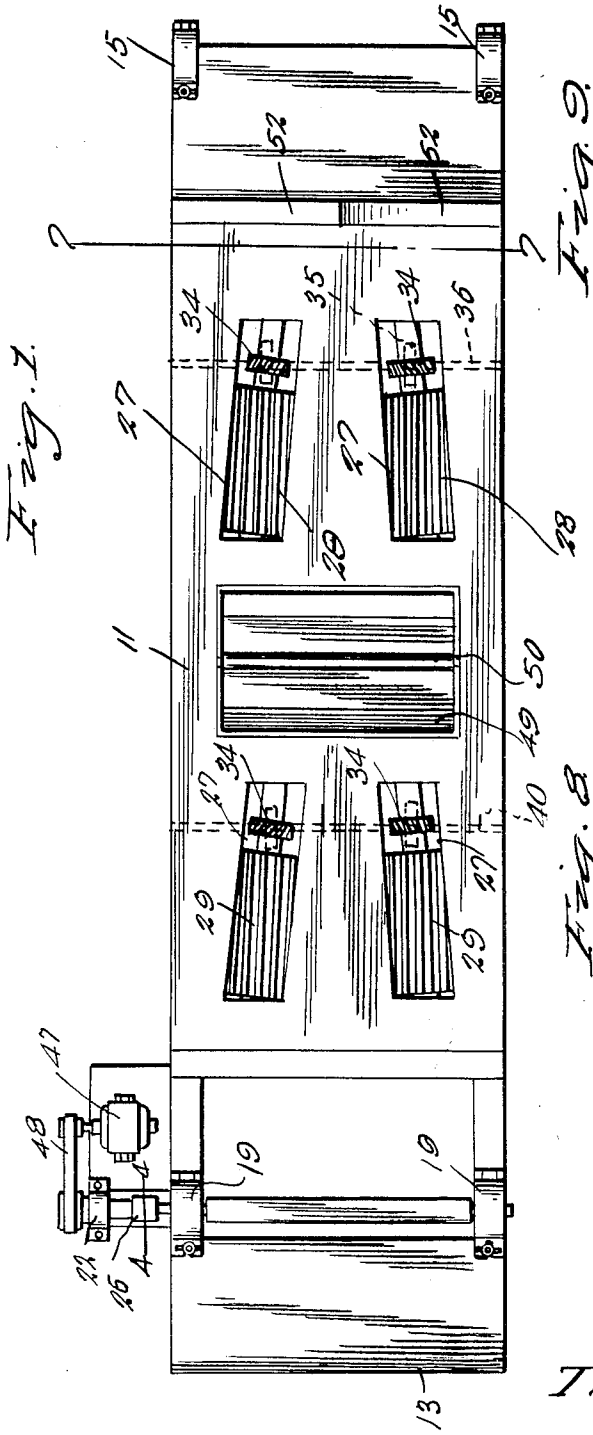



Fig. 1.

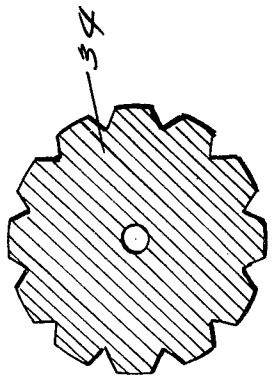



Fig. 2.

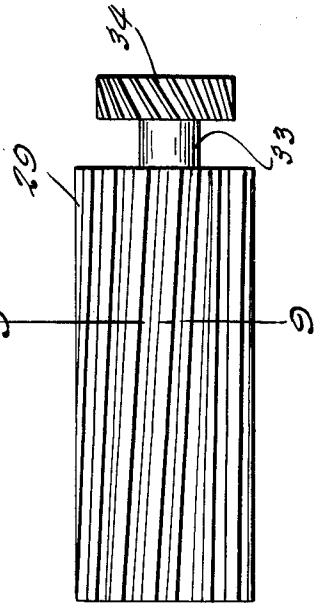



Fig. 3.

Inventor

Theodore Stoica

By Clarence O'Brien

Attorney

March 13, 1934. T. STOICA 1,950,578

FABRIC STRETCHING MACHINE

Filed Aug. 8, 1933 3 Sheets-Sheet 2

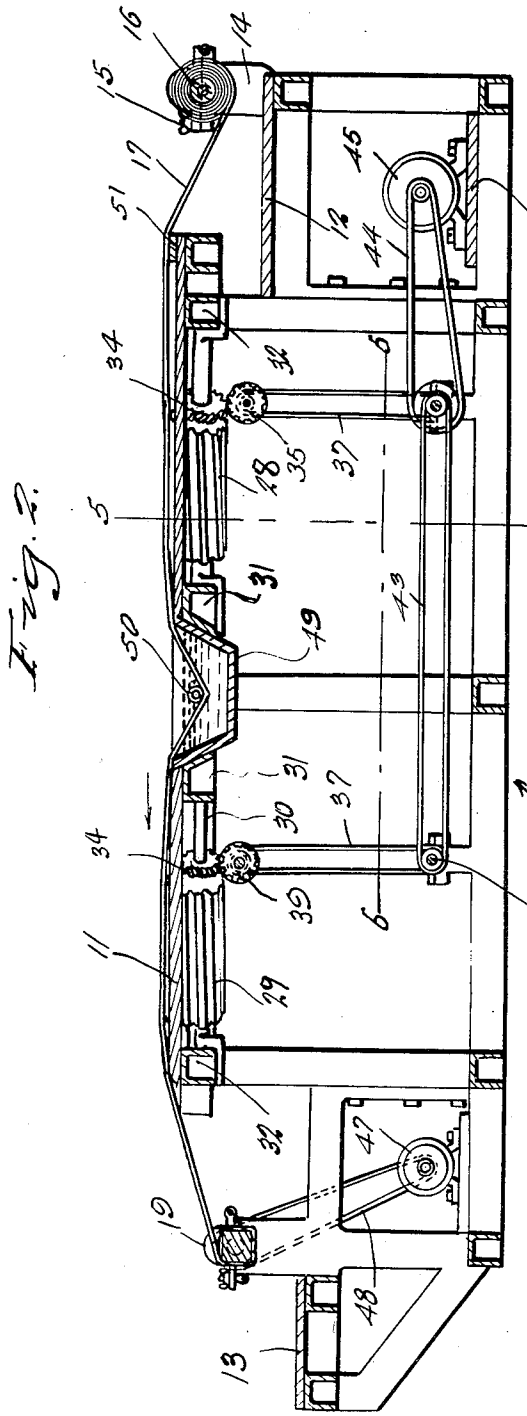


Fig. 2.

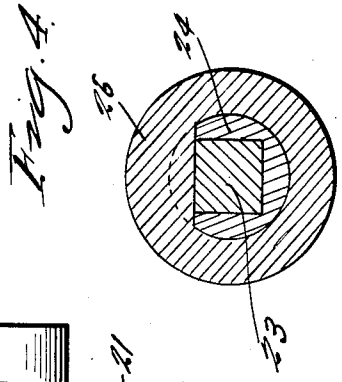


Fig. 4.

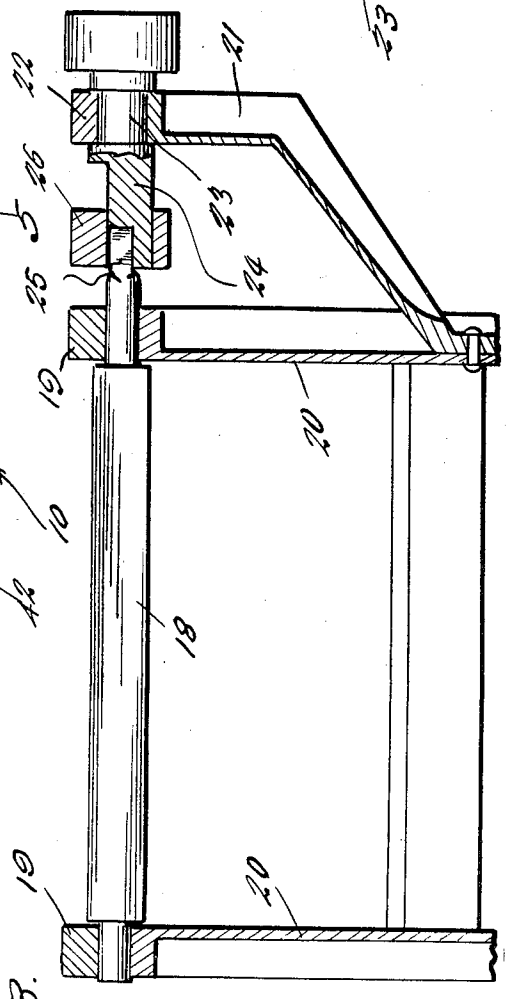


Fig. 3.

Inventor

Theodore Stoica

By Clarence A. O'Brien

Attorney

March 13, 1934. T. STOICA 1,950,578

FABRIC STRETCHING MACHINE

Filed Aug. 8, 1933 3 Sheets-Sheet 3

Fig. 7.

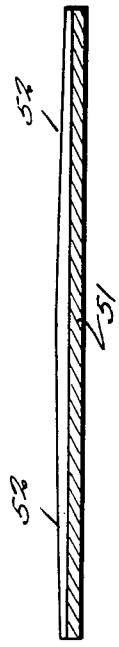



Fig. 6.

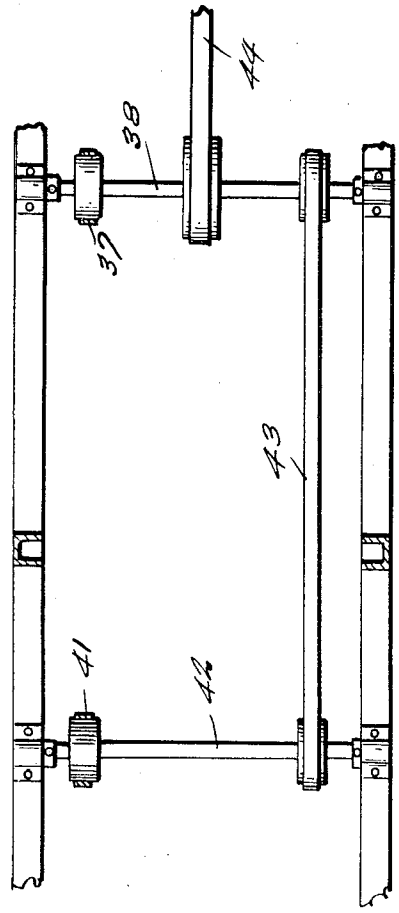
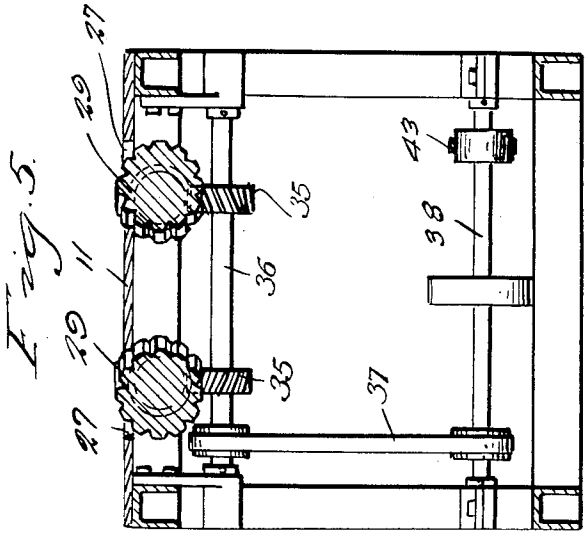



Fig. 5.




Inventor

Theodore Stoica

By Clarence A. O'Brien

Attorney

Patented Mar. 13, 1934

1,950,578

# UNITED STATES PATENT OFFICE

1,950,578

## FABRIC STRETCHING MACHINE

Theodore Stoica, Middletown, Conn.

Application August 8, 1933, Serial No. 684,277

4 Claims. (Cl. 26—63)

This invention relates to machines for stretching fabric and has as its object the provision of a machine of this character which is simple and economical in construction, efficient and practical in operation and well designed for the purpose intended.

In accordance with the present invention a machine of the character above mentioned is provided having means for placing the cloth to be stretched under lateral tension at each end of the machine together with means intermediate the ends of the machine for wetting the fabric so that the fabric is first stretched when in a dry condition, is then wetted, and finally subjected to a second lateral stretching operation just prior to being rolled on the receiving roller at the outlet end of the machine.

The invention together with its objects and advantages will be best understood from a study of the following description taken in connection with the accompanying drawings wherein is illustrated a preferred embodiment of the invention.

In the drawings:

Figure 1 is a top plan view of the device.

Figure 2 is a longitudinal sectional view therethrough.

Figure 3 is a transverse sectional view showing the manner of supporting the roller for the cloth on a platform at one end of the device.

Figure 4 is a detail sectional view taken substantially on the line 4—4 of Figure 1.

Figure 5 is a transverse sectional view taken substantially on the line 5—5 of Figure 2.

Figures 6 and 7 are sectional views taken substantially on the lines 6—6 and 7—7 of Figures 2 and 1 respectively.

Figure 8 is a side elevational view of one of the stretching rollers, and

Figure 9 is a sectional view taken substantially on the line 9—9 of Figure 8.

Referring to the drawings by reference numerals it will be seen that the device comprises a main table 10 which includes a suitable support or frame construction and provided with a removable top 11 secured to the top of the frame support 10 in any suitable manner. At the forward end of the device there is provided a suitable frame supported platform 12 while at the outlet or discharge end of the device there is suitably mounted a platform 13.

From the platform 12 there rises posts 14 provided with bearings 15 having hinged caps as will be clear from a study of Figure 1. Journalled in the bearings 15 are the ends of a roller 16 on which is wound the cloth 17 to be stretched.

From the roller 16 the cloth 17 is passed over the top 11 of the table to be wound on a roller 18 that has reduced ends journalled in bearings 19 provided on standards 20 rising from the rear end of the platform 13. The bearings 19 also have hinged caps as shown in Figure 1. Rising from the base of one of the posts 20 and extending laterally therefrom is a bearing arm 21 provided with a bearing 22 in which is journalled a pulley shaft 23. Shaft 23 has a reduced end portion 24 provided with a non-circular socket to accommodate the squared or non-circular end 25 of the roller 18 to provide a drive connection between the shaft 23 and the roller 18. For locking the end 25 of the roller 18 within the socket of the portion 24 there is provided a slidable collar 26 that is slidable on the end 24 of shaft 23, and when moved into the position shown in Figure 3 collar 26 will serve to lock the end 25 of the roller in the socket of the shaft end 24. At opposite sides of its transverse center the table top 11 is provided with a pair of diagonally disposed apertures 27 which converge toward their rear ends as clearly shown in Figure 1. Mounted in operative position to each aperture 27 and arranged so as to have the diagonal teeth 28 thereof engage the under side of the cloth are rollers 29. The rollers 29 are fixed on shafts 30 supported between cross bars 31, 32. At one end each roller 29 is provided with a reduced extension 33 on which is suitably provided a gear 34. The gears 34 on the rearwardmost rollers are engaged with gears 35 mounted on a suitably supported transverse shaft 36 that has a belt and pulley drive connection 37 with a shaft 38 mounted in the frame structure 10 adjacent the bottom of said structure.

The gears 34 on the forwardmost rollers 29 are in mesh with gears 39 mounted on a suitably supported transverse shaft 40 that has a belt and pulley drive connection 41 with a second horizontal shaft 42 suitably supported in the lower portion of the frame 10. The shafts 38 and 42 are connected by belt and pulley drive means 43, while the shaft 38 is driven through the medium of belt and pulley drive means 44 from an electric motor 45 mounted on a suitable support 46 disposed beneath the platform 12.

It will thus be seen that all of the rollers are driven from a single motor 45 and that the rollers of each pair rotate in reverse direction, and

in directions suitable to place a lateral stress or tension on the fabric 17 as the same passes longitudinally over the table top 11.

For driving the roller 18 to roll the stretched cloth 17 thereon there is provided a motor 47 that has a belt and pulley drive connection 48 with the shaft 23 that is in driving connection with the roller 18.

Intermediate its ends the table top 11 is provided with an aperture to accommodate a water trough 49 that fits between the cross bars 31 and as shown, the trough 49 has inclined sides that engage inclined sides of the cross bars 31 to thereby retain and support the trough 49. The trough 49 is adapted to contain water as shown and has journalled therein a roller 50 under which the trough 15 passes and is thereby caused to travel through the water in the trough for dampening purposes prior to being stretched by the rollers 29 at the forward or discharge end of the device.

To prevent the cloth 17 from coming in direct contact with the edge of the table top 11 at the intake end of the machine there is provided on said table at said end, a cross strip 51, the upper face of which oppositely inclines from its center as at 52.

The operation and utility of the device will be apparent from the following:

The roller containing the cloth is journalled in the bearings carried by the post 14 rising from the platform 12, and the cloth is unwound from the roller, passed over the top of the table top 11 and is secured at one end to the roller 18. The motors 45 and 47 are then set in operation, and the cloth 17 being wound upon the roller 18 will move over the table top 11 in contact with the peripheries of the rollers 29. Rollers 29 engaging the underside of the cloth will tend to stretch the same laterally and the cloth after being stretched by the rollers at one side of the trough 49 passes through the water in the trough 49 to, in a wet condition move toward the outlet end of the device to be engaged by the rollers 29 at said end of the device to thereby undergo a further lateral stretching operation just prior to being wound on the roller 18 thus insuring a thorough stretching of the cloth.

Having thus described my invention, what I claim as new is:

1. In a device of the character described, a table having a top provided adjacent each end thereof with a pair of angularly related apertures, stretching rollers rotatably mounted beneath the table top, one in operative position to each of said apertures, operating mechanism common to the rollers for driving them to stretch cloth passing over the top of the table, means adjacent one end of the table for supporting a roll of cloth, and roller means at the end of the table remote from the first named end thereof and with which the cloth is engageable to be drawn over the top of the table in contact with the rollers for stretching purposes.

2. In a device of the character described, a table having a top provided adjacent each end thereof with a pair of angularly related apertures, stretching rollers rotatably mounted beneath the table top, one in operative position to each of said apertures, operating mechanism common to the rollers for driving them to stretch cloth passing over the top of the table, means adjacent one end of the table for supporting a roll of cloth, roller means at the end of the table remote from the first named end thereof and with which the cloth is engageable to be drawn over the top of the table in contact with the rollers for stretching purposes, and means intermediate the ends of the table top for wetting the cloth as it passes from one set of rollers to the other set of rollers.

3. A cloth stretching machine comprising a table provided with a top having at each end thereof a pair of elongated diagonal openings converging toward one end, a pair of corrugated rollers at each end of the table with the rollers being arranged one adjacent each of said openings, transverse shafts mounted beneath the table top adjacent one end of the rollers, gearing connecting said shafts with the rollers, a pair of driven shafts supported below the first named shafts, driving means connecting each driven shaft with one of the first named shafts, a driving connection between said driven shafts, and means for driving said driven shafts.

4. A cloth stretching machine comprising a table provided with a top having at each end thereof a pair of elongated diagonal openings converging toward one end, a pair of corrugated rollers at each end of the table with the rollers being arranged one adjacent each of said openings, transverse shafts mounted beneath the table top adjacent one end of the rollers, gearing connecting said shafts with the rollers, a pair of driven shafts supported below the first named shafts, driving means connecting each driven shaft with one of the first named shafts, a driving connection between said driven shafts, and means for driving said driven shafts; means on one end of the table for supporting a roll of cloth, means at a relatively opposite end of the table for supporting a roller upon which the cloth is windable subsequent to the stretching operation, and means for driving the last named roller.

THEODORE STOICA.