Nov. 18, 1924. 1,516,212

C. C. SCHNEIDER

CLOTH LAYING MACHINE

Filed Feb. 18, 1921 3 Sheets-Sheet 1

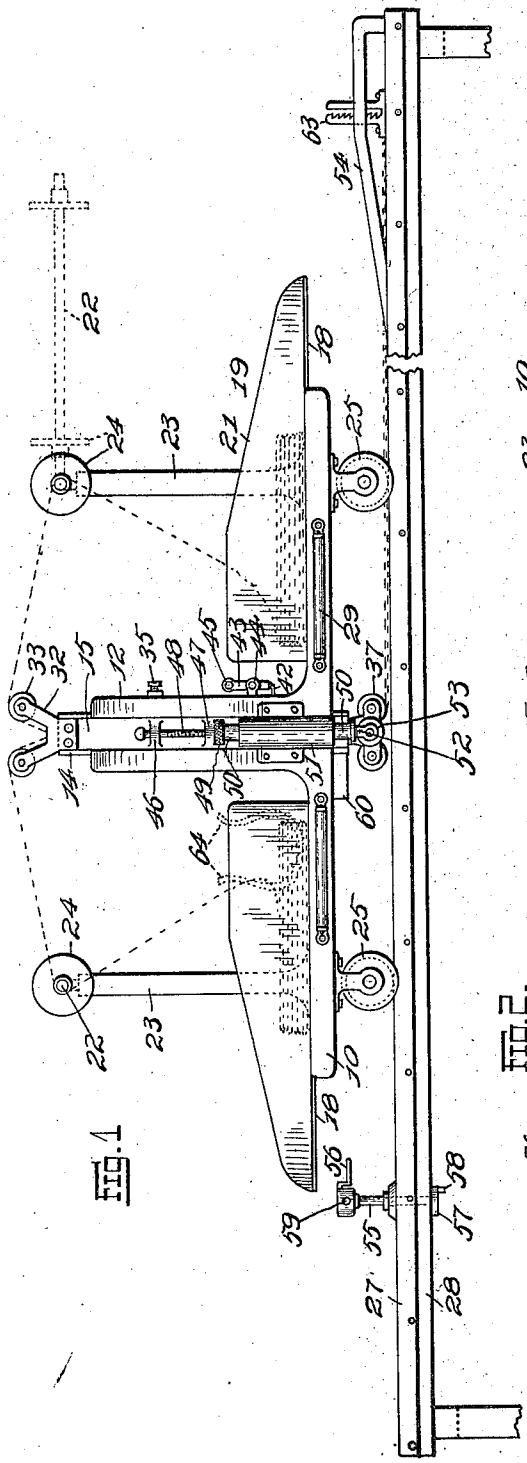

Fig. 1.

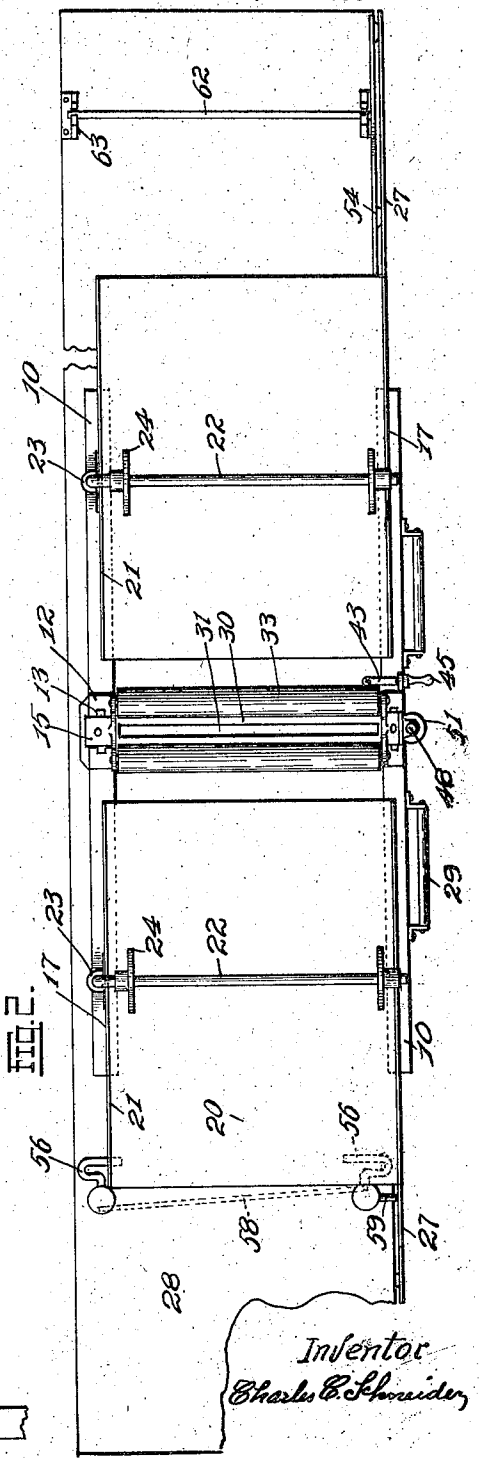

Fig. 2.

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Fig. 3.

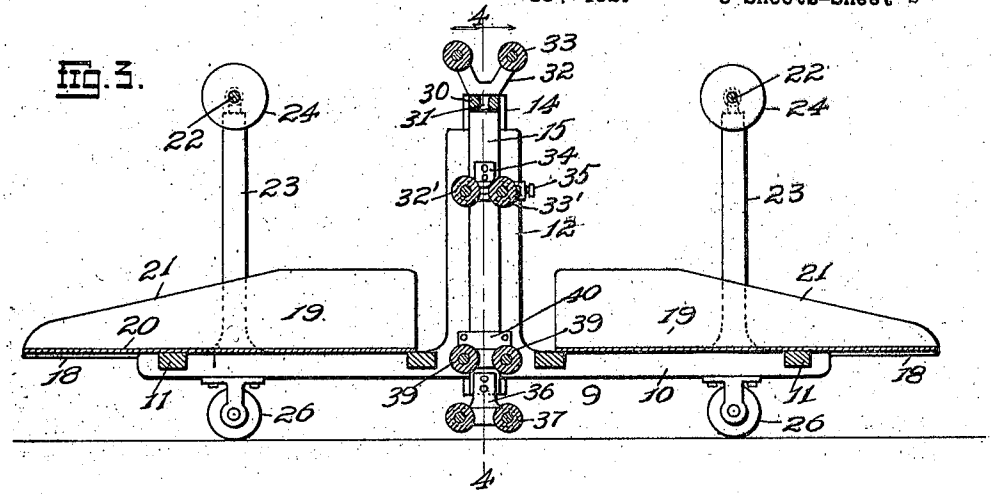


Fig. 4.

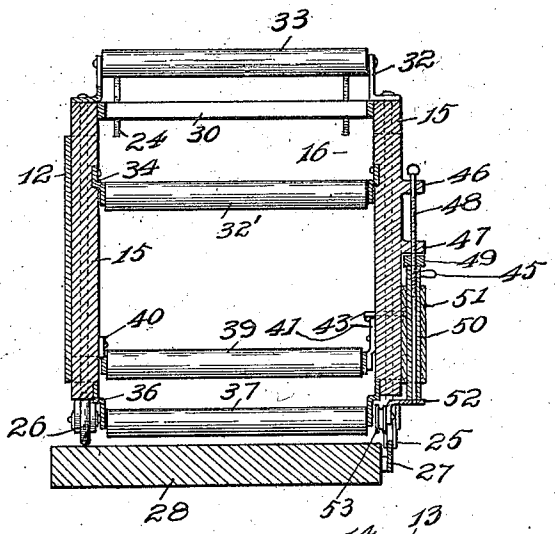
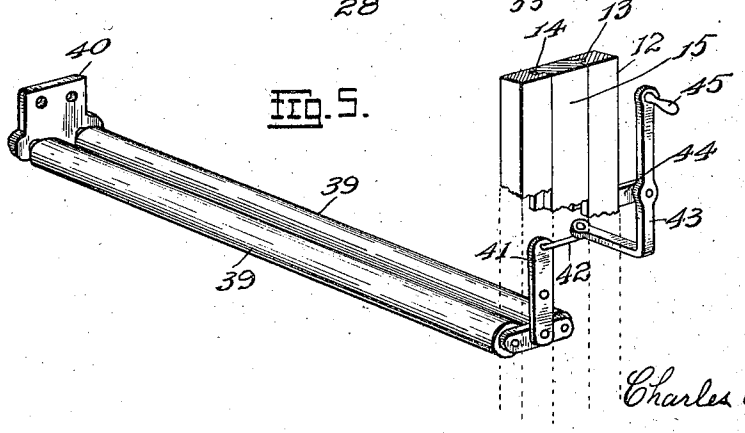


Fig. 5.



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CLOTH LAYING MACHINE

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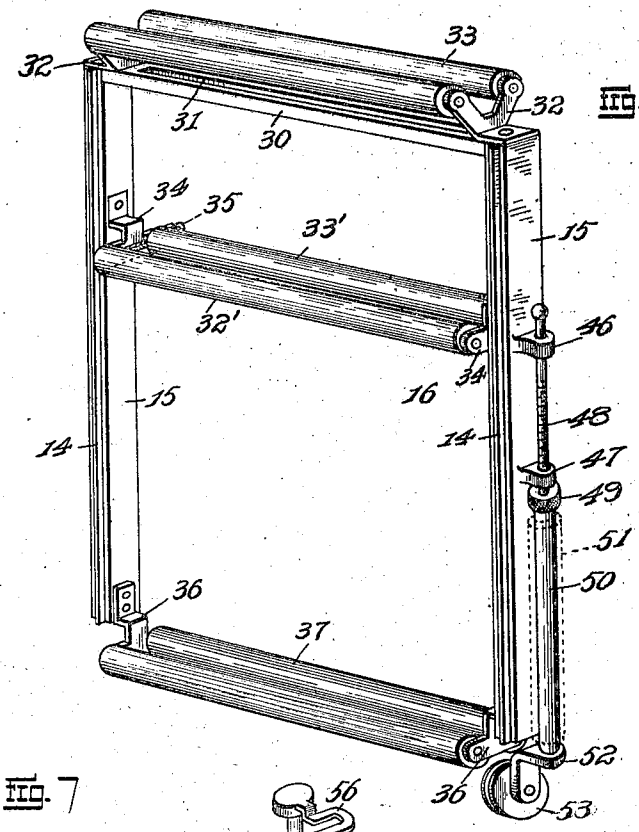
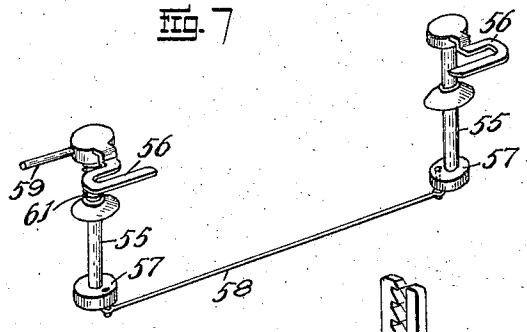


Fig. 5.

Fig. 7



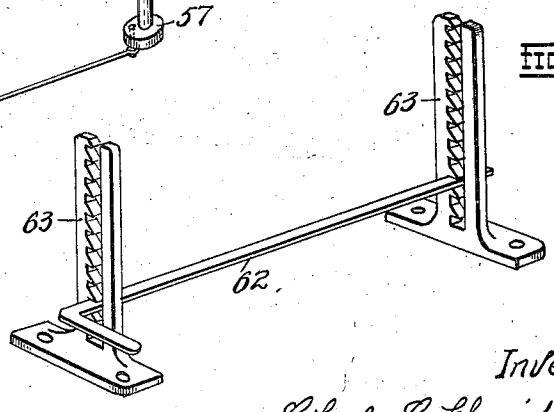


Fig. 8.

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UNITED STATES PATENT OFFICE.

CHARLES C. SCHNEIDER, OF ST. LOUIS, MISSOURI.

CLOTH-LAYING MACHINE.

Application filed February 18, 1921. Serial No. 445,991.

To all whom it may concern:

Be it known that I, CHARLES C. SCHNEIDER, a citizen of the United States, and resident of St. Louis, Missouri, have invented certain new and useful Improvements in Cloth-Laying Machines, of which the following is a specification.

This invention relates to improvements in a cloth laying machine, and has for its object the provision of a machine for laying cloth. The invention consists in a carriage mounted on a table, said carriage arranged for the support of cloth either in loose or in bolt form, the ends being passed over guide and supporting rollers so that either one or a number of layers of cloth can be piled up on the table during the manipulation of the device from one end of the table to the other.

A further object of my invention is to provide in conjunction with the cloth laying machine, automatic catchers located on both ends of the table for receiving and holding the cloth in proper alignment with the pile so that the machine may be conveyed back to the opposite end of the table for the purpose of piling up additional layers on the already laid pile.

A further object of my invention is to construct a machine with suitable guide rollers and tension rollers for holding the cloth in proper alignment and with proper tension so that the plurality of layers laid upon the table will be laid in proper alignment as well as with proper tension, so that the cutter can readily and easily cut the cloth in accordance with the patterns placed or marked thereon.

Figure 1, is a side elevation of my invention showing the same in position on the table.

Fig. 2, is a top plan view of the same.

Fig. 3, is a vertical sectional view.

Fig. 4, is a cross sectional view taken on the line 4—4 of Fig. 3.

Fig. 5, is a detail perspective view of the adjusting rollers made use of for properly aligning the cloth.

Fig. 6, is a detail perspective view of the movable or adjusting frame carried by said machine.

Fig. 7, is a detail perspective view of one of the catchers made use of in conjunction with my machine.

Fig. 8, is a perspective view of one of the cloth retainers used on the right hand end of the table.

Referring to the general construction of my invention, 9 indicates a suitable frame which consists of a pair of horizontal side members 10, the same being connected together by suitable cross bars 11 for holding the side members together. Each of said side members is provided with vertical extensions 12 which are suitably spaced apart and in the inner surface of the vertical extensions are provided grooves or guide walls 13 which are arranged for the reception of the tongues 14 formed on the side standards 15 of the movable or adjustable frame 16.

The purpose of the adjustability of the frame 16 is to permit the same to automatically raise as the cloth piles up in layers on the table.

On the upper surface of the horizontal side members 10 of the frame are formed grooves or guide ways 17 which are designed for the reception of the tongues 18 formed on the bottom of the cloth containers 19. These containers are preferably constructed with a bottom 20 and side walls 21, the front and rear of the same being opened and in these containers are placed or piled the cloth, the same assuming the position as that shown by dotted lines in Fig. 1.

By means of the tongues or guide walls in the frame, these containers may be adjusted in or out as found desirable in order to accommodate the position of the cloth with the guide roller over which the same is passed.

These guide rollers 22 are swingingly mounted on standards 23 which extend upwardly from one of the side members 10 of the frame, and on these rollers are mounted spacing discs 24 which are slidably adjusted and the same are shifted in accordance with the width of the cloth to be handled by the machine. The purpose of the swinging action of the rollers 22 is to place the same in position as shown by dotted lines in Fig. 1, and to push the same out of the way when laying the cloth in the containers, and when placing the cloth over the same these said rollers are then shifted back in proper position for the accommodation of the cloth.

The frame of the machine is mounted on

suitable rollers or wheels 25 and 26. The wheels 25 are grooved and are guided on the track 27 attached to one side of the cloth laying table 28, the wheels 26 on the opposite side of the machine are of ordinary construction and roll directly on the surface of the table. This machine is shifted from one end of the table to the other by means of the handles 29 attached to the side of the frame and grasped by the operator.

The movable or adjustable frame 16 which is carried in the vertical extensions of the frame is provided at its top with a cross bar 30 in which is located an elongated slot 31 and on the upper ends of the side members of said frame are located brackets 32 in which are axially mounted guide rollers 33, and over these guide rollers is placed the cloth and said cloth is then passed through the elongated slot 31 in the position as shown by dotted lines in Fig. 1. The cloth is then passed between the pair of tension rollers 32′ and 33′. These rollers are mounted in brackets 34 attached to the side members of the frame and in these brackets are provided guide ways in which is inserted a spring controlled bearing block operated by adjusting screw 35, by means of this adjustment the rollers can be placed close together or far apart to regulate the proper tension to be brought against the two layers of cloth passing between the same, and by means of this adjustment a reasonable amount of friction can be placed on the cloth so as to regulate the proper tension on the cloth as it is being piled up on the table.

On the bottom of the frame 16 are attached brackets 36 which form guide rollers 37 between which the cloth is placed and from which the same is brought in contact with the pile. Between the rollers 37 and the tension rollers 32′ and 33′ are cloth adjusting rollers 39 which are supported in brackets 40 attached to the vertical member 12 of the frame. The one bracket is provided with a lever 41 which is pivoted to the frame, its upper free end being connected by a rod 42 which in turn is connected to the lever 43 pivotally mounted to an arm 44 connected to one of the standards and can be operated by means of the handle 45. By the manipulation of this lever mechanism the rollers can be shifted from one side to the other and this is for the purpose of adjusting the edge of the cloth so as to cause it to lie in perfect alinement with the edges of the cloth already piled on the table.

On one of the side standards 15 I provide a pair of ears or projections 46 and 47 spaced a reasonable distance apart and are provided with bores in which is supported a rod 48, a portion thereof being screw threaded and meshing with internal screw threads of the bore in the projection 47. On the rod 48 and beneath the projection 47 I place a nut 49, this nut is for the purpose of adjusting the elevation of the entire frame 16.

The lower end of the rod 48 extends into a tube 50 slidably mounted in a cylinder 51 this cylinder is connected by flanges to the vertical extensions 12 and held stationary thereon acting as a guide for the tube 50. The lower end of the tube 50 is connected to a bracket 52 which supports a roller 53.

The entire frame 16 is adjusted vertically by the manipulation of the nut 49 on the rod 48, the rod being firmly positioned in the ears, the turning of the nut on the rod will elevate the frame from its lowest position shown in Figure 4 and hold the same in such elevated position by the nut contacting with the top of the tube 50. This adjustment is to regulate the position of the rollers 37 relative to the table 28 and govern the height of the pile of cloth on the table.

The purpose of the roller 53 is to automatically raise the entire frame 16 when the roller contacts with and rides upon the inclined track 54 attached to one end of the table, and the raising feature is to allow the cloth to be raised sufficiently from the last laid layer on the pile and to separate the cloth in order to permit the bar of the catching mechanism to be inserted in front of the bent cloth and hold it while moving the machine back to the opposite end of the table.

Referring to the two styles of catchers made use of in Figs. 7 and 8, I place on one end of the table an automatic catcher which consists of a pair of posts 55, on the top of which are mounted catcher fingers 56, and on the bottom of the rods, discs 57, said discs being connected by a rod 58 so arranged and connected to the discs 57 that when the catcher is moved by means of contact against the arm 59 by the projection 60 located on the machine it will operate or throw the fingers in opposite or outward direction allowing them to clear the cloth as well as the machine frame so as to permit the cloth to pass between the same and when the machine on its return movement is released from contact with the arm 59 the spring 61 will automatically throw the fingers in normal position as shown in Fig. 7, thereby permitting the fingers 56 to grasp the cloth on the bend or fold for return; and when the machine is conveyed to the opposite end of the table, the roller riding up the incline 54 elevates the frame 16 causing the cloth to separate, the operator removes the bar 62 from the ratchet standards 63 and then slides the same through the loop end or separated portion of the cloth and re-inserts the bar assuming a position as shown in Fig. 8, thereby holding the cloth while the machine is conveyed back to the opposite end. The purpose of the ratchet arrangement is to accommodate the insertion of the

bar in accordance with the increased height of the pile.

If desired the same kind of catchers may be used on both ends of the table as found most practicable.

The containers on the machine are so arranged that cloth may be placed therein in loose or open packages or in bolt form, depending upon the manner in which the cloth is delivered; and if the cloth should come in the form of a roll either rolled or in oval fashion it may be placed in a separate U-shaped receptacle which may be inserted in the container as that indicated by the dotted lines 64.

By this arrangement of cloth laying machine two layers of cloth can be laid simultaneously upon the table and by means of the adjusting and tension features the pile can be laid tight or loose as found desirable.

Having fully described my invention what I claim is:

1. A cloth laying machine comprising a carriage, an adjustable frame mounted centrally in said carriage, containers for receiving the cloth to be laid located on each side of said adjustable frame, guide rollers carried by the frame and over which the cloth is passed and held under proper tension so that the same may be piled upon the table of several layers thickness, substantially as specified.

2. A cloth laying machine comprising a carriage having vertical extensions, containers carried by said carriage and located on each side of said extensions, an adjustable frame guided in the extensions, rollers supported by said adjustable frame, shifting rollers supported by the carriage and between which the cloth to be laid is passed and a means for automatically elevating the adjustable frame when nearing one end of the table, substantially as specified.

3. A cloth laying machine of the character described comprising a carriage consisting of two side members, vertical extensions centrally located on each side member, a pair of cloth containers in which separate bolts of cloth are placed, one located on each side of the extensions, arms forming part of each frame, guide rollers carried by said arms and over which said cloth is passed before entering into the machine, a movable frame supported in the extensions, guide rollers, and tension rollers carried by said movable frame, a pair of shifting rollers located in the carriage through which the several layers of cloth are placed, a lever mechanism for shifting the rollers for adjusting the position of the cloth on the table, and means for automatically elevating the movable frame, and an adjusting screw for limiting the downward movement of the movable frame, substantially as specified.

4. A cloth laying machine comprising a carriage, a cloth container positioned on both ends of said carriage, a pair of guide extensions forming a part of said carriage, an adjusting frame slidably mounted in said guide extensions, a pair of swingingly mounted guide rollers extending over and above the cloth containers, a pair of guide rollers mounted on the top of the movable frame, a pair of tension rollers carried by the movable frame, a pair of shifting rollers located between the frame and supported by the carriage, a pair of guide rollers located at the bottom of the frame through which two layers of cloth are placed and piled simultaneously on the table during the movement of the carriage, a means for automatically lifting the movable frame and an adjusting screw for regulating the downward movement of the frame, substantially as specified.

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

CHARLES C. SCHNEIDER.

Witnesses:

ALFRED A. EICKS,

B. M. MAME.