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MACHINE FOR THREADING TAPES INTO BUTTONS AND OTHER ARTICLES.

APPLICATION FILED JUNE 18, 1912.

1,057,280. Patented Mar. 25, 1913.

2 SHEETS—SHEET 1.

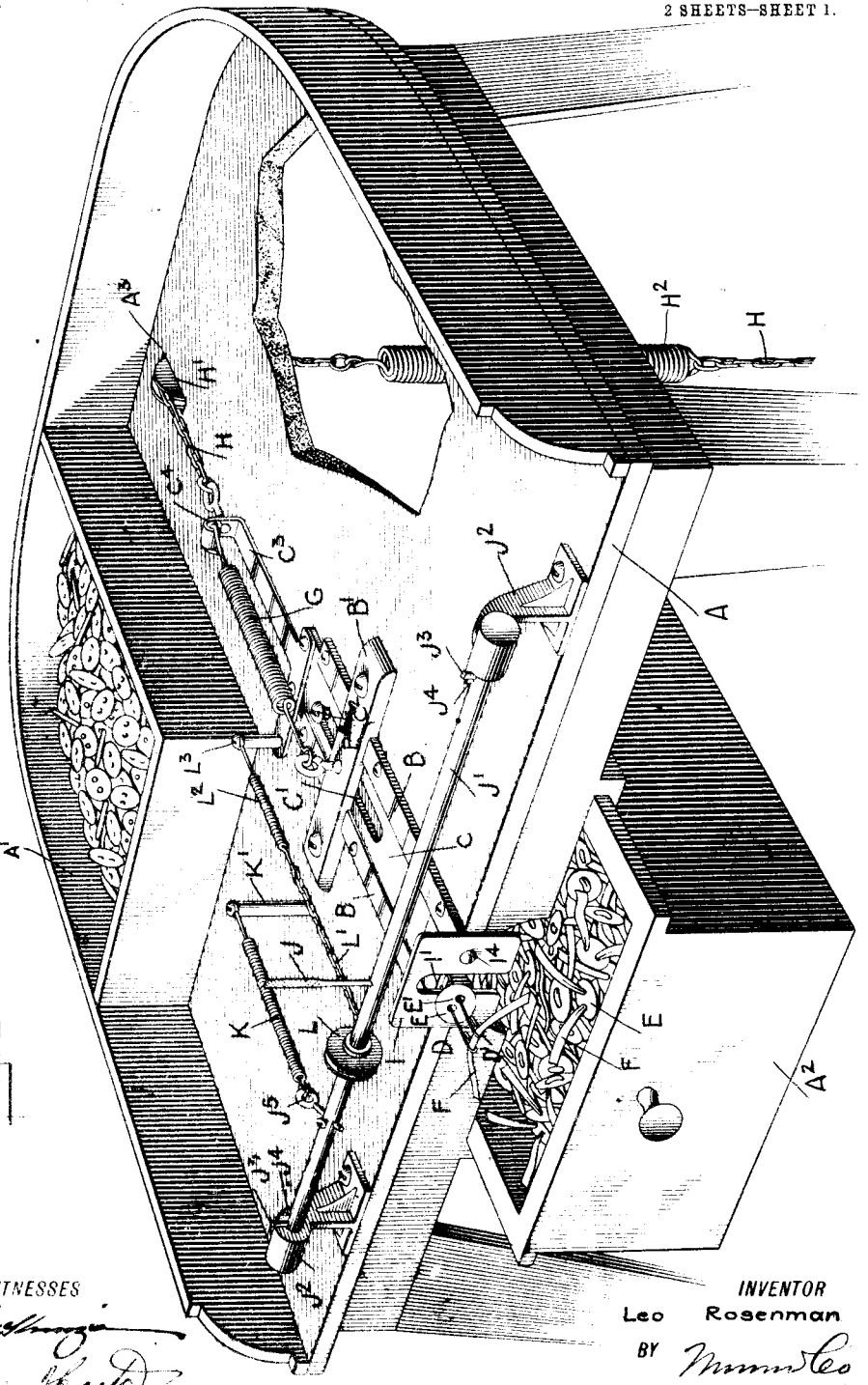

Fig. 1.

WITNESSES

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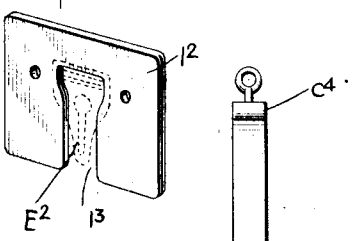
Fig. 7.



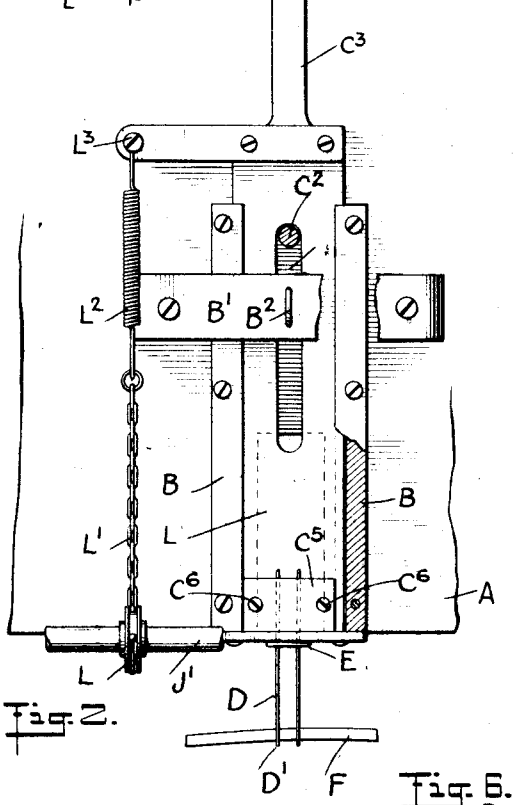
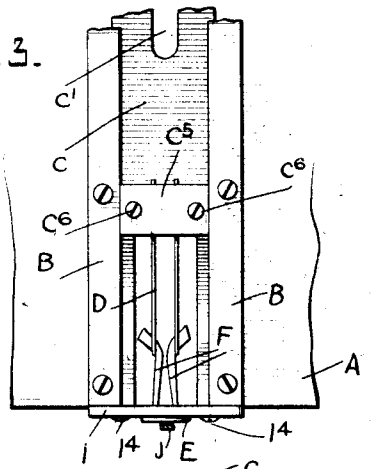


Fig. 2.

Fig. 3.



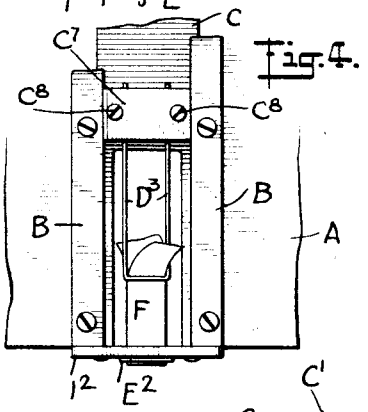


Fig. 4.

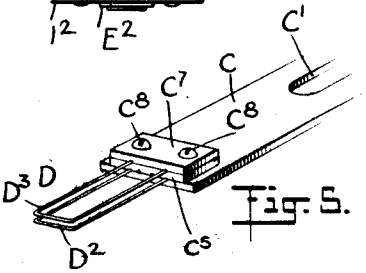
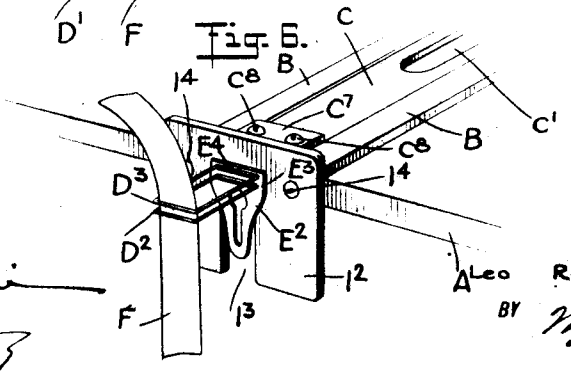


Fig. 5.

Fig. 6.



WITNESSES

INVENTOR

Leo Rosenman

BY

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UNITED STATES PATENT OFFICE

LEO ROSENMAN, OF NEW YORK, N. Y., ASSIGNOR TO WILLIAM RAUBITSCHEK, OF BROOKLYN, NEW YORK.

MACHINE FOR THREADING TAPES INTO BUTTONS AND OTHER ARTICLES.

1,057,280. Specification of Letters Patent. Patented Mar. 25, 1913.

Application filed June 18, 1912. Serial No. 704,332.

To all whom it may concern:

Be it known that I, LEO ROSENMAN, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Machine for Threading Tapes into Buttons and other Articles, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved machine for threading tapes into buttons, buckles and similar articles, and arranged to enable a single operator to quickly and accurately thread a large number of tapes into a corresponding number of buttons, buckles or similar articles in a comparatively short time and without danger of the tapes or buckles becoming soiled during the threading operation.

For the purpose mentioned use is made of an abutment for the article to rest on and a tape carrier adapted to pass through the apertures in the article and adapted to carry a tape and draw the ends thereof through the said apertures in the article.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of the machine arranged for applying tapes to buttons, part of the table of the machine being broken out; Fig. 2 is a plan view of the same, parts being in section; Fig. 3 is a similar view of the same and showing the parts in position after the tape is partly drawn through the button; Fig. 4 is a plan view of part of the machine arranged for drawing a tape through a buckle; Fig. 5 is a perspective view of the tape carrier for drawing a tape through a buckle; Fig. 6 is a perspective view of the machine for drawing a tape through a buckle; and Fig. 7 is a perspective view of the abutment for the machine used for drawing a tape through a buckle.

On a suitably-constructed table A is mounted a guideway B in which is mounted to reciprocate a slide C provided on its forward end with a tape carrier D adapted to pass through the openings in a button, buckle or similar article E adapted to be threaded with a tape F placed in position on the tape carrier D by the operator at the time the button E is in position on the tape carrier D, the parts of the machine being in the position shown in Fig. 1. The buttons, buckles or other articles to be threaded are preferably contained in an open compartment A′ arranged on the top of the table A, and the article after being provided with a tape drops into a drawer A^2 mounted to slide on the under side of the table A, as indicated in Fig. 1. The slide C is limited in its forward and backward movement, and for this purpose the slide is provided with a slot C′ through which extends a screw or pin C^2 attached to the table A. The rear end of the slide C is provided with a rearward extension C^3 having an upturned member C^4 connected with one end of a spring G attached at its other end to an eye B^2 held on a cross bar B′ forming part of the guideway B and secured to the top of the table A. The spring G serves to normally hold the slide C in a forward position, as shown in Fig. 1. The extension C^3 of the slide C is connected with one end of a chain H passing over a grooved pulley H′ journaled in an opening A^3 formed in the table A, and in the downwardly-extending portion of the chain H is arranged a spring H^2, and the lower end of the chain H is secured to a treadle (not shown) under the control of the operator's foot so that when the treadle is pressed the slide C is caused to move rearwardly against the tension of the spring G.

To the front of the table A is secured a vertically-disposed abutment I provided with an opening I′ for the passage of the tape carrier D, and on the front face of the abutment I is adapted to rest the article E to be threaded with the tape F, as hereinafter more fully explained. The article E is held against the abutment I during the rearward movement of the slide C by a finger J extending from a rock shaft J′ journaled in bearings J^2 attached to the top of the table A. The rock shaft J′ is provided with stop pins J^3 adapted to abut against shoulders J^4 on the bearings J^2 to limit the rocking movement of the rock shaft J′. On the rock shaft J′ is secured an eye J^5 to which is attached one end of a spring K secured at its other end to a post K′ erected on the table A so as to normally

hold the rock shaft J′ in the position shown in Fig. 1, that is, with the finger J extending upwardly and the stop pins J^3 resting against the shoulders J^4. On the rock shaft J′ is secured a pulley L around which passes a chain L′ secured at one end to the peripheral face of the pulley L, and the rear end of the chain L′ is secured to a spring L^2 attached to a post L^3 fastened to the extension C^3. Thus when the slide C is moved rearwardly on the operator pressing the treadle connected with the chain H then a rocking motion is given to the shaft J′ by the chain L′ and pulley L so that the finger J swings downward in engagement with the middle portion of the tape F to hold the middle tape portion against movement during the time the ends of the tape are pulled through the openings in the article E. The contacting face of the finger J is roughened to insure a good grip of the finger J on the tape F. It is understood that when the tape carrier D draws the tape F through the apertures in the article E, the article is pulled against the abutment I, and when the slide C returns to its forward position the spring K rocks the shaft J′ in the opposite direction so that the finger J swings upward back to the normal position shown in Fig. 1 at the time the tape carrier D nears the abutment I, thus releasing the threaded article to allow the latter to drop into the drawer A^2.

When it is desired to thread a button, then, as shown in Figs. 1, 2 and 3, the tape carrier D is formed of two thin parallel wires spaced apart a distance corresponding to that between the apertures E′ in the button E, and the outer ends of the wires are provided with rearwardly bent open hooks D′ onto which is placed the tape F with the middle portion extending approximately between the two hooks, as indicated in Fig. 1. In order to thread the button E, the operator places the button E onto the two wires forming the tape carrier at the time the slide C is in forward position, and then the operator places a tape F onto the hooks of the tape carrier. When this has been done the operator presses the treadle, as previously explained, to move the slide C rearwardly, and in doing so the finger J engages the tape F between the openings of the button E and thus holds the tape against shifting while the wires of the carrier D are drawn still farther rearward and finally pass out of the apertures E′ to the rear of the abutment I (see Fig. 3), until the ends of the tape F slip out of the open hooks of the wires forming the tape carrier D. It will also be seen that during the operation described, the ends of the tape F are drawn through the apertures E′ in the button E while the middle portion of the tape extends across the face of the button E between the apertures E′ so that the button E is threaded with the tape F, and when the operator releases the treadle the threaded button is released by the finger J and drops into the drawer A^2. When the treadle is released the slide C moves forward to its normal position to permit the operator to place another button E and another tape F in position on the tape carrier D, after which the treadle is again pressed to repeat the operation above described.

When it is desired to thread a buckle E^2 having spaced parallel slots E^3 and E^4 (see Fig. 6), then use is made of two U-shaped wires D^2, D^3 of a width corresponding to the length of the apertures E^3, E^4, so as to permit the operator to place a buckle E^2 in position on the wires D^2 and D^3. The tape F in this case is engaged with the forward ends of the wires D^2, D^3 in a vertical direction, and when the treadle is pressed and the slide C moves rearward and with it the wires D^2, D^3 then the tape is threaded through the apertures E^3, E^4 in a manner similar to the one above described relative to the threading of the button E.

In order to fasten either of the tape carriers in position on the forward end of the slide C, use is made of a clamping plate C^5 overlying the slide C and between which the wires of the tape carrier are clamped. The wires extend in apertures each of which has a half formed in the under side of the clamping plate C^5 and the other half in the top of the slide C (see Fig. 5). Screws C^6 fasten the clamping plate C^5 to the slide C. For fastening the wires D^2, D^3 in place an additional clamping plate C^7 is used and screws C^8 fasten both clamping plates C^7 and C^5 to the slide C. Apertures are provided between the slide C and the clamping plate C^5 for the reception of the terminals of the wire D^2 and similar apertures are provided between the clamping plates C^5 and C^7 for the reception of the terminals of the wire D^3 to hold the said wires D^2 and D^3 spaced apart one above the other a distance corresponding to the distance between the apertures E^3 and E^4 in the buckle E. The abutment used for threading the buckle E^2 is slightly different from the abutment I employed when threading a button E, that is, the opening I^3 in the abutment I^2 is enlarged at the top to a width slightly in excess of the length of the apertures E^3 and E^4 to permit a ready passage of the wires D^2, D^3 through the opening I^3 and through the apertures E^3 and E^4.

It is understood that the spring L^2 provides a yielding connection between the chain L′ and the slide C to allow the latter to move farther rearward after the finger J has engaged the tape F, to hold the same against shifting, as before explained. It is also understood that the abutments I and I^2

are interchangeably secured to the front of the table A by screws I^4 or other fastening devices, as indicated in the drawings.

From the foregoing it will be seen that by the arrangement described a single operator is enabled to quickly and accurately thread a button, buckle or a similar article with a piece of tape without danger of the article or the tape being soiled during the threading operation.

The machine shown and described is very simple and durable in construction, and is not liable easily to get out of order.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A machine for threading tapes into buttons, buckles and like apertured articles, comprising a vertically disposed abutment for the article to rest against, a guideway arranged horizontally, a slide mounted to reciprocate in said guideway, a tape carrier at the forward end of said slide and adapted to pass through the apertures in the article and adapted to carry a tape and draw the ends of the tape through the said apertures in the article, a spring for normally holding the slide in a forward position, means for moving the slide rearwardly, and means for limiting the movement of the slide.

2. A machine for threading tapes into buttons, buckles and like apertured articles, comprising a vertically disposed abutment for the article to rest against and having an opening, a guideway arranged horizontally, a slide mounted to reciprocate in said guideway, a tape carrier carried by said slide at the forward end thereof and having spaced tape-holding members adapted to receive and hold the tape, the said members being adapted to pass through the apertures in the articles and through the opening in the said abutment, a clamping device for fastening the tape carrier in position on the slide, a spring for holding the slide in forward position, and means connected with the slide for moving the same rearwardly.

3. A machine for threading tapes into buttons, buckles and like apertured articles, comprising a vertically disposed abutment for the articles to rest against and having an opening, a guideway arranged horizontally, a slide mounted to reciprocate in said guideway, a tape carrier at the forward end of said slide and having spaced tape-holding members adapted to receive and hold the tape, the said members being adapted to pass through the apertures in the article, and through the opening in the said abutment, means for limiting the movement of the slide, and means for holding the tape against shifting on the article during the time the ends of the tape are pulled through the apertures of the article.

4. A machine for threading tapes into buttons, buckles and like apertured articles, comprising an abutment for the article to rest against and having an opening, a reciprocating tape carrier having spaced tape-holding members adapted to receive and hold the tape, the said members being adapted to pass through the apertures in the article and through the opening in the said abutment, a finger for holding the tape against shifting on the article, and operating means connecting the said finger with the said reciprocating tape carrier to actuate the finger.

5. A machine for threading tapes into buttons, buckles and like apertured articles, comprising a fixed abutment having an opening, a reciprocating slide provided with spaced tape-holding members and adapted to pass through the apertures in the article and through the abutment opening, means for reciprocating the said slide, a spring-pressed rock shaft carrying a finger adapted to hold an article against abutment, and a yielding connection between the said rock shaft and the said slide to rock the shaft.

6. A machine for threading tapes into buttons, buckles and like apertured articles, comprising a fixed abutment having an opening, a reciprocating slide provided with spaced tape holding members and adapted to pass through the apertures in the article and through the abutment opening, means for reciprocating the said slide, a spring-pressed rock shaft carrying a finger adapted to hold the tape against shifting on the article, a yielding connection between the said rock shaft and the said slide to rock the shaft, means for limiting the sliding movement of the said slide, and means for limiting the rocking movement of the said rock shaft.

7. A machine for threading tapes into buttons, buckles and like apertured articles, comprising a vertically disposed abutment on the front face of which the article is adapted to rest, the said abutment having an opening, a horizontally arranged guideway, a slide mounted to reciprocate in said guideway, a tape carrier, means for fastening the tape carrier to the forward end of the slide, the said tape carrier having spaced tape holding members adapted to receive and hold the tape, the said members being adapted to pass through the apertures in the article and through the opening in said abutment, a spring for normally holding the slide in a forward position, means for moving the slide rearwardly against the tension of the spring, and means for limiting the forward and backward movement of said slide.

8. A machine for threading tapes into buttons, buckles and like apertured articles, comprising a table, a vertically disposed abutment against the front face of which

the article is adapted to rest, the said abutment being secured to the front of the table and having an opening, a slide mounted to reciprocate forward and backward on said table and having an extension at its rear end, a tape carrier at the forward end of said slide, the said tape carrier being adapted to pass through the opening in said abutment and through the apertured article and constructed to receive and hold a tape, a spring fixed at one end and connected at the other end with said rear extension of the slide, the said spring normally holding the slide in the forward position, and means connected with the said rear extension of the slide to move the slide rearwardly against the tension of the spring.

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

LEO ROSENMAN.

Witnesses:

THEO. G. HOSTER,

PHILIP D. ROLLHAUS.