No. 642,344. Patented Jan. 30, 1900.

S. LIPSON.

MACHINE FOR CEMENTING TOGETHER PARTS OF WATERPROOF GARMENTS.

(Application filed Nov. 4, 1899.)

(No Model.) 4 Sheets—Sheet 1.

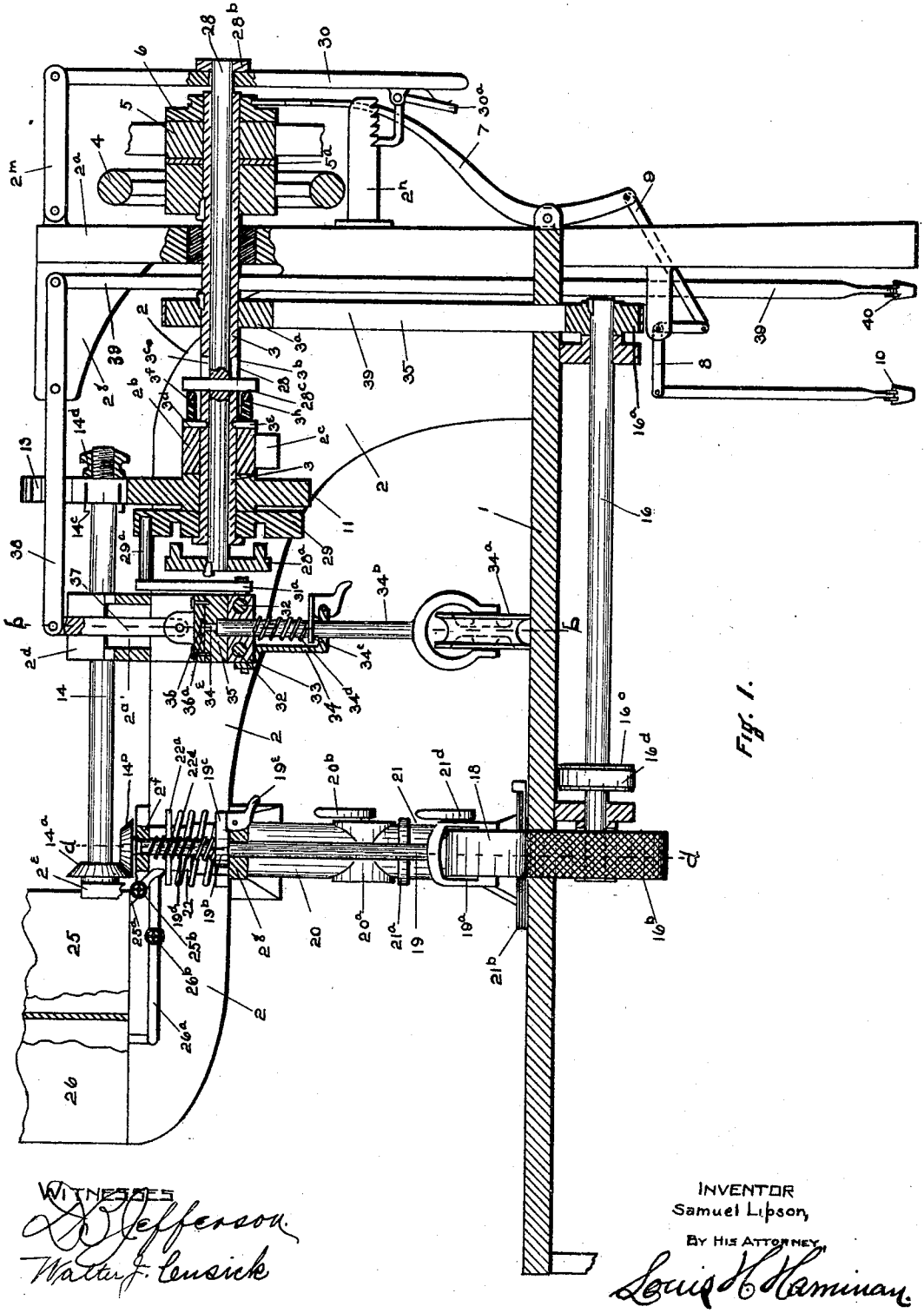


Fig. 1.

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(No Model.) 4 Sheets—Sheet 2.

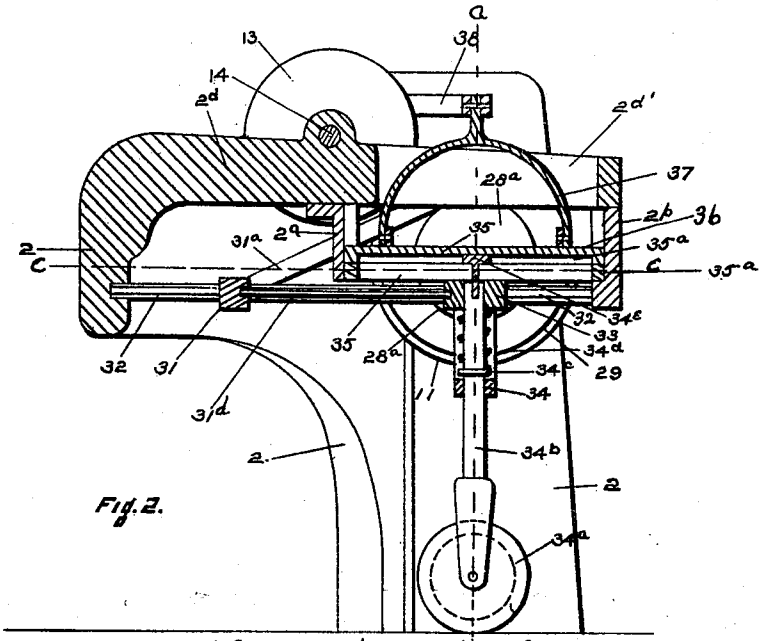


Fig. 2.

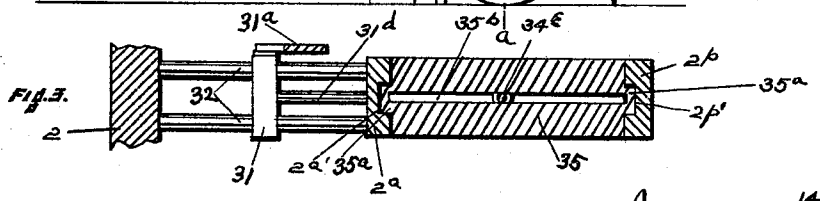


Fig. 3.

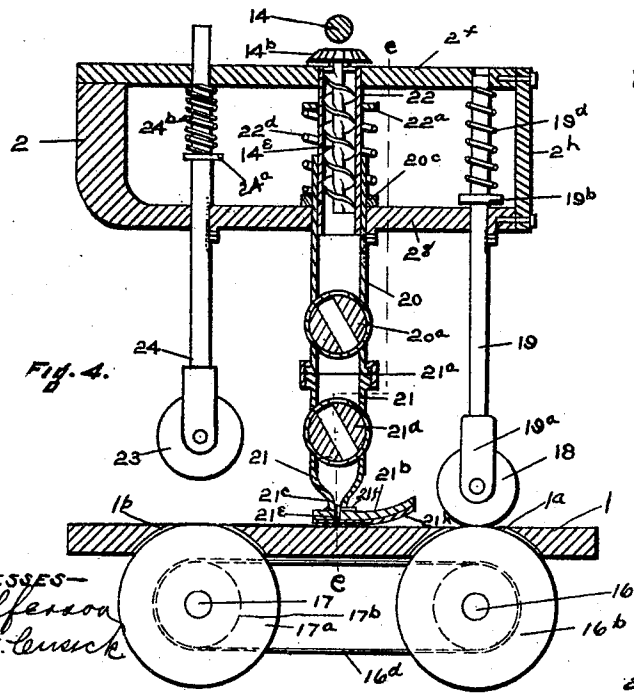


Fig. 4.

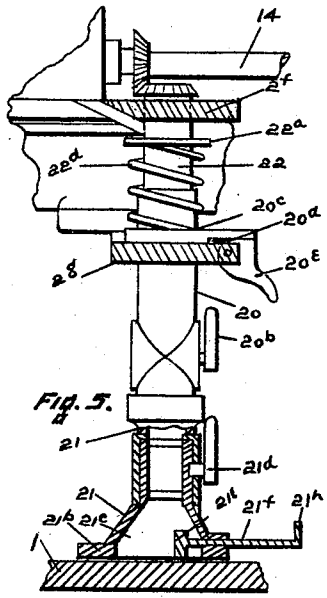


Fig. 5.

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No. 642,344. Patented Jan. 30, 1900.

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(Application filed Nov. 4, 1899.)

(No Model.) 4 Sheets—Sheet 3.

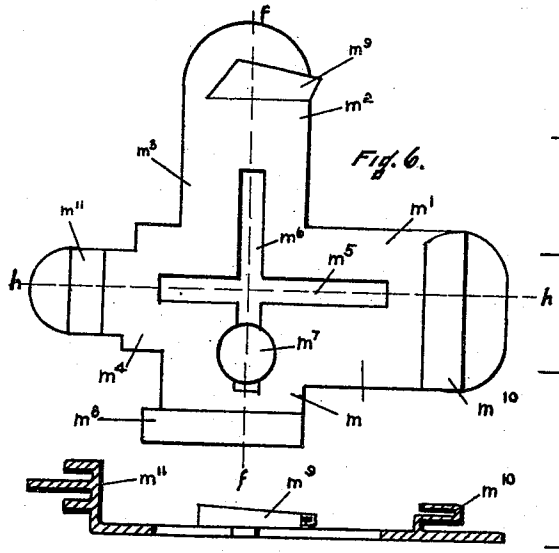


Fig. 6.

Fig. 7.

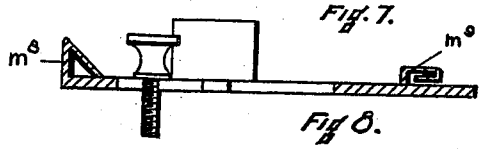


Fig 8.

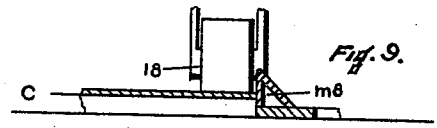


Fig. 9.

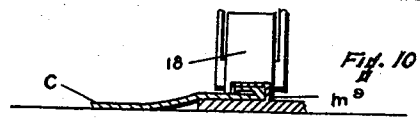


Fig. 10.

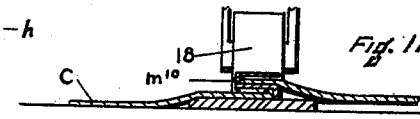


Fig. 11.

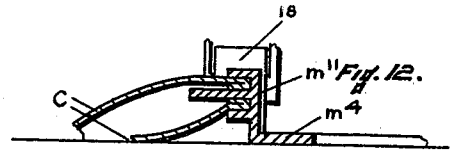


Fig. 12.

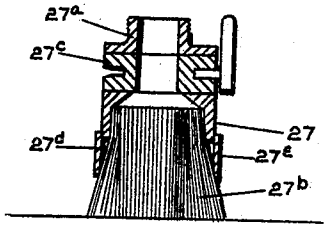


Fig. 13.

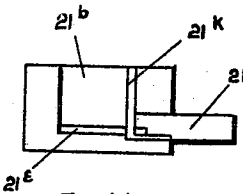


Fig. 14.

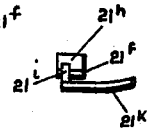


Fig. 15.

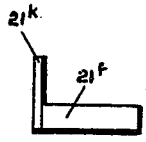


Fig. 16.

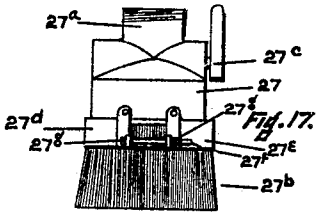


Fig. 17.

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No. 642,344. Patented Jan. 30, 1900.

S. LIPSON.

MACHINE FOR CEMENTING TOGETHER PARTS OF WATERPROOF GARMENTS.

(Application filed Nov. 4, 1899.)

(No Model.) 4 Sheets—Sheet 4.

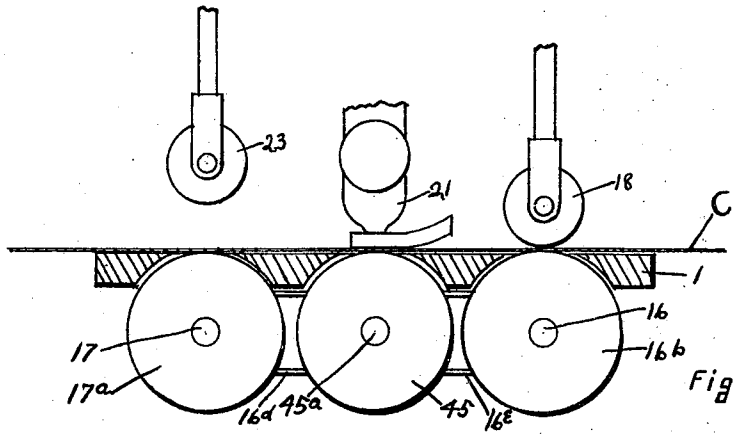


Fig 18.

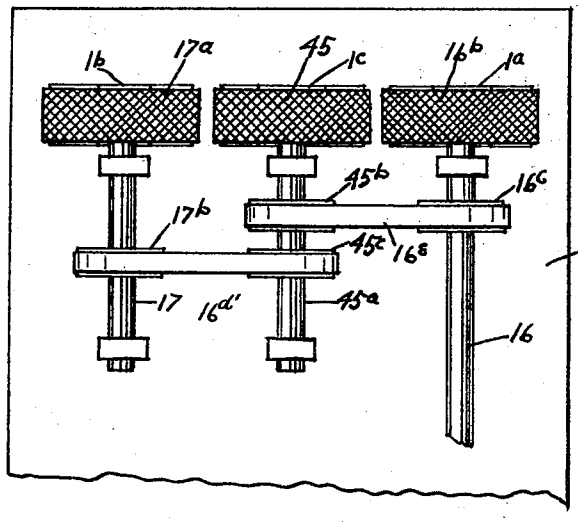


Fig. 19.

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Louis H. Harriman.

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UNITED STATES PATENT OFFICE.

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MACHINE FOR CEMENTING TOGETHER PARTS OF WATERPROOF GARMENTS.

SPECIFICATION forming part of Letters Patent No. 642,344, dated January 30, 1900.

Application filed November 4, 1899. Serial No. 735,796. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL LIPSON, a citizen of the United States, and a resident of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Machines for Cementing Together Parts of Waterproof Garments, of which the following is a specification.

Prior to my invention it has been the custom in the manufacture of waterproof garments to connect the edges of the various parts thereof by handwork, the edges of the parts to be connected being first cemented by hand with a brush and the several parts then being laid in their proper positions with respect to each other and pressed together by hand.

The object of my invention is to provide a machine which will apply the cement evenly and over the desired amount of surface at a rate which is much more rapid and in a manner which is much more satisfactory than the hand process.

A further object is to provide a machine which will firmly unite the previously-cemented parts and will clean the garment of cement which has adhered to places where it is not desired.

For a more complete understanding of my invention attention is called to the accompanying drawings, in which—

Figure 1 is a longitudinal cross-section taken on the line *a a* of Fig. 2. Fig. 2 is a cross-section on the line *b b* of Fig. 1. Fig. 3 is a cross-section on the line *c c* of Fig. 2. Fig. 4 is a cross-section on the line *d d* of Fig. 1. Fig. 5 is a cross-section on the line *e e* of Fig. 4. Fig. 6 is a plan view of a work-guide or attachment. Figs. 7 and 8 are sections taken on the lines *f f* and *h h*, respectively, of Fig. 6. Figs. 9 to 12, inclusive, are detached views in section of the several parts of the work-guide, showing their location with respect to one of the rolls and the manner in which they are used. Fig. 13 is a central cross-section, and Fig. 17 is an elevation, of the devices for applying thin cement. Fig. 14 is a bottom view of the device for applying thick cement. Figs. 15 and 16 are detail views of the adjusting-valve thereof. Fig. 18 is a partial cross-section showing a modification; and Fig. 19 is a bottom plan view of the same, showing a portion of the under side of the table.

In the drawings, 1 indicates the table of the machine, which is suitably supported in any well-known manner, and 2 an arm which extends longitudinally and diagonally of the table and has an upwardly-projecting bracket 2^a, in which a hollow shaft 3 is journaled. A balance-wheel 4 is secured to shaft 3 outside of the bracket 2^a, and a pulley 5, which is driven by a belt from the source of power, is journaled on the shaft 3 beyond wheel 4. A clutch 6, which is adapted to be moved laterally on the shaft 3 and force the hub of said pulley 5 against the wheel 4, is operated by the lever 7, which is pivoted on the table 1. Said lever 7 is connected to one end of a bell-crank lever 8 by a link 9, said lever 8 being connected at its opposite end to a treadle 10, so that when the treadle is depressed the upper end of the lever 7 will be thrown inwardly, carrying the clutch 6 with it and forcing pulley 5 against wheel 4. A friction-washer 5^a is preferably interposed between the pulley 5 and the wheel 4, so that when the pulley is pressed against the wheel the shaft 3 will be caused to rotate. This or similar mechanism is well known and forms no part of my invention. A gear 11 is secured to shaft 3 beyond the bearing 2^b, in which the shaft 3 is also journaled, said bearing being carried by a projection 2^c, extending from arm 2. Said gear 11 meshes with a gear 13, which is journaled on the shaft 14. A pin 14^c passes through shaft 14 adjacent to gear 13, and a hand-nut 14^d is screwed on said shaft on the opposite side of said gear, so that by tightening nut 14^d gear 13 will be forced against pin 14^c, locking the gear to the shaft 14, and when shaft 3 is rotated shaft 14 will be driven, and when nut 14^d is loose gear 13 will rotate loosely on shaft 14. Said shaft 14 is suitably journaled at one end in the supporting-arm 2^d, which extends from arm 2 laterally of the table 1, and in the bearing 2^e at its opposite end and is provided with a bevel-gear 14^a, which meshes with the gear 14^b. The function of this gear will be hereinafter referred to. The shaft 3 carries a pulley 3^a, about which the belt 3^b passes. A shaft 16 is suitably journaled under the table of the machine, it being provided at its right-hand end with the pulley 16^a, over which the belt 3^a passes, and a pulley 16^c at an intermediate point. Said shaft 16 carries a feed-roll 16^b at

its left-hand end, the surface of which is suitably corrugated or knurled. A shaft 17 is journaled below the table parallel to shaft 16 and carries a feed-roll 17^a, similar in all respects to roll 16^b. The table 1 is provided with suitable apertures 1^a 1^b, in which the upper portions of these rolls are located, they being located so that their uppermost points will be slightly above the level of the table. Shaft 16 carries a pulley 16^c and shaft 17 a pulley 17^b, (shown in dotted lines in Fig. 4,) both being of the same diameter. A belt 16^d, or preferably a chain, passes over both pulleys, so that each feed-roll will be driven at precisely the same surface speed. If a chain is used instead of the belt, the pulleys will be provided with suitable sprocket-teeth, as will be obvious. The arm 2 carries two laterally-projecting brackets 2^f 2^g and which extend forwardly and are connected at their front ends by the brace-piece 2^h. A roller 18 is journaled directly over the roll 16^b in arms 19^a of the stem 19, and this stem passes upwardly through the arms 2^f and 2^g. The stem 19 is provided with a collar 19^b, which has a projecting arm 19^c. A spring 19^d is interposed between said collar 19^b and the arm 2^f, so that the spring will act to force said roll 18 down on the roll 16^b. A hand-lever 19^e, having two flat surfaces arranged at right angles to each other, is pivoted to bracket 2^g, so that when the lever is thrown upwardly it will engage arm 19^c and lift the stem 19 and draw the roll 18 out of contact with the roll 16^b. A tube 20, having a foot-tube 21 at its lower end, passes through the bracket 2^g and telescopes with a tube 22, which is secured in the bracket 2^f, the tube 22 passing inside of the tube 20. The tube 20 is provided with an ordinary turning plug-valve 20^a, having a handle 20^b, so that the tube may be readily opened and closed or the passage-way therethrough be adjusted, as desired. The foot-tube 21, which is connected to the lower end of tube 20 by an ordinary union-coupling 21^a, has a foot-plate 21^b soldered or otherwise connected to its lower end. The foot-plate 21^b is turned upwardly at its forward end, as shown. The foot-tube 21 is flattened at its lower end, so as to form a narrow outlet 21^c, and a turning plug-valve 21^d is provided at an intermediate point thereof. The plate 21^b is provided with an opening 21^e, which registers with opening 21^c. (See Fig. 4.) A slide 21^f, having an upturned end 21^h, is arranged between the plate 21^b and the end of the tube 21, (see Fig. 5,) and said slide is provided at its end with a block 21^i, which fits in the end of the elongated opening in the plate 21^b and in the end of the tube 21. The end of this block 21^i is provided with a forwardly-projecting finger 21^k, which is curved to correspond with the under surface of the plate 21^b and extends from the forward end of the block 21^i. By moving the slide 21^f laterally the length of the opening 21^e may be adjusted at pleasure. The tube 20 is provided with a collar 20^e above the bracket 2^f, said collar being provided with a laterally-projecting arm 20^d. The tube 22 is provided with a collar 22^a, and a spring 22^d is interposed between said collars 22^a and 20^e. A lever 20^e, of similar form to the lever 19^e, previously described, is pivoted to the arm 2^g and is arranged so that when it is thrown upwardly it will lift the tube 20 vertically, drawing up the foot-tube 21. The collar 20^e is adjusted so that it is normally held in engagement with the arm 2^g by the tension of the spring 22^d, and in this position the lower end of the foot-tube will be held just out of engagement with the table. (See Figs. 4 and 5.) A roll 23 is journaled in the stem 24, which passes upwardly through the brackets 2^f and 2^g, said stem being provided with a collar 24^a, spring 24^b, and a lifting-lever similar to that previously described with respect to the stem 19, so that said roll 23 will be pressed against the roll 17^a or may be lifted out of engagement therewith whenever desired. The upper end of the tube 22 is connected to two cement-tanks 25 26 by the pipes 25^a 26^a, which are cemented to the side of the tube 22. Each pipe 25^a 26^a is provided with a suitable valve 25^b 26^b. Tube 22 is provided with a worm 14^e, which is secured at its upper end to the bevel-gear 14^b, so that upon the rotation of shaft 14 the worm will be driven and the cement forced through the tube at the desired rate. The tanks 25 26 contain thick and thin cement, respectively, so that thick or thin cement may be discharged into the tube 22 by properly adjusting the valves 25^b 26^b.

For the purpose of applying thin cement I employ a foot-piece of different form from the foot-tube 21 which has just been described. This device is in the form of a brush, (see Figs. 13 and 17), which may be connected to tube 20 in lieu of the foot-tube 21. A cross-section of the device is shown in Fig. 13 and a front view thereof in Fig. 17, and it consists of a tube 27, screw-threaded at its upper end 27^a, having a brush 27^b secured in the lower end thereof, so that the contents of the tube will be discharged on the upper ends of the bristles of the brush. The tube 27 is provided with a suitable valve 27^c. For reducing the width of the brush I provide two clamps 27^d 27^e, which are pivoted to the lower end of the foot-tube 27 and are arranged so that they may be drawn toward each other by any suitable means, as the bolt 27^f and nuts 27^g.

In Figs. 18 and 19 I show a modification of the arrangement of feed-rolls previously described, in which I provide an additional feed-roll 45 of the same size as rolls 17^a and 16^b, directly underneath the cement-tube 20. This feed-roll is carried by a shaft 45^a, which is arranged parallel to shafts 16 and 17. Shaft 45^a is carried by suitable bearings below the table and is driven by the pulley 16^c through the medium of a chain or belt 16^e, which passes over pulley 45^b on shaft 45^a. Shaft 45^a is also provided with a second pulley 45^c, which

drives a pulley 17^b on shaft 17. All of these pulleys are the same size, so that the feed-rolls 16^b, 45, and 17^a are all driven at the same surface speed. Roll 45 is arranged in a recess 1^c in the table and projects slightly above the surface thereof, so that when the cloth C is introduced, as shown in Fig. 18, it will be pressed between the end of the cementer 21 and the roll 45.

As previously indicated, the shaft 3 is made hollow. The interior thereof is provided with a rod 28, which passes through said shaft 3 from end to end and extends beyond each end thereof. The left-hand end of rod 28 is provided with a clutch 28^a, which is fixed thereon. A wheel 29 is free to rotate on the shaft 3. The right-hand end of rod 28 passes through a lever 30, and a collar 28^b is secured to rod 28 beyond the lever. Said lever 30 is pivoted to link 2^m in its upper end and is provided with a spring-catch 30^a, which engages a suitable ratchet 2^n upon the arm 2. When the lever 30 is thrown to the right, the rod 28 will be caused to slide longitudinally with respect to the shaft 3, so that the clutch 28^a will be carried into engagement with the wheel 29. The catch 30^a will engage the ratchet 2^n, so as to hold the parts in this position. The shaft 3 is provided with slots 3^b 3^c, through which a pin 28^c passes, said pin also passing through the rod 28, in which it is fixed. Pins 3^d 3^e are secured in the shaft 3 and are connected to the pin 28^c by springs 3^f 3^h. Said springs 3^f 3^h act normally to throw the clutch 28^a out of engagement with the wheel 29. The wheel 29 is provided with a crank-pin 29^a, which is connected to the cross-head 31 by the connecting-rod 31^a. The cross-head 31 slides back and forth on the rods 32, said rods being carried at one end in the arm 2 and their opposite ends being supported in the depending bracket 2^p, which is secured to the end of the arm 2^d. A block 33 is arranged to slide on the rods 32 and is connected to the cross-head 31 by the rod 31^a. A bracket 34 is secured to the side of said block 33, and a groove-roller 34^a is journaled in the lower end of the stem 34^b, which passes upwardly through the bracket 34 and block 33, said stem being adapted to slide freely through both bracket and block. Said stem 34^b is provided with a collar 34^c, and a spring 34^d is interposed between said collar and the block 33. The upper end of the stem 34^b is provided with a flanged pin 34^e, which is screwed centrally into the top thereof and forms a recess between the flange of the pin and top of the stem 34^b. The arm 2^d is provided with a longitudinal opening $2^{d'}$ and with two depending brackets 2^p 2^q at each side of said opening. Said brackets are provided with central vertical grooves $2^{p'}$ $2^{q'}$, (see Fig. 3,) forming ways for the lifting-block 35, which is provided with suitable side ribs 35^a, which engage said grooves. Said block is also provided with a longitudinal slot 35^b, which is of sufficient width to permit the ready passage of the shank of pin 34^e therethrough. A cap-piece 36 is secured to the top of lifting-block 35, it being of the same shape as the latter. A longitudinal groove 36^a is provided in the under side of cap-piece 36, in which the head of the pin 34^e may slide. A perforated link 37 is attached to cap-piece 36, and this link is in turn connected to a lever 38, which is pivoted on bracket 2^g. A rod 39 is connected to the opposite end of lever 38, and the lower end of said rod is connected to treadle 40.

The manner of using the machine as thus far described is as follows: In forming a seam between two pieces of waterproof garment which are to be connected one edge is turned under or hemmed and the other edge is then cemented to the turned-under edge of the piece first mentioned. Before turning under the edge it is desirable that the lining be firmly cemented to the waterproof portion of the cloth, it being necessary that either this be done or the lining be stripped off next the edge. A thin cement which will penetrate the lining is preferably used for this purpose, and to apply this cement I attach the foot-tube 27, which carries the brush 27^b, to tube 20. Valve 25^b is closed and 26^b is opened, so that thin cement will be discharged into tube 22. The roll 23 is lifted and the edge of the cloth is placed under the brush 27^b with the lining side up. The reason for lifting roll 23 is to prevent its picking up the cement after the latter has been applied to the cloth. The valve 20^a is adjusted to the desired point, the valve 21^d is opened, and as soon as the cement begins to run through the brush the machine is started, causing the shafts 16 and 17 to rotate the feed-rolls 16^b 17^a forward. The feed-roll 16^b, acting against the spring-pressed roll 18, will draw the cloth along and feed it to the brush. As waterproof cloth is generally thick and stiff, the pressure of the brush thereon will cause the back feed-roll 17^a to engage the cloth with sufficient force to draw it under the brush. When the machine is designed to cement pieces of thin gossamer, it is necessary to provide the third roll 45 directly under the brush of the cementer 21, as shown in Fig. 18. The action of spring 22^d causes the brush or cementer to force the cloth against the roll 45 with sufficient force to prevent any liability of the cloth not being properly fed along. As the feed-rolls draw along the cloth the brush will apply a coating of cement along the edge thereof, which will cement the lining to the rubber. After a suitable number of pieces have been thus treated the valves are closed and the brush lifted or removed. The edge of the cloth is turned over and the roll 23 is lowered. The bent-over portion or hem is then passed between the rolls 18 and 16^b and 23 and 17^a, pressing the hem down flat and causing the bent-over portion to adhere firmly to the main body of the cloth, and as the thin cement penetrates the lining all contacting parts will be firmly

cemented together. In order that the amount of cement applied be as nearly uniform as possible, the worm 14^e is brought into operation by tightening the nut 14^d, so that the gear 13 will be firmly locked to the shaft 14. The shaft 14 is thus driven by the gear 11 on shaft 3, driving bevel-gears 14^a 14^b and causing the worm to rotate and force along the cement. When the rolls alone are used and the cement-tube is lifted out of action and closed, the nut 14^d will be loosened, so that gear 13 will rotate freely on shaft 14, and the worm will not be driven. After the edge is turned under and cemented down the foot-tube 21 is substituted for the brush and valve 25^b is opened and valve 26^b is closed. The roll 23 is lifted, nut 14^d is tightened, and the opening 21^e in the foot-tube 21 is adjusted by slide 21^f so that the opening is of substantially the same width as the hem. The cloth is placed face down on roll 16^b, and the turned-in part is fed directly under the opening 21^e. The cement will at the same time be forced down by the worm 14^e, so that a coating of cement will be applied to the inner side of the hem. It is possible to do this at the same time that the hem is pressed down. The outer edge of the piece which is to be connected to the hem portion is then treated in the same manner, a line of cement being applied along the edge on the face side thereof. The cement is then allowed to partially dry, and after it is dried sufficiently to set quickly the tube 20 is raised and closed, the roll 23 is lowered, and the two pieces which are to be connected are laid in their proper relation and passed under the rollers, as before explained. The result is that the two pieces are pressed together and firmly connected by the cement. After the seam has been made between the two parts the whole inside of the seam is coated with cement, so that the ordinary strapping, which is used to cover up the seam, may be readily applied. In connecting two pieces which are to be connected, so as to form a facing, both edges are turned under and cemented down with thin cement, as before described, and the turned-under portions are then cemented together.

After the garment is completed there is liable to be cement at various places on the garment which must be removed. To remove this cement, I employ the wheel 34^a. The groove in the wheel is at first filled with cement, so that when the wheel is pressed on and moved over the portions covered by the cement it will take up the cement by adhesion. To move the wheel 34^a back and forth, the lever 30 is thrown to the right, so that the clutch 28^a will be thrown into engagement with the wheel 29. This will cause wheel 29 to rotate with shaft 3, so that the block 31 will be reciprocated, carrying with it the guide-block 33. The lateral reciprocating motion of block 33 on the rods 32 will draw the stem 34^b back and forth, and with it the cleaning-wheel 34^a, so that it will run over the surface of the table. At the time this operation is being carried out the rolls 18 and 23 are lifted and also the cement-tube 20. When it is desired to place the garment under the roller 34^a or move it to any particular position, it may be lifted by means of the foot-treadle 40, so that the cloth may be placed at any desired point under the roller without inconvenience. When the cleaning-wheel is not to be used, it will be lifted out of action by hand-lever 34^f and the catch 30^a will be withdrawn, so that the springs 3^c 3^h will draw the clutch 28^a out of action.

In order to guide the cloth as it is passed under the cement-tube, I provide attachment M, which is shown in the plan in Fig. 6 and in the cross-sections of Figs. 7 and 8. The attachment is provided with four arms m' m^2 m^3 m^4, which carry different forms of guides which may be used at various stages in the operation. Two connected slots m^5 and m^6 are shown in the middle of the attachment, and a screw m^7 is provided for clamping the attachment onto the table in any desired position with respect to the said roll 18 or cement-tube 20. The arm m carries a simple guide m^8. This guide consists of a straight vertical face, against which the edge of the cloth is held as it is passed under the cement-tube. (See Fig. 9.)

m^9 indicates a simple form of hemmer, which is used as a guide when the edge is to be turned in and is shown with the turned-in edge of the cloth passing therethrough in Fig. 10. The seamer m^{10} consists of a metal strip, which projects upwardly from the bottom of the attachment and is then bent horizontally, then vertically, and then horizontally in the opposite direction, so that two horizontal slots are formed between the bottom plate and the horizontal portions, which are open at opposite sides. The width of the upper slot is about half that of the lower.

The manner of using the seamer m^{10} is shown in Fig. 11. The points of contact having been previously cemented, as before described, the piece of cloth bearing the hem is placed so that the hem will be in the lower horizontal slot, and the other piece which is to connected thereto is arranged so that its edge will be in the upper slot. Each piece will therefore extend to each side of the rolls, and by pressing the pieces toward each other into the guide the latter will hold them in their proper relations while they are being pressed together.

The facing-setter m^{11} shown in Figs. 7 and 12 is designed to act as a guide when it is wished to connect two edges which are to form the edge of a facing. It consists of a single vertical projection having three horizontal projections on the same side, forming two horizontal slots which open from the same side. The turned-in or hemmed edges of the cloth are placed in the horizontal slots of the facing-setter, the edges having been previously cemented down, as before described,

and cement having also been applied to the outside of the hem, so that the edges as they leave the setter will be even or flush. As they pass under the rolls they will be pressed together and cemented in their proper relations.

Although I have described certain specific mechanism for carrying out the various functions mentioned previously, yet many mechanical changes could be made in this mechanism without departing from the spirit of the invention.

Having described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is as follows:

1. A machine for the purpose described, consisting of a table, a main driving-shaft, a feed-roll which is driven thereby, an opening in said table in which said roll rotates, a tube which is adapted to conduct a liquid cement to the table in the rear of said feed-roll, and means for yieldingly holding the end of said tube in proximity to said table.

2. A machine for cementing the edge of cloth which consists of a table, a tube, means for yieldingly holding the end thereof in proximity to said table, means for discharging cement into said tube, and means for feeding cloth under said tube.

3. A machine for cementing the edges of cloth consisting of a table, a tube, means for yieldingly holding the end of said tube in proximity to the table, means for lifting said tube, means for conducting cement therethrough and means for feeding the cloth under said tube.

4. A machine for cementing the edges of cloth, consisting of a table, a tube which is adapted to conduct cement to the surface thereof, means for varying the position of the discharge end of said tube, means for varying the width of the surface on which said cement is discharged, and means for feeding the cloth under said discharge end.

5. A machine for cementing the edges of cloth consisting of a table, a fixed tube, a movable tube which telescopes therewith, a spring which acts to force said movable tube in proximity to said table, means for lifting said movable tube and holding the same away from said table, means carried by said movable tube for applying cement to said cloth and means for feeding said cloth.

6. A machine for cementing the edges of waterproof cloth consisting of a table, a fixed tube, a movable tube which telescopes therewith, means for pressing said movable tube in proximity to said table, a cement-tank which is connected to said fixed tube, means for forcing the cement through said tubes, means for feeding the cloth over the table, means carried by said movable tube for applying cement to said cloth as it is passed over the table and means for regulating the passage of cement through said tubes.

7. In a machine for cementing the edges of cloth, a table, a main shaft, a feed-roll which is journaled below said tube and driven by said shaft, an opening in said table in which said roll is located, a freely-rotating roll which is journaled above said table and is adapted to be yieldingly held in contact with said feed-roll and means for lifting and holding said freely-rotating roll out of engagement with said feed-roll.

8. In a machine for cementing the edges of cloth, a table, a cement-tube having one end arranged in proximity to said table, a foot-piece which is detachably secured to the end of said tube, a narrow discharge-passage in the bottom thereof, a plate secured to the bottom of said foot-piece at substantially right angles thereto, an aperture therein which registers with the opening in the end of said foot-piece, a slide for regulating the length of said aperture, and means for feeding the cloth under said foot-piece.

9. A device for removing cement from waterproof garments, consisting of a table, a freely-rotating cleaning-wheel, means for yieldingly forcing the same against said table, means for reciprocating said wheel over the surface of the table, and foot-operated means for lifting said wheel from the table.

10. A device for removing cement from waterproof garments consisting of a table, a freely-rotating cleaning-wheel, means for yieldingly forcing the same against said table, means for reciprocating said wheel over the surface of said table, foot-operated means for lifting said wheel from the table and hand-operated means for lifting said wheel which are adapted to hold the same away from the table.

11. A device for removing cement from waterproof garments consisting of a table, a freely-rotating cleaning-wheel, having a groove in its periphery, means for yieldingly forcing the same against said table and means for reciprocating said wheel over the surface thereof.

12. A machine for the purpose described consisting of a cement-tube for conducting cement to the work, a feed-roll located directly under the outlet of said tube, spring-actuated means for pressing said tube against said roll and means for rotating said feed-roll so that the cloth will be drawn between said roll and said tube.

13. In a machine of the class described means for guiding two pieces of cloth which are to be pressed together consisting of a base-piece, a projection carried thereby which is shaped so as to form two horizontal slots, the bottoms of which are so arranged that when the edges of the two pieces of cloth are placed therein, against the bottoms of the slots, they will be held in their proper positions with respect to each other.

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

SAMUEL LIPSON.

Witnesses:
LOUIS H. HARRIMAN,
FOREST T. SEAWARD.