S. LIPSON.

CEMENT APPLYING DEVICE.

APPLICATION FILED JULY 6, 1918.

1,288,941. Patented Dec. 24, 1918.

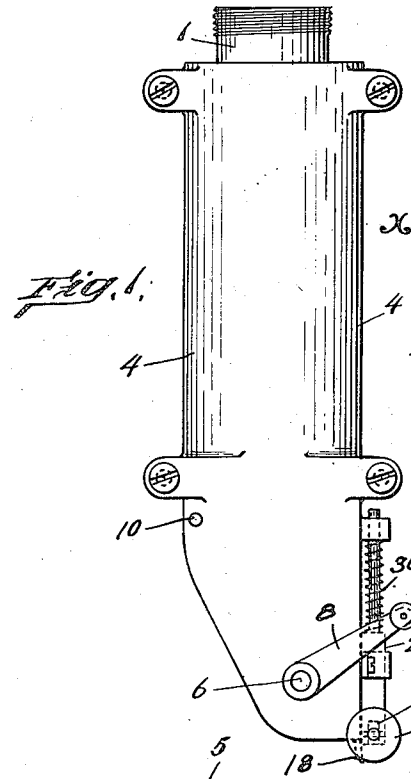


Fig. 1.

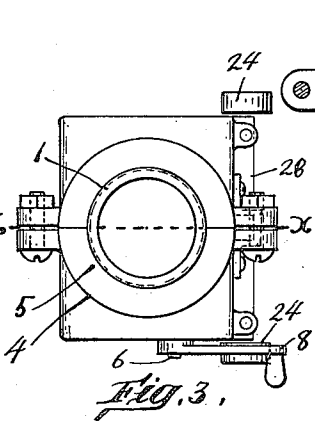


Fig. 3.

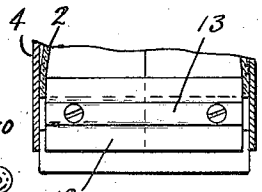


Fig. 7.

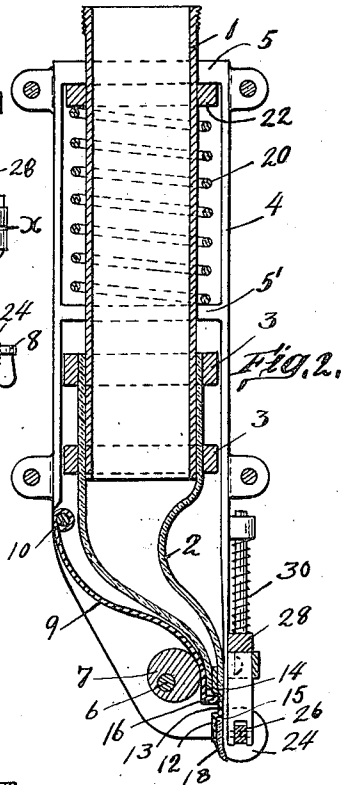


Fig. 2.

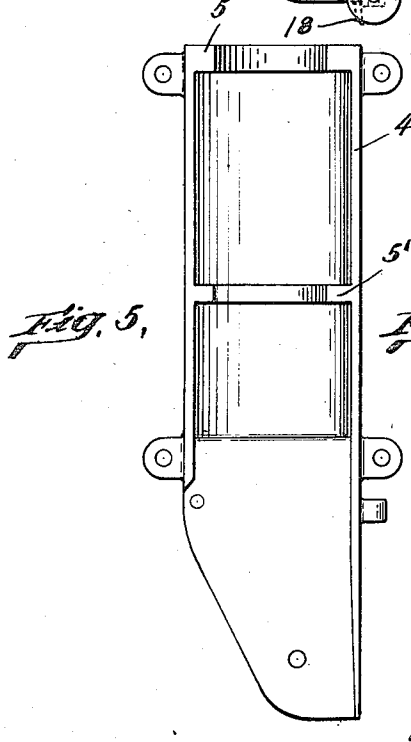


Fig. 5.

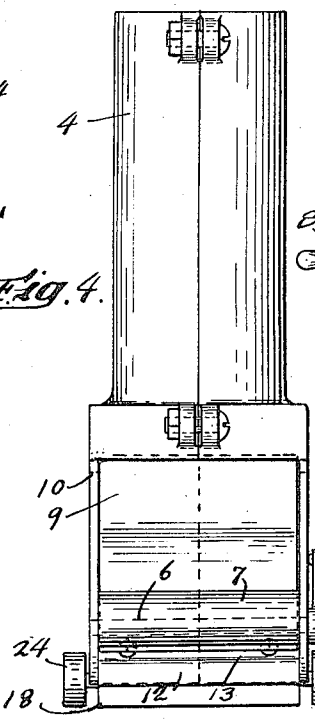


Fig. 4.

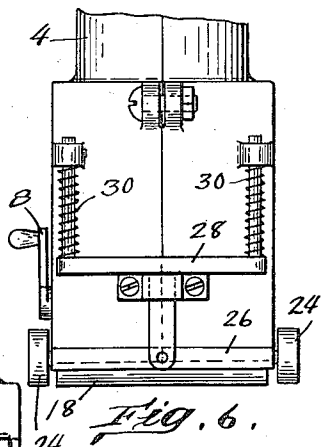


Fig. 6.

Inventor:
Samuel Lipson
by H. H. Cammann
Atty.

UNITED STATES PATENT OFFICE.

SAMUEL LIPSON, OF EAST SAUGUS, MASSACHUSETTS, ASSIGNOR OF ONE-FOURTH TO HARRY ROSENBERG, ONE-FOURTH TO JACOB ROSENBERG, AND ONE-FOURTH TO HENRY H. LEVENSON, ALL OF BOSTON, MASSACHUSETTS.

CEMENT-APPLYING DEVICE.

1,288,941. Specification of Letters Patent. Patented Dec. 24, 1918.

Application filed July 6, 1918. Serial No. 243,597.

To all whom it may concern:

Be it known that I, SAMUEL LIPSON, a citizen of the United States, and resident in East Saugus, in the county of Essex and State of Massachusetts, have invented an Improvement in Cement-Applying Devices, of which the following is a specification.

This invention relates to certain improvements in the cement applying means of machines for cementing the seams of waterproof garments, and more particularly to improvements on the means shown in my prior Patent No. 1,089,236 of March 3, 1914.

The object of the present invention is to improve prior devices by providing means whereby the cement will be more uniformly distributed over the work, and at the same time the drag or frictional resistance of the cement distributing means on the work will be decreased.

A further object is to improve the means for controlling the flow of cement, so that the exact quantity desired under different conditions, may be delivered, and the flow of cement may be cut off altogether, at a point closely adjacent the point of delivery, so that cement will not be wasted, or discharged, when not desired, and so that the surfaces, over which the cement flows, and which are exposed to the air, will be reduced to a minimum.

Other objects are to improve the construction of said prior device in various particulars, as will hereinafter appear.

I accomplish these objects by the means hereinafter described and illustrated in the accompanying drawings, in which:—

Figure 1 is a side elevation of a cement delivery and applying nozzle or attachment, showing a preferred embodiment of my invention:

Fig. 2 is a central vertical section thereof at the line *x*—*x* of Fig. 3:

Fig. 3 is a top plan view, and

Fig. 4 is a front elevation, thereof:

Fig. 5 is a detail view of one of the casing sections:

Fig. 6 is a rear elevation, and

Fig. 7 is a detail view of the tube-holding clamp.

The herein-described device is designed for use in connection with a machine such as is disclosed in my prior Patent #1,051,136 of Jan. 21, 1913, and in which a metal tube 1 is provided, which is adapted to be securely attached to a reservoir containing liquid cement, and preferably provided with means for mechanically forcing the cement into said tube, so that a uniform discharge will be assured according to the extent to which the discharge orifice is opened.

According to my invention, a short length of hose pipe 2, of rubber, woven cotton or other flexible material, and adapted to be bent and collapsed, is slipped onto the lower end portion of the tube 1 and a tight connection is formed therebetween by clamps 3, or other suitable means. A casing 4 is provided which is preferably made in two parts bolted together and which is adapted to receive the tube 1 and hose pipe 2. The upper portion of said casing is cylindrically formed and provided with an inwardly projecting flange 5 at its upper end and a similar flange 5′, adjacent its middle portion, said flanges being bored to fit and slide freely on the upper portion of the tube 1. The lower portion of the casing 4 is made approximately square in cross-section, to provide a flat rear wall, and flat side walls, the portion of the casing at the front being open and the front edges of the side walls being rearwardly inclined.

A shaft 6 is rotatably mounted in the side walls of the casing and a cam 7 is mounted thereon, midway between said side walls, said shaft having a handle 8 on its outer end for rotating the same. A tongue, 9, is mounted to swing on a pivot 10, supported in the casing side walls at a substantial distance above the shaft 6, and extends downwardly between said cam 7 and the lower end of the hose pipe 2. Said tongue 9 extends throughout nearly the entire width of the space between the casing and is reversely curved, so that it extends rearwardly as it extends downwardly, and is held so that its lower end portion depends nearly vertically. A clip 12 is provided, consisting of a flat plate having its middle portion offset to form a longitudinal groove 13 on one side, and corresponding shoulders 14 and 15 on the opposite side. The length of said clip corresponds to the diameter of the hose pipe 2, when pressed flat, or collapsed, and one flat portion thereof at one side of said groove is inserted in the end of

said pipe, so that the end of the latter bears against the adjacent shoulder 14. Said clip is clamped against the inner side of the rear wall of the casing by means of screws, which pass therethrough, from the bottom of the groove therein, into said rear wall, so as to clamp approximately one-half of the lower end-portion of the pipe 2 against the rear wall of the casing and provide a flat surface within the pipe against which the other half portion of the pipe may be pressed.

With the above described construction, therefore, when the shaft 6 is rotated, so that the cam 7 thereon will operate to swing the tongue 9 rearwardly, the latter will press the adjacent half-portion of the pipe against the adjacent face of the clip 12, so as to close the lower end of the pipe completely. The tongue 9 is provided with a lip 16 on its lower end, which extends at right angles thereto, in position to pass into the groove 13 of the clip 12, in close engagement with the upper side of said groove, to cut off the flow of cement directly beneath the end of the pipe 2.

A spreading lip 18, of readily flexible, resilient material, such as soft rubber, is clamped against the inner side of the rear wall of the casing 4 by the lower portion of the clip 12, and depends below the lower end of said wall a suitable distance, said lip also being of sufficient length to extend from one side wall to the other of the casing, so that cement issuing from the pipe 2 will be delivered in front of said lip and be forced to pass beneath the same as it is discharged onto the work, and the work is carried beneath it.

A coil-spring 20 is arranged on the tube 1 between a collar 22 secured on the tube, and the inwardly projecting flange 5, so that the spring 20 acts to press the casing downwardly and normally holds the flange 5 against the upper side of collar 22, the casing, therefore, being adapted to yield upwardly against the action of the spring 20. A pair of friction rollers 24 are mounted on the lower end of the casing, said rollers being journaled on a cross-bar 26, which is connected to a yoke 28, slidably mounted on the rear wall of the casing and adapted to yield upwardly against the action of springs 30 thereon.

When the above described device is employed in connection with a machine of the type above referred to, if the cam 7 is thrown rearwardly, so as to force the tongue 9 against the lower end of the pipe 2, it will collapse the latter and cause the front portion thereof to be seated firmly against the surface of the clip 12, thereby completely preventing the discharge of cement. By moving the cam 7, so as to relieve the pressure on the tongue 9, the discharge of cement throughout the entire width of the pipe 2 will be permitted and the cement will flow down in front of the lip 18 in a thin, wide sheet, and be spread thereby uniformly throughout the length thereof. The force with which the lip 18 is pressed against the work will largely depend on the balance between the downward action of the spring 20 and the supporting action of the springs 30, so that, by adjusting the position of the collar 22 on the tube 1, this force may be varied or adjusted as desired and the frictional engagement of the lip with the work regulated.

The flow of cement may thus be accurately regulated, and may be cut off at a point in close proximity to the work, so that the operator may close the delivery pipe as he reaches the end of the seam without causing waste of cement. The device may also be easily cleaned, as the cement-carrying surfaces which will be exposed to air when the machine is not in use, are readily accessible and of small area.

As the spreading lip, if of rubber, will, in time, be dissolved by the solvent used in rubber cement, it may be readily removed, by loosening the clip 12, and another substituted.

I claim:

1. A cement applying device comprising a flexible pipe having means to supply liquid cement thereto; supporting means for holding the discharge end of said pipe in proximity to the work, and means carried by said supporting means for pressing the walls of said pipe together at its discharge end.

2. A cement applying device comprising a rigid cement supplying tube having a flexible pipe connected to its discharge end, a support mounted on said tube, and means carried by said support for pressing the walls of said flexible pipe together to control the discharge therefrom.

3. A cement applying device comprising a support having means to hold the same in proximity to the work, a flexible pipe having means to supply liquid cement thereto, and having its discharge end connected to said support, and means carried by said support for compressing the discharge end of said pipe to control the discharge therefrom.

4. A cement applying device comprising a cement supplying tube adapted to be stationarily supported, a casing yieldably mounted thereon, a flexible pipe connected at one end to said tube to receive the discharge therefrom and at its opposite end to said casing in position to deliver cement to the work, and means on said casing for compressing said pipe at its discharge end to control the discharge therefrom.

5. A cement applying device comprising a flexible pipe having means to supply liquid cement thereto, a support for one side of

said pipe at its discharge end arranged to form a seating surface and to hold said end in proximately to the work, a presser plate disposed oppositely to said seating surface and means carried by said support for forcing said plate toward said seating surface, to control the discharge from said pipe.

6. A cement applying device comprising a flexible, collapsible pipe having means to supply liquid cement to the upper end thereof and to sustain said end in a relatively fixed position, a support connected to the lower end of said pipe and having a seating plate arranged to engage the lower end portion thereof at one side, means on said support to engage the opposite side of said pipe to compress the same against said seating plate, and spring actuated means permitting said support to yield upwardly.

7. A cement applying device comprising a stationary support, a flexible cement-spreading lip carried by said support in position to drag on the work, as the latter is fed therebeneath, and means to feed liquid cement in front of said lip.

8. A cement applying device comprising a flexible pipe having means to supply liquid cement thereto, supporting means for holding the discharge end of said tube in proximity to the work, a flexible cement spreading lip carried by said supporting means in position to drag on the work as the work is fed therebeneath, and to receive cement from said pipe in front thereof, and means to compress said pipe at its discharge end to control the flow of cement therefrom.

9. A cement applying device comprising a collapsible pipe having means to supply liquid cement to the upper end thereof, a support having a seating plate arranged to engage one side of said pipe in proximity to its lower end, means carried by said support to collapse said tube against said seating plate, a cement spreading lip removably connected to said support and extending from the normally seated side of said pipe in position to drag on the work and to receive cement from said pipe as it is discharged therefrom.

10. A cement applying device comprising a collapsible pipe having means to supply liquid cement to the upper end thereof, a support arranged at one side of the lower end of said pipe, a plate insertible within the pipe for clamping one side portion thereof against said support and providing a seat for the opposite side portion thereof, means on said support for forcing the latter side portion against said seat, a flexible spreading lip and means to clamp the same against said support directly beneath the end of the clamped side portion of said pipe.

In testimony whereof I have signed my name to this specification.

SAMUEL LIPSON.