T. G. PLANT.

CANVAS CEMENTER.

APPLICATION FILED JUNE 11, 1909.

958,284. Patented May 17, 1910.

Fig. 1.

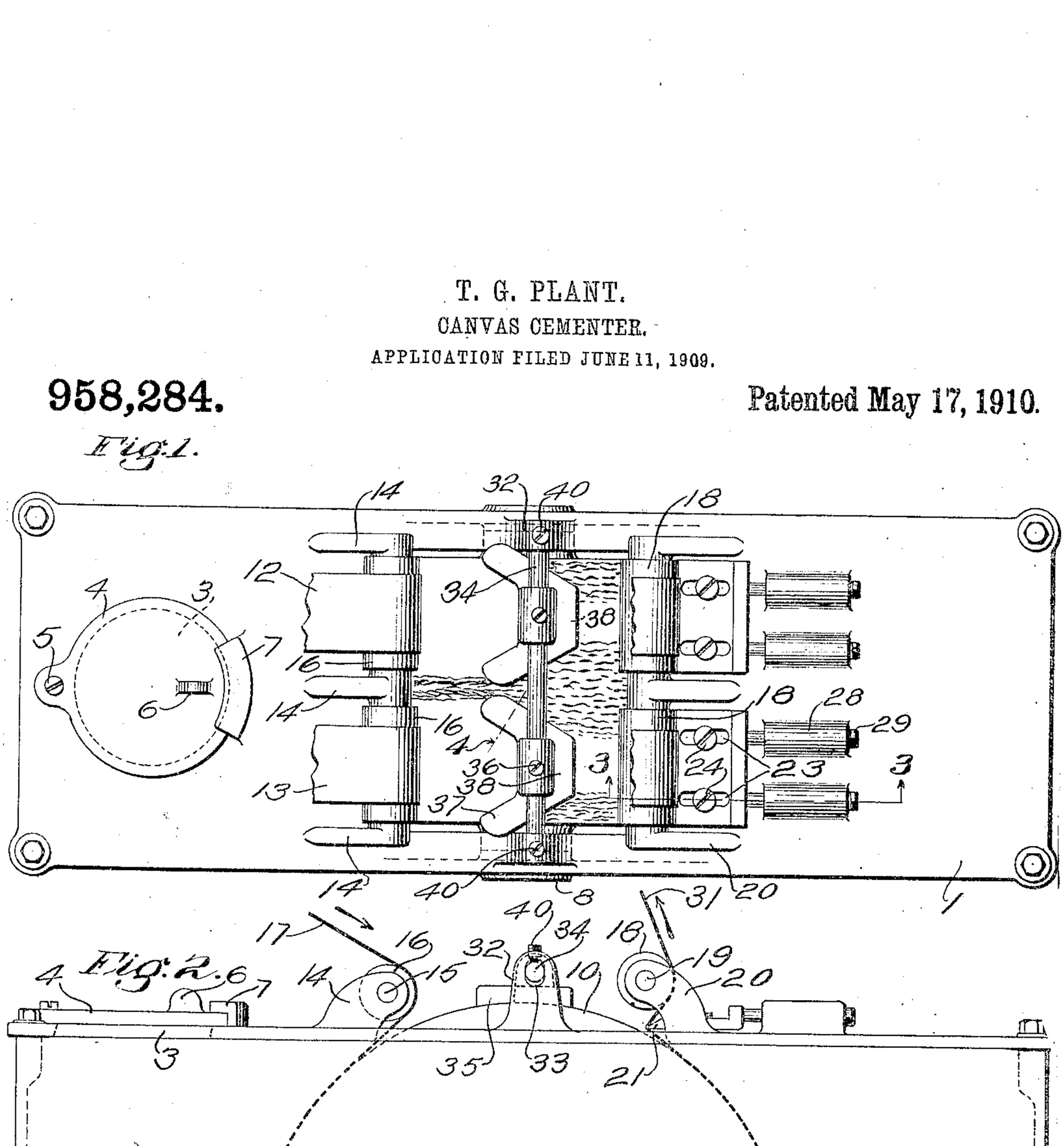

Fig. 2.

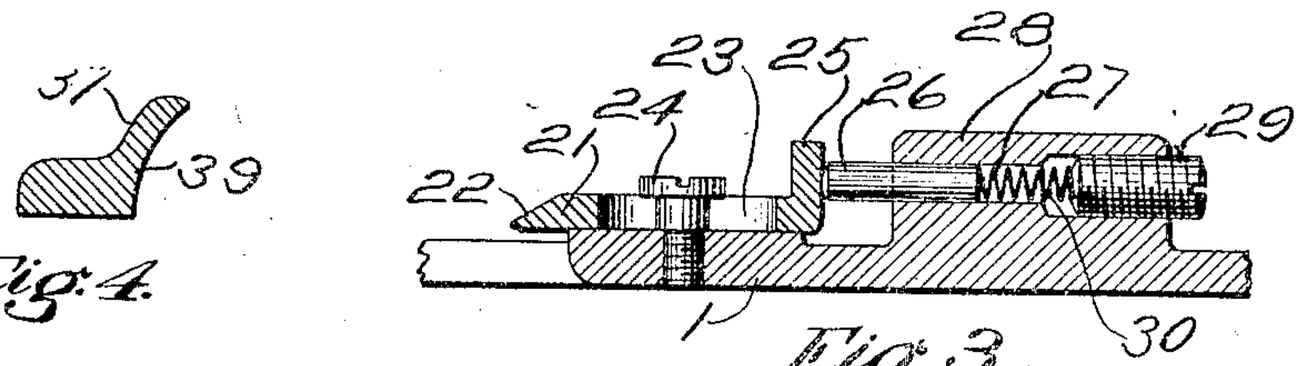

Fig. 4.

Fig. 3.

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CANVAS-CEMENTER.

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To all whom it may concern:

Be it known that I, THOMAS G. PLANT, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented an Improvement in Canvas-Cementers, of which the following description, in connection with the accompanying drawings, is a specification, like numerals on the drawings representing like parts.

The invention to be hereinafter described relates to canvas cementers and more particularly to those devices for applying cement or other adhesive material to a strip of fabric, such as canvas or the like, which is to be applied as a reinforce to the insoles of boots and shoes.

The aims and purposes of the invention are to provide a simple device of this character which will effectively apply cement or other adhesive material to one surface of the canvas or fabric to be treated.

The characteristics of the invention will best be understood from the following description and accompanying drawings of one form or embodiment thereof, it being understood that the invention in its true scope is clearly defined by the claims.

In the drawings, Figure 1 is a top or plan view of an apparatus embodying the present invention; Fig. 2 is a side elevation thereof; Fig. 3 is a section on line 3—3 of Fig. 1; and Fig. 4 is a section on line 4 of Fig. 1.

Having reference more particularly to Figs. 1 and 2, 1 is a tank or other suitable receptacle for containing the cement or other adhesive in liquid form and is preferably provided with supporting feet 2 by which it may be sustained on a proper bench or table, if desired. The upper surface of the tank is provided with an opening 3, Figs. 1 and 2, preferably closed by a swinging cover 4 pivotally mounted at 5 on the top of the tank and provided with a handle or lug 6 by which it may be swung to one side for the purpose of uncovering the opening 3 for the supply of the adhesive or cement. An overhanging lip 7 may be provided for engaging the free end of the cover or plate 4.

Mounted on suitable bearings 8 preferably sustained by the sides of the tank 1 is a shaft 9 carrying a large plane surface roller 10, said roller preferably dipping down into the cement or other adhesive material, the height of which in the tank 1 is shown by the dotted line 11, Fig. 2. This roller 10 constitutes one convenient form of supporting surface for the fabric upon which the fabric is pressed by its pulling or drawing action as it passes about said surface, so that the liquid cement does not penetrate the fabric and get to the said surface, it being noted that said surface, whether movable or fixed, has closely contacting therewith, throughout the entire extent of said surface beneath the cement, the closely drawn fabric. In other words the supporting surface where it dips into the cement is covered and protected by the fabric, one surface of which is to be coated. For convenience of identification the said surface may be termed a supporting element for the fabric extending into the liquid in the tank.

The large roller 10 is preferably of sufficient length in an axial direction to provide for the application of cement or other adhesive to the two strips of fabric or canvas 12, 13 simultaneously or otherwise.

Mounted upon suitable projecting lugs 14 on the top of the tank is a shaft 15 carrying rollers 16 about which the fabric 17 passes from a source of supply in the direction of the arrow toward the roller 10.

Mounted on the opposite side of the roller 10 are the rolls 18 substantially the same as the rolls 16, said rolls 18 being sustained by a shaft 19 supported by lugs 20 projecting upwardly from the top of the tank 1. The lugs 20 are preferably somewhat longer than the lugs or bearing supports 14 so as to accommodate beneath the rollers 18 the scrapers 21.

The preferred form of the scraper is best shown in Fig. 3, wherein it is formed of a plate having a beveled end 22 and slots 23 through which pass the guiding screws 24 which are screw threaded in the top of the tank 1, the construction being such that the scraper is free to move back and forth on the guide screws 24. The rear portion of the scraper is provided with an upturned flange 25 against which bears the end of a plunger 26 movable longitudinally in a slot 27 formed in a bearing 28 projecting from the top of the tank. Screw threaded into the rear part of the projection 28 is an adjusting screw 29 between the end of which and the plunger 26 is a spring 30 which acts normally to force the plunger 26 forward or to the left, Fig. 3, and the scraper 21 toward the roll 10 and well under the guiding rolls 18, the construction being such that as the

fabric passes in the direction of the arrow, Fig. 2, about the roll 16 and the roll 10 in the tank 1 and emerges from the tank over the edge of the scraper 21 and about the rear of the roll 18, the scraper 21 will remove from the face of the fabric all surplus cement or other adhesive which will run back into the tank.

It will be noted that the rolls 16 and 18 are separated by a distance less than the diameter of the roll 10, the effect of which is that the fabric 17 in passing around the roll 10 and through the liquid cement or adhesive clings fast to the smooth surface of the roll 10, so that the surface of the fabric next to the roll is protected from the action of the cement or adhesive. In order that this action may be more effective, the fabric is preferably drawn in the direction of the arrows by an appropriate means applied to the exit portion of the fabric at 31.

Rising from each side of the tank is a bearing 32, Figs. 1 and 2, having a slot 33 for a rod 34 which supports a plow or wiper 35, said plow or wiper 35 being connected to the rod 34 by means of a screw or other supporting means 36, the construction being such that the plow or wiper 35 may be forced against the smooth surface of the roll 10 with sufficient energy to wipe therefrom any cement or adhesive that may find its way to the surface of the roll 10.

The plow 35 is preferably formed as indicated in Figs. 1 and 4, the bearing surface next the roll 10 being curved in conformity with the curvature of the roll 10 and the side portions 37 being flared outwardly so that any adhesive or cement coming to the wiper or plow 35 will first meet the front portion 38 of the plow and, as the roll 10 revolves, be wiped or plowed toward the edge or central portion of the roll 10, as indicated in Fig. 1, whereby the surface of the roll 10 is kept substantially clean and free from adhesive.

By reference to Fig. 4 it will be noted that the sides of the wing portions 37 rise in a curve 39 from the surface of the roll 10 so that they are effectually removed of cement or adhesive sidewise of the roll 10 and without danger of such adhesive flowing over the top of the wing portions of the plow or wiper.

In order that the plow or wiper 35 may be forced with sufficient energy upon the top of the roll 10 to effectually maintain it free or clear from the adhesive, the bearings 32 have screw-fitted thereinto the adjusting screws 40, Figs. 1 and 2, the construction being such that upon proper manipulation of these adjusting devices the rod 34, and consequently the plow carried thereby, may be forced into close contact with the roll 10.

What is claimed is:

1. In a device for applying an adhesive to one surface of a strip of canvas for application as a reinforce for insoles of boots and shoes, the combination of a tank for containing a liquid adhesive, a supporting element for the fabric extending into the liquid in the tank and about which the canvas passes in close contact, a guide for directing the canvas into the tank and about said element, a guide for directing the canvas strip from the tank, said guides being disposed with reference to said supporting element to cause the fabric to cling or press closely against the entire submerged surface of said element, and a scraper 21 bearing on the canvas directly after it leaves the said element and between it and said last named guide.

2. In a device for applying adhesive to one surface of a fabric for application as a reinforce for the insoles of boots and shoes, the combination of a tank containing liquid adhesive, a roll rotatably sustained therein and dipping into said adhesive, guiding means disposed close to and above the said roll and separated a distance apart less than the diameter of said roll so that the fabric passing about said guiding means and the roll in the tank may cling close to the surface of the latter roll and have cement or adhesive applied to only one surface thereof, and a plow having side wing portions and disposed between the guiding means and bearing upon the upper part of the roll dipping into the tank.

3. In a device for applying adhesive to one surface of a fabric for application as a reinforce for the insoles of boots and shoes, the combination of a tank containing liquid adhesive, a roll rotatably sustained therein and dipping into said adhesive, guiding means disposed close to and above the said roll and separated a distance apart less than the diameter of said roll so that the fabric passing about said guiding means and the roll in the tank may cling close to the surface of the latter roll and have cement or adhesive applied to only one surface thereof, a plow having side wing portions and disposed between the guiding means and bearing upon the upper part of the roll dipping into the tank, and means for forcing the plow onto the surface of said roll.

4. In a device for applying adhesive to one surface of a fabric for application as a reinforce for the insoles of boots and shoes, the combination of a tank containing liquid adhesive, a roll rotatably sustained therein and dipping into said adhesive, guiding means disposed close to and above the said roll and separated a distance apart less than the diameter of said roll so that the fabric passing about said guiding means and the roll in the tank may cling close to the surface of the latter roll and have cement or adhesive applied to only one surface thereof,

a plow having diverging side wing portions provided with upwardly curved plowing surfaces, and means for forcing the plow onto the exposed surface of the roll in the tank.

5. In a device for applying adhesive to one surface of a fabric for application as a reinforce for the insoles of boots and shoes, the combination of a tank containing liquid adhesive, a roll rotatably sustained therein and dipping into said adhesive, two guide elements disposed close to and above the said roll and separated a distance apart less than the diameter of said roll so that the fabric passing about said guide elements and the roll in the tank may cling close to the surface of the latter roll and have cement or adhesive applied to only one surface thereof, and means acting upon the exposed portion of the roll which dips into the tank to keep it clean and free from adhesive.

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

THOMAS G. PLANT.

Witnesses:

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