

F. GREEN.
 Apparatus for Preparing Surgical Bandages.
 No. 196,892. Patented Nov 6, 1877.

Fig. 1.

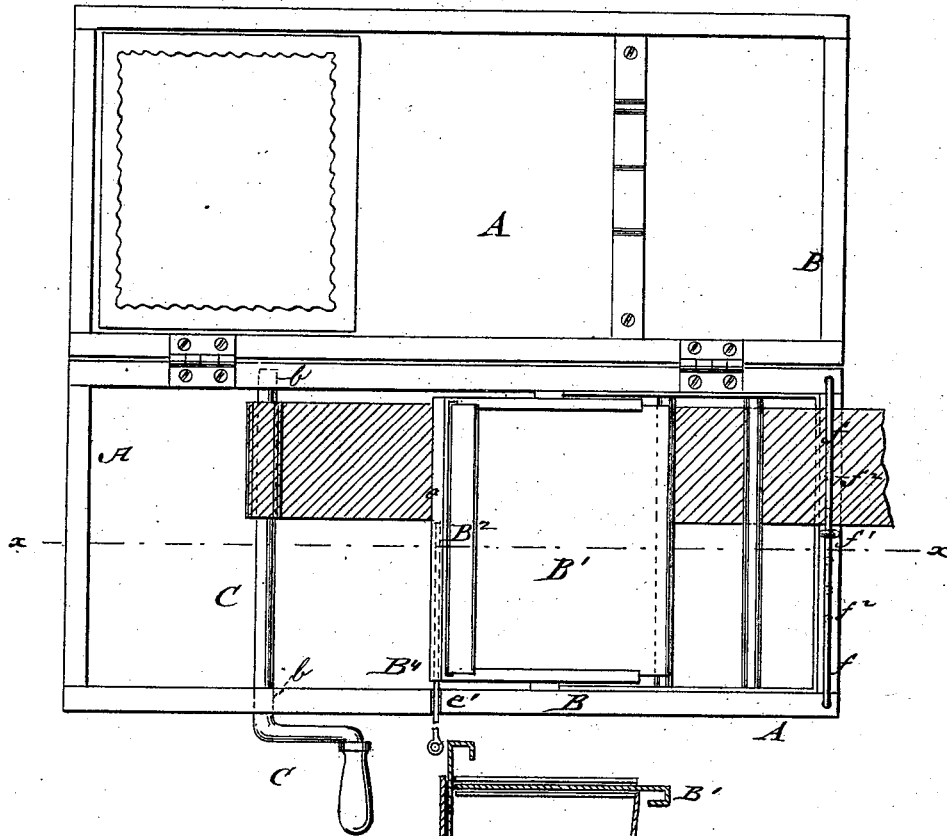
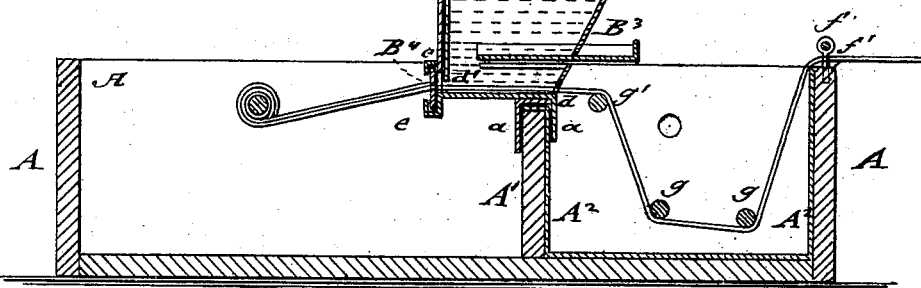


Fig. 2.



WITNESSES:

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IMPROVEMENT IN APPARATUS FOR PREPARING SURGICAL BANDAGES.

Specification forming part of Letters Patent No. **196,892**, dated November 6, 1877; application filed April 30, 1877.

To all whom it may concern:

Be it known that I, FRANK GREEN, of Columbia, in the county of Richland and State of South Carolina, have invented a new and Improved Apparatus for Preparing Surgical Bandages, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a top view of my improved device for spreading plaster-of-paris on bandages; and Fig. 2 is a longitudinal section of the same on line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish for medical practitioners, hospitals, &c., an improved apparatus by which plaster-of-paris or soluble-glass bandages, for fractured limbs and other surgical cases, may be prepared with ease and rapidity, the machine having the advantage that it spreads the plaster or applies the soluble glass at the same time with the winding of the bandage, so as to save time and material, and facilitate the preparation of such bandages.

The invention consists of a box with guide, tension, and winding devices, used in connection with a hopper for the plaster-of-paris, having slides to regulate width and thickness of plaster to be spread, and to cut off the supply of the same when the bandage is nearly covered. The box has also a tank to apply soluble glass to the bandage.

In the drawing, A represents a box, of tin or other material, in which the different parts of my apparatus are arranged, so as to be conveniently stored away after use.

The receiving-hopper B for the plaster-of-paris is placed by bottom seats *a* on a lateral partition, A', of the box, and the hand-crank roller C placed into suitable bearings *b* of the box. The hopper B is provided with three slides—a top slide, B¹, for opening and closing the same for putting in the plaster-of-paris, a vertical end slide, B², that regulates the thickness of the material to be laid on the bandage, and a horizontal cut-off slide, B³, at such distance from the bottom that, when the bandage approaches its end and the cut-off slide is pushed to close the supply of plaster-of-paris

from the hopper, a sufficient quantity of the same is left in the space below the slide B² to coat the end of the bandage.

The hopper B is provided with a front slot, *d*, near the bottom for the entrance of the bandage, and with a rear slot, *d'*, for the exit of the bandage, the rear slot *d'* being opened more or less by the vertical slide B², according to the thickness of the plaster-of-paris layer.

A fourth slide, B⁴, moves laterally in outer guides *e* of the hopper, and in a guide-slit, *e'*, of the box, so as to close partially or entirely the exit-slot *d'*, and be adjusted to the width of the bandage to be coated.

The bandage passes along a guide-wire, *f*, at one end of the box, the wire having a movable gage or guide pin, *f*¹, that is inserted into holes *f*² of the box, so as to be set to the different widths of bandages. The bandage is passed from the guide-wire below tension rods or rollers *g*, and over a rod or roller, *g'*, at a level with the bottom of the hopper, through the slots of the hopper to the crank C at the opposite side of the same, the crank pulling the bandage slowly through the hopper, so as to be simultaneously coated and wound up on the crank ready for use.

The section of box A between the partition and the guide end is provided with a detachable tank, A², and with bearings for the crank C, so as to use this part for the purpose of saturating the bandage with soluble-glass (silicate of soda) or other solution, that is placed into the tank, the bandage being passed from the guide-wire under the tension-rods and over the upper rod onto the winding-crank roller, placed in position in the holes or bearings of the tank-section. When the process is completed, the tank is removed and cleaned. The running out of any fluid of the crank-bearing is prevented by suitable packings of the same.

The apparatus may be also used for simply winding up a bandage, in which case the hopper is removed, and the crank placed in position at the other side of the partition, the guide adjusted to the bandage, and then wound up on the crank in similar manner as before described for laying on a coat of plas-

ter-of-paris. The bandage is easily removed by simply turning the crank back once or twice.

The machine admits the winding of the bandage and spreading of the plaster-of-paris, or the winding and applying of the soluble glass at the same time, admitting the preparation of such bandages used in surgical cases with great facility, and without the inconveniences attending the making of these bandages at present.

After use the parts are stored away again in the box, to be used at any other time, the entire apparatus being of compact shape, and very satisfactory, expeditious, and handy for preparing bandages.

By passing the cloth from a roll directly through and over the bottom of hopper, the plaster is automatically spread with perfect uniformity, and at any preferred thickness.

Having thus described my invention, I claim

as new and desire to secure by Letters Patent—

1. In combination with the supply-hopper having bottom slots for the passage of the bandage, a vertically-sliding gage for regulating the thickness of the plaster-of-paris, substantially as specified.

2. The combination, with a supply-hopper for plaster-of-paris having bottom slots for the passage of the bandage, of a regulating gage or slide at the exit-slot and a cut-off slide above the bottom, substantially in the manner set forth.

3. The combination of the plaster-of-paris hopper B, having guides *e* near the exit-slot, with a lateral slide, B¹, to be adjusted to width of bandage, substantially as shown and described.

Witnesses:

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