C. G. HILL.

Machine for Making Plaster-Bandages.

No. 209,045. Patented Oct. 15, 1878.

Fig. 1.

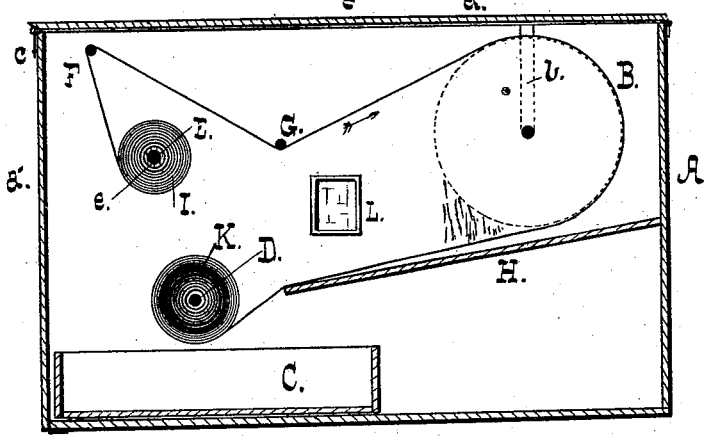
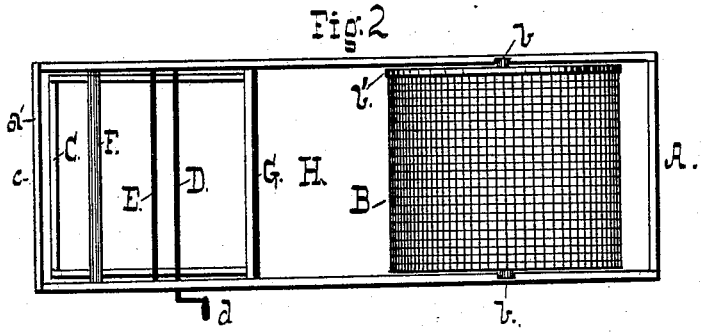


Fig. 2



Witnesses,
W. A. Bertram
Dr L. M. Barclay.

Inventor
Chas. G. Hill
by
R. D. Williams
Attorney.

UNITED STATES PATENT OFFICE.

CHARLES G. HILL, OF ARLINGTON, ASSIGNOR TO JOHN W. SELBY, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN MACHINES FOR MAKING PLASTER BANDAGES.

Specification forming part of Letters Patent No. **209,045**, dated October 15, 1878; application filed September 10, 1878.

To all whom it may concern:

Be it known that I, CHARLES G. HILL, of Arlington, Baltimore county, State of Maryland, have invented certain new and useful Improvements in Machines for Making Plaster Bandages; and I hereby declare the same to be fully, clearly, and exactly described as follows, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical longitudinal sectional view, and Fig. 2 a plan view, of the device.

My invention relates to devices for coating a ribbon or fillet of textile fabric with calcined gypsum; and it consists in certain means for distributing the plaster, as hereinafter set forth, designed to secure an even coating of plaster upon the ribbon, the latter being wound into a roll.

The advantages of the plaster bandage as a substitute for splints in cases of fracture, and especially in the treatment of spinal curvature, are so great and well recognized as to have long since led to its more general, if not universal, use, were it not for the inconveniences and difficulties in the way of preparing the bandage.

By means of the device illustrated in the accompanying drawings, and about to be described, the obstacles are removed. The bandage is made complete in a closed box, and is turned out in the form of a roll, having between its coils a layer of plaster of uniform thickness.

Referring to the figures, A represents a box having a hinged lid, *a*, and hinged front *a'*, which parts may be secured together by means of a catch, *c*. B is a cylindrical vessel, whose cylindrical surface consists of perforated sheet metal or wire-gauze. The ends of the cylinder are not perforated, and one of them, *b'*, is adapted to be removed in order to charge the cylinder with gypsum.

The walls of the box A are slotted, as shown at *b*, the bottom of the slots constituting the bearings for the projections upon the ends of the cylinder B, upon which it turns. The described construction admits of the ready removal of the cylinder from the box. Beneath the cylinder a shelf, H, extends across the box A, as shown.

D is a shaft upon which the bandage is wound, and which is operated by means of a crank, *d*, at the side of the box A. E is the shaft for the delivery-roll I, and F and G are tension-bars. L is a window through which the operation of the device may be observed, and C represents a box placed beneath the plaster-roll to catch any surplus gypsum.

The operation of the device is as follows: A piece of linen or other suitable fabric being cut to the proper width to form the bandage, it is wound into a roll in any convenient manner, a quill, piece of reed, or other suitable tube, *e*, being placed in the center of the roll. The shaft E is then withdrawn through the side of the box A, and the roll I, being brought opposite the shaft, is reinserted and the roll is mounted in place. The fillet of linen is then led over the tension-bars F or G, or both, and thence around the cylinder B, which latter is filled with calcined ground gypsum. One turn of the fillet is finally made around the shaft D, and the device is in order for operation. Upon turning the crank *d* the fillet is wound upon the shaft D and causes the cylinder B to turn. An even coating of gypsum is allowed to fall therefrom upon the fillet, and is confined between the layers or coils of the roll K, which are thereby, on both sides, brought into contact with a layer of plaster. The shelf H supports the sheet leading from the cylinder in a given position, no matter how large or how small the roll K is, within its possible limits.

Any plaster which may fall from the fillet or shelf H is collected in the trough C and may be resupplied to the cylinder B.

As hereinbefore stated, the operation of the device may be observed through the window L, enabling the operator to immediately detect an accidental folding or twisting of the fillet or the exhaustion of the contents of the cylinder.

In the act of preparing the plaster it is not strictly necessary to lead the fillet over the tension-bars F or G, but they are of great use in rolling up the delivery-roll I, which should be as tightly rolled as possible. For this purpose the crank-shaft D is used, the cylinder B being, of course, not charged with plaster.

It is obvious that instead of a delivery-roll, I, the fillet may be delivered to the cylinder B in the form of a loose ribbon led through a slit in the front of the box, but this calls for the services of an attendant to see that the fillet does not become folded or twisted. Time and trouble are saved in the end by first winding up a delivery-roll as described.

Finally, when the roll K is of the desired size the crank-shaft D is withdrawn through the side of the box from which the roll is removed and the fillet severed.

To a member of the medical profession the advantages of the bandage constructed as described need not be stated; they are self-evident. The plaster is securely retained within the folds of the coil, and the latter is in a condition for use upon being immersed for a moment in a basin of water.

The form of the bandage also conduces to increased facility and rapidity in its application, as the roll may be readily passed from one hand of the operator to the other around the limb or part to be bandaged. Every instant is of importance in dealing with mixed plaster, which sets so rapidly.

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

1. In a machine for forming plaster bandages, a rotating sieve adapted to contain the gypsum, in combination with mechanism, as described, for revolving the sieve through the medium of a fillet of textile fabric, as and for the purpose set forth.

2. A machine for forming plaster bandages consisting essentially of a closed case containing a sieve for holding the gypsum, and mechanism for revolving or agitating the sieve and for drawing thereunder a fillet of textile fabric and winding the same into a coil, substantially as set forth.

3. In combination with the case A, having one or more hinged sides, the sieve B, removable therefrom and having a detachable head, and the crank-shaft D, substantially as described.

4. In combination with the sieve B and shaft D, the shelf H, as and for the purpose set forth.

CHARLES G. HILL.

Witnesses:
R. D. WILLIAMS,
WALTER H. FARRIS.