(No Model.) 2 Sheets—Sheet 1.

W. C. FRANCISCUS.

PILL, PLASTER, AND LOZENGE MACHINE.

No. 266,127. Patented Oct. 17, 1882.

Fig. 1

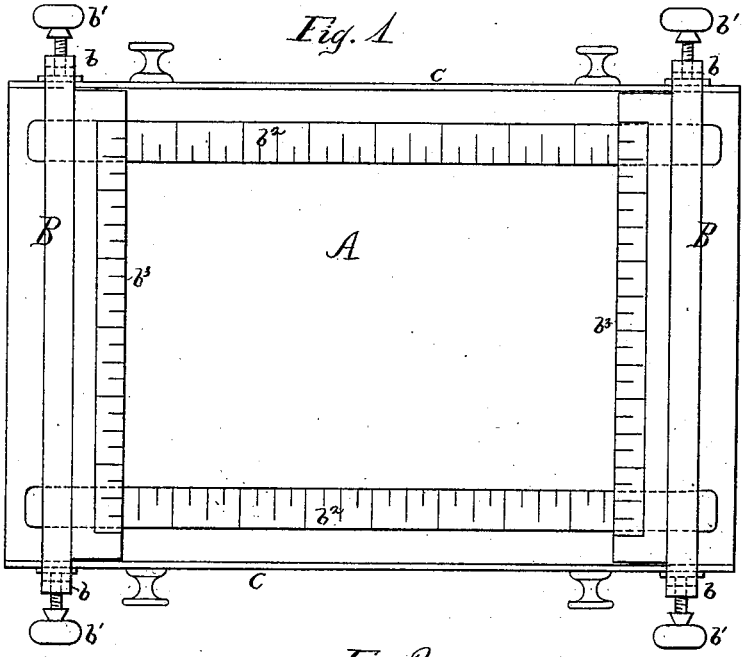


Fig. 2

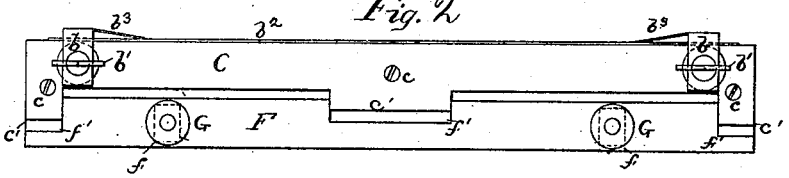
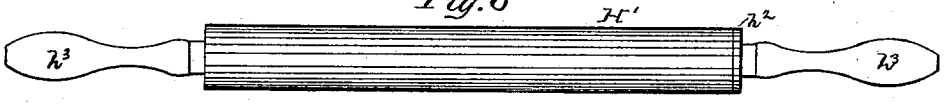


Fig. 3



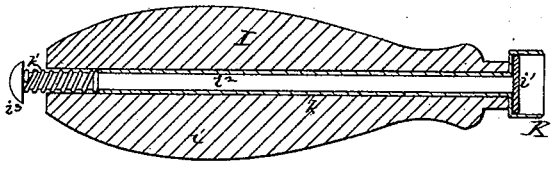


Fig. 4

WITNESSES:

A. A. Connolly

J. B. Connolly

INVENTOR

Wm. Chas. Franciscus,

By Connolly Bro.,

ATTORNEYS.

(No Model.) 2 Sheets—Sheet 2.

W. C. FRANCISCUS.

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Fig. 5

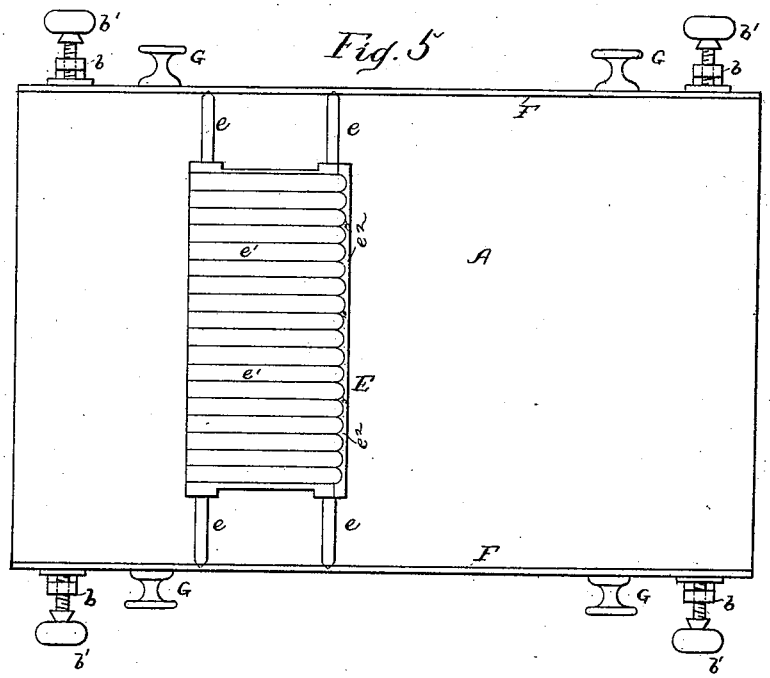


Fig. 6

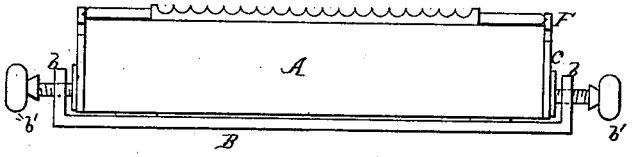
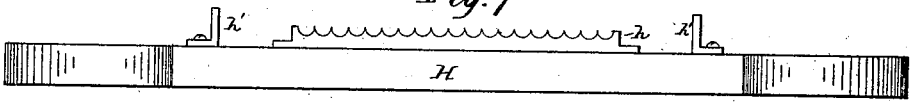


Fig. 7



WITNESSES:
A. A. Connolly
J. B. Connolly

INVENTOR
Wm. Chas. Franciscus
By Connolly Bros,
ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLIAM C. FRANCISCUS, OF LOCK HAVEN, PENNSYLVANIA.

PILL, PLASTER, AND LOZENGE MACHINE.

SPECIFICATION forming part of Letters Patent No. 266,127, dated October 17, 1882.

Application filed May 10, 1882. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM CHARLES FRANCISCUS, a citizen of the United States, residing at Lock Haven, in the county of Clinton and State of Pennsylvania, have invented certain new and useful Improvements in Pill, Plaster, and Lozenge Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, reference being had to the accompanying drawings, which form part of this specification, in which—

Figure 1 is a plan showing the plaster side of the board. Fig. 2 is a side of the board. Figs. 3 and 4 are views of the roller and lozenge cutter, respectively. Fig. 5 is a plan showing the pill-forming plate. Fig. 6 is an end view of board, and Fig. 7 is a side elevation of the pill-cutter.

My invention has relation to an apparatus for spreading plasters and making pills, lozenges, &c.; and it consists in the novel construction and combination of parts hereinafter fully described, having reference particularly to the following parts: first, to the construction of a block or section of wood or other material having two flat sides, on one of which are arranged the necessary appliances for forming plasters, consisting essentially of four bars of steel or other metal secured to the block in a manner hereinafter more fully described, and having graduated scales marked or imprinted thereon, whereby a plaster of any predetermined dimension may be formed with certainty and dispatch; second, to the combination, with a block or section of wood or other material, of a grooved or channeled pill-forming plate secured to the said block by means of adjustable plates, and working in connection with a board provided with handles and a similarly grooved or channeled plate; third, to the combination, with the before-mentioned block and adjustable plates, of a hollow metallic roller having a removable cap and suitable handles, said roller being adapted and designed to roll out the mass from which plasters or lozenges are to be made.

Referring to the accompanying drawings, A represents a block or section of wood, square or rectangular in form, and of any desired thickness.

B B are two steel bars of a length slightly greater than the width of the block A. Each of these bars has its ends bent down to form depending ears *b b*, which have set-screws *b′ b′* running through them and working against plates C C on the sides of the block A.

b^2 b^2 are thin flat strips of steel, which run lengthwise of the block A, and are held down on said block by the bars B B, under which they pass. The bars B B have thin plates b^3 b^3 formed on or attached to their upper sides and bent down until their edges are on a line with the bottoms of said bars. Both the bars B B and the strips b^2 b^2 are marked off in inches and fractions of inches on their edges, as shown.

Referring now to the apparatus for making pills, on the reverse side from that on which the plasters are made is a plate, E. This plate extends crosswise of the block A, and has arms *e e* projecting from its ends, which fit in sockets in the adjustable side plates F F. The plate E has grooves or channels *e′ e′* extending across it from side to side. In these grooves or channels are formed the cylinders which are afterward cut up into pills. One edge of the plate E is cut off at an angle, as shown, so as to leave triangular spaces e^2 e^2 between each channel, and these triangular spaces are numbered, so as to show how many channels are in a certain section of plate, and consequently how many pills may be made in such section.

H is a board having a grooved or channeled plate, *h*, secured to it. The grooves in the plate H register with the grooves *e′ e′* in the plate E, and between these two plates E and *h* the pills are formed. The board H has guides *h′ h′* secured to it at each side of the plate *h*. These guides work on the side plates F F of the board A and serve to prevent the board H from being moved in any direction except at right angles to its length.

It will be seen that there are two plates, C C and F F, on each side of the board A, each extending from end to end of said board. The plates C C are fast on the board A, being secured thereto by screws *c c c*, while the plates F F are movable, being secured to the board A by thumb-screws G G, which pass through slots *f f* in the plates F F. The movable plates F F are cut away at each end and in the middle, as shown at *f′ f′*, and into the portions so cut away fit projections *c′ c′ c′* on the plates C C.

The edges of the fixed plates C C are flush with the plaster side of the board A; but the edges of the movable plates F F are raised slightly above the other side of the said board, and are held in position by the thumb-screws G G.

When it is desired to use the block for the manufacture of lozenges the plate E is removed and the plates F F raised a distance above the surface of the block equal to the thickness of the lozenge which is to be made. This thickness is determined by placing a lozenge of the desired size between the plates C and F, and then screwing in the thumb-screws G G.

I is a lozenge-cutter consisting of a handle, *i*, to which is attached a cutter, K, having a hollow sleeve, *k*, which fits into the handle *i*.

i' is an ejector fitting inside the cutter K, and having a spindle, i^2, which extends through the sleeve *k* and projects out through the end of the handle *i*, and is threaded to receive a nut, i^3, between which and the end of the sleeve *k* is placed a spring, *k'*, which serves to draw back the ejector after it has been forced out toward the mouth of the cutter.

H' is a hollow roller having a removable end, h^2, and handles h^3 h^3. This roller is intended to be used for a twofold purpose—*i. e.*, for spreading out the plaster on one side of the board, and for spreading out the mass from which the lozenges are cut on the other. When it is desired to use the roller for either purpose the top thereof is screwed off, and the roller is filled with hot water. This has the effect of keeping the substance to be operated on by the roller in a warm and plastic state. It has also the effect of preventing any particles from adhering to the roller.

The operation of my invention is as follows: When the board is to be used for the manufacture of plasters the cloth or other material on which the plaster is to be formed is laid on the block A. The flat strips D D are then laid on the cloth and the bars B B placed in position, the size of the plaster to be formed being determined by the graduated scales on the edges of the bars *b b* and strips D D. The substance from which the plaster is to be formed is spread on the cloth and rolled out to the proper thickness by the roller H'. When the board is to be used for the manufacture of pills the block is turned over, the plate E is secured in position, and the pills are formed by rolling them between the plate E and the plate *h* on the board H, as in the usual manner of making pills. When it is desired to use the board for making lozenges, the pill-plate E having been removed and the thickness of the lozenge to be made determined by regulating the height of the edges of the movable plates F F over the block, as hereinbefore described, the mass from which the lozenges are to be cut is then spread out on the block and rolled out even by the roller H. The lozenges are then cut out of the mass so rolled by means of the cutter I, each lozenge being ejected after it is cut out from the mass.

What I claim is—

1. The reversible plaster and pill forming board A, having the fixed plates C C, movable plates F F, grooved plate E, graduated bars B B, and strips D D, all constructed and arranged substantially as described.

2. In a pill-board, the combination of side plates F F, having slots *f f*, through which pass thumb-screws G G, with the grooved or channeled plate E and board H, having plate *h* and guides *h' h'*, substantially as set forth.

3. In a combined pill and lozenge forming board, the combination, with the block A, of side plates C C and adjustable side plates F F, secured to said block by the thumb-screws G G, passing through slots *f f* in said plates F F, substantially as described.

4. In a plaster, pill, and lozenge board, the combination, with block A, of bars B B, with depending ears *b b* and set-screws *b' b'*, with the strips D D, both said bars and strips being graduated, as shown, and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 8th day of May, 1882.

WILLIAM CHARLES FRANCISCUS.

Witnesses:

S. M. McCORMICK,

W. J. McLEES.