

G. ADREANCE.
Machine for Compressing Fluted Goods.
No. 218,850. Patented Aug. 26, 1879.

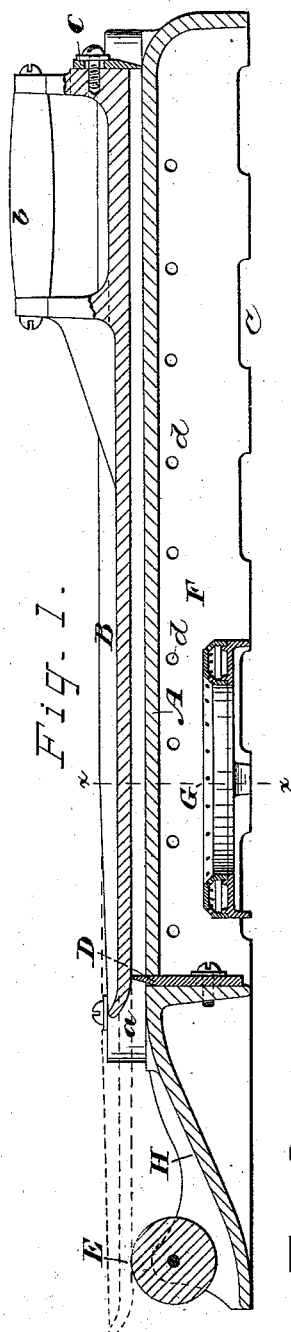


Fig. 1.

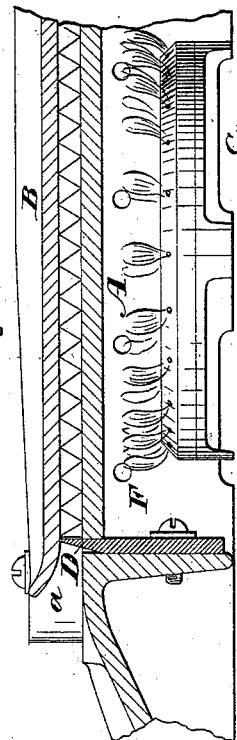


Fig. 2.

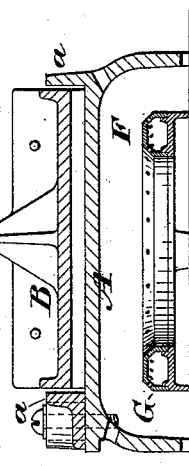


Fig. 3.

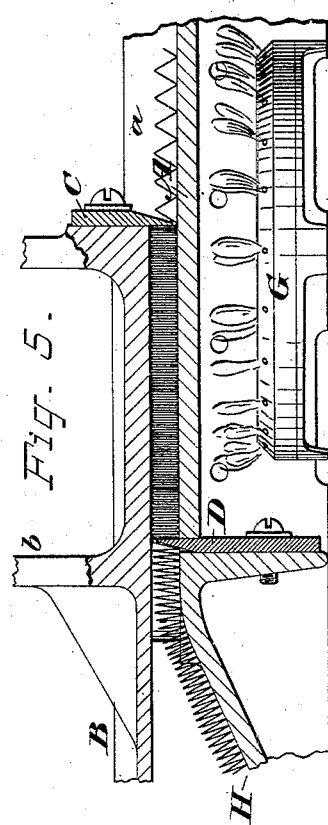


Fig. 4.

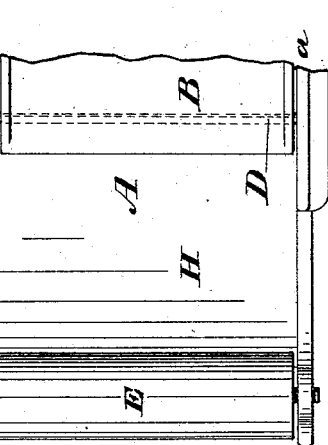


Fig. 5.

ATTEST :

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GARRET ADREANCE, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN MACHINES FOR COMPRESSING FLUTED GOODS.

Specification forming part of Letters Patent No. **218,850**, dated August 26, 1879; application filed June 28, 1879.

To all whom it may concern:

Be it known that I, GARRET ADREANCE, of Brooklyn, in the county of Kings and State of New York, have invented certain Improvements in Tools or Machines for Reefing or Compressing Fluted Goods, of which the following is a specification.

In making fluted trimming two operations are usually performed—first, that of corrugating the goods by passing it through a fluting-machine, and, second, that of closing these flutes together and compressing them, that the corrugations may be closer and more permanent. The latter operation is known in the trade as “reefing,” and has been heretofore accomplished by means of a “reefing-box”—a long shallow box having a hinged lid and one open end, and being of a depth equal to the thickness of the fluted goods. The strip of goods is placed in this box, its surplus portion hanging out at the open end, and the lid is closed and fastened down. The surplus goods is then drawn into the box by inserting the fingers through slots in the lid, and when it is all drawn in and the flutes closed sufficiently together the end is fastened, and the goods is then steamed and afterward dried in the box by the agency of heat, whereby the flutes are given a permanent set and sufficient elasticity. This method of reefing, however, is very slow and expensive, and does not admit of compressing the goods, or of preparing a long strip at a time.

My invention has for its object to overcome these defects; and consists of an open trough in which to place the goods, and a sliding cover to rest upon the same, each provided with a projecting blade or ledge, to engage the flutes in the goods and between which to compress them, the cover being capable of rising as the material thickens under pressure.

It also further consists in certain details of arrangement and construction, which will be fully hereinafter set forth.

In the drawings, Figure 1 is a vertical longitudinal section of my machine. Fig. 2 is a transverse section taken in the plane of the line *x x*, and Fig. 3 is a plan of the front end of the machine. Figs. 4 and 5 are sectional views on a larger scale, showing a portion of the machine containing the goods before and during the compression of the latter.

Let A represent a shallow trough with open ends, its side walls, *a a*, being, preferably, straight and vertical, and its bottom flat. B is a slider, having, preferably, a plane under surface and straight parallel sides, and being of such width as to fit easily between the walls of the trough, and of a length corresponding approximately to that of the trough itself. This slider is provided with a handle, *b*, at or near its rear end, and on or near this end is arranged a downwardly-projecting blade, ledge, or strip, C. A corresponding blade or strip, D, is arranged at or near the front end of the trough A and projects upward. These blades may be formed in one piece with the parts to which they belong, or they may be made separately and attached to them in any suitable manner. They should be straight, and be brought to a dull knife-edge, so as not to cut or injure the fabric operated upon.

So far as described the operation of my machine is as follows: A strip of fluted goods is laid in the trough A, which should be of about the same width as the goods with which it is to be used, and the front end of the strip is abutted against the blade D, or a few flutes are passed over the blade and the goods pressed down upon the latter, so that it enters between two flutes. The slider B is then laid on, and its blade C abuts against the back end of the strip of goods, or is inserted between two of its flutes in the same manner as D. The slider is then pushed forward by means of its handle *b*, it being guided by the sides *a a* of the trough, and as it advances its blade C carries forward the goods ahead of it, and presses the same against the blade D at the front end of the trough.

As the goods is confined in the space between the trough and the slider, it cannot escape or be forced in any other direction than longitudinally, so that it is compressed between the two blades C and D with a force depending only on the strength of the operator.

The goods is shown before being compressed in Fig. 4, and during compression in Fig. 5.

In case the strip of goods being operated upon is longer than the trough A, as it may be, and usually is, it is compressed a portion at a time in several successive operations, the slider B being removed after the first compression, the compressed portion of goods

passed forward over the blade D, and the slider brought back into its first position, and this operation being repeated as many times as may be necessary to compress or reef the entire length of goods.

The blades C D should project a distance equal to the thickness of the fluted goods before being compressed, as shown in Fig. 4. As the goods is compressed it, of course, thickens, and as it thickens it lifts the slider D, so that the latter is no longer supported by the edges of the blades, but by the material itself, as seen in Fig. 5. Thus the flutes in the goods are brought to a sharp edge or fold and given a permanent and closer set than has been heretofore possible.

When the slider is pushed forward in compressing the goods, the greater portion of its length projects beyond the front end of the trough. To sustain and guide this portion and relieve the operator of its weight, I provide a support, E, (shown in Figs. 1 and 3,) which is preferably a roller, but which may be a flat bracket or arm or other provision which will sustain the projecting portion of the slider.

I prefer to attach the blades C D adjustably to their carriers, in order that they may be set to project therefrom more or less, and thus accommodate goods of a coarser or finer flute. This I prefer to accomplish by the use of set-screws entering the parts to which the blades are secured through slots in the blades.

The same trough may be used for different widths of goods by so constructing one or both of its sides *a a* that it or they may be set nearer to or farther from the center. In Figs. 2 and 3 I have shown one side so constructed, the means of adjustment being by set-screws passing through slots in the side strip.

A different-sized slider, B, may be used for each different width of goods, or one slider may have pieces or strips to fit upon its sides, by which its width may be changed.

I prefer to subject the goods to the action of heat while it is being operated upon, in order to give the corrugations a more permanent and elastic set, and to accelerate the operation of the machine. To accomplish this I form a heating-cavity, F, under the trough A, and in this cavity I place a gas-stove or atmospheric burner, G. Air to support combustion is admitted through notches or apertures *c c* in the side walls of the cavity or under its bottom, and the products of combustion escape through perforations *d d* near the roof of the cavity.

The heater is preferably placed close to the front end of the cavity, just under that part of the trough in which the goods is held while being compressed, as seen in Fig. 5.

Instead of the gas-burner G, any other heat-generator may be employed, or the cavity F may be closed and steam or hot water be admitted to it.

In order that the goods, after being reefed,

shall not be spread or pulled open by breaking around a sharp angle after leaving the blade D, I provide the inclined and curved guide H, forming a continuation of the trough A, and which conveys the goods in a gentle curve to the table on which the machine is placed.

The back or entering end of the trough A and the front end of the slider B are preferably curved, to avoid injuring the goods by contact with abrupt angles.

A modification of my invention might consist of the trough A, having a projecting blade, D, or a closed end, a cover, answering to my slider, resting in the same on the goods, and free to lift as the material thickens, and a plunger, answering to my blade C, to enter the space between the trough and cover and compress the goods against the blade D or the trough end.

I claim as my invention—

1. A machine for reefing or compressing fluted goods, which consists of a trough, A, provided with a blade or end wall, D, a cover, B, resting in or on the same, and a pushing blade or surface, C, adapted to move through the trough A, substantially as set forth.

2. A machine for compressing fluted goods, consisting of the trough A, provided with a projecting blade, D, or an end wall, with a slider, B, provided with a ledge, wall, or blade, C, adapted to operate together substantially as set forth.

3. A machine for compressing fluted goods, consisting of a trough, A, to receive the goods, and a slider, B, to rest upon the same, each provided with a projecting blade or ledge to engage the goods, and the slider capable of rising as the material thickens while being compressed, substantially as set forth.

4. The combination of the trough A and slider B, with their attached blades D and C, the latter being capable of vertical adjustment, substantially as and for the purposes set forth.

5. The support E, in combination with trough A and slider B, substantially as set forth.

6. The trough A, provided with a heating-cavity, F, beneath it, in combination with a slider, B, substantially as set forth.

7. The combination, with a slider, B, provided with a blade or wall, C, of a trough, A, provided with a blade or wall, D, and having sides *a a*, one or each of which is adjustable toward or from the other, substantially as set forth.

8. The delivering-incline H, in combination with the trough A, slider B, and blades C D, substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

GARRET ADREANCE.

Witnesses:

ARTHUR C. FRASER,
GEORGE H. FRASER.