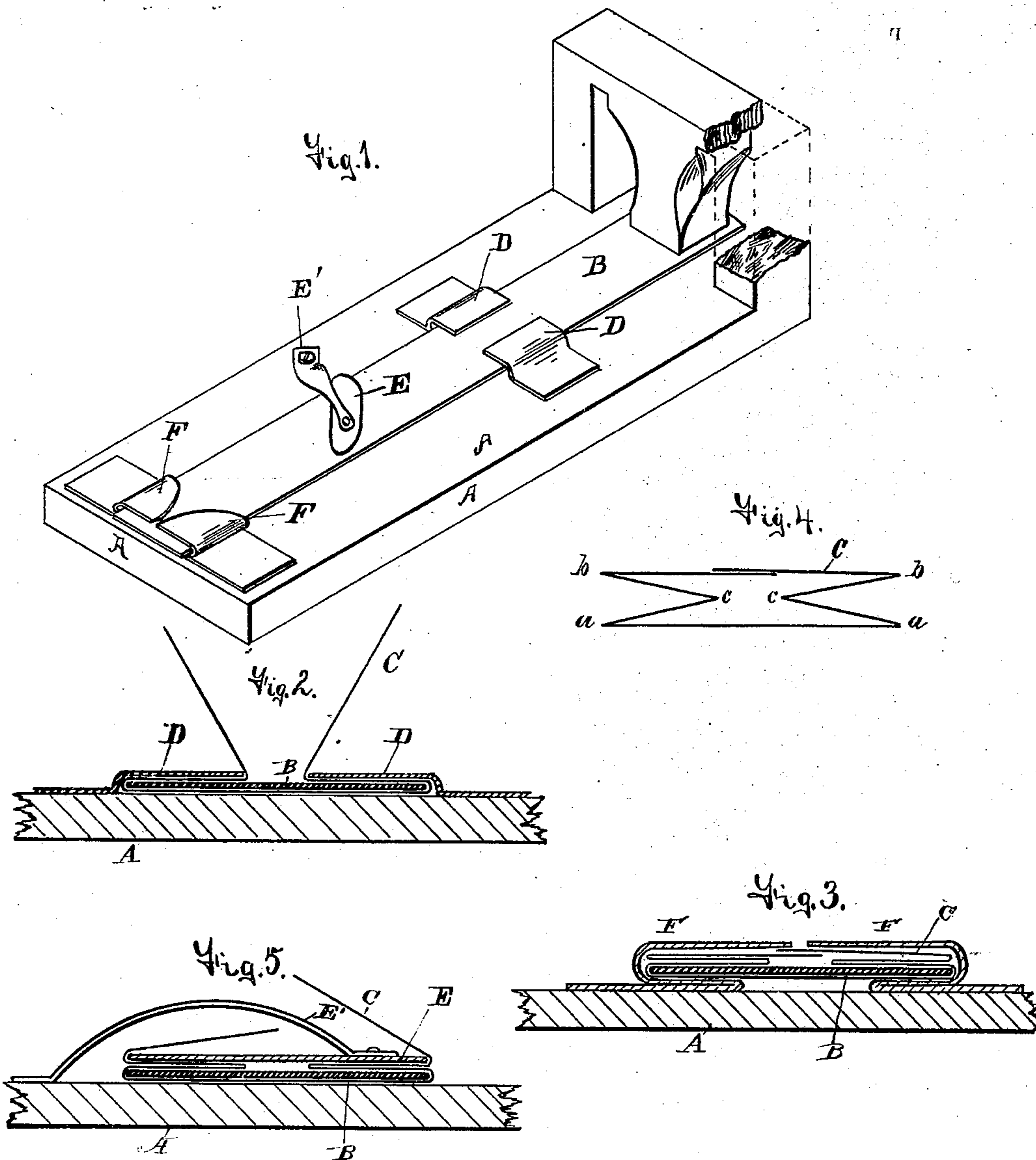


(Model.)

W. H. PATTERSON.
Tube Machine.

No. 234,925.

Patented Nov. 30, 1880.



WITNESSES
Frank M. Faber.
W. C. Connelly

INVENTOR
Wm. H. Patterson.
By Seagitt & Seagitt ATTORNEY

UNITED STATES PATENT OFFICE.

WILLIAM H. PATTERSON, OF CLEVELAND, OHIO, ASSIGNOR TO HIMSELF,
N. W. TAYLOR, JOSEPH W. BRIGHTMAN, AND EDWARD MILLS, OF
SAME PLACE.

TUBE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 234,925, dated November 30, 1880.

Application filed March 23, 1880. (Model.)

To all whom it may concern:

Be it known that I, WILLIAM H. PATTERSON, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Tube-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

In the drawings, Figure 1 is an isometric view of a device embodying my invention. Fig. 2 is a transverse vertical sectional view of the same through the first guides, showing, in cross-section, the former, the first guides, and the web of paper from which the tube is made. Fig. 3 is a sectional view of the same device through the second guides, showing, in cross-section, the former, the second guides, and the web of paper as it passes from the second guides. Fig. 4 is a view, in cross-section of the plicated tube when complete, with the exception of being united with paste. Fig. 5 is a view, in cross-section, of my device through the finger E, showing the former, the finger E, its arm E', and the web of paper C.

In the said drawings, A represents a frame accommodating and supporting the operative parts of my device.

B represents the former, preferably made of sheet metal or other thin firm material. This former is suspended over the bed of the machine in any suitable manner.

D D represent the first two guides, between which and the former B the web of paper passes.

E represents a removable finger supported and suspended over and within the web of paper by the arm E'. This arm E' is also preferably made adjustable.

F and F are guides substantially inclosing the former, and through which the web passes, and by which the final fold is made.

The guides D D and F F are preferably made of sheet metal.

The operation of my device is as follows: Paper is preferably taken from a roll of any length and of suitable width to make the sized

bag desired. It is passed under the former B and over the former and between the same and the guides D D. As it is drawn between the guides D D and the former B the first folds *a a*, Fig. 4, are made. The web is then drawn over the finger E, which creases the web at the points *b b*, and at the same time spreads the web of paper, thereby causing the same to be creased at the points *c c* by the guides D D as it is being drawn over them. These points *c c* thus creased subsequently become the middle fold of the plicated tube. The web of paper now passes under the last guides F and F, when the form of the tube is completed, as shown in Fig. 3. It now is taken to the feed-rolls, when the tube is completed. Paste may be applied to the tube at any point between the roll from which it is taken and the feed-rolls.

What I claim is—

1. In a tube-machine, the combination, with single former B and guides D, which press the first side folds upon said former, of guide E, which operates upon the interior side of the web and presses the second side folds directly upon the first side folds, substantially as set forth.

2. In a tube-machine, the combination, with single former B and guide E, which operates upon the interior side of the web and forms the second side folds, of guides F, which press the third side folds directly upon the second side folds, substantially as set forth.

3. In a tube-machine, the combination, with single former B and guides D, which press the first side folds upon said former, of guide E, which operates upon the interior side of the web and presses the second side folds directly upon the first side folds, and guides F, which press the third side folds directly upon the second side folds, substantially as set forth.

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

WILLIAM H. PATTERSON.

Witnesses:

JNO. CROWELL, Jr.,
WILLARD FRACKER.