

H. R. HEYL.
SEAM CLAMP FOR PAPER TUBES.
APPLICATION FILED NOV. 23, 1909.

1,002,689.

Patented Sept. 5, 1911.

2 SHEETS—SHEET 1.

Fig. 1.

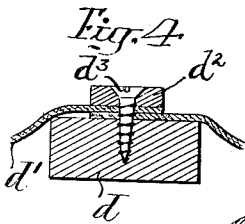
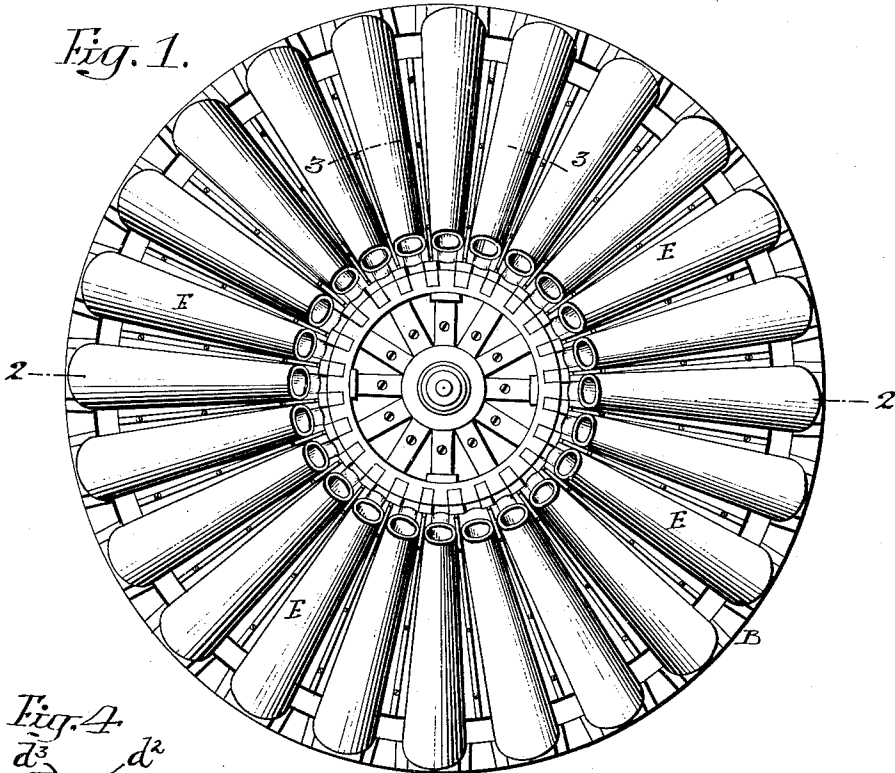


Fig. 3.

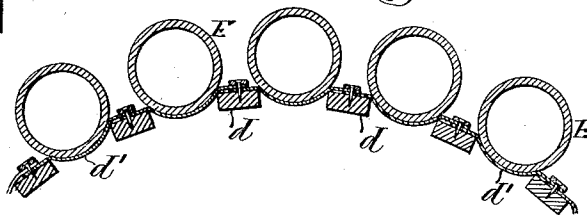
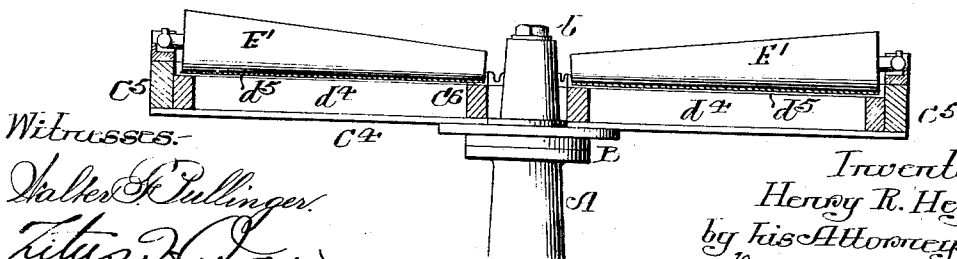


Fig. 7.



Witnesses—

Walker & Pullinger.
Titus A. Irons

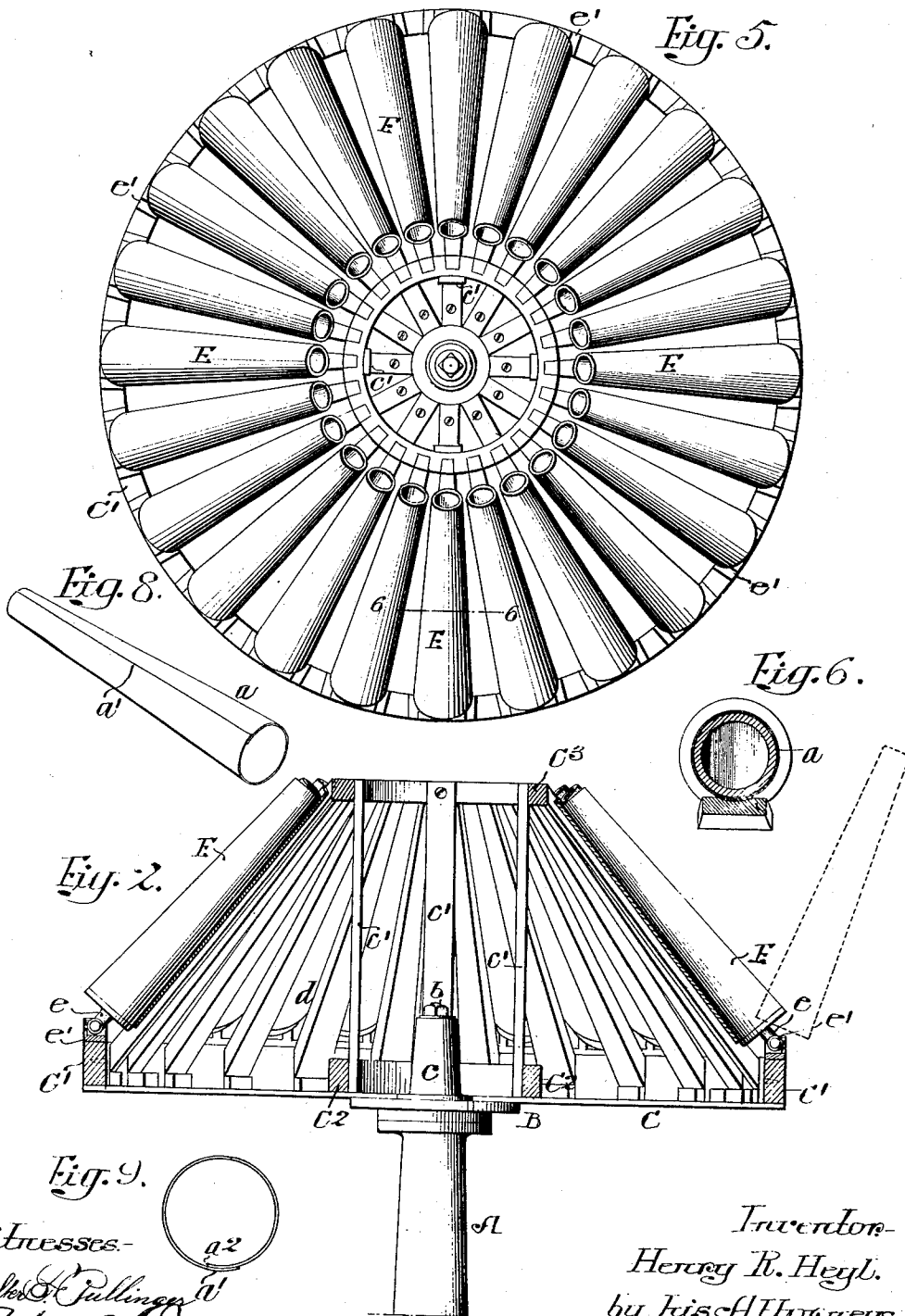
Inventor—
Henry R. Heyl.
by his Attorneys:
Brown & Brown

H. R. HEYL.
SEAM CLAMP FOR PAPER TUBES.
APPLICATION FILED NOV. 23, 1909.

1,002,689.

Patented Sept. 5, 1911.

2 SHEETS—SHEET 2.



Witnesses—
J. H. Pullinger
Titus H. Irons.

Inventor—
Henry R. Heyl.
by His Attorneys
Thomson & McMillan

UNITED STATES PATENT OFFICE.

HENRY R. HEYL, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE AMERICAN PAPER BOTTLE COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

SEAM-CLAMP FOR PAPER TUBES.

1,002,689.

Specification of Letters Patent.

Patented Sept. 5, 1911.

Application filed November 23, 1909. Serial No. 529,648.

To all whom it may concern:

Be it known that I, HENRY R. HEYL, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Seam-Clamps for Paper Tubes, of which the following is a specification.

The object of this invention is to construct a device for holding the seams of a pasted tube while the paste is setting.

The invention is particularly adapted for use in connection with machines for forming tubes of paper in the manufacture of paper tubes or other vessels of paper.

In the accompanying drawings, Figure 1, is a plan view of my improved seam setting device; Fig. 2, is a sectional view on the line 2—2 Fig. 1; Fig. 3, is an enlarged sectional view on the line 3—3 Fig. 1; Fig. 4, is an enlarged view of a portion of Fig. 3; Fig. 5, is a plan view of a modified form of the device; Fig. 6, is a sectional view on the line 6—6 Fig. 5; Fig. 7, is a view of another modification of the invention; Fig. 8, is a perspective view of one of the tubes; Fig. 9, is a sectional view of one of the tubes.

In the manufacture of paper bottles a tube is made from a sheet which is coiled into any number of layers desired according to the thickness of the body portion of the bottle to be manufactured. The sheet is so cut that the two edges will be substantially in line on one side of the tube when formed.

The object of this invention is to press the edges of the pasted seams for a sufficient length of time until the paste is set, after which the tubes are moved from this device and placed in a conveyer to be transferred to the cutting machine.

Referring in the first instance to Figs. 5 and 9, a is the tube of paper or other similar material made by coiling a sheet into as many plies as desired. The paper is so cut that the edge a' of the outside of the paper will be on the same side of the tube as the edge a'' , so that when these two edges are pressed a sufficient length of time the paste will firmly adhere, holding both edges of the paper together.

Referring now to Figs. 1, 2 and 3, A is a standard having a head B provided with a stem b . C is a frame having a hub c through which passes the stem b . This frame is free to rotate on the standard. C' is a rim extending around the periphery of the frame

C and C^2 is a ring located between the hub and the rim. Secured to this ring are standards c' for supporting the paper ring C^3 . Extending from this paper ring to the ring C' are a series of bars d , in the present instance made of wood; these bars are spaced a given distance apart and secured to the bars are strips of fabric or other flexible material d' . This fabric extends from one bar to another and the strips are preferably slack so as to accommodate themselves to the presser rolls E which are made as clearly shown in the drawings and are, in the present instance, tapered from one end to the other to correspond to the taper of the paper tube to be formed. Each presser tube E has an extension e which is pivoted to a bearing e' secured to the rim C' , and these presser tubes are mounted so as to swing into position indicated by dotted lines, Fig. 2, to receive a paper tube, and by swinging the tube on its pivot it will rest on the fabric support d' between the bars, thus closing the seams of the paper tube, the paper tube being so mounted on the presser that the seam portion of the tube will be between the presser and the support, or platen, as illustrated in Fig. 6. The fabric supports or platens d' are preferably made of narrow strips of fabric, one strip overlapping the other at the bars d and clamped by longitudinal strips of metal d^2 held to the bar d by screws d^3 or other fastenings, as illustrated in Fig. 4.

In some instances I may make the device as illustrated in Figs. 5 and 6. In this instance the yielding platens are dispensed with and the presser tubes bear directly upon the bars d^6 , the bars being slightly concaved, so as to conform to the shape of the tubes and to hold the seams closed.

In Figs. 1, 2 and 5, I have shown the conical shaped frame for receiving the tubes, but the frame may be flat, as illustrated in Fig. 7, the frame C^4 in this instance, having a rim C^5 and a ring C^6 , between which are located the radial bars d^4 and extending from one bar to another are the flexible platens d^5 . The tubular pressers E' are pivoted in the same manner as in Fig. 2.

It will be understood that while I have shown my invention as designed to hold the seams of tapered paper tubes, it can be used in connection with tubes of an even diameter

throughout, if desired. The machine is preferably placed close to the machine for wrapping the paper and cementing the edges and forming the tube, and when the tube is transferred from this machine a presser is raised and the paper tube slipped on to it, care being taken that the seams are in line with the platens; then the presser is turned on its pivot bringing the presser and tube in contact with the platen, which being flexible will accommodate itself to the tube, thus holding the seams closed until the paste or other cement has set. The frame is moved each time a tube is placed in position. By the time a tube has traveled nearly the full revolution the paste is set and the paper tube can be removed by simply turning the presser on its pivot and withdrawing the paper tube.

While I have shown the pressers in the form of tubes, it will be understood that they may be solid or they may be loaded to any weight desired.

I claim:—

1. The combination in a device for holding the seams of paper tubes, of a frame, a series of platens on said frame, and pressers shaped to receive the tube and hold and clamp the seams of the tubes against the platens.

2. The combination of a rotating frame, a series of platens mounted on said frame, and a series of pressers pivoted to bearings at the periphery of the frame, each presser adapted to hold the paper tube against one of the platens.

3. The combination of a standard, a frame pivotally mounted thereon, a series of platens arranged in the form of a cone on the frame, and a series of pressers pivoted to the periphery of the frame and arranged to hold tubes mounted on the pressers against the platens.

4. The combination of a standard, a frame

pivotally mounted on said standard, said frame having a rim at its periphery and having a ring supported some distance above the frame, said ring being less in diameter than the rim, a series of platens extending from the rim to the ring, and a series of tapered pressers pivoted at the rim and adapted to swing toward the platens, so that when a conical tube is placed on a presser it can be turned so that the tube will be held between the presser and the platen.

5. The combination of a pivotally mounted frame having a rim, a ring less in diameter than the rim, a series of platens extending from the rim to the ring, each platen having a curved face, and a series of tapered tubular pressers pivoted to the periphery of the frame, each presser arranged to hold a freshly pasted tube against a platen while the paste is setting.

6. The combination of a frame, a series of radial platens mounted on the frame, and a series of pivoted pressers adapted to align with the platens and each to hold a freshly pasted tube against a platen.

7. The combination of a conical frame having a series of flexible platens, a series of tapered pressers pivoted to the periphery of the frame and adapted to swing in line with the platens and each to hold a tube against a platen.

8. The combination of a frame, a series of radial bars, with flexible platens extending from one bar to another, and means for holding the platens to the bars, and pressers adapted each to hold the seamed portion of a tube against a platen.

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

HENRY R. HEYL.

Witnesses:

WM. E. SHUPE,
WM. A. BARR.