No. 795,268. PATENTED JULY 25, 1905.

E. B. CAWTHRAY.

MACHINE FOR COVERING BOXES.

APPLICATION FILED JULY 16, 1903.

2 SHEETS—SHEET 1.

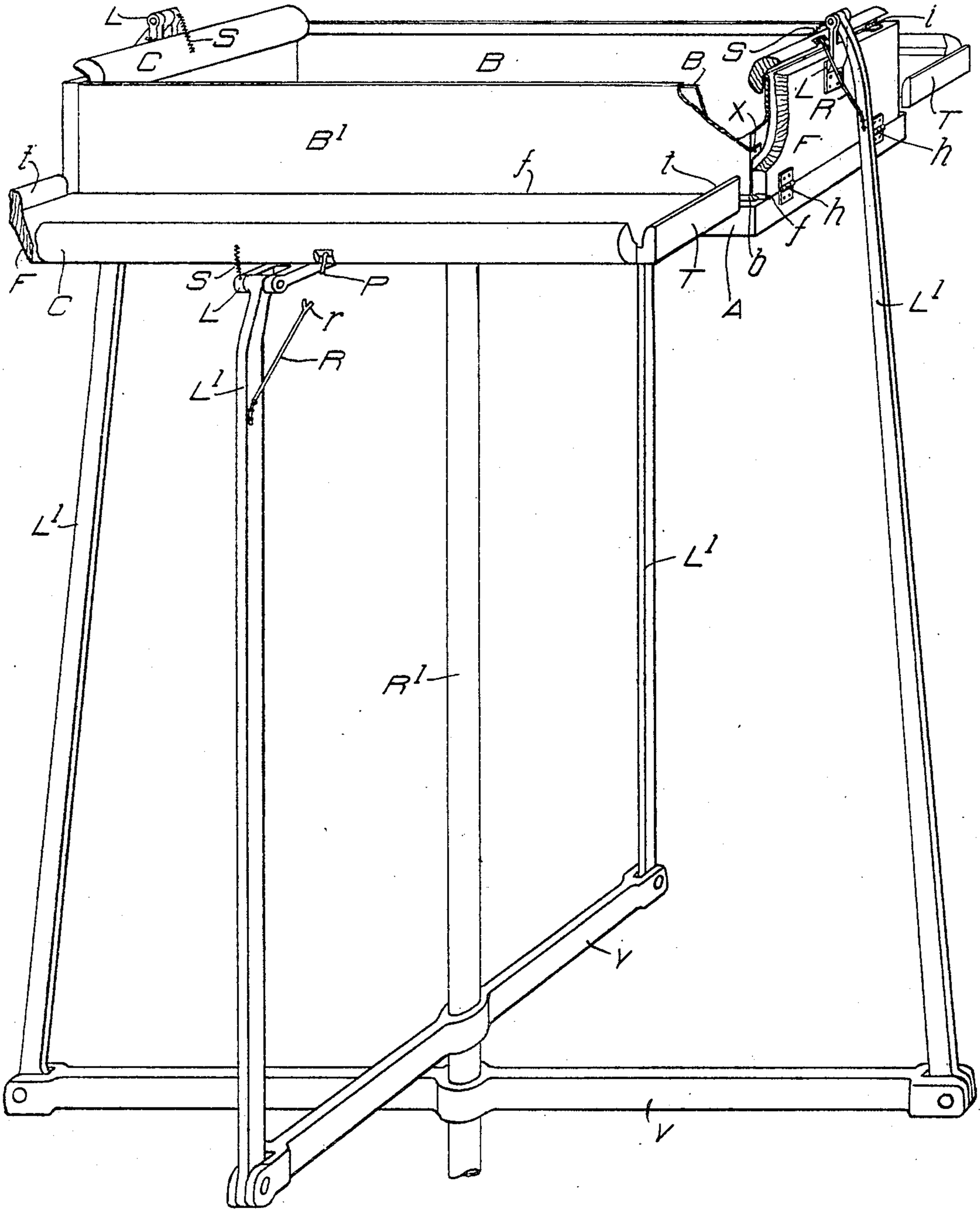


FIG. 1.

WITNESSES

C. B. Middleton

L. B. Middleton

INVENTOR

ENOCH BLAKELEY CAWTHRAY

BY Ellis Spear Jr.

No. 795,268. PATENTED JULY 25, 1905.

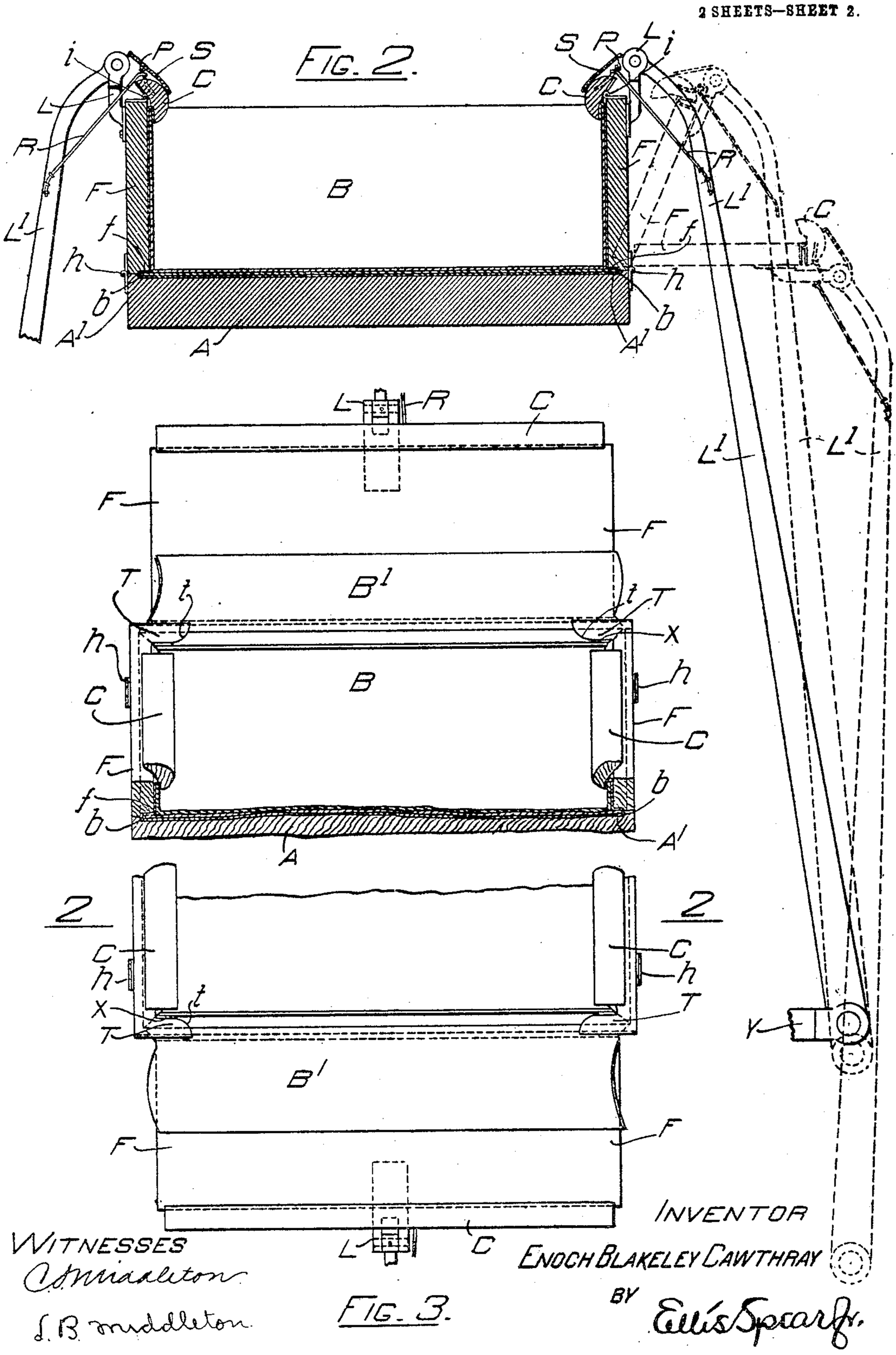
E. B. CAWTHRAY.

MACHINE FOR COVERING BOXES.

APPLICATION FILED JULY 16, 1903.

2 SHEETS—SHEET 2.

FIG. 2.



WITNESSES

C. Middleton

S. B. Middleton

INVENTOR

ENOCH BLAKELEY CAWTHRAY

BY Ellis Spear Jr.

FIG. 3.

UNITED STATES PATENT OFFICE.

ENOCH BLAKELEY CAWTHRAY, OF BROCKTON, MASSACHUSETTS, ASSIGNOR TO ARTHUR HAYWOOD ALGER AND JOSEPH ALGER, OF BROCKTON, MASSACHUSETTS.

MACHINE FOR COVERING BOXES.

No. 795,268. Specification of Letters Patent. Patented July 25, 1905.

Application filed July 16, 1903. Serial No. 165,811.

To all whom it may concern:

Be it known that I, ENOCH BLAKELEY CAWTHRAY, a subject of King Edward VII of Great Britain, residing at Brockton, county of Plymouth, and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Machines for Covering Boxes, of which the following is a specification.

This invention relates to machines for the manufacture of paper boxes, and particularly to machines for covering a box having an extension edge. This type of box has been heretofore usually covered by hand and in several steps, and has for this reason been difficult to produce in perfect form and expensive on account of the labor involved and the stock wasted.

The present invention involves a machine which will take an extension-bottom box and blank and form the blank about the box and paste it firmly and smoothly thereto.

In the drawings, in which like letters of reference indicate corresponding parts throughout, Figure 1 is a view of the machine with a box in position. Fig. 2 is a section of the head on the line 2 2, Fig. 3; and Fig. 3, a plan of the same broken away in the middle.

A is a removable bed, recessed at A′ to receive the extension-bottom *b* of the box and bring it flush with the edges of the bed.

F represents folders hinged at *h* to the bed so that their edges *f* will when they are swung up overlap the bed sufficiently to cover the extension *b* of the box-bottom.

C represents turning members hinged at *i* to the upper edge of the folders F, and are so arranged that when they are tipped down by the arm R, which engages the pin P on their rear, they will overturn the paper on the upper edge of the box and firmly press it against the upturned folder F. The arm R is mounted upon the link L′, and as that is raised and swings in toward the head it causes the arm to overtake and its forked end *r* to engage the pin. As the link swings still farther in the arm tips the turner on its hinge until its inner face presses against the inside of the box.

The side-folders are provided with corner-turners T, which when the side-folders are swung up turn the corner-flaps on the side section (indicated as *x* in Figs. 1 and 3) around the corners. These folders, as shown in Figs. 1 and 3, consist of arms having cam-faces *t* on their outer ends that are flat and fit the box tightly at the ends adjacent to the folders F to press and paste the flaps closely against the corners of the box.

Folders F are provided with levers L, which are connected by the links L′ to yokes Y, slidingly mounted on a supporting-rod R. These yokes are operated by any means, as cams or treadles.

The edge-turning members C are normally held back by springs S, interposed between them and the levers L, and the folders F return to their normal open position by their own weight, assisted by that of the yoke.

The operation of the machine is as follows: A box B, having an extension-bottom and a pasted blank B′ applied thereto, is placed in position in the recess A′ of the bed. The sides carrying the end-folders are now raised, as indicated in Figs. 2 and 3, turning the paper up against the box and forcing it by the edge *f* closely into the corner between the extension-bottom and the side. As the folder completes its motion and the paper is pressed against the side of the box the arm R comes into engagement with the pin P and tips the turning member to form the paper over the edge and clamp it against the box on the inside. Upon the release of the yoke the spring S will first return the member C to its open position, releasing the side of the box, and the folder will then drop back, releasing the extension edge over which it has been clamped. The end-folders are now brought into operation in a similar manner and the end sections of the blank are folded over and onto the extension edge against the side and over the top of the box in the same manner, covering the corner-flaps which were turned around and pasted on the ends when the side-folders were raised.

The machine here shown is adapted to rectangular boxes, but it may obviously be arranged to cover boxes of any number of sides or shapes by the substitution of a head of the shape desired and having the necessary number of sides.

The turners T are arranged on opposite

folders, and with boxes having even number of sides the folders are usually worked in pairs and arranged alternately, so that the side sections of the blank having the corner-flaps will be applied first and said corner-flaps covered by the adjacent side sections when they are brought into place.

As stated above, the yokes can be operated by any means, as treadles or cams or even by hand, and the boxes and blanks can be fed to the machine by hand or any suitable feeding device, and various other modifications and changes may be made in the machine without departing from the spirit of my invention.

What I therefore claim, and desire to secure by Letters Patent, is—

1. In a machine for covering an extension-edge box, the combination of a support for the box, side-folders having side and bottom pressing surfaces, hinged thereto, means for swinging said folders into operative position, edge-turners carried by said side-folders, and means operated by the folder-swinging means to operate the edge-turners.

2. In a machine for covering an extension-edge box, the combination of a support for the box and covering blank, side-folders having side and bottom pressing surfaces, hinged thereto, end-turners on alternate pairs of said side-folders, and means for moving said side-folders in pairs to bring the side-pressing surfaces against the opposite sides of the box, and bottom-pressing surfaces against opposite extensions of the box, and turn the covering paper about the corners.

3. In a machine for covering an extension-edge box, the combination of a recessed support for the box-bottom, side-folders, means for movably supporting said side-folders, said side-folders having side and bottom pressing surfaces, means for moving said side-folders into a position at an angle to the box-support, to press the side-pressing surfaces against the side of the box and the bottom-pressing surfaces against the extension edge of the box.

4. In a machine for covering an extension-edge box, the combination of a recessed support for the box-bottom, side-folders hinged thereto, said side-folders having side and bottom pressing surfaces, means for moving opposite pairs of side-folders into position to press the side-pressing surfaces against the side of the box and the bottom-pressing surfaces against the extension edge of the box.

5. In a machine for covering an extension-edge box, the combination of a recessed support for a box-bottom, side-folders hinged thereto, said side-folders having side and bottom pressing surfaces, edge-turners mounted on said side-folders, means for moving said side-folders into position to press the side-pressing surfaces against the side of the box and the bottom-pressing surfaces against the extension edge of the box, and means to operate the edge-turners.

6. In a machine for covering an extension-edge box, the combination of a recessed support for the box-bottom, side-folders hinged thereto, said side-folders having side and bottom pressing surfaces, end-turners mounted on alternate pairs of said side-folders, means for moving opposite pairs of side-folders into position, to press the side-pressing surfaces against the side of the box and the bottom-pressing surfaces against the extension edge of the box.

7. In a machine for covering an extension-edge box, the combination of a support for the box and covering-blank, side-folders having side and bottom pressing surfaces, means for movably supporting the side-folders so that they may be swung upwardly into a position at an angle to the box-support to press the side-pressing surfaces against the sides of the box and the bottom-pressing surface against the extension edge and means for moving said side-folders into operative position.

8. In a machine for covering an extension-edge box, the combination of a support for the box and covering-blank side-folders having side and bottom pressing surfaces, means for movably supporting the side-folders and means for moving said side-folders into operative position.

9. In a machine for covering an extension-edge box, the combination of a plate for supporting the bottom of the box and the covering-blank, swinging side-folding plates having pressing-surfaces on their inner sides and bottoms, means for pivotally supporting the side-folding plates, means for swinging the side-folding plates into position, the bottoms of the side-folding plates being spaced apart from the supporting-plate to form a recess in which the extension edge of the box is received and pressed.

10. In a machine for covering an extension-edge box, the combination of a plate for supporting the bottom of the box and the covering-blank, swinging side-folding plates having pressing-surfaces on their inner sides and bottoms, means for pivotally supporting the side-folding plates, means for swinging the side-folding plates into position, the bottoms of the side-folding plates being spaced apart from the supporting-plate to form a recess in which the extension edge of the box is received and pressed, edge-turners carried by said side-folding plates, and means to operate said edge-turners.

11. In a machine for covering an extension-edge box, the combination of a plate for supporting the bottom of the box and the cover-

ing-blank, opposite pairs of swinging side-folding plates having pressing-surfaces on their inner sides and bottoms, means for pivotally supporting the side-folding plates, means for swinging said opposite pairs of side-folding plates into position, the bottoms of the said folding-plates being spaced apart from the supporting-plate to form a recess in which the extension edge of the box is received and pressed.

In testimony whereof I affix my signature in presence of two witnesses.

ENOCH BLAKELEY CAWTHRAY.

Witnesses:

WILLIAM G. ROME,

ELMER H. FLETCHER.