(No Model.) 3 Sheets—Sheet 1.

T. C. DEXTER.

PACKING BOX FOR PAPER FOLDING MACHINES.

No. 551,922. Patented Dec. 24, 1895.

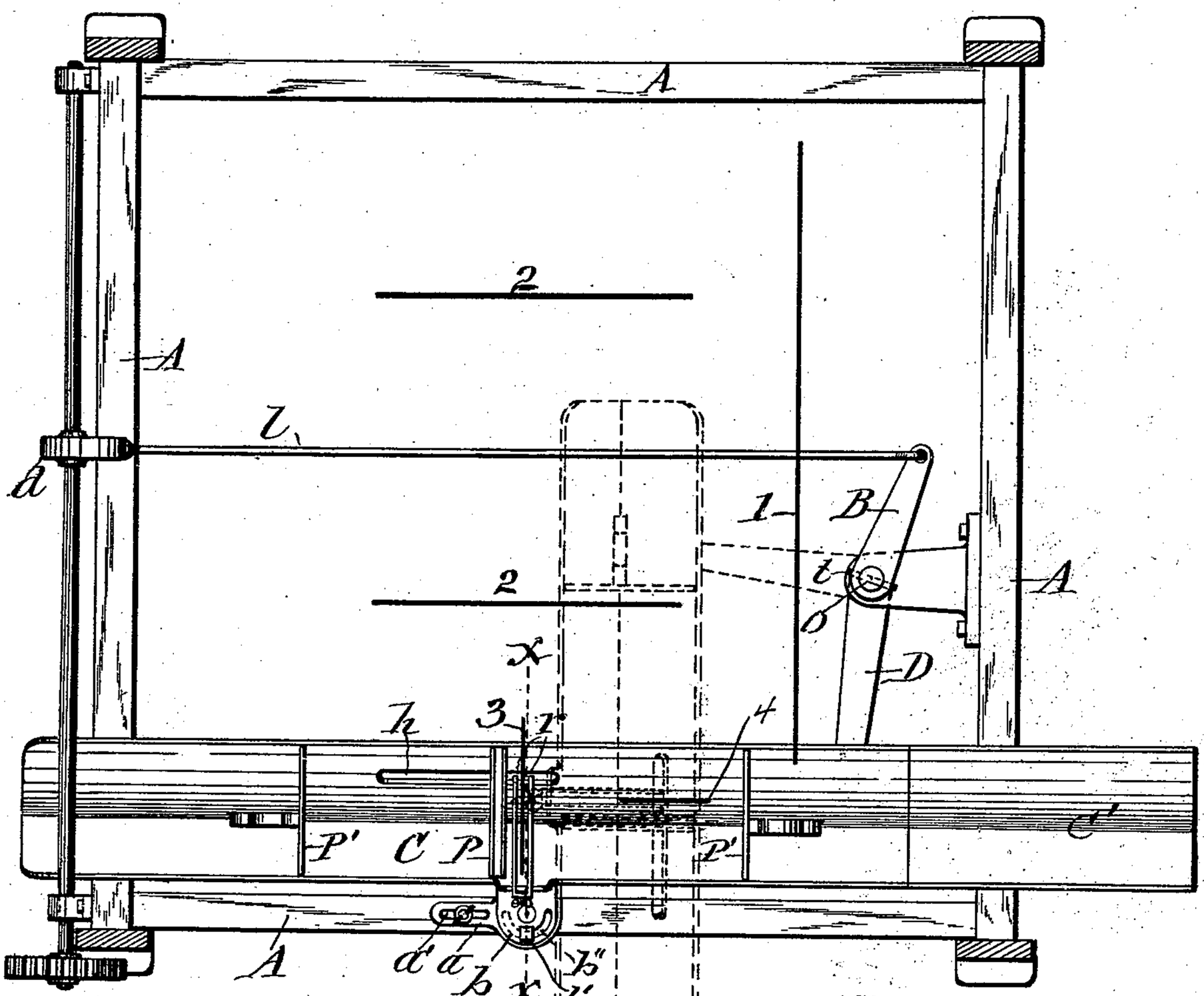
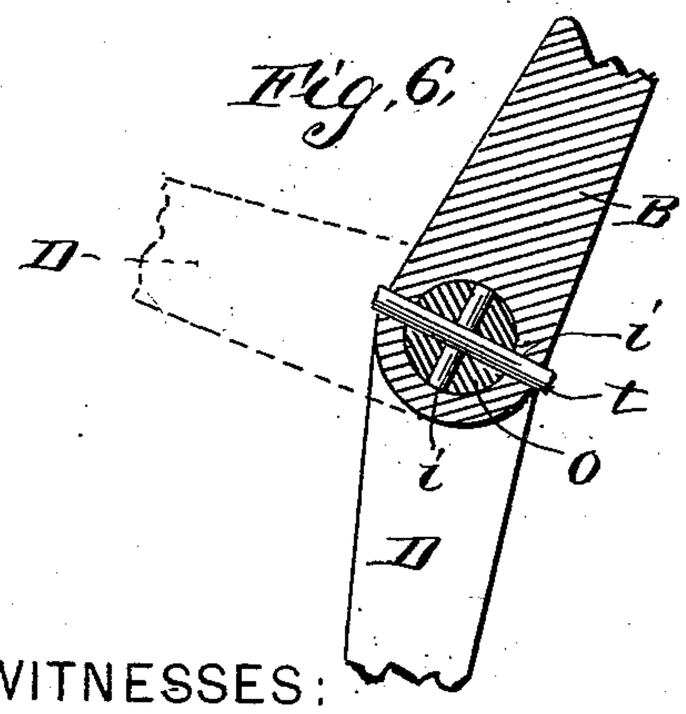


Fig. 1

Fig. 6.



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By E. Saass

his ATTORNEY

(No Model.) 3 Sheets—Sheet 2.

T. C. DEXTER.

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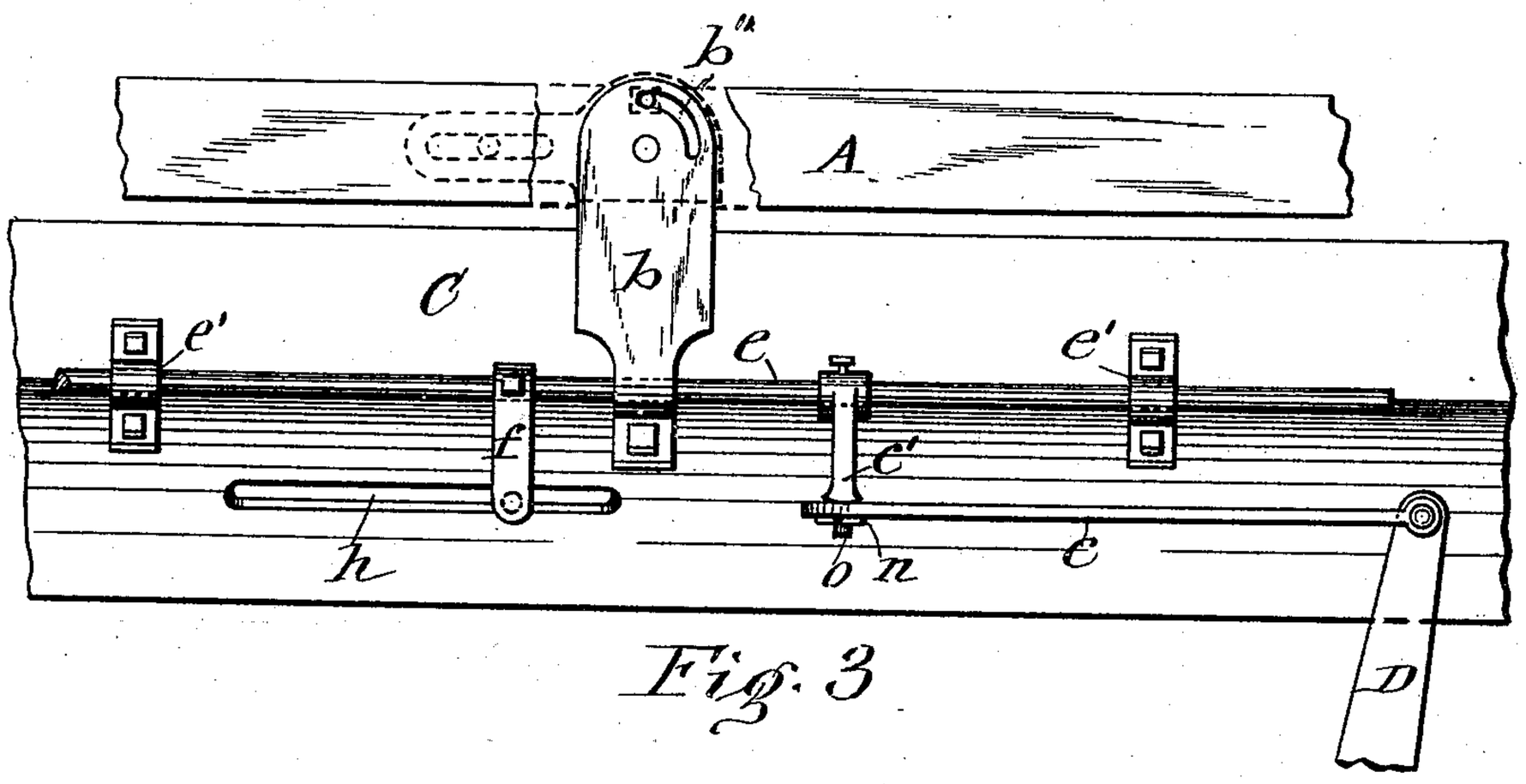

Fig. 3

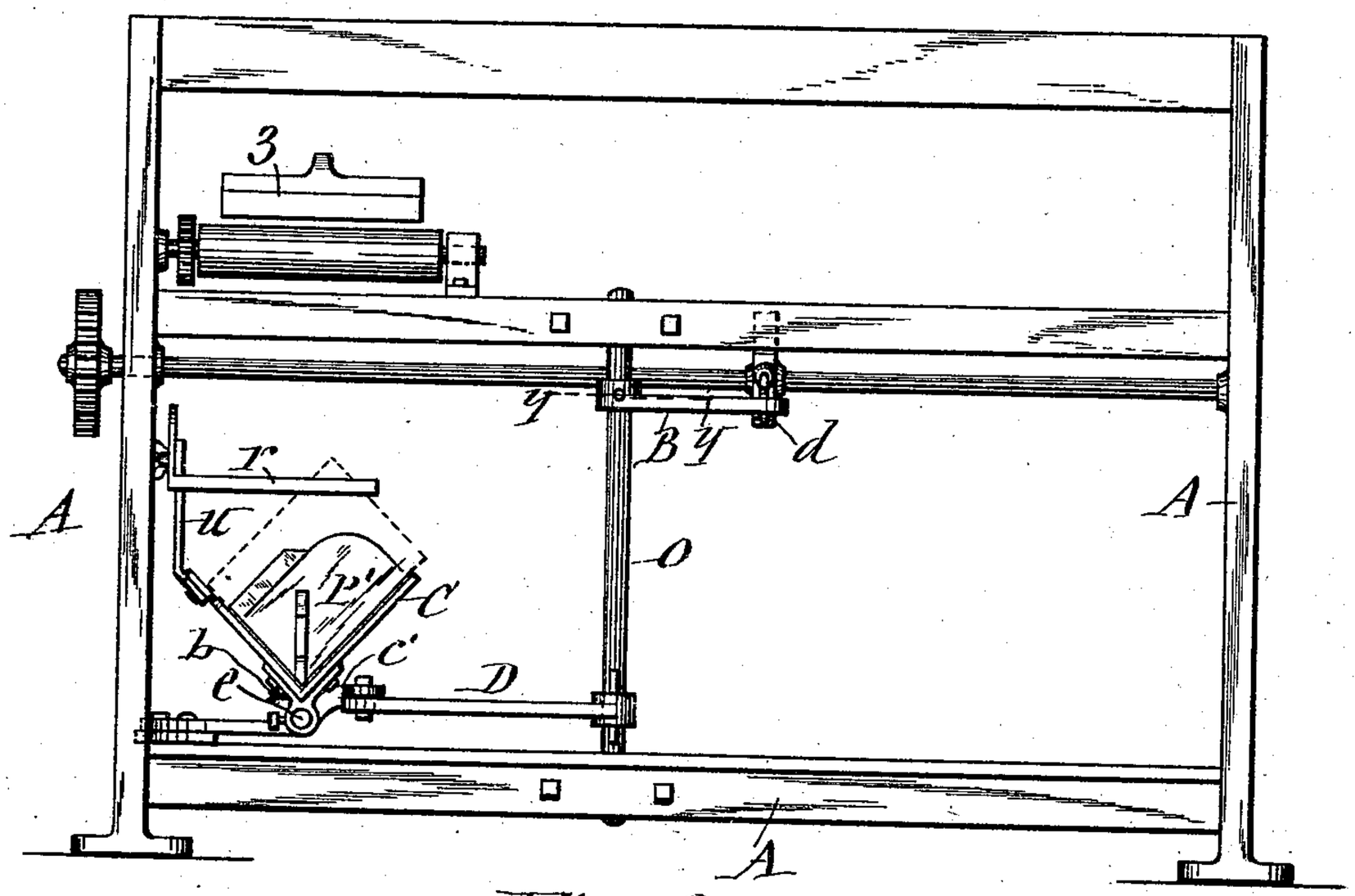

Fig. 2

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(No Model.) 3 Sheets—Sheet 3.

T. C. DEXTER.

PACKING BOX FOR PAPER FOLDING MACHINES.

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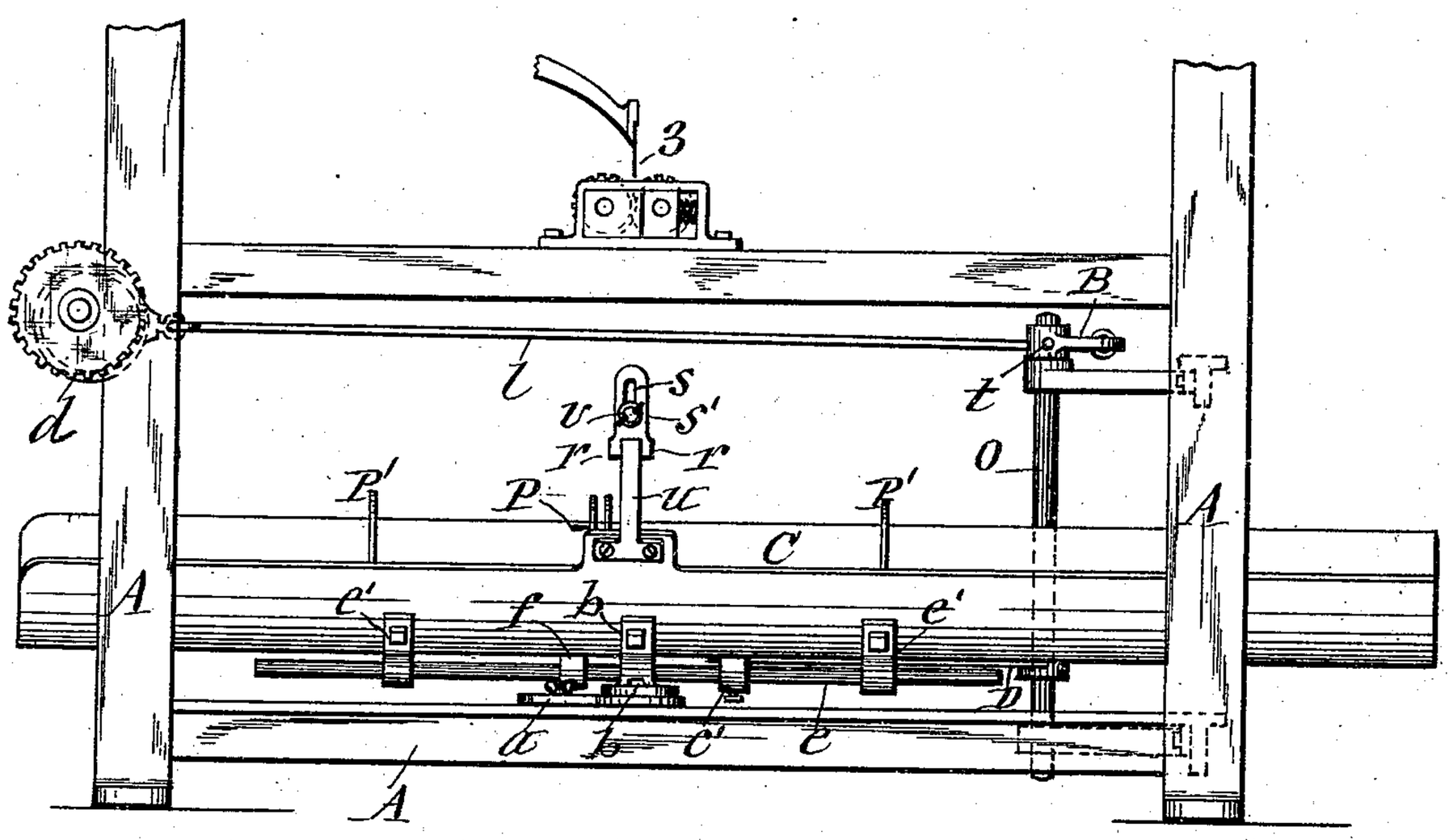

Fig. 4

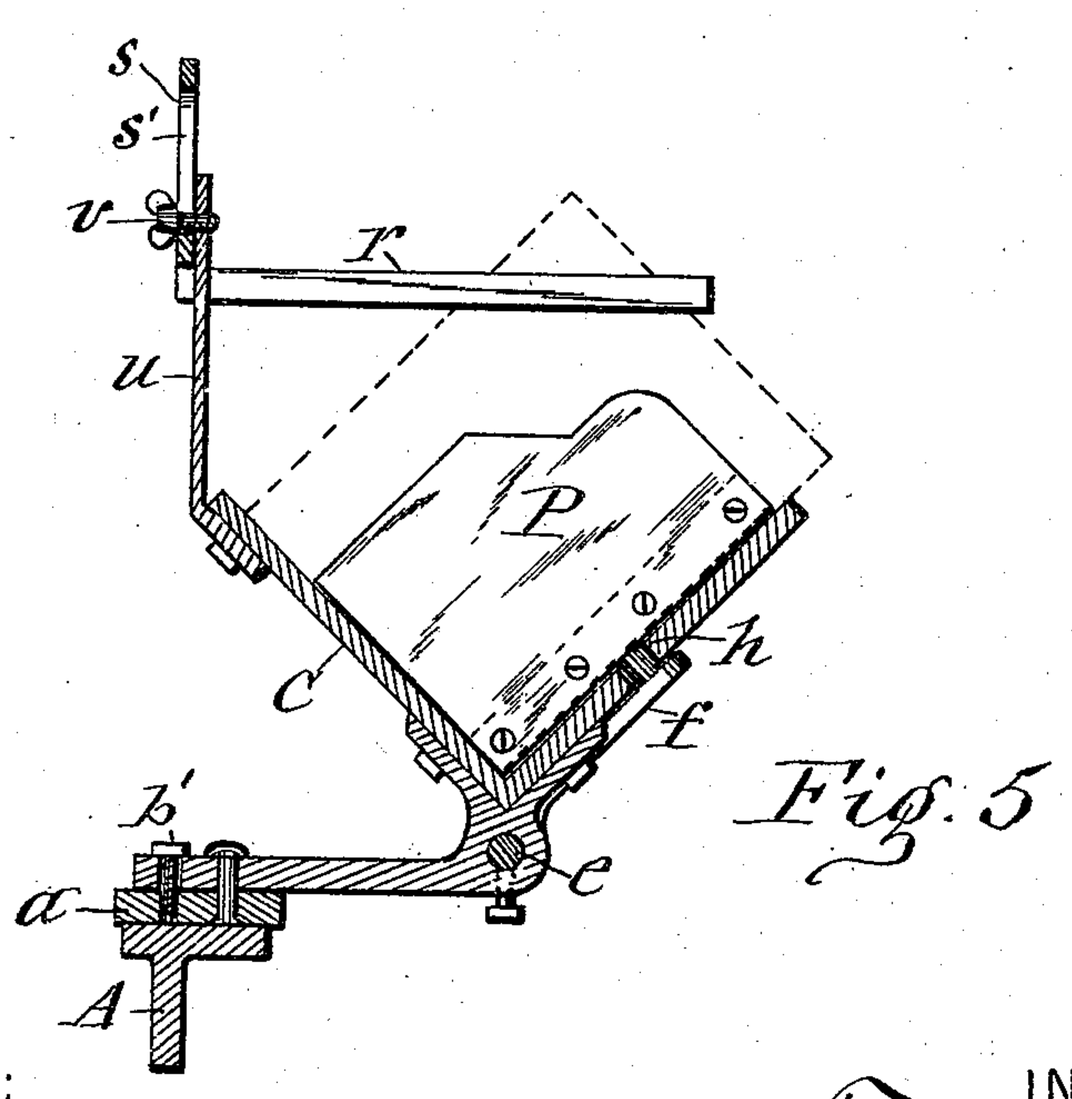

Fig. 5

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UNITED STATES PATENT OFFICE.

TALBOT C. DEXTER, OF FULTON, ASSIGNOR TO THE DEXTER FOLDER COMPANY, OF NEW YORK, N. Y.

PACKING-BOX FOR PAPER-FOLDING MACHINES.

SPECIFICATION forming part of Letters Patent No. 551,922, dated December 24, 1895.

Application filed January 17, 1894. Serial No. 497,150. (No model.)

To all whom it may concern:

Be it known that I, TALBOT C. DEXTER, of Fulton, in the county of Oswego, in the State of New York, have invented new and useful Improvements in Packing-Boxes for Paper-Folding Machines, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention is designed to be used on paper-folding machines having a plurality of folders adapted to make either three or four folds, as may be desired; and the invention consists essentially of the combination, with said folding-machine, of a packing-box supported under the folders adjustably to receive the paper from either the third or fourth folder, according to the operation of the machine; and the invention also consists in certain novel features of the details of the aforesaid devices, as hereinafter fully described, and specifically set forth in the claims.

In the accompanying drawings, Figure 1 is a plan view of my adjustable packing-box, showing the same in its two positions for receiving the paper from either the third or fourth folder. Fig. 2 is an end view of said packing-box in position for receiving the paper from the third folder. Fig. 3 is an enlarged inverted plan view of said box with means for transmitting reciprocating motion to the packer. Fig. 4 is a side view of the same. Fig. 5 is an enlarged transverse section on line X X in Fig. 1; and Fig. 6 is an enlarged transverse section on line Y Y in Fig. 2, showing the adjustable connection of the rock-arm to the rock-shaft which operates the reciprocating packer.

Similar letters and numerals of reference indicate corresponding parts.

A represents the supporting-frame of the folding-machine.

1 2 3 4 denote, respectively, the first, second, third and fourth folders consisting of the usual blades disposed at right angles to each other and in successive lower planes and introducing the sheet between rollers in the usual and well-known manner. The means for operating said rollers and folding-blades being also well understood and in no wise affecting the operation of my present invention, said means need not here be illustrated or described. The lines 1 2 3 4 merely indicate the positions of the successive folding devices. The two folding devices designated by reference-figures 2 2 receive the paper slitted into two parts and fold said parts separately and simultaneously and impart to each its second fold.

C represents the packing-box, which is of the shape of a prolonged trough for the reception of the folded sheets. In said trough is the usual packer P, which reciprocates lengthwise of the box and between breasts P′ P′, which latter are also movable to yield to the pressure of the packer sufficiently to allow the folded sheets to be packed against the breasts. The arrangement and operation of these packing devices are common to other packing-boxes and well known to persons familiar with the art to which said devices pertain. The purpose of this invention is to render said packing-box adjustable in its position in relation to the folders or folding rollers and blades so as to adapt said box to receive the paper from either the third or fourth folder, and to that end I pivot said packing-box so as to allow it to be turned in a horizontal plane and bring it into its aforesaid positions. For this purpose I prefer to mount on one of the side rails near the bottom of the frame A a stout metal plate *a*, which is provided with an elongated slot *a′* for the reception of the bolt by which said plate is fastened to the aforesaid rail. Said slot allows the plate to be adjusted in its position as may be required to bring the box in proper positions under the folders. Upon this plate is pivoted a bracket *b* the base of which is provided with a segmental slot *b″* concentric to the pivot. Through this latter slot passes the clamping-screw *b′*, which enters a screw-threaded socket in the plate *a* and when tightened serves to retain the bracket in its position. To the bracket *b* is fastened the packing-box C at or near the center of its length. Said box can thus be swung in a horizontal plane to lines at right angles to each other when the clamping-screw *b′* is loosened.

To avoid contact of the box C with the legs of the frame A in the operation of turning said box into different positions, said box is formed

with a separable end section C′, which can be removed and thus shorten the box sufficiently to allow it to be turned as aforesaid.

For operating the packer P in either of the aforesaid positions of the box C, I employ the rock-shaft O, to which is attached the arm D, the free end of which is connected to the packer P by means of a rod *c*, attached at one end to said arm and at the opposite end to a short arm *c′* fixed to a rod *e*, which extends along the exterior of the box C parallel therewith and slides longitudinally in guides *e′ e′* attached to the box. Another short arm *f* attached to the rod *e* has its free end connected to a stud affixed to the packer and projecting through a longitudinal slot *h* in the side of the box. The rock-shaft O receives its motion from a rotary eccentric *d* by the pitman *l* connected to the eccentric-strap and to the arm B attached to the rock-shaft O.

To allow the packing-box C to be turned at right angles from under one folder to a position under another folder, as hereinbefore described, without affecting the position of the rock-arm, I provide the rock-shaft with two key-seats or pin-holes *i i* at right angles to each other, as shown in Fig. 6 of the drawings, either of which is adapted to receive through it the key or pin *t* by which the rock-arm B is attached to the shaft O. By withdrawing said key or pin the arm B is loosened on the shaft and the latter can be turned with the other arm D to bring said arm in proper position for operating the packer after the packing-box has been swung around to its requisite position. To further facilitate the adjustment of the packing-box to its different positions I make the rod *c* detachable from the short arm *c′*, preferably by providing the end of the rod with an eye and forming the arm *c′* with a trunnion *o*, which passes through said eye and receives through its protruding end a linch-pin *n*.

r r represent the fingers which are usually attached to the frame of the machine and extend downward therefrom and in such positions as to receive between them the folded sheet descending from the folding-rollers to the packing-box. Said fingers engage the upper corner portion of the sheet received in the packing-box and support said sheet in upright position after the packer P has pushed it beyond the fingers toward either of the breasts P′. In order to make one set of said fingers perform the aforesaid function in either of the adjusted positions of the packing-box C, I attach said fingers to the packing-box and make them adjustable up and down to engage papers of different sizes. Said adjustability is represented in the drawings of the form of a vertical slot *s* in the plate *s′*, to which both fingers are attached. A standard *u* rises from the side of the box C and has the plate *s′* attached to it by a clamping-screw *v* passing through the slot *s* and into the standard, as shown in Fig. 4 of the drawings.

What I claim as my invention is—

1. In combination with a paper-folding machine having a plurality of folders at right angles to each other, a packing-box pivoted to swing from under one set of folders to a position under another set of folders, a reciprocating packer in said box, a rock-shaft receiving motion from the actuating mechanism of the folding machine, and an arm connected to said rock-shaft and actuating the packer, said arm being adjustable to accommodate it to different positions of the packing-box as set forth.

2. In combination with a paper-folding machine having a plurality of folders disposed at right angles to each other, a paper-packing box supported under the folders adjustably to positions for receiving the papers from different folders, a packer in said box, and fingers attached to the box adjustably to support papers folded to different sizes as set forth.

3. In a paper-folding machine having a plurality of folders disposed at right angles to each other, the combination with the supporting frame, of the plate —*a*— secured to said frame laterally adjustable, the bracket —*b*— pivoted to said plate to turn in a horizontal plane, and the packing-box —C— supported on said bracket as set forth.

4. In a paper-folding machine having a plurality of folders disposed at right angles to each other, the combination, with the supporting-frame, of the plate —*a*— secured to said frame laterally adjustable, the bracket —*b*— pivoted to said plate, the clamping-screw —*b′*— clamping said bracket adjustably in its position, the box —C— fixed to said bracket, the packer —P— in said box, the rock-arm —B— receiving motion from the actuating mechanism of the folding machine, the rock-shaft —O— having key-seats at right angles to each other for the reception of the attaching key of the rock-arm and the arm —D— attached to the rock-shaft and actuating the packer as set forth.

In testimony whereof I have hereunto signed my name this 16th day of November, 1893.

TALBOT C. DEXTER. [L. S.]

Witnesses:
JOHN J. LAASS,
C. L. BENDIXON.