

(No Model.)

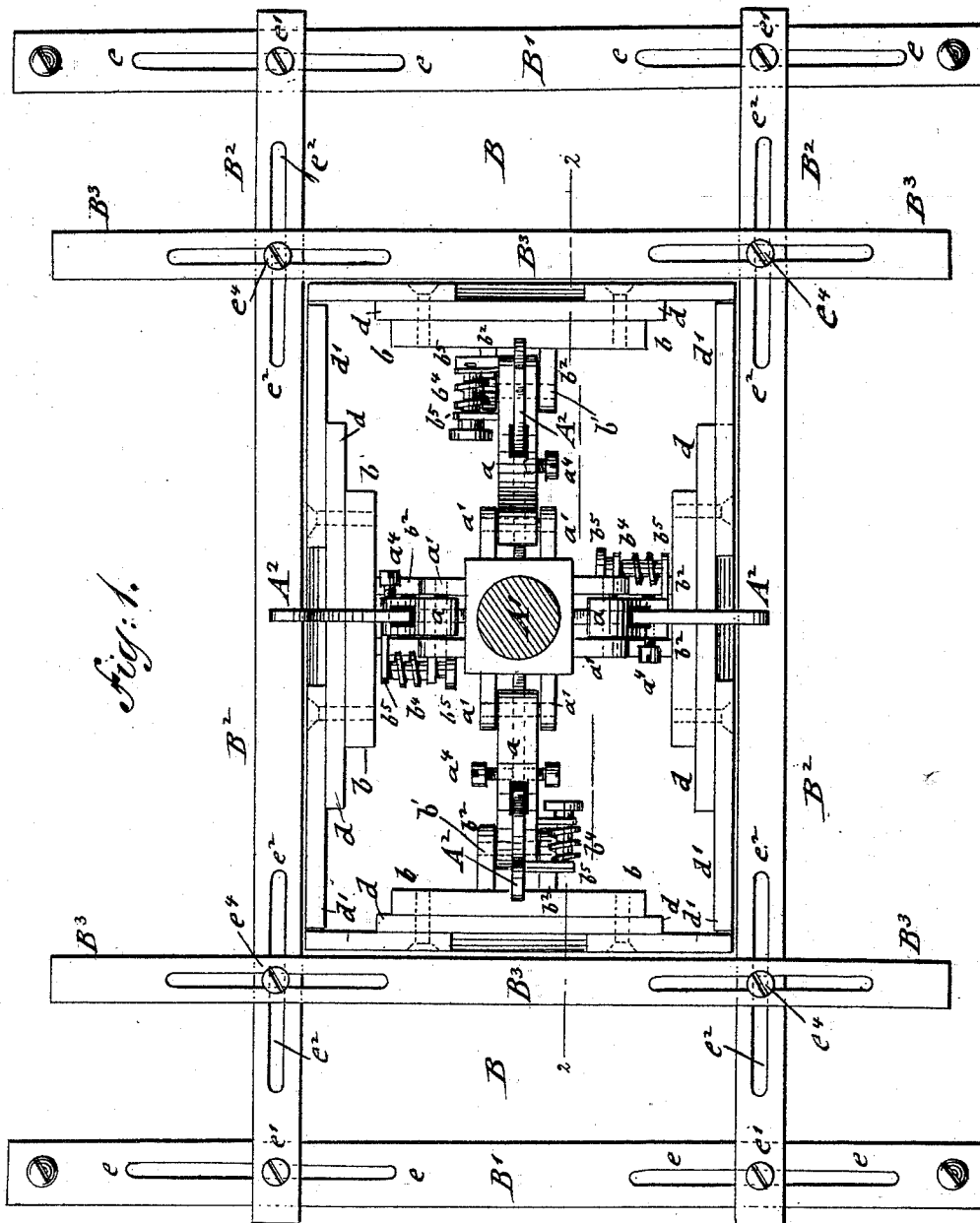
2 Sheets—Sheet 1.

J. & E. R. CORBETT.

PLUNGER FOR CREASING OR CREASING AND FOLDING MACHINES.

No. 497,949.

Patented May 23, 1893.



WITNESSES:

Marnon Hall
Charles Schneider.

INVENTORS

INVENTORS
Joseph Corbett
and Edwin R. Corbett
BY

BY

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ATTORNEYS.

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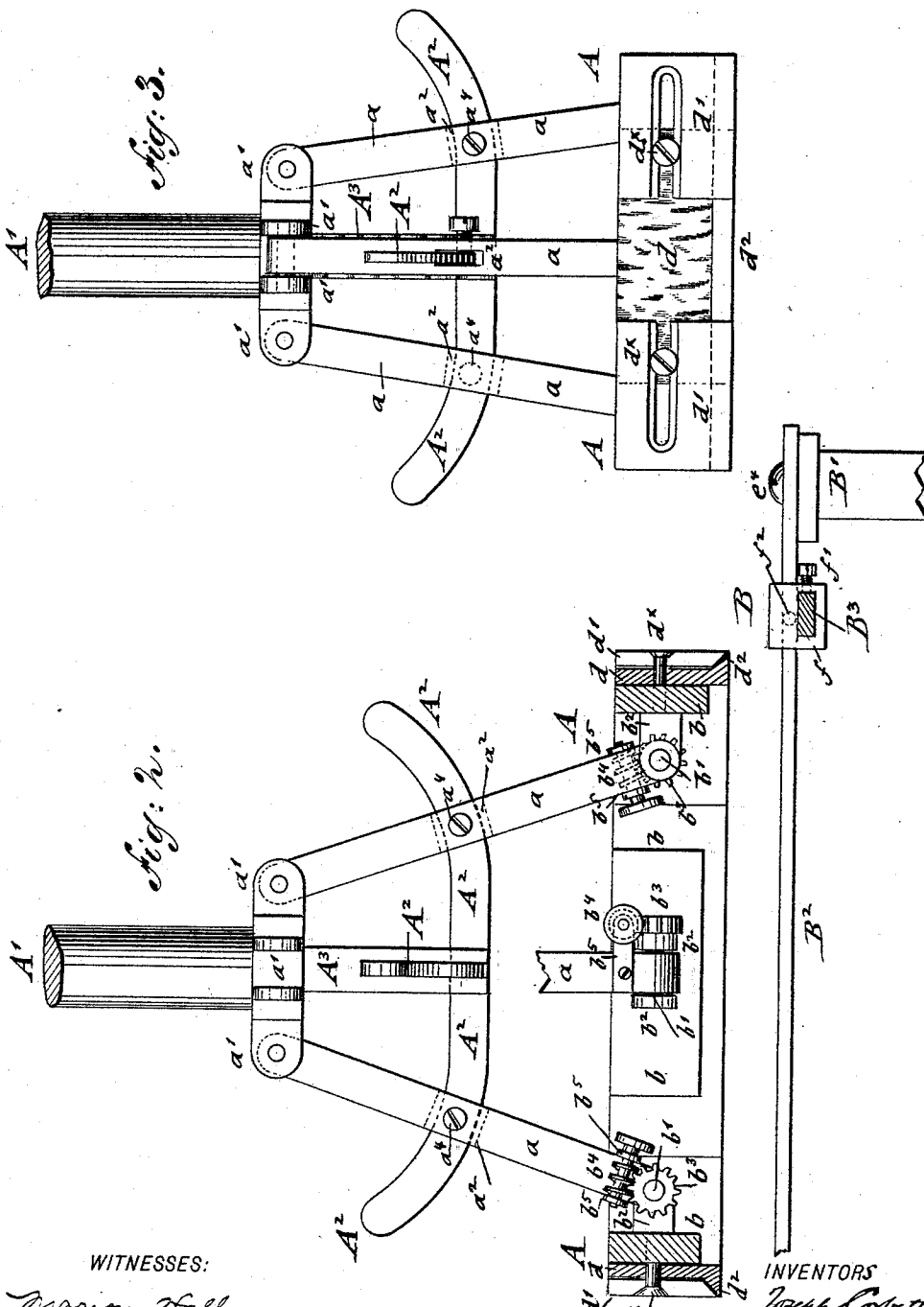
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UNITED STATES PATENT OFFICE.

JOSEPH CORBETT AND EDWIN R. CORBETT, OF NEW YORK, N. Y., ASSIGNORS
TO THOMAS F. SHAW, OF SAME PLACE.

PLUNGER FOR CREASING OR CREASING AND FOLDING MACHINES.

SPECIFICATION forming part of Letters Patent No. 497,949, dated May 23, 1893.

Application filed March 1, 1892. Serial No. 423,374. (No model.)

To all whom it may concern:

Be it known that we, JOSEPH CORBETT and EDWIN R. CORBETT, citizens of the United States, residing in the city of New York, in the county and State of New York, have invented certain new and useful Improvements in Plungers for Creasing or Creasing and Folding Machines, of which the following is a specification.

10 This invention relates to certain improvements in the so-called plungers and boxes for creasing or creasing and folding-machines by which the blank from which an envelope or other article is made is creased preparatory
15 to folding, said plungers and boxes being adapted to be readily adjusted for any desired size of blank, so that any required size of envelope or other article can be quickly and conveniently manufactured, so as to meet
20 the different requirements of the trade.

The invention consists of a creasing-device in which the plunger and box are made adjustable in longitudinal as well as in lateral direction, the plunger being composed of an
25 interior frame, the side-plates of which are pivoted to the lower ends of swinging arms, the upper ends of which are pivoted to the plunger-rod, said arms being guided on fixed arms attached to the plunger-rod below the
30 pivot-connection of the swinging-arms with the same, the latter being secured by means of set-screws on said guide-arms. The side-plates of the inner frame of the plunger are adjusted on the lower ends of the pivot-rods
35 by a suitable adjusting-device so as to be set parallel to the side-bars of the creasing-box. Each side-plate of the inner frame is provided with a fixed plate and two adjustable plates that are guided by means of slots and set-
40 screws on the fixed plate, the lower edges of the plates being beveled, so as to produce one continuous edge for the creasing-operation. The box is constructed of stationary parallel rails having guide-slots, longitudinal bars that
45 are guided in the slots of said rails and transverse bars which are guided in keepers on the adjustable bars and provided with fastening-devices for adjusting the transverse bars on the longitudinal bars, according to the size of
50 blank to be creased.

In the accompanying drawings, Figure 1 represents a plan, partly in horizontal section through the plunger-rod of our improved plunger and box for creasing or creasing and folding-machines. Fig. 2 is a vertical longitudinal section on line 2 2, Fig. 1; and Fig. 3 is a side-elevation of the plunger.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents the
plunger and B the box of our improved creasing-device. The plunger A is supported by four arms *a*, which are pivoted to ears *a'* of the plunger-rod A' and which are guided by means of slots *a''* in their middle-portions, or by other
means on fixed arc-shaped arms A² that are rigidly attached to a downwardly-extending portion A³ of the plunger-rod A'. The pivot-arms
a may be adjusted to any suitable angle of inclination on the guide-arms A² and secured
thereto by means of set-screws *a*⁴. The lower ends of the pivot-arms *a* are connected with the side-plates *b* of the interior-frame of the plunger by pivots *b'* which turn in bearings
of lugs or ears *b*² of the side-plates *b* and provided with pinions *b*³ rigid on the lugs *b*² and which mesh with worm-screws *b*⁴ supported in laterally-projecting lugs *b*⁵ at the lower ends of the pivot-arms *a*, said worm-screws
meshing with the pinions and permitting the quick and convenient adjustment of the side-plates *b* to a position parallel with the side-bars of the creasing-box, whenever the angle
of inclination of the pivot-arms *a* to the vertical axis of the plunger has been changed.
To each side-plate *b* of the plunger A is attached by screws *d*^x a fixed plate *d*, which in connection with two extensible, longitudinally-recessed plates *d'* form the exterior frame of the plunger. The lower edge of the fixed
plate *d* is provided with an outwardly-beveled lip *d*², to which are fitted the correspondingly-beveled lower edges of the adjustable plates *d'*, so that a sharp creasing-edge is formed along the lower part of the plunger,
to whatever position the exterior side-plates of the plunger are adjusted on the fixed plates *d*. The transverse adjustable plates *d'* of the plunger extend over the longitudinal side-plates of the same, as shown clearly in Fig.

1, so that a creasing-edge is formed along the lower part of the plunger, which can be adjusted to the exact size of envelope to be produced. In place of the worm-screw and pinion by which the inner side-plates *b* of the plunger are adjusted, so as to be supported in proper position toward the side-bars of the creasing-box at the lower ends of the pivot-arms *a*, any other adjustable device may be used, or a simple clamping-device, by which the inner plates of the plunger-frame are firmly secured to the lower ends of the pivot-rods, as we do not desire to confine ourselves to the special construction of the adjusting-device shown.

The box *B* is constructed of stationary parallel rails *B'*, which are provided with guide-slots *e* in which the longitudinal bars *B*² of the creasing-box are guided and to which they are firmly secured by means of set-screws *e'*, or other suitable fastening-devices. The longitudinal bars *B*² are also provided with slots *e*² on which the slotted portions of the transverse bars *B*³ are adjusted by means of set-screws *e*⁴, as shown in Fig. 1. In place of providing the transverse bars *B*³ with slotted portions, the longitudinal bars *B*² may be provided with sleeve-shaped keepers *f* that are made adjustable on said bars, and which are provided with transverse slots at the under side in which the transverse bars *B*³ are guided, said bars being adjusted in said keepers by means of set-screws *f'*, while the keepers themselves are secured to the longitudinal bars by additional set-screws *f*², as shown in Fig. 2. By the slotted portions of the longitudinal and transverse bars *B*² and *B*³ and their set-screws or keepers, the transverse bars *B*³ can be readily adjusted on the longitudinal bars *B*², while the latter are adjusted on the stationary rails *B'*, after which they are firmly secured in position. The creasing-box *B* can thus be adjusted exactly to the size of the plunger, due allowance being made for the thickness of the material of which the blank of the envelope or other article is composed, so that the flaps which are bent-up from the body of the blank by the edges of the plunger and box find sufficient space between the same. By adjusting the longitudinal and transverse bars of the box *B*, the latter can be readily adjusted to the different sizes to which the plunger is adjusted, so that any size of blank for envelopes or other articles within certain limits can be creased by the plunger or box, as soon as the required adjustment as to the length and width of the article to be produced is set off in the plunger and box. When it is desired to crease only the opposite sides of an article, the plunger would then require only two pivot-arms instead of four, to which the required side-plates and laterally-extensible plates are applied.

The advantages of our improved plunger and box for creasing or creasing and folding-machines are, that the same can be readily

adjusted for any desired size of blank to be creased, the smallest size to be produced corresponding to the space inclosed by the abutting-ends of the fixed guide-plates *d*, while the largest size of envelope is defined by the greatest extent to which the pivot arms of the plunger can be adjusted, provision being made that the plunger-rod can be lowered sufficiently so that the proper distance of the edges of the plunger from the edges of the creasing-box be retained.

We do not claim in this application anything which is described and claimed in the application for a plunger and box for creasing or creasing and folding-machines, which was filed June 27, 1891, Serial No. 397,684.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination, in a creasing or creasing and folding-machine, of an adjustable box formed of stationary rails and longitudinal and transverse bars connected at right angles with each other, with a plunger comprising pivot-arms, connected to the plunger rod, means for guiding said arms, means for holding said pivot arms in their adjusted position, interior side-plates pivoted to the lower ends of said pivot-arms, means for adjusting said side-plates on the pivot-arms, and exterior extensible plates applied to said side-plates, substantially as set forth.

2. The combination, in a creasing or creasing and folding-machine, of a box, formed of stationary rails, longitudinal bars guided in slots of said stationary rails, and transverse bars guided in slots of the longitudinal bars, with a plunger, comprising pivot-arms, connected to the plunger rod, means for guiding said rods, means for holding said pivot arms in their adjusted position, interior side-plates pivoted to the lower ends of the pivot-arms, means for adjusting the interior side-plates on the pivot-arms, guide-plates attached to the interior plates, extensible plates guided on said guide-plates, and means for fastening the extensible plates on the guide-plates, substantially as set forth.

3. A plunger for creasing or creasing and folding machines, comprising pivot-arms attached to the plunger rod, means for holding said pivot-arms in their adjusted position, interior side plates pivoted to the lower ends of the pivot-arms, means for securing the interior plates on the pivot-arms, exterior and extensible plates applied to the interior side-plates, substantially as set forth.

4. A plunger for creasing or creasing and folding-machines, composed of arms pivoted to the plunger-rod, means for guiding said pivot-arms, means for holding the pivot arms in their adjusted position, interior side-plates pivoted to the lower ends of the pivot-arms, means for adjusting said interior plates on the pivot-arms, guide plates attached to the interior side-plates, exterior extensible plates

and set-screws for adjusting the extensible plates on the guide-plates, substantially as set forth.

5 5. A plunger for creasing or creasing and folding-machines, composed of arms pivoted to the plunger-rod, fixed guide-arms attached to the plunger-rod and passing through slots of the pivot-arms, means for clamping said pivoted arms to the guide-arms, interior side-plates pivoted to the lower ends of the pivot-arms, means for adjusting said plates on the lower ends of the pivot-arms, fixed guide-plates attached to the interior side-plates,

slotted extensible plates guided on the guide-plates and means for attaching the extensible plates to the guide-plates, substantially as set forth. 15

In testimony that we claim the foregoing as our invention we have signed our names in presence of two subscribing witnesses.

JOSEPH CORBETT.
EDWIN R. CORBETT.

Witnesses:

PAUL GOEPEL,
MARION HALL.