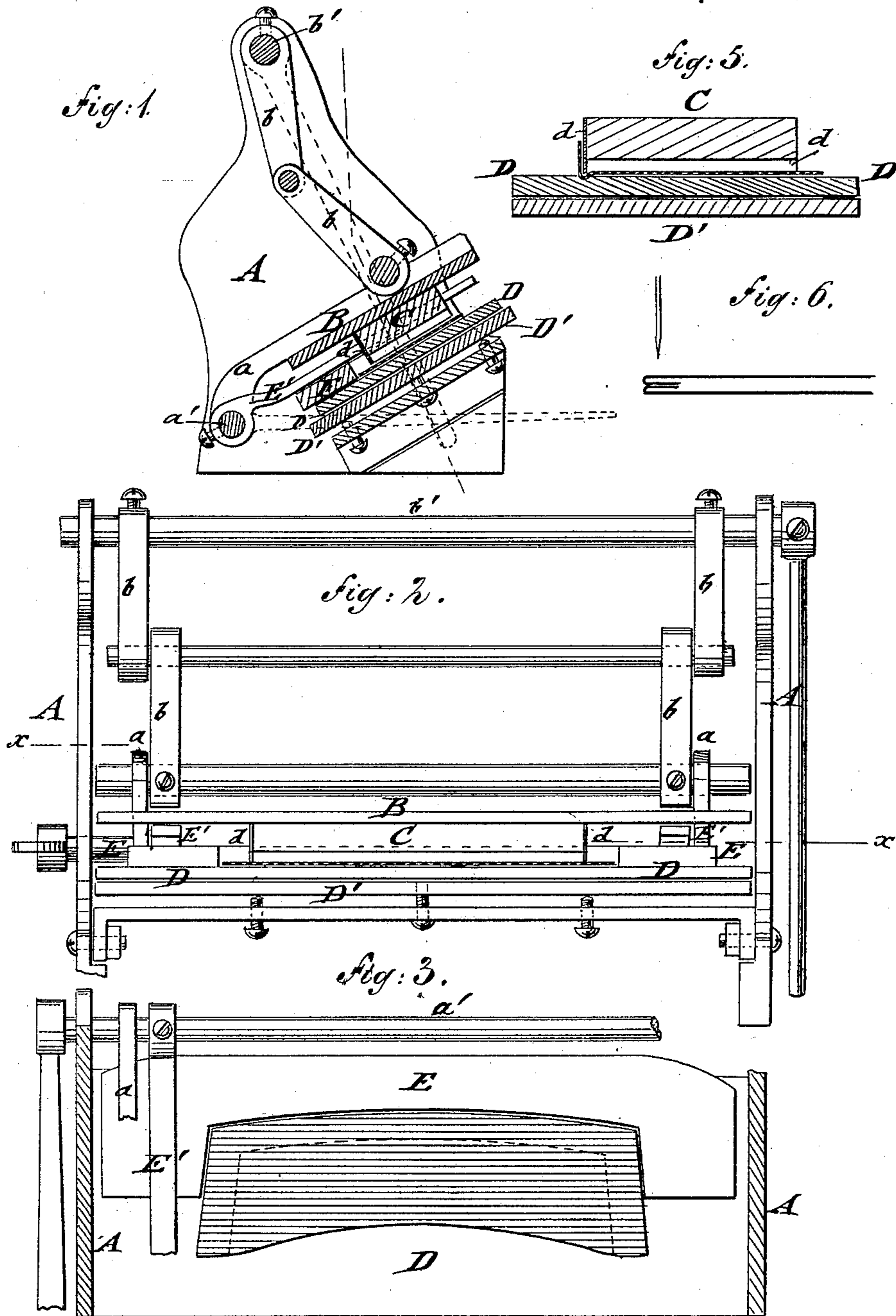
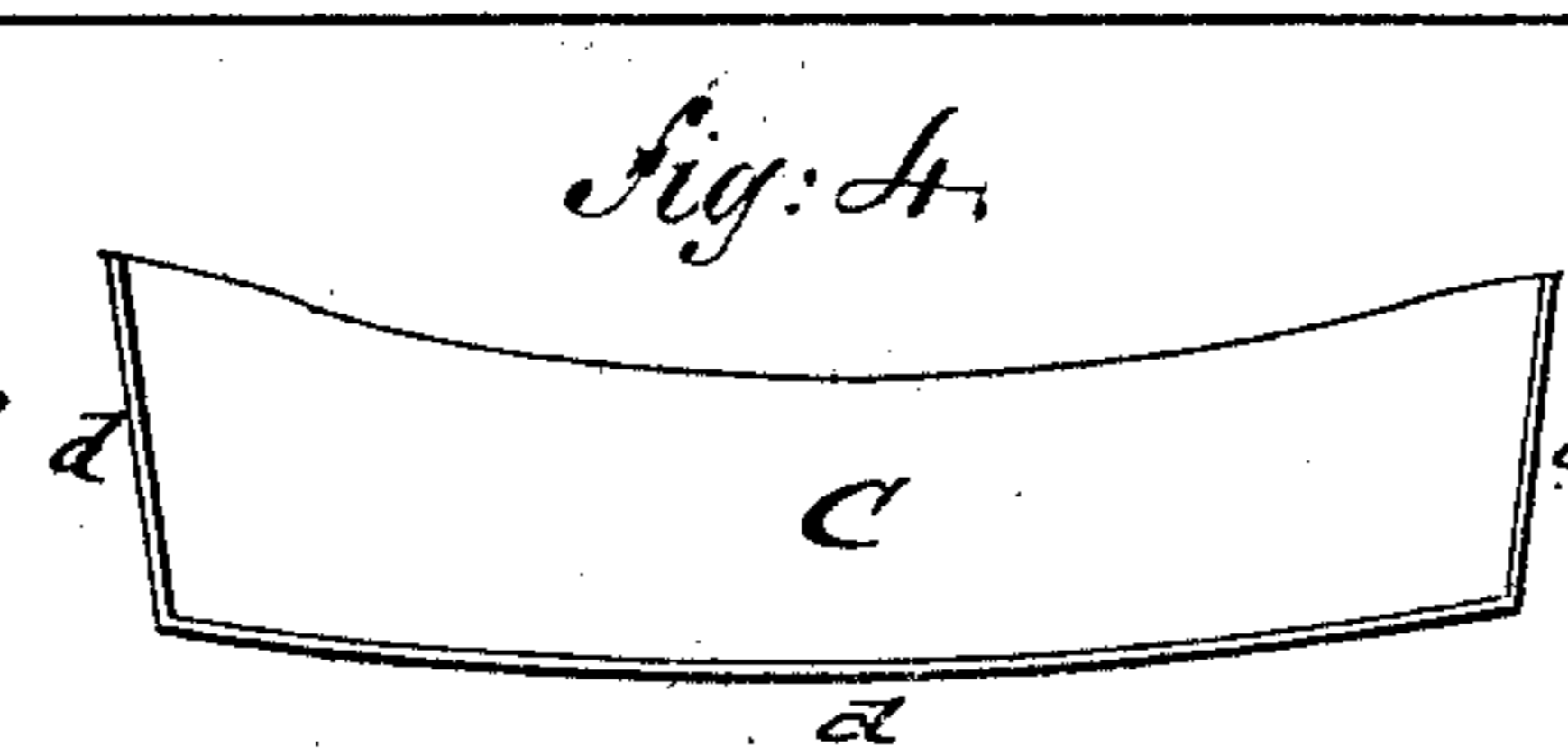


J. K. P. PINE.
Machine for Folding Collar and Cuff Blanks.
No. 232,296. Patented Sept. 14, 1880.



Witnesses:
Carl Kopp
Otto Pisch.



Inventor:
James K. P. Pine,
by
Paul Goepel
Attorney.

UNITED STATES PATENT OFFICE.

JAMES K. P. PINE, OF TROY, NEW YORK.

MACHINE FOR FOLDING COLLAR AND CUFF BLANKS.

SPECIFICATION forming part of Letters Patent No. 232,296, dated September 14, 1880.

Application filed February 28, 1880.

To all whom it may concern:

Be it known that I, JAMES K. P. PINE, of Troy, in the county of Rensselaer and State of New York, have invented certain new and useful Improvements in Machines for Folding the Blanks of Collars and Cuffs, of which the following is a specification.

In the accompanying drawings, Figure 1 represents a vertical transverse section of my improved apparatus for folding the blanks for collars and cuffs. Fig. 2 is a front view; and Fig. 3, a top view of the same, partly in section, on line *x x*, Fig. 2. Fig. 4 is a detail view of the folding-die; Fig. 5, a detail vertical transverse section of the die and elastic bed-plate, showing a collar blank or ply in the act of being folded or bent up; and Fig. 6 is a side view of two folded collar-blanks ready for being stitched together.

Similar letters of reference indicate corresponding parts.

The invention has reference to a machine for folding or bending up the blanks or plies for linen collars and cuffs, by which the folding is accomplished in a quick, cheap, and uniform manner.

Hitherto the blanks or plies for collars and cuffs have been placed with their face side one upon the other, then connected by a row of stitches, then turned right side out by hand, next folded and ironed at the edges, and, finally, connected by a finishing row of stitches at the edges. This is a time-consuming and expensive method. Attempts have been made to accomplish the folding up of the edges by machinery, but without practical success.

My invention is designed to dispense entirely with the inner connecting-stitches of the blanks, also with the necessity of turning them right side out and of folding and ironing the blanks at the outside.

The invention consists, therefore, in folding or bending up the edges of the blanks or plies for collars or cuffs by exposing them, on an elastic bed-plate, to a pressure of a plunger having a die with projecting creasing-knives. The blanks are forced down into the elastic bed-plate by the die, and thereby sprung up and folded. They are then placed one upon the other and directly stitched together.

Referring to the drawings, A represents the

side standards of a hand or power press of any approved construction. B is the plunger of the same, which is hung by arms *a* to a shaft, *a'*, it being raised or lowered by toggle-levers *b b* and an actuating crank-shaft, *b'*. The plunger B carries an interchangeable die, C, of the size and shape of the collar or cuff to be folded, said die being attached by screws to the plunger, and provided at its edges with creasing-knives *d*, which project below the body of the die. For collars three creasing-knives extending around three sides of the body of the die, while for cuffs four creasing-knives, are required.

The die C is pressed by the plunger down upon an elastic bed-plate, D, of rubber or other suitable material, which bed-plate is preferably arranged at a suitable inclination to facilitate the feeding of the blanks of the collars and cuffs. The elastic bed D is supported by a rigid bed-plate, D', which is secured in any suitable manner to the frame of the machine. A gage, E, is held in position on the bed-plate by means of grippers E', said grippers being keyed to the shaft *a'*, to which a crank-handle is applied for readily lifting the grippers whenever it is desired to change the gage E for a new size of collar or cuff. The creasing-knives of the die press the blank or ply of the collar or cuff into the elastic bed, and cause thereby the edges to spring up around the outside of the knives, as shown clearly in Fig. 5. The bent-up edges are then folded easily down on the body of the blank, one blank being then placed upon the other, with the folds facing each other, as in Fig. 6, and the finishing-stitches run through the folds. The blanks are thereby directly connected without requiring any other preparatory steps, as heretofore. Thus a great deal of time and labor is saved, and the manufacture of linen collars and cuffs facilitated and expedited.

Having thus described my invention, I claim as new and desire to protect by Letters Patent—

1. In a machine for folding the edges of blanks or plies for linen collars and cuffs, the combination of a reciprocating plunger having a creasing-die with a fixed elastic bed-plate and a gage held in position by griper-arms

which overlap said gage, substantially as set forth.

2. In a machine for folding the edges of blanks or plies for collars and cuffs, the combination, with the elastic bed-plate, of an interchangeabe gage, E, and of griper-arms E', mounted on a suitable shaft and overlapping said gage to hold the same in place, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 10th day of February, 1880.

JAMES K. P. PINE.

Witnesses:

PAUL GOEPEL,
ADOLF DENGLEK.