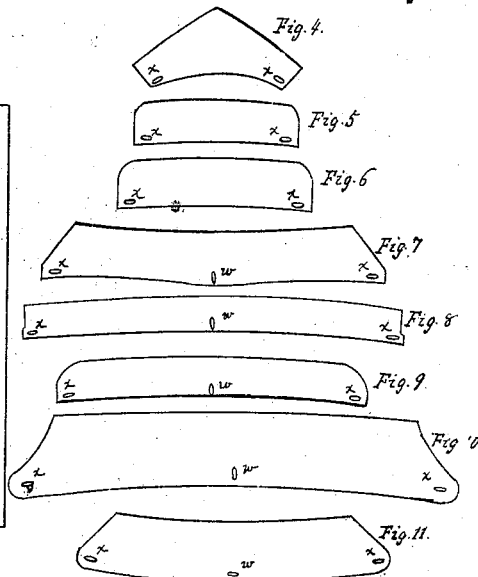
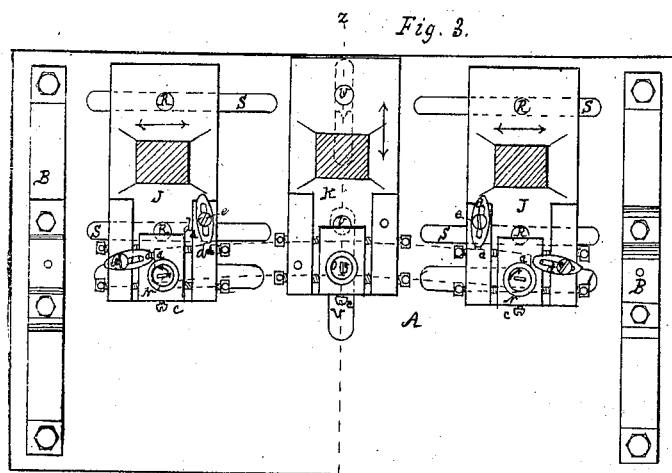
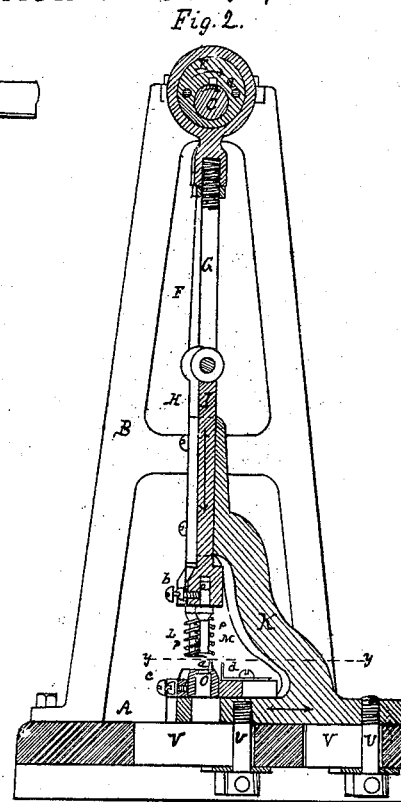
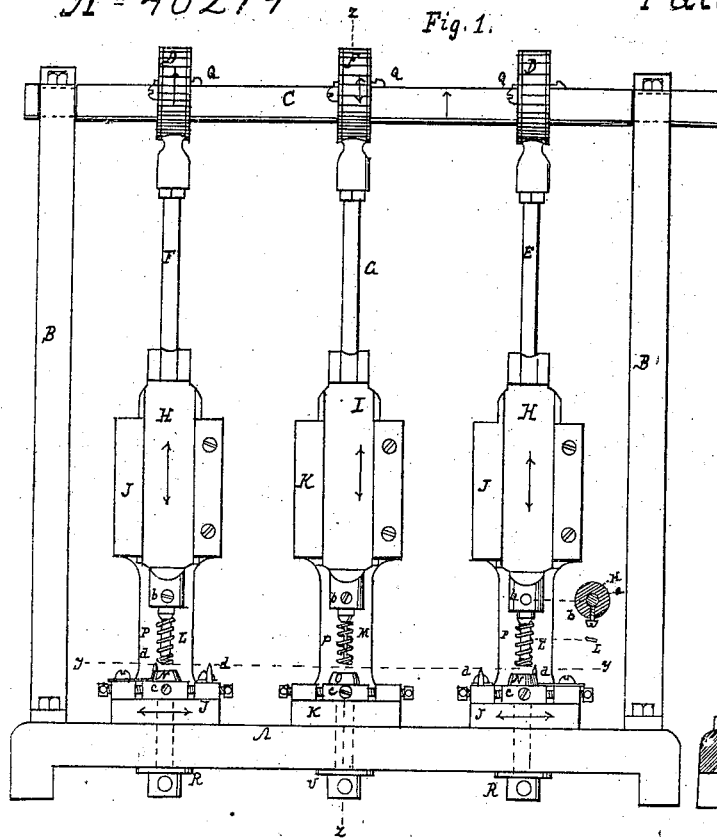


S. S. Stone.

Collar Machine.

N^o 46279

Patented Feb. 7, 1865



Witnesses

John Moran
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Inventor.

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UNITED STATES PATENT OFFICE.

SAMUEL S. STONE, OF TROY, NEW YORK.

IMPROVEMENT IN PAPER-COLLAR BUTTON-HOLE PUNCHES.

Specification forming part of Letters Patent No. 46,279, dated February 7, 1865.

To all whom it may concern:

Be it known that I, SAMUEL S. STONE, of the city of Troy, in the county of Rensselaer and State of New York, have invented a new and useful Machine for Punching Button-Holes in Paper Collars and other Articles of Wearing-Apparel; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which—

Figure 1 is a front elevation; Fig. 2, a transverse section at or about the line $z z$ in Figs. 1 and 3, and Fig. 3 a plan of the parts below the line $y y$ in Figs. 1 and 2.

The same parts are marked by like letters in all the figures, and the directions in which some of the parts move are indicated by arrows thereon.

The principal object of this invention is the production of a cheap and durable machine by which the two ends or the end and central button-holes in gentlemen's paper collars can be conveniently punched at one operation, and which can be readily adjusted to punch the button-holes at various distances apart, or in different relative positions, or in various directions in respect to each other, as required in collars of various shapes or different lengths.

In the accompanying drawings, A is a stationary bed, having two end standards, B B, which support a rotary shaft, C, on which are three separate eccentrics, E E D, all set out on the same side of the shaft, and separately connected by pitman-rods F F G with three separate slides, H H I, that are arranged to reciprocate perpendicularly, or nearly so, to the bed A in suitable stocks J J K, that are fastened apart from each other on the stationary bed.

On each of the separate slides H H I, and next to the bed A, is an oblong male button-hole punch, L L or M, and directly opposite to those three punches, and fast in the stocks J J and K on the bed A, are three corresponding open, hollow, oblong, female punch-receiving dies, N N and O, Figs. 2 and 3; and the aforesaid parts are so constructed and arranged together that when the shaft C is revolved all the punches L L and M are first simultaneously withdrawn from their corresponding dies, N N and O, so as to allow one or more paper collars to be freely inserted

edgewise between the said punches and dies, and next simultaneously forced toward and into the said dies, so as to thereby punch three button-holes in the collar or collars at one operation, and also press the chips of paper thus punched out of the button-holes into or through the open button-hole dies, and then all simultaneously withdrawn again from the dies, so as to permit the ready removal of the punched collar or collars and the insertion of unpunched ones, a spring, P, Fig. 1, being applied to each punch when necessary or desirable to free or help release the punched collar from the punches as the latter are withdrawn from the dies.

The two oblong male end button-hole punches, L L, on the reciprocating slides H H, are, with those slides, adjustable longitudinally, or toward and from each other to various distances apart, and the corresponding oblong female punch-receiving dies N N have like longitudinal adjustment on the stationary bed A. This longitudinal adjustment of the two end button-hole punches and their corresponding receiving-dies is accomplished by simply loosening the eccentrics D D on the shaft C and the stocks J J on the bed A, and then sliding those eccentrics and stocks longitudinally along the shaft and bed to the required positions and fastening them there.

In the annexed drawings, Q Q are keys for fastening the eccentrics on the key-seated shaft C in various positions; and R R are screw-bolts extending through longitudinal slots S S in the bed A, for fastening the stocks J J on the bed in various longitudinal positions.

The central oblong male button-hole punch, M, on the reciprocating slide I, is, with that slide, adjustable transversely to a line joining the two end button-hole punches, L L, and the corresponding central punch-receiving die, O, has a like transverse adjustment on the stationary bed A. This transverse adjustment of the central button-hole punch and its receiving die is at once accomplished by merely loosening the stock K on the bed A, and then sliding that stock transversely on the bed to the proper position and there refastening the stock to the bed. In Fig. 2, U U are screw-bolts extending through transverse slots V V in the bed A, for fastening the stock K in various transverse positions on the bed.

The oblong male end button-hole punches, L L, and the central one, M, are each adjustable axially, or so as to extend lengthwise in various directions, on their respective separate simultaneously-reciprocating slides H H I, and the corresponding punch-receiving dies, N N and O, have like axial adjustment on the stationary bed A; and this axial adjustment of the end and central button-hole punches and their corresponding receiving-dies can be cheaply attained by having each punch L L and M formed with a cylindrical or conical shank, *a*, Fig. 2, fitted in a corresponding socket in its reciprocating slide, and held therein by a set-screw, *b*, and by having the periphery of each punch-receiving die N N O of a cylindrical form, Figs. 2 and 3, and held in a corresponding socket in its supporting-stock J J or K on the bed A by a set-screw, *c*.

In the annexed drawings, *d d d d* are guides against which the edges of the collar or wristband are to be placed, as indicated in Fig. 3, when inserted between the punches and dies, and which are adjustable so as to receive and regulate the position of various shapes and sizes of collars in respect to the punches and dies, and thereby readily insure the punching of the button-holes in the exact various positions required by such variously-shaped articles of wearing-apparel. The clamp screws *e e e e* are for holding the guides *d* in their various lateral positions of adjustment.

Some kinds of collars, cuffs, and wristbands, Figs. 4, 5, 6, have only the end button-holes, *x x*, and for such articles the central punch is not used. For some of them, Figs. 5 and 6, I simply have the end punches, L L, and dies N N arranged lengthwise, or nearly so, to each other, Figs. 1 and 3, and adjustable longitudinally, as above described. For other varieties, Figs. 4 and 5, I have the end punches and dies adjustable axially as well as longitudinally.

Gentlemen's shirt-collars generally have the end button-holes, *x x*, lengthwise, or nearly so, to each other, and the central one, *w*, crosswise thereto. (See Figs. 7, 8, 9, 10.) For some varieties of such collars I simply have the end punches, L L, and dies N N arranged lengthwise, or nearly so, to each other, as in Figs. 1 and 3, and the central ones, M O, arranged crosswise thereto and adjustable transversely, as above described. For other variable kinds I merely have the central punches and dies arranged crosswise and the end ones lengthwise, or nearly so, and adjustable longitudinally, as above described; and for other kinds of such collars I arrange the end punches and dies lengthwise and adjustable longitudinally, and the central ones crosswise thereto and adjustable transversely, as shown by Figs. 1, 2, and 3, and above specified.

For other varieties of collars I make the end punches and dies adjustable axially and longitudinally, and the central ones adjustable transversely, as described; and for all varieties of collars I make the end punches and dies adjustable axially and longitudinally,

and the central ones adjustable axially and transversely, as set forth.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. Two oblong male end button-hole punches, L L, arranged lengthwise, or nearly so, to each other upon and adjustable longitudinally with two separate simultaneously-reciprocating slides H H, in combination with two corresponding oblong female punch-receiving dies, N N, having like arrangement and longitudinal adjustment on a stationary bed, substantially as herein described.

2. Two oblong end button-hole punches adjustable axially on and longitudinally with two separate simultaneously-reciprocating slides, in combination with two corresponding punch-receiving dies having like axial and longitudinal adjustment on a stationary bed, substantially as herein described.

3. Two oblong end button-hole punches, L L, arranged lengthwise, or nearly so, to each other, and a central one, M, arranged crosswise thereto, on separate simultaneously-reciprocating slides H H and I, and with the central punch and slide adjustable transversely to the end ones, in combination with two corresponding punch-receiving end dies, N N, and a transversely adjustable central one, O, on a stationary bed, substantially as herein described.

4. Two oblong end button-hole punches arranged lengthwise, or nearly so, to each other, and a central one placed crosswise thereto on separate reciprocating slides, and with the end punches and their slides adjustable longitudinally, in combination with corresponding central and longitudinally adjustable end punch-receiving dies on a stationary bed, substantially as herein described.

5. Two oblong end button-hole punches arranged lengthwise, or nearly so, to each other, and a central one placed crosswise thereto on separate simultaneously-reciprocating slides, with the end punches and their slides adjustable longitudinally and the central ones transversely, in combination with corresponding longitudinally-adjustable punch-receiving end dies, and a transversely adjustable central one on a stationary bed, substantially as herein described.

6. A central oblong button-hole punch and two axially-adjustable end ones on separate simultaneously-reciprocating slides, with the end punches and slides adjustable longitudinally and the central ones transversely, in combination with corresponding axially and longitudinally adjustable end punch-receiving dies, and a transversely-adjustable central one on a stationary bed, substantially as herein described.

7. Two oblong end button-hole punches and a central one, all adjustable axially on separate simultaneously-reciprocating slides, with the end punches and slides adjustable longitudinally and the central ones transversely, in combination with corresponding

axially and longitudinally adjustable end punch-receiving dies, and a transversely and axially adjustable central one on a stationary bed, substantially as herein described.

8. The arrangement of adjustable guides *d*, in combination with end or end and central button-hole punches arranged on and adjustable laterally with separate simultaneously-

reciprocating slides, and working into corresponding adjustable punch-receiving dies on a fixed bed-plate, substantially as and for the purpose herein set forth.

SAMUEL S. STONE.

Witnesses:

JOHN MORAN,
AUSTIN F. PARK.