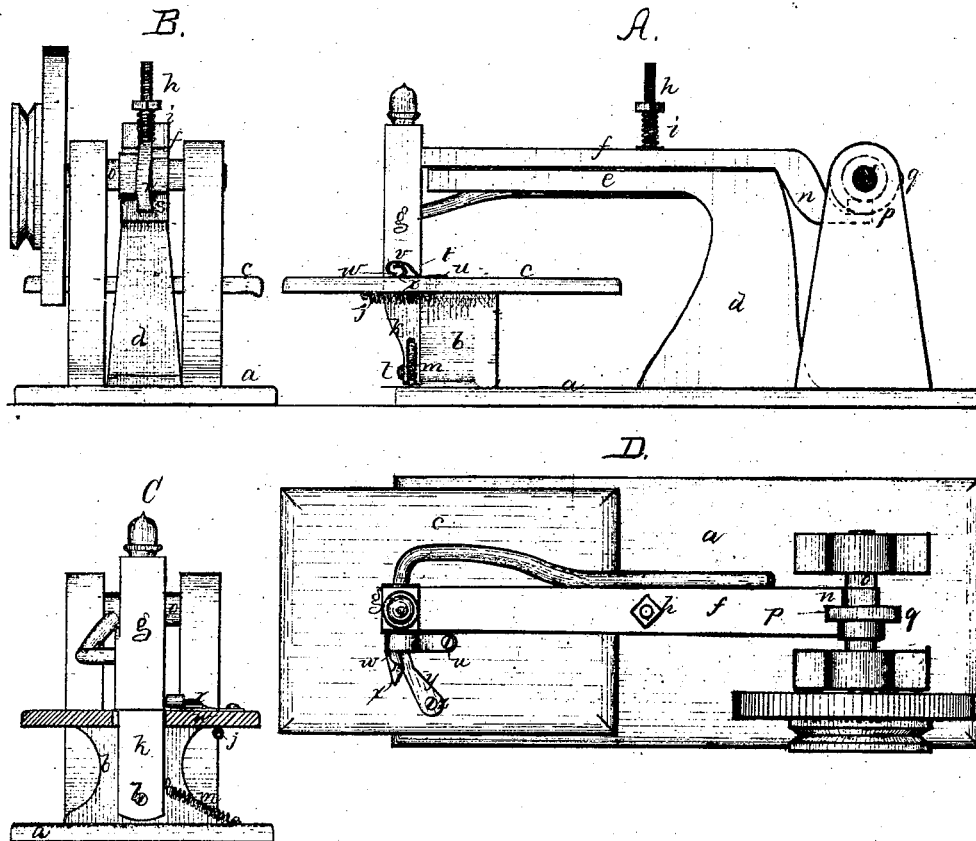


*C.H. J. & T.K. Keith,*

*Upper Machine.*

*No. 107,385.*

*Patented Sep. 13. 1870.*



Witnesses { *Mo. W. Frothingham.*  
*C. Warren Brown.*

*Charles H. Keith.*  
*Jeremiah Keith.*  
*Thomas B. Keith.*

*By their Atty's*  
*Crosby, Halsted & Gould*

# United States Patent Office.

CHARLES A. KEITH, OF DANVERS, JEREMIAH KEITH, OF CHARLTON, AND  
THOMAS K. KEITH, OF LYNN, MASSACHUSETTS.

Letters Patent No. 107,385, dated September 13, 1870.

## IMPROVED DEVICE FOR FOLDING AND IRONING SHOE-UPPER EDGES.

The Schedule referred to in these Letters Patent and making part of the same

To all whom it may concern:

Be it known that we, CHARLES A. KEITH, of Danvers, Essex county, JEREMIAH KEITH, of Charlton, Worcester county, and THOMAS KEITH, of Lynn, Essex county, all in the State of Massachusetts, have invented an Improvement in Folding and Ironing Shoe-upper Edges; and we do hereby declare that the following, taken in connection with the drawing which accompanies and forms part of this specification, is a description of our invention sufficient to enable those skilled in the art to practice it.

The invention relates particularly to an organization of mechanism for turning or folding the edges of boot and shoe uppers, and pressing said folded edges prior to the stitching thereof, or the application of binding thereto.

The invention consists primarily in combining a work-supporting surface, a doubling or folding-guide, and a vertically and horizontally-reciprocating presser-iron, which, being heated, presses down and "irons" the turned-over edges to facilitate the stitching thereof.

The drawing represents a machine embodying the invention.

A shows a side elevation.

B, a rear end elevation.

C, a front elevation.

D, a plan of the machine.

*a* denotes a bed-plate, at the front end of which is a post, *b*, supporting upon its top a horizontal table or work-supporting surface, *c*.

*d* is another post, rising from the bed *a*, and having a long horizontal arm, *e*, extending lengthwise over the bed, as seen at A.

Pivoted upon the top of this arm is a lever, *f*, having fixed upon its front end a heater and presser-iron, *g*.

The lever is pivoted, or rests and moves vertically upon the rear end of the arm *e*, as a fulcrum, and a vertical pin, *h*, extends from the arm through the lever, the lever swinging horizontally upon this pin.

The front arm of the lever is normally held down toward the arm *e* by a spring, *i*, and, when thus held, the bottom and smooth surface of the iron *g* presses down upon the top of a vertical swing-bar or post, *k*, pivoted by a pin, *l*, to the post *b*, and held in normal position by a spring, *m*, the piece *k* projecting through an opening made through the table *c*, this opening being made of such length as to permit the swing-piece to move laterally with the work, and the top surface of the swing-piece being flush or approximately flush with the top of the table *c*.

The rear arm *n* of the lever *d* is bent, and extends under a driving-shaft, *o*, to the peripheral surface of a cam, *p*, upon which it is held by the spring *i*.

A cam projection, *q*, upon the cam-wheel, presses

down the arm *n*, (as the cam, in rotating, strikes the arm,) and thereby raises the front arm of the lever and the iron *g*.

As the cam projection passes the lever-arm, the spring throws down the iron upon the work, and, when in contact with the work, the iron is moved forward and presses and irons the work, the lateral movement of the iron being produced by a side cam, *r*, upon the cam-wheel, operating in a groove, *s*, in the lever-arm, or against the cheeks forming the sides of such groove.

The edge of the work to be folded and pressed is introduced into a folding or doubling and guiding mechanism, constructed and arranged as follows:

*t* is a stationary plate, fastened at its rear to the top of the table, as seen at *u*, and then rising above the table, as seen at *v*, and having its front end bent under, and formed into a long blade, *w*.

*x* is a curved doubling-guide, having one edge extending under the blade *w*, and its other edge over the said blade, as seen at A and D, this guide being fixed to the front end of a yielding piece, *y*, turning on a pin, *z*, and held up toward the blade *w* by a spring, *j*, a suitable stop determining the extent of the forward movement of the folder, so as always to leave an open space between the blade and the folder, to allow the work to pass freely through.

The doubling guide or folder receives the edge of the work flatwise, but as the edge is fed through the folder, the upper lip gradually turns the edge over the blade *w*, so that, as the work, with its edge turned over, passes under the iron, it is in position to be pressed and smoothed down by the ironing mechanism.

The iron may be heated by a gas-burner at the end of a gas-pipe, the jet being directed into the iron (made hollow) or against its surface; or suitable heaters may be placed in or removably attached to the iron.

To allow the folding-guide to yield to irregularities in the thickness of the material, or to unevenness in the edge thereof, it is provided with the spring *j*, which, while keeping it normally in correct position, permits it to move back, as occasion may require.

We claim—

The combination of a work-supporting surface, an edge-folding mechanism, and a fold-compressing and "ironing" or smoothing mechanism, relatively constructed and arranged substantially as described.

CHARLES A. KEITH.

JEREMIAH KEITH.

THOMAS K. KEITH.

Witnesses:

J. B. CROSBY,

FRANCIS GOULD.