G. F. MOORE.

MACHINES FOR FORMING COUNTER STIFFENERS FOR BOOTS AND SHOES.

No. 180,492. Patented Aug. 1, 1876.

Fig. 1.

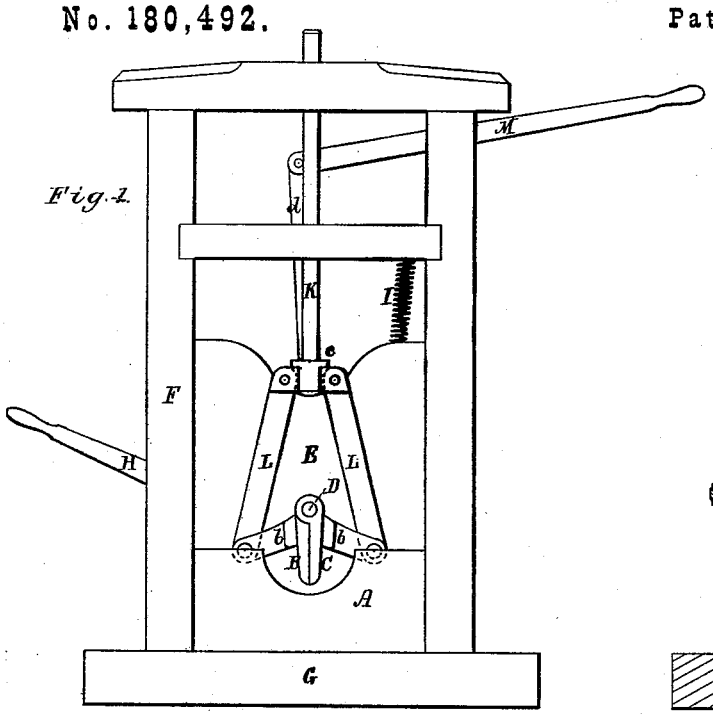


Fig. 3.

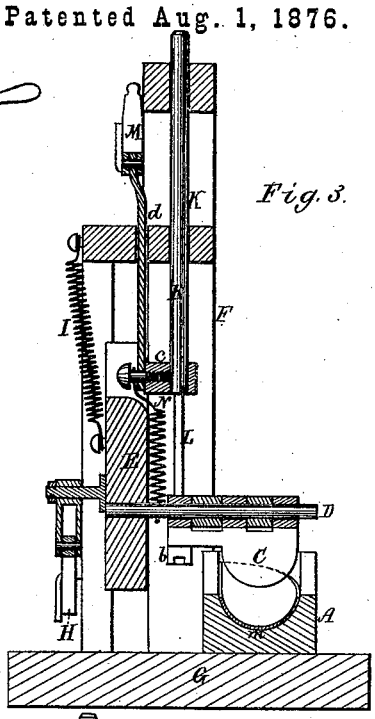


Fig. 2.

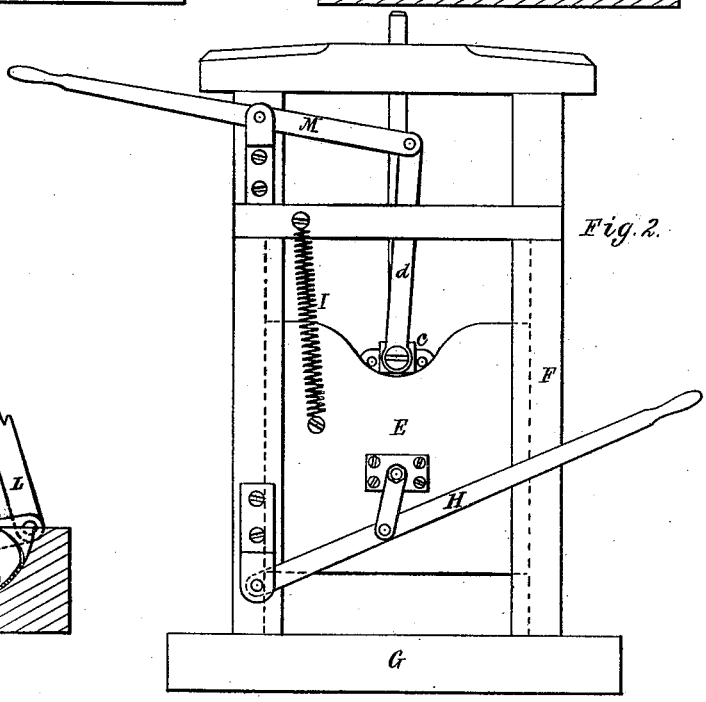
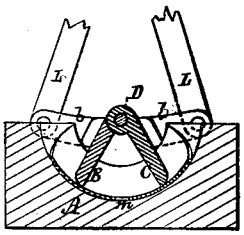


Fig. 4.



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UNITED STATES PATENT OFFICE.

GEORGE F. MOORE, OF SOUTH SUDBURY, MASSACHUSETTS, ASSIGNOR TO MOUSAM MANUFACTURING COMPANY, OF KENNEBUNK, MAINE.

IMPROVEMENT IN MACHINES FOR FORMING COUNTER-STIFFENERS FOR BOOTS AND SHOES.

Specification forming part of Letters Patent No. **180,492**, dated August 1, 1876; application filed June 28, 1876.

To all whom it may concern:

Be it known that I, GEORGE F. MOORE, of South Sudbury, of the county of Middlesex and State of Massachusetts, have invented a new and useful Machine for Shaping or Molding Counters for Boots or Shoes; and do hereby declare the same to be fully described in the following specification, and represented in the accompanying drawings, of which—

Figure 1 is a front elevation, Fig. 2 a rear elevation, and Fig. 3 a transverse and vertical section, of the said machine. Fig. 4 is a vertical and longitudinal section of the mold, and the two formers arranged over it.

The principle of my invention consists in the combination of a counter-mold with mechanism to retain a counter-blank in such mold, and to move along such blank, so as to press it and strain or stretch it into contact with the matrix, and thereby impart to it (the said blank) the necessary form. My invention further consists in the combination of a counter-mold, and two formers provided with mechanism for depressing or forcing them (the said formers) upon a blank when in the mold, and for moving such formers in opposite directions upon the said blank, so as to press and strain or stretch it into contact with the matrix, and thereby impart to it (the said blank) the necessary form.

In the drawings, A denotes a counter-mold, having over it the two formers B C, which are hinged together or pivoted upon a common center-pin, D, extended horizontally from a slide, E, arranged to slide vertically in a frame, F, erected on the base-plate, G, upon which the mold is fixed. A lever, H, pivoted to the frame F, and connected with the slide E, serves to enable a person to depress the slide, a spring, I, attached at one end to the slide, and at the other to the frame, answering to raise the frame.

From the two forms B C arms *b b* are extended, as shown, and are connected with a vertical slide-rod, K, by two toggles or bars, L L, hinged to such arms and to a head, *c*, fixed to the lower end of the slide-bar, such bar being arranged in the frame in manner as represented. A bar, *d*, extending up from such head, is jointed to another lever, M, arranged as shown, and pivoted to the frame. By taking hold of the longer arm of the said lever, and pressing it down, the two forms will be simultaneously moved apart when within the matrix of the mold. A spring, N, attached to the pin D and head *c*, serves to draw the head downward, and cause the formers to move toward each other.

From the above it will be seen that after a counter-blank may have been placed on or in the molds, an attendant, by means of the lever H, is to depress the slide E so as to force the formers downward against the blank, and crowd it down at its middle into the matrix *m*, after which, and while bearing the forms upon the blank, he (the said attendant) by means of the other lever, M, is to cause the formers to move apart or turn upon their common pivot, so as to force and rub the blank opposite ways into contact with the matrix, the blank being in the meantime not only retained or held in the matrix, but strained or stretched lengthwise in opposite directions from its middle.

In counter-molding machines which have a stationary mold and a rotary former, the counter-blank in the process of being molded is driven through and out of the matrix, and becomes stretched in one direction, but in the machine hereinbefore described the blank while being molded is retained in the matrix, and it is rubbed and stretched or strained each way lengthwise of it, from its middle, it also being fitted transversely of it to the matrix. This method or process of treating or molding a blank so effects its fibers as to cause it to retain its form to better advantage than it will when molded by dies, or by a mold and by a rotary former that operates to draw and move the blank through and out of the mold. Thus it will be seen that one important element of my invention is mechanism for retaining the blank in position in the matrix, while such blank may be in the act of being molded, another important element being mechanism which shall move along upon and press and strain the blank into the mold, the said blank during the operation being more or less stretched lengthwise if not widthwise.

I claim—

1. In combination with the concave counter-mold A, mechanism adapted to automatically press and retain a blank therein, and so travel or move against such blank as to press and stretch it into form, all substantially as set forth.

2. The combination of the counter-mold A with the two formers B C, provided with mechanism for depressing or forcing them upon a blank when in the mold, and for moving such formers in opposite directions upon the said blank, so as to press and strain or stretch it into contact with the surface of the matrix, and thereby mold the said blank or impart to it the necessary form, all being substantially as specified.

GEORGE F. MOORE.

Witnesses:
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