

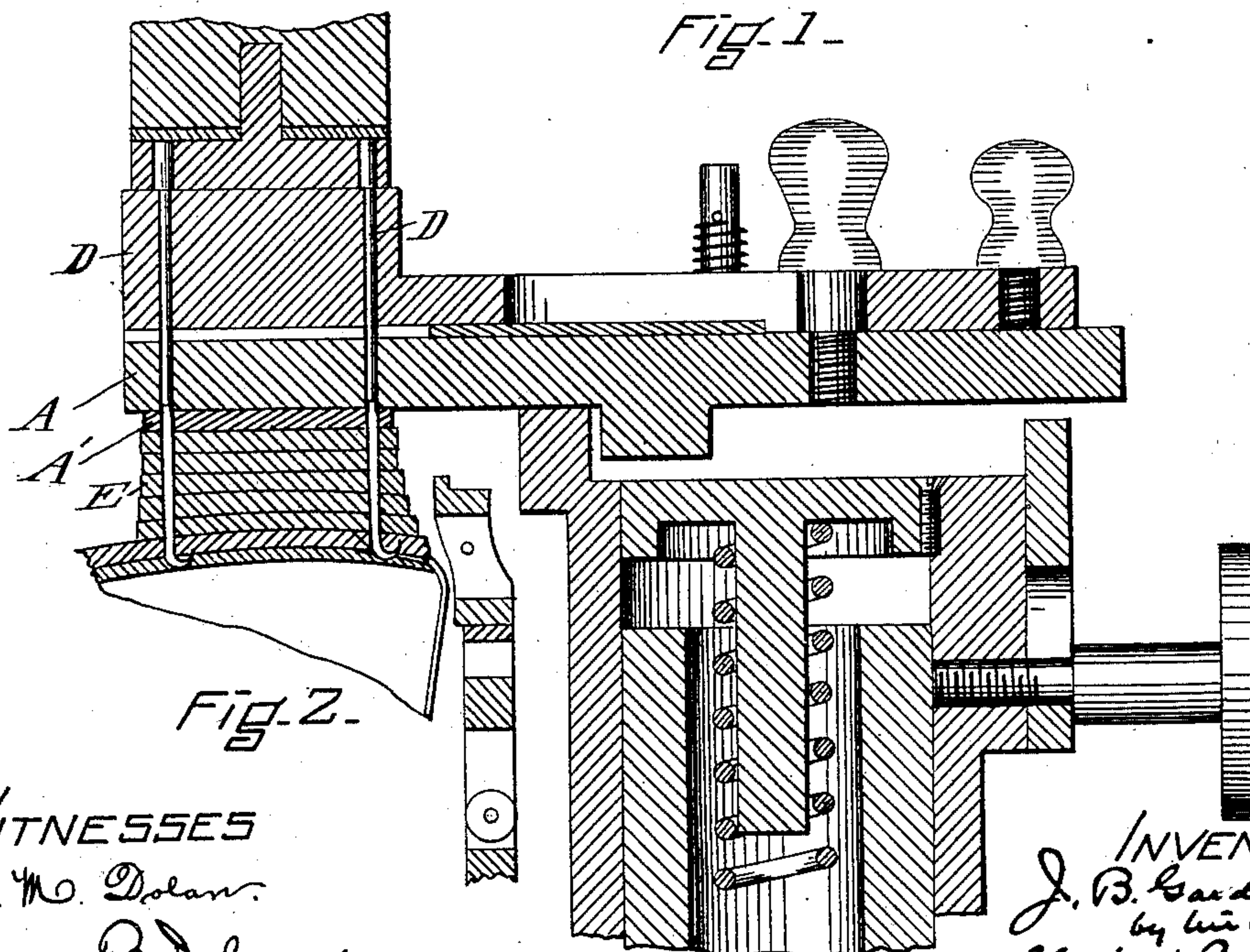
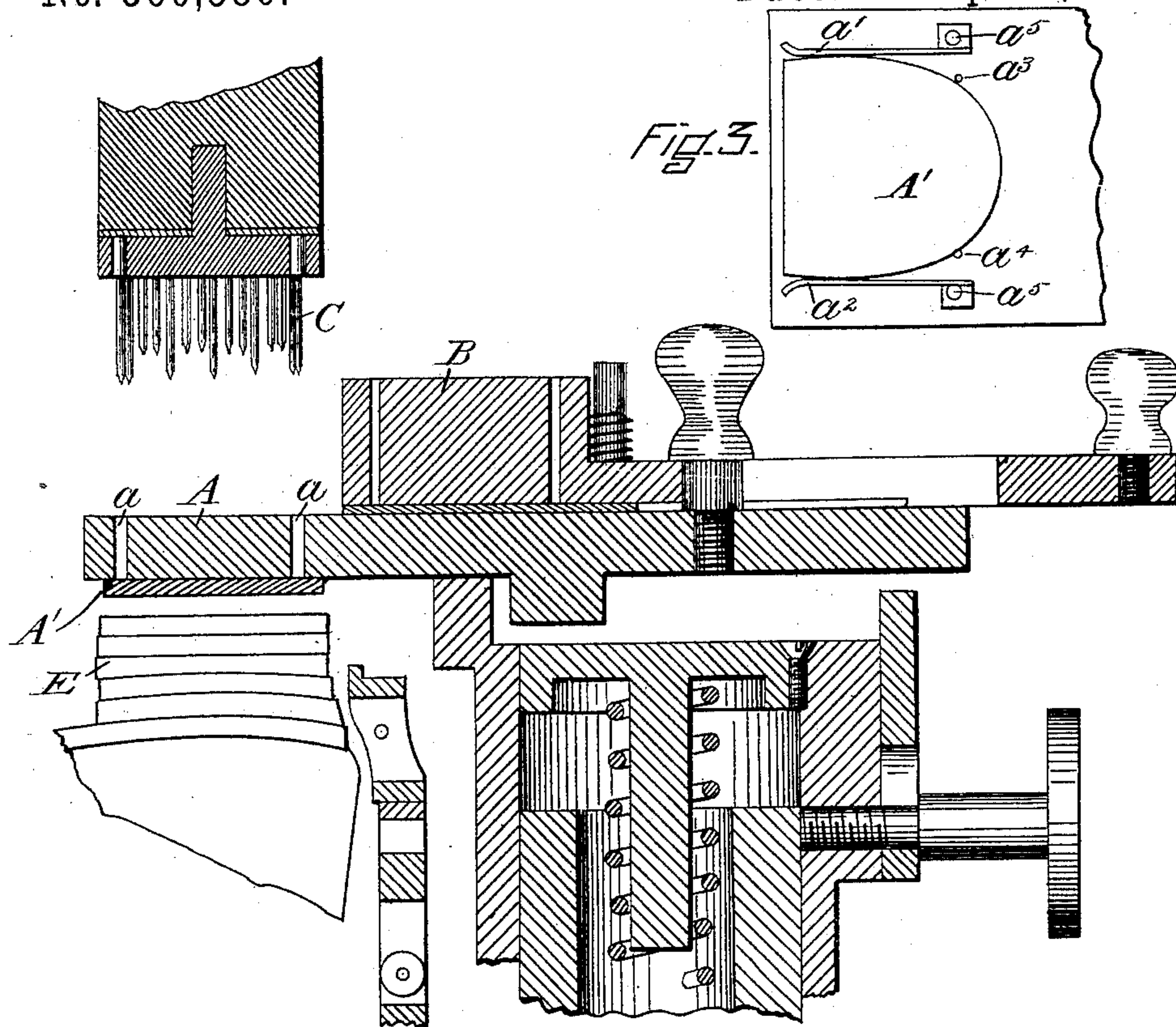
(No Model.)

J. B. GARDNER.

## PROCESS OF ATTACHING HEELS.

No. 360,580.

Patented Apr. 5, 1887.



WITNESSES

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Fred. B. Dolan.

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# UNITED STATES PATENT OFFICE.

JAMES B. GARDNER, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO THE  
NATIONAL HEELING MACHINE COMPANY, OF PORTLAND, MAINE.

## PROCESS OF ATTACHING HEELS.

SPECIFICATION forming part of Letters Patent No. 360,580, dated April 5, 1887.

Application filed November 17, 1886. Serial No. 219,134. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES B. GARDNER, of Boston, in the county of Suffolk and State of Massachusetts, a citizen of the United States, have invented a new and useful Improvement in the Process or Method of Attaching Heels to Boots or Shoes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in explaining its nature.

The invention was originally described in my application filed July 27, 1886, Serial No. 209,202; and it comprises the method or process of attaching heels to boots or shoes, consisting in placing the heel-blank on the outsole of the boot or shoe, cutting or forming a top lift to a finished or complete shape, locating it centrally in relation to the heel-seat of the boot or shoe, simultaneously compressing the complete top lift and the detached heel-blank upon the outsole, and while thus held compressed forming in the top lift and heel-blank a gang or group of holes and uniting the top lift and heel-blank to the soles of the boot or shoe by a gang or group of fastenings simultaneously driven into the top lift, heel-blank, and soles of the boot or shoe.

In the drawings, Figure 1 is a view of so much of the mechanism of a heel-nailing machine as is necessary to show the parts for practicing this method. Fig. 2 is a view of the same parts, excepting the awls, which are removed and drivers substituted therefor. Fig. 3 is a plan view, inverted, of the templet-plate, showing the top lift and means for holding it centrally located thereon.

A is the templet. It has the holes *a*, and upon its under surface the top-lift centering device, which comprises the two arms *a'* *a''* and the pins *a'''* *a''''*. The arms are fastened to the under surface of the templet by the screws *a<sup>5</sup>*, and they preferably are made to yield laterally. This top-lift holding and centering device is adapted to receive, hold, and center a top lift, *A'*, which has been prepared for use by being cut to a finished shape.

B is the nail-carrier. C is a gang or group of awls carried by a head adapted to be reciprocated. D is a gang or group of drivers, also carried by a reciprocating head and adapted to be reciprocated.

In operation the heel-blank E is placed upon the heel end of the outsole. (See Fig. 1.) The top lift is placed upon the under surface of the templet in the top-lift holding and centering device. The awls are then moved downward and the templet, with the top lift suspended therefrom or held thereon, moved downward to the heel-blank, and a gang or group of holes simultaneously formed in the top lift and heel-blank at the same time. They are solidly compressed upon the outsole of the boot or shoe, and they are held in this compressed position while the awls are being withdrawn and until the nails are driven. The nails are fed to the holes of the templet as a gang or group by the nail-carrier. The drivers are then reciprocated and the nails driven through the top lift and heel-blank into the soles of the boot or shoe, firmly fastening the two parts of the heel thereto. The templet may then be removed and the top lift spanked, if desired.

The boot or shoe is mounted upon a last or work-support, which is moved into position below the nail-driving devices, and so as to bring the heel end of the outsole centrally in relation to the top-lift holder or grasping devices of the templet.

Having thus fully described my invention, I claim and desire to secure by Letters Patent of the United States—

The method of attaching heels to boots or shoes, consisting in placing a heel-blank upon the outsole of the boot or shoe, cutting or forming the top lift to its finished or complete shape, locating it centrally in relation to the heel-seat of the boot or shoe, simultaneously compressing the separate complete top lift and detached heel-blank upon the outsole, and while thus held compressed forming in the top lift and heel-blank a gang or group of holes and uniting the top lift and heel-blank to the soles of the boot or shoe by a gang or group of fastenings simultaneously driven into the top lift, heel-blank, and soles of the boot or shoe, substantially as described.

JAMES B. GARDNER.

In presence of—

F. F. RAYMOND, 2d,  
J. M. DOLAN.