(No Model.)

T. H. & T. J. GIFFORD.

DIAPHRAGM SUPPORT FOR SOLE PRESSING MACHINES.

No. 244,583. Patented July 19, 1881.

Fig. 1.

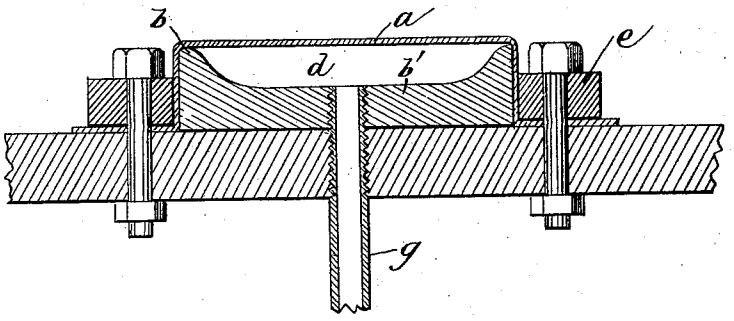
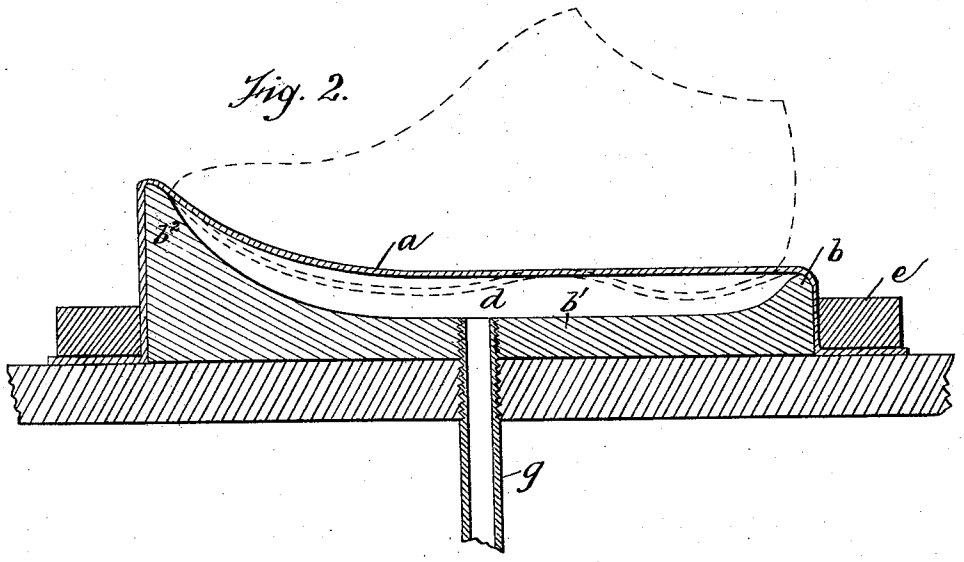


Fig. 2.



Witnesses:
H. G. Wadlin
W. Climo.

Inventors:
T. H. Gifford
T. J. Gifford
by Wright Brown
Attys

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

THOMAS H. GIFFORD AND THOMAS J. GIFFORD, OF SALEM, MASS.

DIAPHRAGM-SUPPORT FOR SOLE-PRESSING MACHINES.

SPECIFICATION forming part of Letters Patent No. 244,583, dated July 19, 1881.

Application filed April 25, 1881. (No model.)

To all whom it may concern:

Be it known that we, THOMAS H. GIFFORD and THOMAS J. GIFFORD, of Salem, in the county of Essex and State of Massachusetts, have invented certain Improvements in Diaphragm-Supports for Sole-Pressing Machines, of which the following is a specification.

This invention relates to that class of machines in which a flexible diaphragm is employed for pressing a boot or shoe sole coated with cement against a lasted upper and holding the sole in place while the cement hardens, the diaphragm being located over a water or air space, and adapted to conform to the surface of the sole when forced against the latter by hydraulic or other pressure.

The invention has for its object to provide certain improvements in the form of the frame or casing which constitutes the marginal support for the diaphragm, whereby the diaphragm is enabled to conform more perfectly to the bottom of a last which has a considerable upward curvature at the toe.

To this end our invention consists in a marginal frame or diaphragm-support formed to give the diaphragm an upward curvature or inclination at or near one end, as we will now proceed to describe.

Of the accompanying drawings, forming part of this specification, Figure 1 represents a transverse section of a diaphragm and its supporting-frame embodying our invention. Fig. 2 represents a longitudinal section of the same.

The same letters refer to the same parts in both figures.

In the drawings, *a* represents a diaphragm of suitable flexible material, such as thick sheet-rubber or rubber cloth.

b represents the marginal support of the diaphragm. Said support, in the present instance, is a rim raised from a base, *b'*, the rim and base forming a basin or space, *d*, which is covered by the diaphragm *a*. It is obvious, however, that the support or rim *b* may be made in the form of a frame separate from the base *b'* without departing from the spirit of our invention. The rubber is secured to the support *b*, in the present instance, by means of a clamping-frame, *c*, surrounding the support. The portion of the diaphragm over the space *d* is of sufficient size to support a boot or shoe sole, and when the diaphragm is to be forced against a sole upon it by hydraulic pressure, as described in our Letters Patent No. 194,866, dated September 4, 1877, the base *b'* is provided with a pipe, *g*, adapted to introduce water into the space *d*.

Heretofore in this class of machines the support *b* has been of substantially the same height from end to end, the flexibility of the diaphragm being relied on to cause it to conform to the different curves of the bottom of the sole. Many lasts are now made with such a degree of upward curvature at the toe that the diaphragm supported at a uniform height from end to end cannot exert sufficient pressure on the toe portion of the sole. This defect we overcome by raising one end of the support *b* to a higher point than the other parts of said support, as seen at b^2, Fig. 2, so that the diaphragm is adapted to conform more perfectly to the bottom of the sole, as will be readily seen.

Having thus described our invention, we claim—

In a sole-pressing machine for boots and shoes, the combination, with a flexible diaphragm, of the marginal support or rim raised at one end higher than at other points, as and for the purpose specified.

In testimony whereof we have signed our names to this specification, in the presence of two subscribing witnesses, this 24th day of March, A. D. 1881.

THOMAS H. GIFFORD.
THOMAS J. GIFFORD.

Witnesses:
HOWARD C. KIMBALL,
NATHAN T. GIFFORD.