P. Wells,

Shoe-Sole Machine,

No. 18,227, Patented Sept. 15, 1857.

Fig. 1.

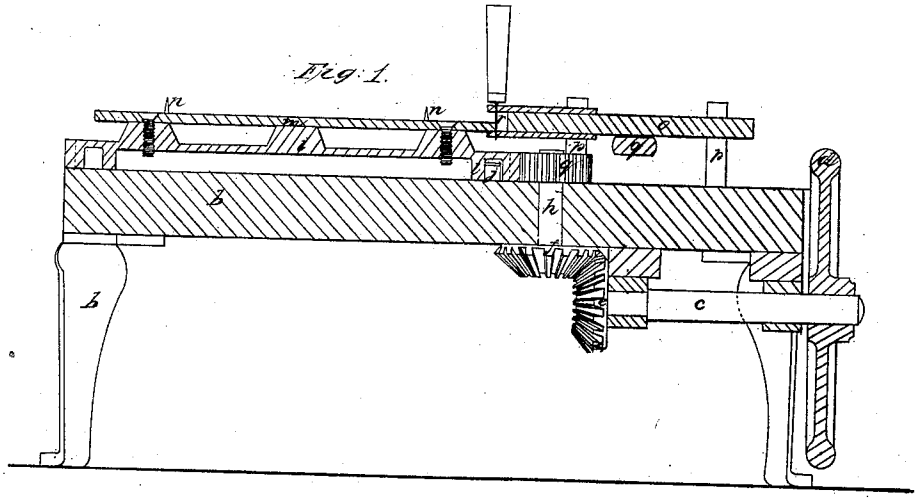


Fig. 2.

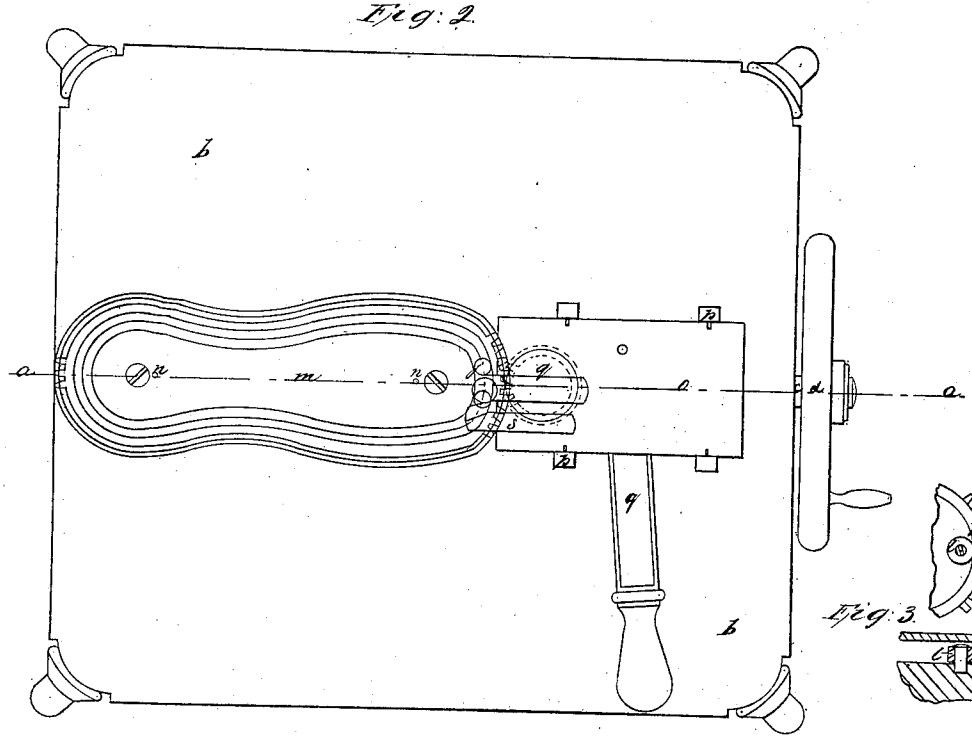


Fig. 3.

Witnesses.
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UNITED STATES PATENT OFFICE.

PARKER WELLS, OF MIDDLETON, ASSIGNOR TO SAMUEL MOWER, OF BOSTON, MASSACHUSETTS.

IMPROVED BOOT AND SHOE SOLE CUTTER.

Specification forming part of Letters Patent No. **18,227**, dated September 15, 1857.

To all whom it may concern:

Be it known that I, PARKER WELLS, of the town of Middleton, in the county of Essex and State of Massachusetts, have invented a new and Improved Machine for Cutting or Shaping Boot and Shoe Soles; and I do hereby declare that the following is a clear, full, and exact description of the same, reference being had to the accompanying drawings, which form a part of this specification, and to the letters of reference thereon marked.

Figure 1 of the drawings which illustrate my invention is a vertical section upon the line *a a*, seen in Fig. 2, which figure is a plan. Fig. 3 shows a modification of the construction of the stock and the means of guiding its movements.

My invention consists of the combination of a cutter or cutters with a yielding slide for the purpose of operating on the soles of boots or shoes in such a manner that the cutters may act to shape their irregular forms, the sizes of which may be varied to limited extent by means of the combination mentioned without any other change being needed in the machine than that of the pattern *m*.

To enable those skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

The frame or table *b* supports in suitable bearings the shaft *c*, on which are fixed the driving-wheel *d* and bevel-gear *e*. The bevel-gear *f* meshes into the bevel-gear *e*, and is fixed, as is also the spur-pinion *g*, on a short shaft *h*, supported in a suitable bearing in the table-top. The stock *i* has cogs or teeth formed upon and extending entirely around it suited to mesh into the teeth of the pinion *g*. It is obvious that different sized and shaped stocks may be used with one machine. In the under side of the stock a groove is formed, in which the pins or friction-rolls *j j* fit. These pins, being fixed to the table, guide the movement of the stock and keep it constantly in gear with the pinion *g*. The figure inclosed by the center of this groove should be in size and form the average of the form and size of the different patterns intended to be used with one stock. The construction of this groove is shown in Fig. 1, and its direction or form and the position of the pins *j j* in Fig. 2 by blue lines.

Guiding the stock and keeping it in gear with the pinion *g* can be accomplished, as shown in Fig. 3, by having the ledge *k*, on which the cogs are formed, project below them, with the roll *l* on the inside and the rolls *j j* on the outside, or vice versa, bearing against the ledge.

The pattern *m* should be secured to the stock so that it can be readily changed for one of different size, and should have points *n n* or other suitable devices for holding thereon the leather which is to form the sole and which is usually cut by other machinery to nearly the form and size desired for the finished sole, with the exception that the heel and toe are not rounded. The slide *o*, which works in suitable guides *p*, fixed to the table, is the part to which the cutters used in shaping the soles are attached, so that they partake of its movements, by which it conforms to the irregular form of the pattern *m*. These movements are caused by contact of the slide or some attachment to it with the pattern, which resists the force by which the slide is impelled forward by springs or by the lever *q*, which I prefer to springs on account of the facility with which the slide is withdrawn by it to give room for the attachment of the leather to the pattern. It is this yielding movement of the slide which enables me to use patterns and shape soles varying considerably from the figure inclosed by the center of the groove. The knife *r*, which is held in supports fixed to the slide, has two functions, one of which is to cut the leather to the form and size of the pattern, the other being that of the stop described, by which the movement of the slide is governed. When the knife *r* is used as a stop, its edge should be set to the line *a a*, Fig. 2. The advantage of so using the knife is that as it takes the place of a guiding-roll or other stop no adjustment of the knife is needed relative to such a stop. The machine is therefore rendered simple in its construction and operation by this use of the knife. The knife *s*, which is attached to the slide, bevels or skives the sole. Other cutters or figuring or mark-

ing or other tools may be attached to the slide, so as to perform their appropriate functions as the surfaces and edges of the soles are brought into contact with them by rotating the driving-wheel, which acts on the parts described in a perfectly obvious manner.

I claim—

The combination of a cutter or cutters with a yielding slide, substantially as set forth, for the purpose specified.

PARKER WELLS.

Witnesses:

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J. B. CROSBY.