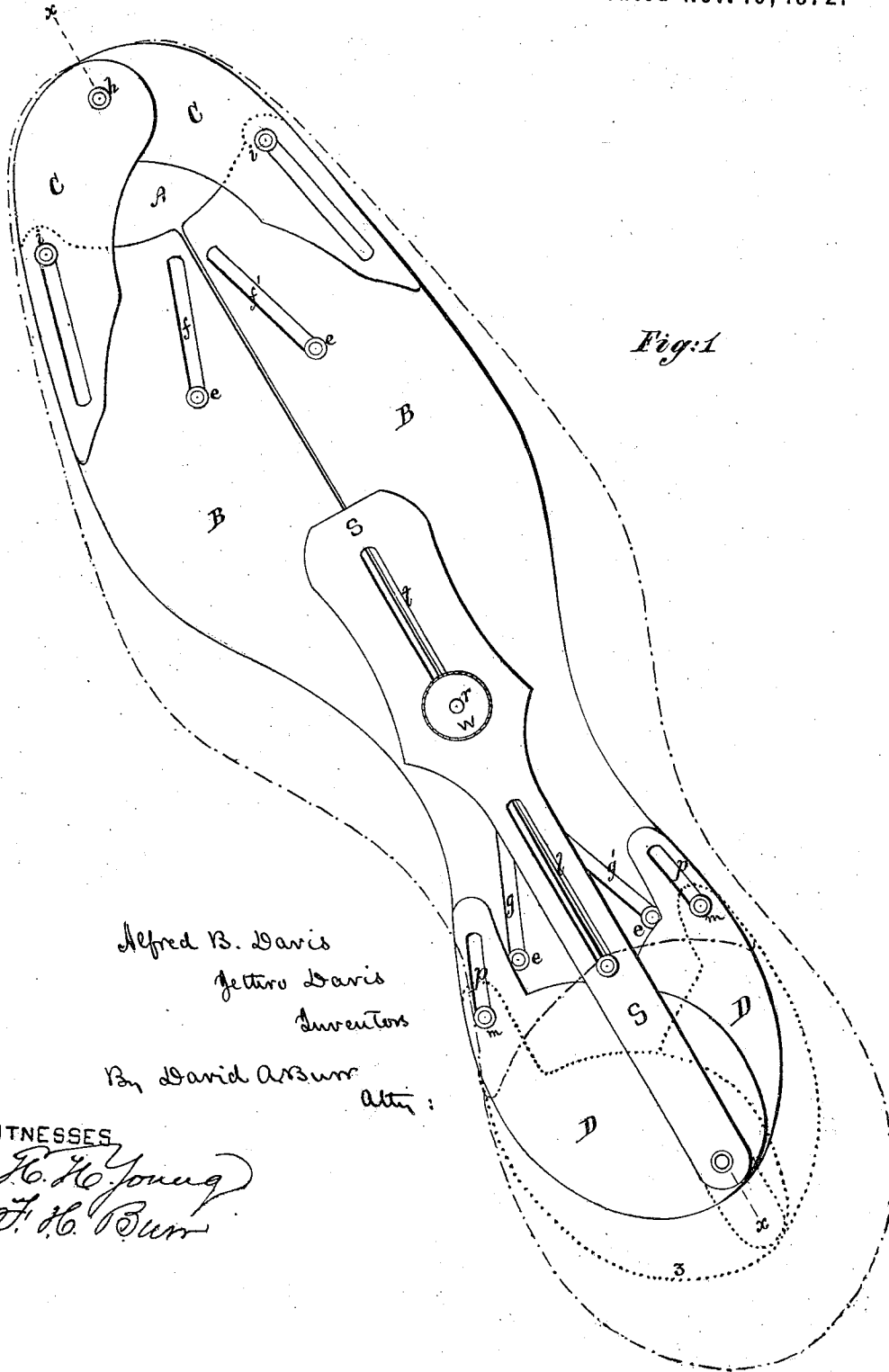


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Improvement in Sole Patterns.

No. 133,144.

Patented Nov. 19, 1872.

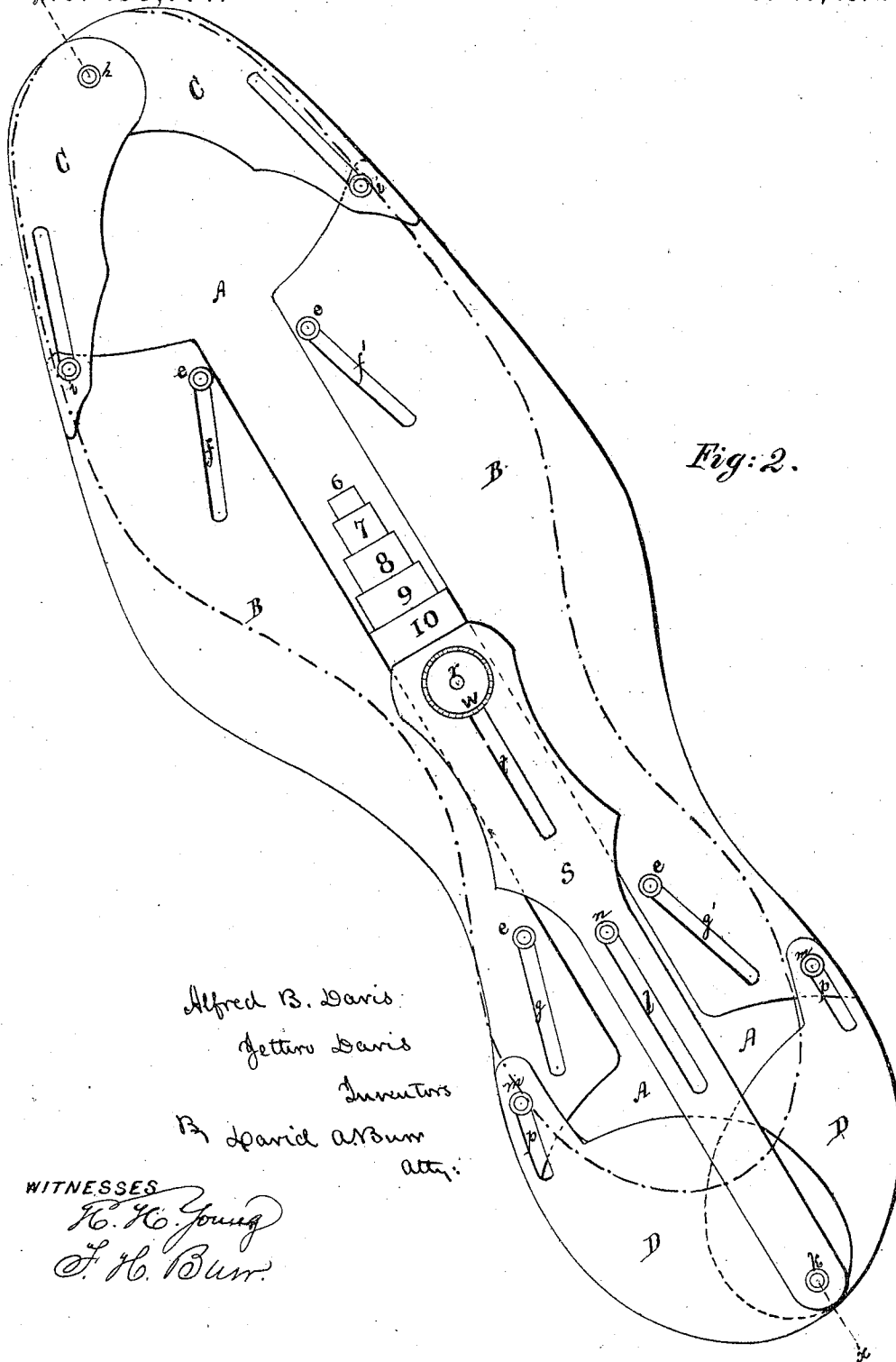


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UNITED STATES PATENT OFFICE.

ALFRED B. DAVIS AND JETHRO DAVIS, OF ATHENS, OHIO.

IMPROVEMENT IN SOLE-PATTERNS.

Specification forming part of Letters Patent No. 133,144, dated November 19, 1872.

To all whom it may concern:

Be it known that we, ALFRED B. DAVIS and JETHRO DAVIS, of Athens, in the county of Athens and State of Ohio, have invented an Adjustable Sole-Pattern for cutting out different sizes of boot and shoe soles, of which the following is a specification:

Our invention relates to the combination of movable adjustable plates with a central fixed pattern-plate in such manner as that said movable plates may be readily spread apart from the central fixed plate, and in spreading present in just and exact proportions different sizes of sole patterns.

In the accompanying drawing, Figure 1 illustrates, in positive lines, the pattern when reduced by the contraction of its movable plates to its minimum size and form, said form being that of its fixed base-plate. Fig. 2 illustrates the pattern expanded to its extreme size, the position of the fixed base-plate being shown by dotted lines.

A is the base-plate of the pattern. This plate is cut, out of sheet-iron or other thin sheet metal, of the form shown in the outline of Fig. 1, or in any other special form desired, in a boot or shoe of any particular style and of the smallest size required for such a pattern. B B are the movable longitudinal side plates; C C, the movable toe-plates; D D, the movable heel-plates of the pattern. The side plates B B meet over the fixed base-plate A upon a right line, *xx*, extending from a central point at the point of the toe to a point somewhat removed from the center of the curve of the heel, as illustrated in Fig. 1, and are of such length as to extend from the inception of the curve of the toe to the inception of the curve of the heel on either side. The outer curve of each is made to conform to that of the fixed plate A, as shown in Fig. 1. They are secured upon the base-plate by means of four pins, *eee*, projecting from the plate through extended slots *f f' g g'* cut in them at each end thereof, near their inner edge, at an angle with said central line at the toe end of about twenty degrees on the ball side and fifteen degrees on the other, (see *f f'*), and at the heel end of about twenty-five degrees on the ball side and twenty degrees on the other. (See *g g'*.) In the construction of the pattern each pin is provided with a flat head, and a circular washer is inserted between

the head and the movable plate, thus confining the latter to the fixed plate beneath, so that it cannot be lifted and detached therefrom, but it is nevertheless free to move or slide thereon in the direction and to the extent permitted by the slots *f* and *g*, and as is illustrated by the positive lines in Fig. 2. The toe-plates C C overlap sufficiently at the toe to admit of being pivoted to the base-plate by a single pin, *h*, passing through them both in the line *xx*, which passes through the center of the curve of the toe, as illustrated in the drawing. The outer curve of said plates conforms to the curve of the fixed base-plate, as shown in Fig. 1, their inner edge being cut to such form as taste or convenience may suggest. These toe-plates are extended back far enough to overlap the side plates, so that a pin, *i i*, projecting from each side plate, may project through an extended slot cut in each toe-plate near the outer edge thereof, as near as possible parallel with said edge, all as clearly shown in Fig. 1 of the drawing. The heel-plates D D each extend over the line *xx* far enough to overlap one another, as shown in the drawing, and are of such length as to overlap also the side plates B B, as shown in Fig. 1, the curve of their outer edge being made to conform to the curve of the base-plate, and their inner edge fashioned as taste and convenience may suggest. They are not secured directly to the base-plate, but are pivoted to each other by a pin, *k*, in the line *xx*, and to the ends of the side plates B B, respectively, by means of pins *m m* projecting from said side plates through slots *p p*, cut in the heel-plates near their outer edge, and parallel thereto, as illustrated in the drawing. These slots permit an independent rearward movement of the heel-plates, so that the pattern may be thereby extended in length without varying its proportions otherwise, as is illustrated by the dotted lines 3, in Fig. 1. The several movable plates A, B, C, and D are all confined and secured in any given position by means of a strip, S, overlapping the inner edges of the side plates B B, and extending from a central point in the length thereof to the rear end of the heel-plates, upon and to which it is secured by their pivot-pin *k*. A slot, *l*, is cut longitudinally at the center of its length in the line *xx* to receive a pin, *n*, projecting from the base-plate A, and a sec-

ond longitudinal slot, *t*, is cut therein in the line *x x*, at its inner end, through which a screw, *r*, projects from the base-plate beneath to receive a thumb-nut, *W*. The pin *n*, in combination with the screw *r* projecting through the slots *l t*, serves to guide the movement of the strip *S* in the right line *x x*, and, by turning down and tightening the nut *W*, the strip *S* and the heel-plates *D D* attached thereto, as well as the side plates *B B* overlapped by it and the toe-plates actuated thereby, may be confined in any desired position.

A scale may be marked off upon the base-plate *A*, immediately in front of the strip *S* and between the side plates *B B*, as indicated by the numerals in Fig. 2, to designate the different sizes of soles, described by the enlargement of the pattern through a movement of the plates *B*, *C*, and *D*, as described.

Although the heel-plates *D D* admit of independent movement to extend the pattern, the outward movement of the side plates *B B* involves, necessarily, a proportionate movement of both the toe and heel plates in which

the proper proportions of the pattern are automatically retained. The side plates move separately and independently, and the proper relative movement of each is determined by the side marks of the scale, the proper position of the central strip being indicated by the transverse lines of the scale.

We claim as our invention—

1. In the construction of an adjustable sole-pattern, the slotted plates *B C D*, formed, arranged, and combined with each other and with a base-plate, *A*, substantially as herein set forth.

2. A retaining and confining strip, *S*, pivoted to the heel-plates *D D* and combined with the base-plate *A* and side plates *B B*, substantially as and for the purpose herein set forth.

Witness our hands to said specification.

ALFRED B. DAVIS.
JETHRO DAVIS.

Executed in presence of—
HENRY T. BROWN,
DAVID F. CULLEY.