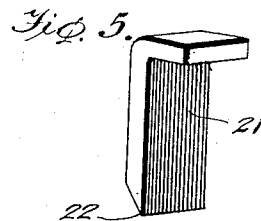
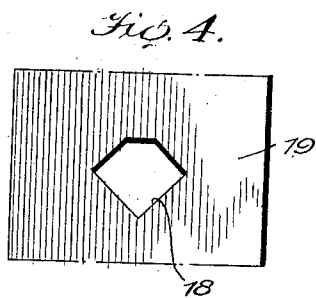
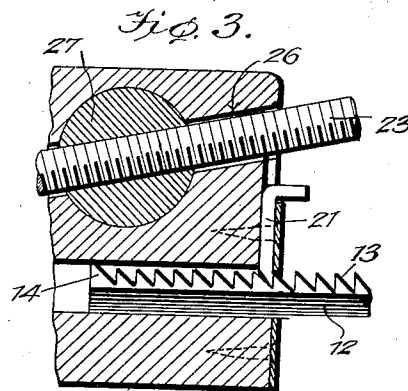
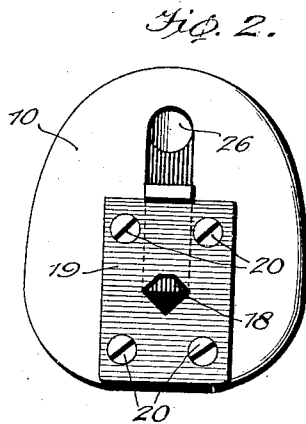
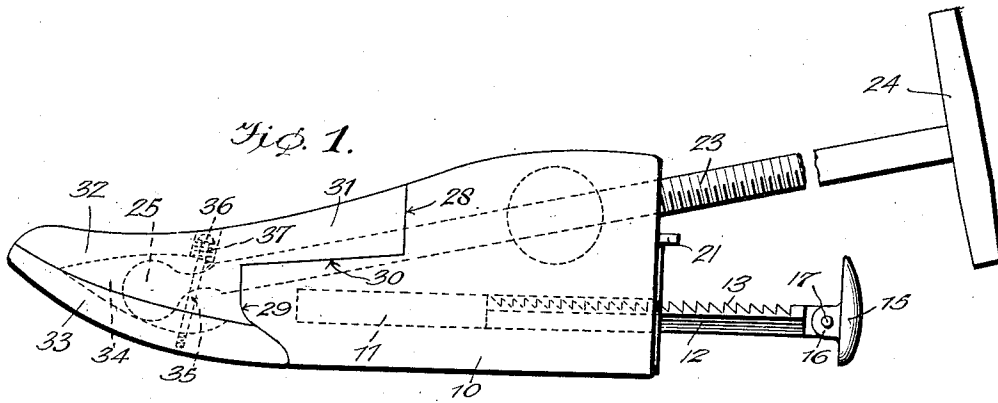


G. R. HURT.
ADJUSTABLE SHOE LAST.
APPLICATION FILED JULY 8, 1919.

1,333,981.

Patented Mar. 16, 1920.
2 SHEETS—SHEET 1.



Inventor
G. R. HURT,

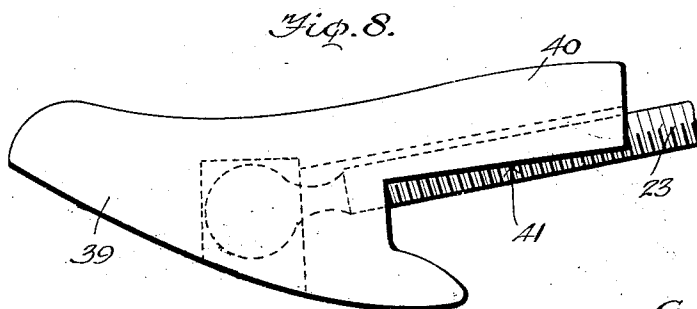
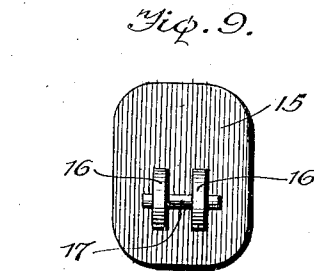
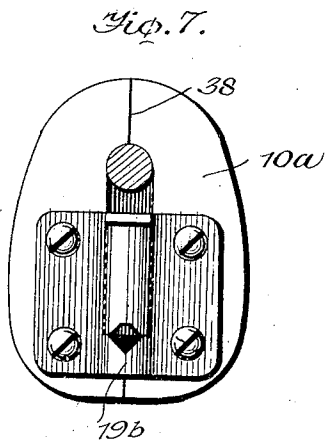
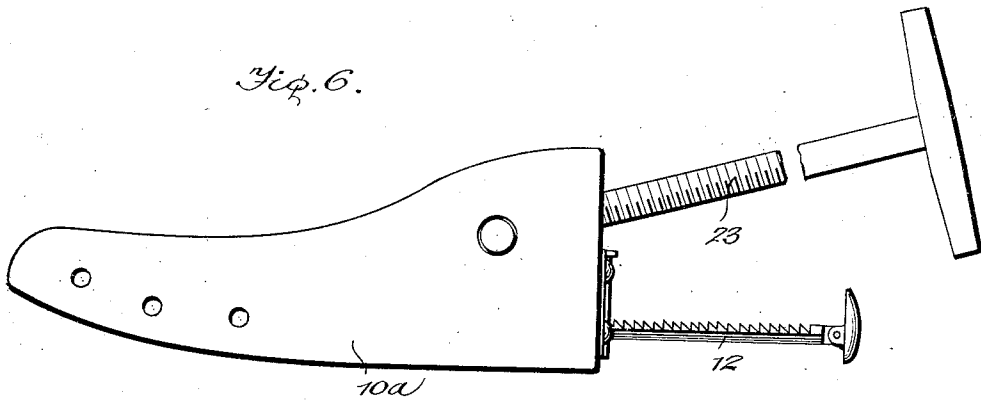
Thomas. Harvey

Attorney

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UNITED STATES PATENT OFFICE.

GRANVILLE R. HURT, OF CHANUTE, KANSAS.

ADJUSTABLE SHOE-LAST.

1,333,981.

Specification of Letters Patent.

Patented Mar. 16, 1920.

Application filed July 8, 1919. Serial No. 309,297.

To all whom it may concern:

Be it known that I, GRANVILLE R. HURT, a citizen of the United States, and a resident of Chanutte, in the county of Neosho and State of Kansas, have invented certain new and useful improvements in Adjustable Shoe-Lasts, of which the following is a specification.

My present invention relates generally to shoe lasts and more particularly to an adjustable shoe last having provision for stretching, lengthening and toe-lifting, my object being the provision of a construction providing for ready interchangeability as to these functions, as well as one including a novel, simple and effective heel-engaging anchoring means.

With these general objects, my invention resides in the details of construction, arrangement and operation to be now described with respect to the accompanying drawings, forming a part of this specification and wherein:—

Figure 1 is a side elevation of the complete and preferred construction,

Fig. 2 is a rear elevation of the body portion of the last shown in Fig. 1,

Fig. 3 is a vertical longitudinal section taken centrally through the rear portion of the body,

Fig. 4 is a detail face view of a portion of the anchor bar guide plate,

Fig. 5 is a detail perspective view of the locking key removed,

Fig. 6 is a side elevation illustrating a different form of last body,

Fig. 7 is a rear elevation of the last body shown in Fig. 6,

Fig. 8 is a side elevation of a modified form of toe piece for use with the last body of Fig. 1,

Fig. 9 is an elevation of the heel piece removed, and

Fig. 10 is a cross section through the anchor bar looking toward its forward or inner end.

Referring now to these figures, and particularly to Figs. 1 to 5 inclusive, my invention proposes a last including a body 10 provided with a lengthwise bore 11 extending forwardly in its rear lower portion and from its rear end, for the reception of an adjustable heel engaging device including an anchor bar 12 which, as seen particularly in Figs. 3 and 10 is square in cross section with a longitudinal series of teeth cut into

and along, one corner thereof and having the effect of flattening the corner as particularly seen in Fig. 10, the teeth being indicated at 13. At one end, as at 14, in Fig. 3, the anchor bar is left full square and its opposite end carries a heel engaging piece 15 of substantially plano-convex shape as seen particularly in Fig. 1, the flat face of which is provided with ears 16 pivotally connected at 17 to the respective end of the anchor bar, and which pin is removable so that said end of the anchor bar may be extended through the opening 18 of a guide plate 19. This opening 18 is shaped to conform strictly to the before described shape of the anchor bar so that the full square opposite end of the anchor bar is prevented from pulling through the guide plate. The guide plate 19 is secured to the rear end of the body 10 of the last by fastening members 20 as seen in Fig. 2, with its opening 18 alined with the bore 11 of the last body so that the latter receives the forward end of the anchor bar 12 as previously stated.

The rear end of the last body 10 is also provided with a vertical recess extending above the rear end of the bore 11 so as to receive an angular locking key 21 therein against the front face of the guide plate 19, the lower sharpened edge of which key, as indicated at 22, being shiftable into and out of engagement with the teeth 13 of the anchor bar to lock the latter in adjusted position. This key, it will be noted, is freely movable and the last need only be inverted when in place within a shoe in order to disengage the key and thus permit of release of the heel engaging device.

The last body has an inclined lengthwise bore through which a screw rod 23, forming part of an adjusting device, extends, this screw rod 23 having a handle 24 at its rear outer end and an engaging member 25 at its inner end in the form of a spherical enlargement. Intermediate the ends of its inclined lengthwise opening 26 the last body also has a spherical socket for an adjusting ball 27, the latter of which has a diametrical threaded opening engaged by the threads of the screw rod 23 which extends through the ball opening and is by virtue of the movable qualities of the latter, angularly adjustable to some extent with respect to the axis of the body opening 26.

At its forward end the last body 10 is cut away to form longitudinally offset upper

and lower shoulders 28 and 29, with an upwardly facing lengthwise bearing surface 30 between these shoulders, to receive the downwardly facing bearing surface of the upper rearward extension 31 of a toe piece comprising upper and lower sections 32 and 33, each internally recessed to cooperate in the formation of a socket 34 for the reception of the spherical engaging member 25 at the forward end of the screw rod 23. These upper and lower sections 32 and 33 are connected by approximately vertical screw bolts 35, the heads 36 of which are movable in vertical bores of the upper piece or section 32 under control of coil springs 37, the action of which is to normally hold the upper and lower sections of the toe piece snugly in connection with one another.

In the use of this last it is obvious that the toe piece as a whole can be adjusted by virtue of the screw rod 23 so as to act as a lengthener and that this toe piece, in its movement relative to the body 10, is effectively guided by virtue of the cooperating bearing surfaces of the toe piece and the body as above described, the disposition of which in relation to the other parts avoids danger of the pinching of the lining or inner portions of a shoe in which the last is utilized. It is also obvious that the working of the spherically enlarged engaging member 25 of the screw rod 23 within the tapering bore of the toe piece will tend to shift the upper and lower sections of the toe piece with respect to one another and against the tension of springs 37 so as to thus act as a toe lifter within a shoe.

From Figs. 6 and 7 it will be noted, however, that my improved heel engaging or anchoring device is capable of utilization with an ordinary form of laterally stretching shoe last, of which the body is indicated at 10^a, and is split longitudinally as seen at 38 in Fig. 7, the rear anchor bar guide plate 19^a being in this form arranged to act as a spring to normally hold the side sections of the last body together and is for this purpose provided with a vertically disposed and rounded central portion 19^b.

The toe lifting toe piece of the last as described in connection with Figs. 1 to 3 inclusive, is also capable of interchangeable use with a solid toe piece 39 as seen in Fig. 8 which has a socket for the reception of the engaging member of the screw rod 23 and which has an upper rear extension 40 like the extension in Fig. 1, presenting a downwardly facing bearing surface 41 to cooperate with the upwardly facing bearing surface 30 of the last body 10. This solid

toe piece 39 of Fig. 8 is used as a lengthener only as distinguished from the toe piece of Fig. 1 which is a toe lifter as well.

It will be understood that, so far as the anchor or heel engaging parts are concerned, the same may be utilized with either a lateral stretcher, lengthener and toe lifter, or with an ordinary solid shoe last.

I claim:—

1. A shoe last comprising a body having a lengthwise bore extending forwardly in its rear lower portion from its rear end, and also having a recess in its rear face extending vertically from the rear end of said bore, an anchor bar, the forward portion of which extends within said bore, having a square cross section and provided with a longitudinal series of teeth cut into and flattening one of its corners, a plate secured to the rear of the last body across its bore and having a guide opening conforming to the cross sectional shape of the anchor bar, the inner end of said anchor bar being full square to prevent accidental withdrawal through the said guide opening, a heel piece at the outer rear end of the anchor bar, and an angular locking member freely shiftable vertically in the said recess of the last body along the inner surface of said plate and into and out of engagement with the teeth of the anchor bar including a handle portion projecting outwardly over the upper edge of the plate.

2. A shoe last comprising a body having a lengthwise bore extending forwardly in its rear lower portion from its rear end and also having a recess in its rear face extending vertically from the rear end of said bore, an anchor bar the forward portion of which extends within said bore, said bar being polygonal in cross section and having a longitudinal series of teeth, a guide plate removably secured to the rear of the last body across its bore and having an opening aligned with the bore and conforming in shape to that of the anchor bar, a heel engaging piece pivoted to the outer rear end of the anchor bar, said anchor bar having means at its forward inner end to prevent withdrawal through the guide plate opening, said heel engaging piece being detachable to permit of disassociation of the bar from the plate, after the latter is removed, and a gravity latch member movable vertically in the recess of the last body forwardly of the said guide plate and freely shiftable into and out of engagement with the teeth of the anchor bar.

In testimony whereof I affix my signature.
GRANVILLE R. HURT.