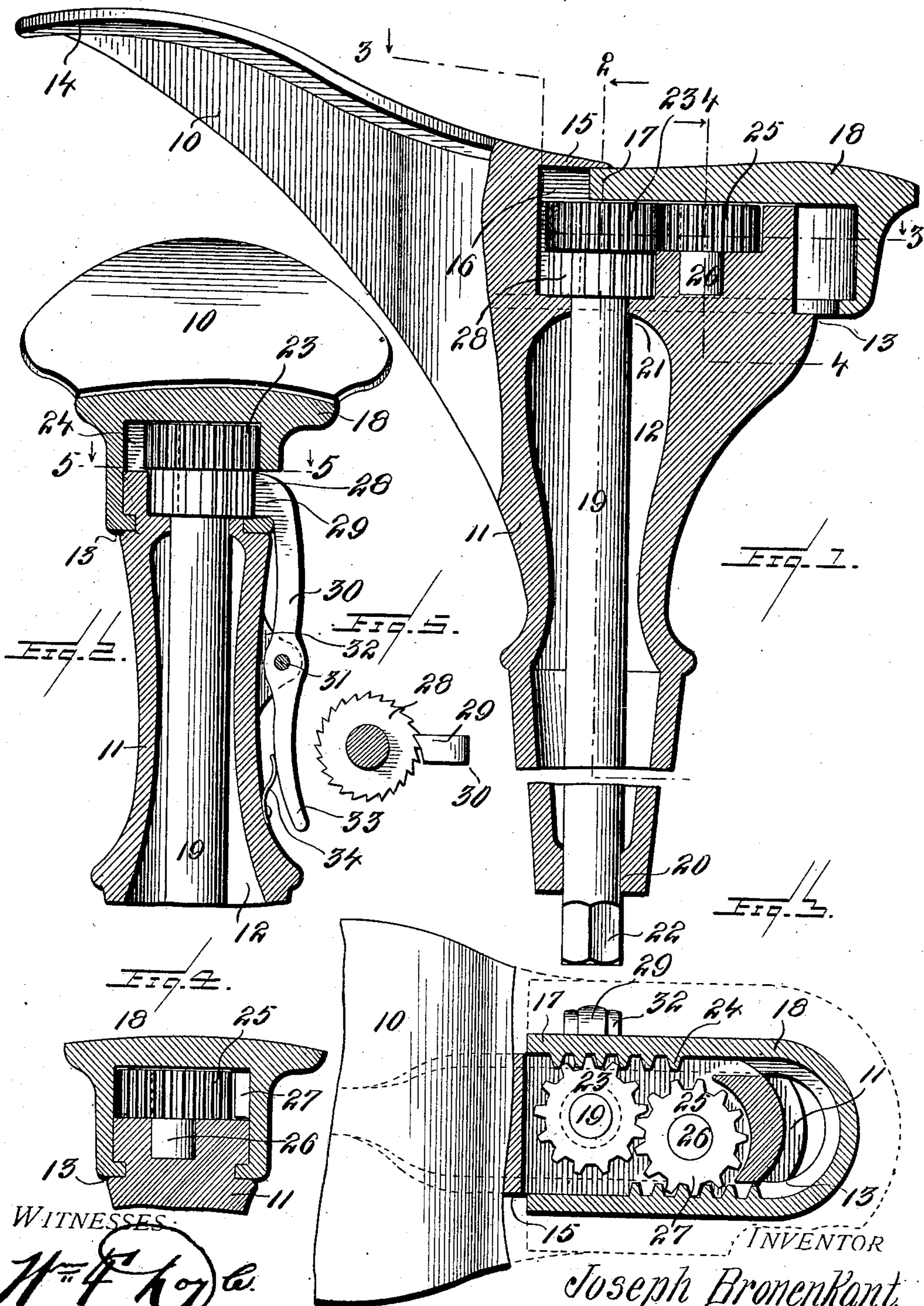


No. 891,590.

PATENTED JUNE 23, 1908.

J. BRONENKANT.
ADJUSTABLE LAST.

APPLICATION FILED SEPT. 13, 1907.



WITNESSES

Wm. F. Roy & Co.
Alfred T. Gage

INVENTOR
Joseph Bronenkant.
BY *E. B. Stooling*
Attorney

UNITED STATES PATENT OFFICE.

JOSEPH BRONENKANT, OF RACINE, WISCONSIN.

ADJUSTABLE LAST.

No. 891,590.

Specification of Letters Patent.

Patented June 23, 1908.

Application filed September 13, 1907. Serial No. 392,767.

To all whom it may concern:

Be it known that I, JOSEPH BRONENKANT, citizen of the United States, residing at Racine, county of Racine, and State of Wisconsin, have invented certain new and useful Improvements in Adjustable Lasts, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to an adjustable last, and particularly to a construction wherein the heel plate thereof may be shifted relative to the remaining portion and adapt the last for different sizes of foot coverings.

The invention has for an object to provide an improved means for shifting the heel plate comprising an operating shaft extended through the shank of the last and provided with a pinion adapted to mesh with a rack in the heel plate.

A further object of the invention is to provide means for holding this shaft and pinion in its adjusted position to prevent inward movement of the heel plate after being adjusted to the shoe.

Other and further objects and advantages of the invention will be hereinafter set forth and the novel features thereof defined by the appended claims.

In the drawing:—Figure 1 is a vertical section through the last with parts in elevation; Fig. 2 is a vertical section on the line 2—2, Fig. 1; Fig. 3 is a horizontal section on the line 3—3, Fig. 1; Fig. 4 is a detail section on the line 4—4, Fig. 1, and Fig. 5 is a similar section on the line 5—5, Fig. 2.

Like numerals refer to like parts in the several figures of the drawing.

Referring to the drawing, 10 designates the last which may be of any desired size or configuration for the work to be performed and comprises the shank 11 having the tubular passage 12 therein and the track or slide-way 13 at the upper portion of the shank and disposed preferably in a horizontal plane.

The toe portion 14 of the last terminates at the instep in the overhanging flange 15 forming the recess 16 into which the inner end 17 of the heel plate 18 extends. Disposed within the tubular passage 12 is an operating shaft 19 having the bearing 20 at the lower portion of the shank, and a similar bearing 21 at the upper portion thereof, while the extended end 22 of the shaft is adapted to receive any desired key or tool for rotating the same. Above the bearing 21 this shaft is provided with the pinion 23 secured thereto and

adapted to mesh with the rack 24 formed on or secured to the inner face of the heel plate 18. Meshing with the pinion 23 is the companion pinion 25 mounted on the stub shaft 26 which has its bearing in the upper portion of the last shank. The pinion 25 meshes with the rack 27 formed on the opposite face of the heel plate so as to equalize the pull thereon in the adjustment of the plate, which has inturned flanges engaging the way 13.

For the purpose of retaining the heel plate in its outward adjusted position a ratchet wheel 28 is secured to the shaft 19 adapted to cooperate with the pawl 29 carried at the upper end of the latching lever 30 which lever is pivoted at 31 upon the lug 32 extended from the last shank, and the operating handle 33 thereof is normally pressed outward by the tension spring 34 bearing thereon, as shown in Fig. 2. The disposition of the ratchet teeth permit the outward movement of the heel plate but resist any return movement thereof after the last is fitted to the shoe, while such movement can be instantly effected by pressure on the pawl lever.

It will thus be seen that in the operation of the invention the heel plate is positively fed at opposite sides so as to prevent any binding or side movement thereof and the counter of the shoe is consequently retained in its proper shape as the heel plate moves directly away from the instep of the last and is firmly held by the pinion arrangement shown. During this outward movement the ratchet on the operating shaft rides over the pawl and locks the parts in adjusted position so as to prevent any return movement until desired by releasing the lever. The invention therefore presents a simple and very efficient construction of adjustable last.

Having described my invention and set forth its merits, what I claim and desire to secure by Letters Patent is:—

1. In an adjustable last, a shank provided with a socket member at one end and a slide-way at the opposite end thereof, a heel plate mounted upon said way and provided with a rack bar, an operating shaft extending through said shank, a pinion carried by said shaft to engage said rack and disposed within a recess at one end of said shank, a ratchet wheel carried by said shaft within said shank, and means mounted upon said shank and extending through an aperture therein to engage and hold said wheel.

2. In an adjustable last, a body portion having a socket member at one end and a tubular shank provided with a recess and slideway at its opposite end, an operating shaft mounted in said shank and extended beyond the socket member of the shank, a heel plate mounted on said slideway, a pinion carried by said shaft within the shank recess to operate said heel plate, a retaining wheel on said shaft and within said recess, and holding means upon the shank to engage said wheel.

3. In an adjustable last, a body portion provided with a shank having a socket member, a heel plate mounted upon said shank and having rack teeth upon its opposite sides, a relatively fixed operating shaft disposed in said shank, a pinion carried by said shaft and engaging one of said rack faces, a meshing pinion mounted in said shank and engaging the opposite rack face, a ratchet wheel carried by said shaft within said shank and a lever carried by the shank and provided with a pawl end extended through an aperture therein to engage said ratchet wheel.

4. In an adjustable last, a body portion provided with a shank having a socket member, a heel plate mounted upon said shank and having rack teeth upon its opposite sides, a relatively fixed operating shaft disposed in said shank and having an extended

end beyond the shank, a pinion carried by said shaft and engaging one of said rack faces, a meshing pinion mounted in said shank and engaging the opposite rack face, a ratchet wheel carried by said shaft within said shank, a lever carried by the shank and provided with a pawl end extending through an aperture therein to engage said ratchet wheel, a spring disposed to engage said ratchet lever, and a key face disposed on the extended end of the shaft.

5. In an adjustable last, a body portion having a tubular shank and socket member with a slideway and a recess at its upper portion and bearings at its opposite ends, an operating shaft engaging said bearings and extended beyond the shank, a heel plate mounted in said slideway, a pinion carried by said shaft to operate said heel plate, a ratchet wheel carried by said shaft beneath said pinion and disposed in said recess at the top of said shank, and a spring pressed latch lever upon the outer face of the shank having a pawl extended through an aperture therein to engage said wheel.

In testimony whereof I affix my signature in presence of two witnesses.

JOSEPH BRONENKANT.

Witnesses:

CHAS. BARNHARDT,
JAMES FREDERICKSEN.