

W. J. NEWLAND.
ROTATABLE HEEL LIFT.
APPLICATION FILED JULY 31, 1912.

1,052,508.

Patented Feb. 11, 1913.

Fig. 1.

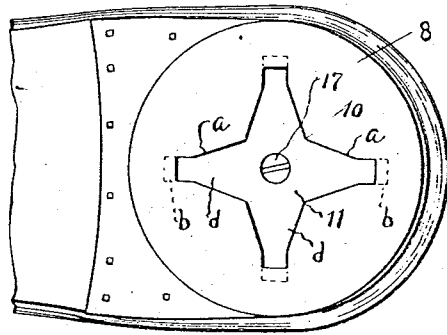
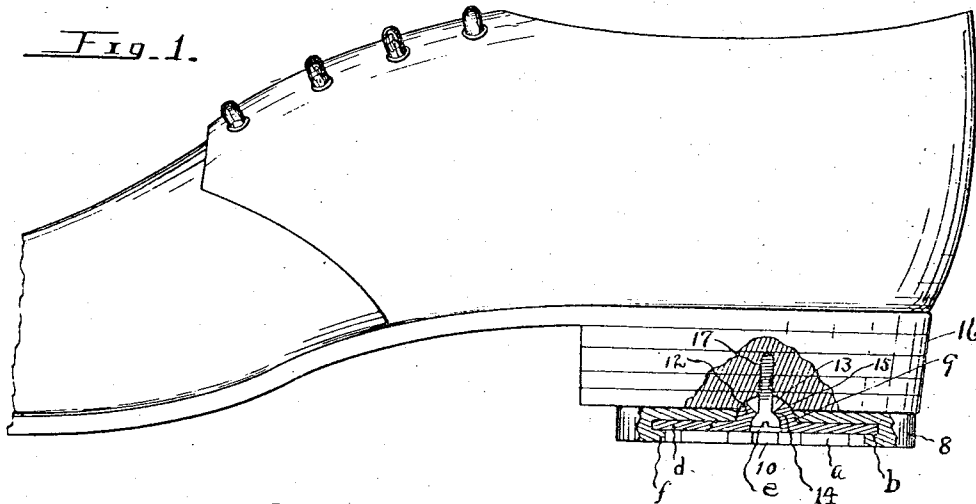


Fig. 2.

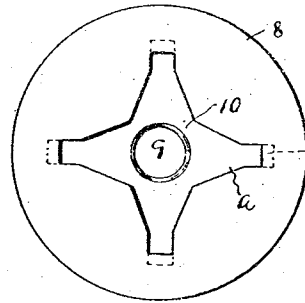


Fig. 3.

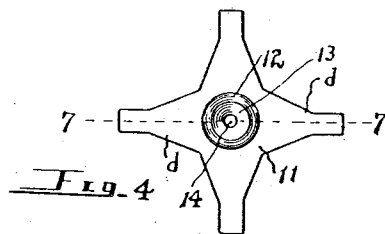


Fig. 4.

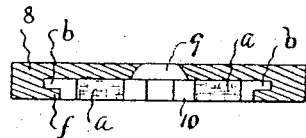


Fig. 5.



Fig. 6.

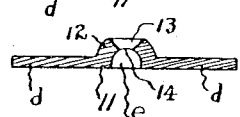


Fig. 7.

Witnesses

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UNITED STATES PATENT OFFICE.

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ROTATABLE HEEL-LIFT.

1,052,508.

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Application filed July 31, 1912. Serial No. 712,466.

To all whom it may concern:

Be it known that I, WILLIAM J. NEWLAND, a citizen of the United States, residing at Omaha, in the county of Douglas and State of Nebraska, have invented certain new and useful Improvements in Rotatable Heel-Lifts, of which the following is a specification.

This invention relates to an improvement in rotatable heel lifts for boots and shoes, and has for its object, broadly, to provide a lift of few and simple parts so that it may be economically manufactured, will be durable, and so constructed that it may be conveniently attached to or removed from the heel.

The invention has reference to the provision of a rigid plate provided with radially arranged arms mounted for rotation upon the bottom of the heel for the support of a rubber disk, the plate being mounted upon its pivot in a manner to permit a lateral swinging movement during the act of walking, to facilitate rotation of the disk.

The invention consists of the novel construction, combination and arrangement of parts as described herein and claimed, and as illustrated in the drawing, wherein,—

Figure 1 is a broken view, partly in section, showing the heel lift mounted upon a shoe. Fig. 2 is a bottom plan view of the parts shown in Fig. 1. Fig. 3 is a bottom plan view of the rubber disk. Fig. 4 is a plan view of the metallic plate. Fig. 5 is a transverse sectional view through the middle of the disk and through two of the radially formed recesses thereof. Fig. 6 is an edgewise view of the metallic plate. Fig. 7 is a section on line 7 7 of Fig. 4.

Referring now to the drawing for a more particular description, numeral 8 indicates a disk of uniform thickness. It is constructed of rubber or similar elastic material; it is formed at its middle with an opening 9, and has a recess 10 opening upon one of its sides. The recess is angular in form since it has grooves or channels *a* disposed radially and opposite to each other, said channels being formed at their terminals as pockets *b*.

At 11 is indicated a flat, metallic plate provided with radially disposed arms *d*. It is formed upon one of its sides, at its middle, with a dome-shaped projection 12 having at its middle an outwardly divergent annular or conical recess 13, the opposite side of the dome-shaped projection provid-

ing a depression *e* having an aperture 14 communicating with said recess.

The parts thus described are of simple construction and may be economically manufactured and when mounted upon the bottom of the heel of a boot or shoe, provide a lift tending to prevent the usual vibration and noise occasioned by the rear end of the heel contacting forcibly with the floor, pavement or other hard substance, while walking.

A cup-shaped recess 15 may be formed in the bottom of the heel 16. The metallic plate 11 may be disposed in recess 10 of the rubber disk, its arms *d* substantially filling the channels *a* and pockets *b*. When the device is mounted upon the heel 16, projection 12 will have bearings in recess 15, which tends to prevent "skidding" or a slidable movement of the device on the heel; and by means of the pivot-pin or screw 17 traversing aperture 14 and recess 13, the device may be secured upon the bottom of a boot or shoe, the head of the screw being disposed in depression *e*.

It will be understood that the purpose of providing a pivotal mounting for the disk is to permit its rotatable movement, so that a single part of its circular edge will not become unduly worn, it usually being the rear part of the heel which first strikes the ground in the act of walking. The diameter of the disk 8, therefore, conforms to the width of heel 16.

While heel lifts have heretofore been rotatably mounted upon the heels of boots and shoes, no means have been shown for causing a rocking movement of a metallic support which carries the rubber disk. The novel construction and mounting of the parts which cause this movement and which conduces to the rotation of the plate and rubber disk, will now be described.

Plate 11 is of rigid material, and since its arms *d* are disposed in the channels *a*, the parts will rotate as a unit. Since this plate is disposed midway between the upper and lower sides of the disk, it will not, ordinarily, make contact with the ground. The function of recess 13 is to permit a rocking movement of the metallic plate. In operation when walking, the rear part of the disk will first be compressed, this being when the heel makes contact with the ground. This compression will cause the

rear part of the metallic plate to be pressed upwardly or elevated, with the result that the front part of the plate will be lowered. While walking, this action will be effected at each step, recess 13 permitting the rocking movement of the plate; and the consequent difference in pressure of the rubber disk, at each step, will facilitate its rotatable movement, for the purpose mentioned.

10 In practice, the pivot-pin is screwed into the heel a sufficient distance so that the rubber disk will be pressed firmly against the bottom of the heel, and the rigid plate will generally prevent the front part of the disk from being bent outwardly from the heel, when said disk makes contact with ordinary obstructions.

It will be noted that, since the metallic plate is adapted to have a rocking movement on its keeper or screw 17, the pressure of the rubber disk is distributed in a manner to cause its front part, during the act of walking, to move outwardly to a contact with the ground, and this feature operates 25 to decrease the vibration.

In the construction as described, arms *d* project outwardly to points adjacent to the periphery of the disk. It is an advantage to provide as great a length for the arms 30 as is consistent with the maintenance of an adequate quantity of elastic material between the ends of the arms and the circumference of the disk. One of the func-

tions of pockets *b* which are formed in the disk, permits the use of comparatively long arms, and provide a ledge or covering *f* for the ends of the arms, for use as a wearing surface.

Having fully described my invention, what I claim and desire to secure by Letters Patent is,—

A heel lift comprising in combination with a shoe heel formed with a rounded recess, an elastic disk having its lower face recessed, and having pockets formed intermediate its upper and lower faces, a metallic plate located in said recess and having portions entering said pockets, said plate having a rounded dome-like central projection which passes through the top of said elastic disk and has a seating in the rounded recess of the shoe heel, there being a rounded recess formed in the under side of the dome-like projection, and a fastening element having a rounded head seated in said recess and entering said shoe heel, said dome-like projection having a flaring opening in its upper portion to permit rocking movement of the plate with relation to the fastening element. 60

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

WILLIAM J. NEWLAND.

Witnesses:

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