

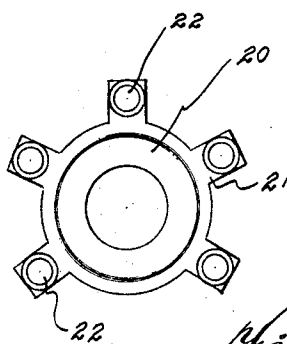
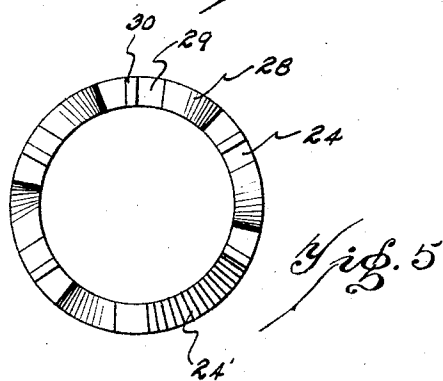
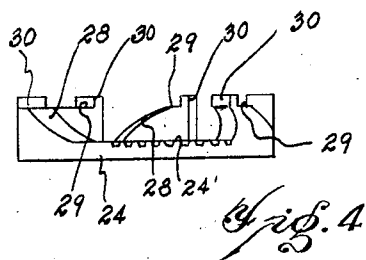
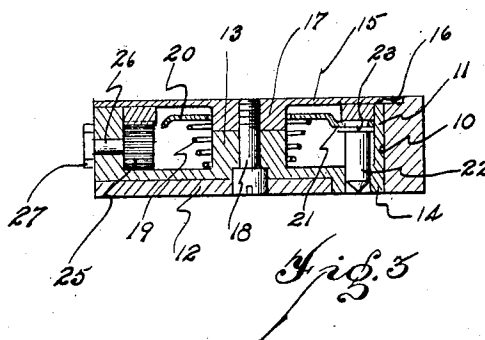
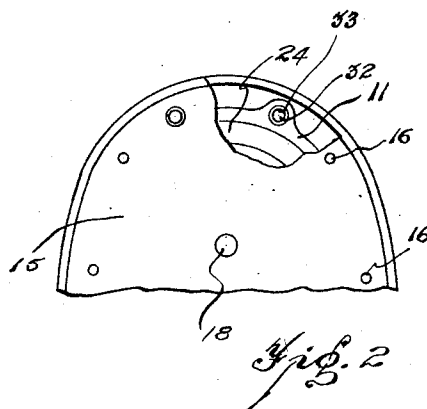
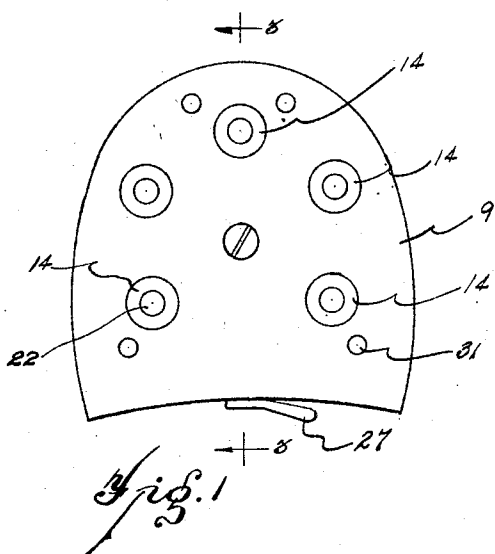
Nov. 16, 1926.

1,607,296

B. NOËL

ANTISLIPPING MEANS

Filed July 20, 1925



INVENTOR.

BARNEY NOËL

BY

Thos. Donnelly
ATTORNEY.

UNITED STATES PATENT OFFICE.

BARNEY NOËL, OF WINDSOR, ONTARIO, CANADA.

ANTISLIPPING MEANS.

Application filed July 20, 1925. Serial No. 44,830.

The invention shown herein is an improved development of my co-pending application filed January 24, 1924, Serial Number 688,204.

My invention relates to a new and useful improvement in a heel gripping mechanism, adapted for mounting in the heel of a person's shoe and for, when in operative position, gripping the surface over which travel is made for preventing slipping.

It is an object of the present invention to provide a device of this class which will be simple and durable in structure, economical of manufacture and highly efficient in use.

Another object of the invention is the provision of a device of this class having a plurality of gripping members adapted for being projected outwardly from the heel of the shoe at will and for being retracted thereinto at will.

Another object of the invention is the provision of a device of this class in which a rotatable cam bearing member is used for effecting the movement of the gripping members into operative position.

Another object of the present invention is the provision of a device of this class which may be easily and quickly attached to a shoe with which worn.

Another object of the invention is the provision of a device of this class comprising a number of parts so arranged and constructed that upon the wearing or breaking of one of the parts, the part so worn or broken may be easily and quickly replaced without necessitating replacement of other parts.

Other objects will appear hereinafter.

The invention consists in the combination and arrangement of parts hereinafter described and claimed.

The invention will be best understood from a reference to the accompanying drawings which form a part of this specification and in which:

Fig. 1 is a bottom plan view of the invention.

Fig. 2 is a top plan view of the invention, with parts broken away;

Fig. 3 is a sectional view taken on substantially line 3—3 of Fig. 1;

Fig. 4 is a side elevational view of the cam bearing ring used in the invention;

Fig. 5 is a front elevational view of the cam bearing ring used in the invention;

Fig. 6 is a front elevational view of a plate used in the invention.

The invention is designed particularly for use with a heel 9, which may be made from leather, rubber, or other suitable material, the heel 9 being provided with a recess 10 formed in its upper surface to provide a pocket for the reception of a metal housing 11. This pocket is so arranged that a layer 12 of rubber or other fabric from which the heel is made serves as a tread surface of the heel. Projecting upwardly from the base of the housing 11 is a boss 13 through which is formed a bore. Projecting outwardly from the base of the housing 10, in spaced relation to each other, are necks 14, which serve as guide members, as will appear herein, these necks projecting through openings formed in the layer 12 of the heel and terminating at their outer ends flush with the outer surface of this layer 12. A cap 15 is provided, which is preferably made from metal, and which is provided at its central portion with a boss 17, this boss having a threaded bore formed therein for the reception of the screw 18, which serves to bind the cap 15 to the housing 10. The cap 15 is provided with a plurality of openings 16 through which tacks or other suitable securing means may be projected for attaching the cap 15 to the shoe with which worn. Positioned in the housing 10, in embracing relation to the boss 13, is a spring 19, one end of which engaging the base of the housing 10 and the other end of which is adapted to engage the lower surface of a plate 20 which is provided with a plurality of radiating arms 21, each of said arms carrying a stud 22 which is pointed at its free end, a collar 23 serving to limit the thrust of the stud 22 into the arm 21. These studs may be secured in the arms 21 by means of a press fit or they may be riveted in these arms 21 after projection through openings formed therein. A cam bearing ring 24 is provided which has a number of teeth 24' formed at one portion. The remaining portion is provided with a plurality of inclined surfaces 28, terminating at a rest surface 29, which extends parallel to the facial plane of the ring 24 a suitable abutment portion 30 being positioned adjacent the rest surface 29, the inclined surface 28, the rest surface 29 and the abutment 30 being formed from an outwardly projecting shoulder formed prefer-

ably integral with the ring 24. As shown in Fig. 3, when the ring 24 is in operative position, the teeth 24' are adapted to engage the pinion 25, which is fixedly mounted on the shaft 26, a suitable operating handle 27 being attached to the shaft 26 to effect a rotation or rocking of the pinion 25 to cause a rocking of the ring 24. As shown in Fig. 3, when the ring 24 is turned to the proper position, the spring 19 will serve to retract the studs 22 so as to withdraw them into the housing 10, these studs 22 engaging at their inner ends the ring 24 at the base of the inclines 28. A rotation of the pinion 25 will effect a rotation of the wheel 24 so as to cause the inclines 28 to engage the inner ends of the studs 22, thus forcing them outwardly from the housing 10 so as to present a number of sharpened studs projecting from the heel; these studs in traveling into or out of the housing pass through the necks 14, which serve to act as guides for the studs; the effect of these outwardly projecting studs in retarding or preventing slipping of the person wearing the heel is believed evident. As the ring 24 is rotated, to bring the studs 22 into their outwardly projecting position, the end of the studs will then engage the rest surface 29 so that a thrust delivered inwardly of the studs 22 will not tend to rotate the ring 24, as would be the case were this rest surface not present. The abutment 30 prevents a turning of the ring through the rotation of the pinion 25 beyond proper operative position.

The housing 10 is secured to the heel proper by means of the rivets 31, each of which is provided at its upper end with a collar 32, from which projects a slight portion of the rivet and adapted to engage in openings 33 formed in the cap plate 15, these outwardly projecting ends of these rivets by engaging in the holes of 33 serving to act as a guide for the proper mounting of the housing upon the cap 15.

From this description the operation of the device is evident and it is also believed that it is clear that the structure is a suitable one and that the several parts may be independently replaced with new parts without changing other parts, so that an economy in use is thus afforded.

While I have illustrated and described the preferred forms of structure, I do not wish

to limit myself to the precise forms shown, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A heel mechanism of the class described, comprising a housing for mounting in a recess of a heel, said housing having a plurality of openings formed in its base; a plate adapted for mounting in said housing, said plate being movable and non-rotatable relatively to the base of said housing; a plurality of studs carried by said plate and adapted for engagement in said openings; a cam bearing ring mounted in said housing and adapted upon rotation in one direction for effecting a projection of said studs through said openings, the said ring having rest surfaces for engaging said studs after projection through said openings; a plurality of teeth formed on said cam bearing ring; a pinion mounted in said housing and adapted for engagement with said teeth; means for rotating said pinion at will; means for limiting the rotation of said cam bearing ring in one direction, and means for retracting said studs into said housing upon movement of said rest surfaces out of engagement with said studs.

2. A heel mechanism of the class described, comprising a housing for mounting in a recess of a heel, said housing having a plurality of openings formed in its base; a plate adapted for mounting in said housing, said plate being movable and non-rotatable relatively to the base of said housing; a plurality of studs carried by said plate and adapted for engagement in said openings; a cam bearing ring mounted in said housing and adapted upon rotation in one direction for effecting a projection of said studs through said openings, the said ring having rest surfaces for engaging said studs after projection through said openings; a plurality of teeth formed on said cam bearing ring; a pinion mounted in said housing and adapted for engagement with said teeth.

In testimony whereof I have signed the foregoing specification.

BARNEY NOËL.