J. H. LYNN.

ANTISLIPPING DEVICE FOR SHOES.

APPLICATION FILED APR. 24, 1920.

1,361,078. Patented Dec. 7, 1920.

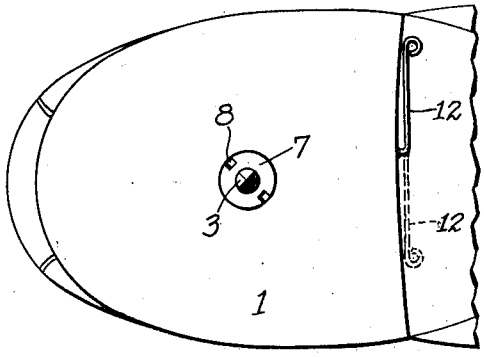


Fig. 1.

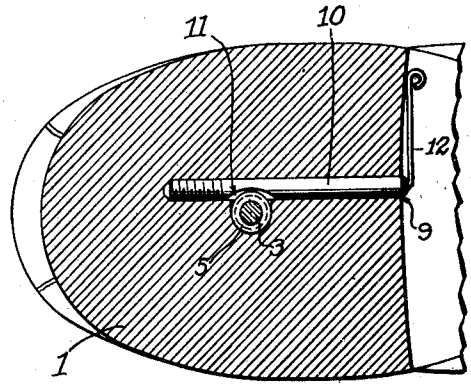


Fig. 2.

Fig. 3.

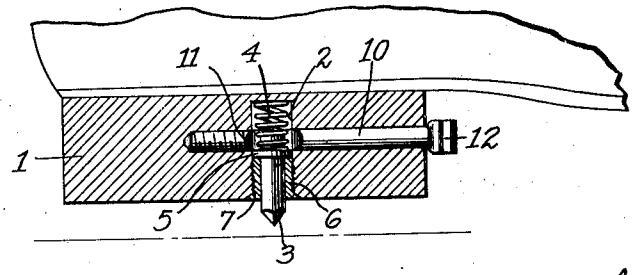
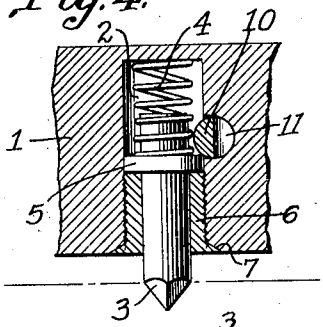


Fig. 4.



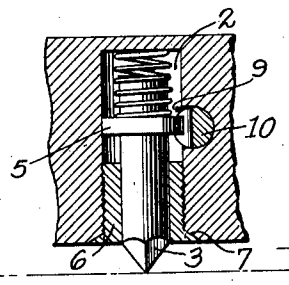


Fig. 5.

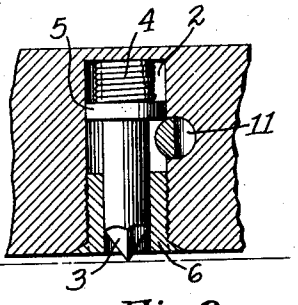


Fig. 6.

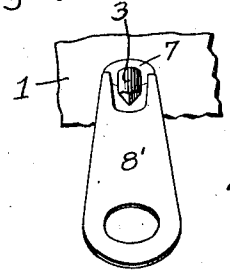


Fig. 7.

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ANTISLIPPING DEVICE FOR SHOES.

1,361,078. Specification of Letters Patent. Patented Dec. 7, 1920.

Application filed April 24, 1920. Serial No. 376,401.

To all whom it may concern:

Be it known that I, JOHN H. LYNN, citizen of the United States, residing at Coplay, in the county of Lehigh and State of Pennsylvania, have invented certain new and useful Improvements in Antislipping Devices for Shoes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to antislipping devices for shoes intended to secure footing upon icy surfaces. It contemplates a calk adapted to be applied to the sole or heel of a shoe which will be effective to prevent slipping while so constructed as not to mar a floor or other surface.

The invention comprises a spur or calk elastically projected from the tread surface of a shoe combined with means whereby the spur or calk may be held either unyieldingly projected or entirely retracted.

In the accompanying drawings in which similar reference characters designate corresponding parts throughout the several views:

Figure 1 is a plan view of a heel having the invention applied to it;

Fig. 2 is a horizontal section through the heel exposing to view an adjustable device for holding the calk rigidly extended or wholly retracted;

Fig. 3 is a vertical section through a heel exposing the calk and the adjustable device for holding the calk extended or retracted.

Figs. 4, 5 and 6 are detail sections respectively showing the spur or calk held rigidly extended, free to move against spring pressure, and positively retracted;

Fig. 7 is a detail illustrating how the calk or spur may be removed from the heel.

My device is preferably shown applied to a heel although it is obvious that it may be applied to other parts of a shoe bottom.

In the drawings, 1 designates a heel having a cavity 2 within which operates a spur or calk 3 normally pressed outward by a coiled spring 4 seated in the cavity and bearing against a shoulder 5 formed between the tip and inner end of the spur 3.

The spur 3 is mounted to slide in a threaded thimble 6 screwed into the walls of the orifice formed in the heel and having a flange 7 intended to be seated flush with the surface of the heel. The said flange is provided with a socket 8 designed to receive a spanner or screw driver whereby the said thimble may be screwed to its seat or unscrewed therefrom.

As thus far described the construction comprises a heel or other portion of a shoe bottom having a spur or calk spring-pressed outward. It will be appreciated that rigidly projected calks or spurs on the bottoms of shoes produce an awkward tread for a pedestrian, likely to cause him to stumble, and very destructive to surfaces walked upon although effective in preventing slippage on ice. I have discovered that it is not necessary in order to give a secure foot hold on ice to have rigidly projecting calks or spurs upon the bottom of a shoe. A light spring pressure, such as is produced in my device, I have found is ample to give sufficient hold upon an icy surface to prevent slipping so that when one wearing my antislipping device passes from an icy street to an ice free sidewalk or the floor of a house he is not elevated as if upon stilts, and does not destroy the surface walked upon.

In case it is desired to remove the antislipping device, under those conditions in which it has no utility, it is only necessary to unscrew the thimble 6 by means of a small spanner 8′ which may be carried on a key ring or in the waist coat pocket.

During the winter time it may be found desirable sometimes to hold the spur rigidly projected; and again, owing to sudden changes of weather, or occupational conditions, it may be desirable to hold the spur completely retracted, or again to allow it freedom of movement under the influence of the spring alone. One feature of the invention therefore comprises a means whereby the spur may be locked either extended or retracted or allowed to reciprocate freely in its socket.

In order to achieve the several results stated, a longitudinal hole 9 may be drilled from the breast of the heel toward the rear, intersecting at one side the socket 2 in which the spur reciprocates. The said longitudi-

nal hole 9 drilled from the breast is smaller in diameter than the said socket 2. In this hole is fitted a rotary pin 10 having an eccentric portion 11 adapted to be projected into the cavity 2 and when so projected to intersect the path of movement of the shoulder 5 on the spur 3. Also when the pin is rotated one half rotation from the position in which it intersects the said shoulder 5 the eccentric is inclosed wholly within that portion of the orifice in which the pin is seated and allows the shoulder 5 to pass freely by it. On the end of the pin projecting from the breast of the heel is a small lever handle 12 by which the pin may be turned. The eccentric portion is formed preferably by filing a cross cavity in one side of the pin and arranging the lever arm in a plane which is at right angles to the surface of the cross cavity or parallel with the radius of eccentricity. The arrangement shown is such that when the eccentric is wholly retracted within the longitudinal hole 9 so that the spur is free to move under the influence of the spring, the lever lies flat against the sole, as shown in Fig. 2, and does not project beyond the tread of the heel. In this position the spur may be pushed back into the cavity against the pressure of the spring unobstructed by the eccentric. Should it be desired to hold the spur retracted, as indicated in Fig. 6, the spur may be pushed back against the pressure of the spring and the lever arm turned 180° so as to again lie flat against the sole and extend in the opposite direction, protected by the heel. The eccentric will then project into the cavity 2 in advance of the shoulder 5 and lock the spur retracted. If it be desired to lock the spur projected, as indicated in Fig. 4, the lever arm should be again turned to position shown in Figs. 2 and 5 and the spur allowed to project under the pressure of the spring; then the lever arm may again be turned 180° when the spur will be locked as illustrated in Fig. 4.

It will be apparent that this device is extremely simple and has a wide range of utility. It may be fitted to a heel by very small expenditure of skill or time, it being only necessary to use two drills, one for drilling the cavity 2 perpendicular to the surface for receiving the spur, and the other for drilling the hole 9 at right angles thereto for receiving the locking or adjusting device. The metal surfaces are small and have substantially no effect in chilling the foot of the wearer. Its grip is light but effective. It does not require that the wearer must practice a new gait in order to take advantage of the utilities of an antislipping device when the streets are icy.

Having thus described my invention in the form now best known to me and disclosed its mode of operation what I claim and desire to secure by Letters Patent of the United States is:

1. In an antislipping device for shoes, the combination with a socket, of a spur adapted to reciprocate in said socket, a spring tending to press said spur outward, and means to lock said spur in either retracted or extending position or to leave it free to reciprocate in said socket, said means comprising two locking surfaces on the spur and an adjustable device adapted to engage either of said locking surfaces whereby the spur may be locked in retracted position or in extended position or be released free to reciprocate.

2. In an antislipping device for shoes, the combination of a heel having a cavity extending from its tread surface and a hole intersecting said cavity at one side, a spur adapted to reciprocate in said cavity transversely of said tread surface, a spring seated in said cavity tending to press said spur outward, a pin seated in said hole and projecting at the breast of the heel, and means on the projecting end whereby said pin may be adjusted so as to permit freedom of movement of the spur or lock it in projected or retracted position.

3. In an antislipping device for shoes, the combination of a heel having a cavity intersecting its tread surface, a spur adapted to reciprocate in said cavity, a spring tending to press said spur outward, said heel having a hole intersecting said cavity at one side and opening at the breast, an eccentric pin pivoted in said hole and adapted upon rotation to project its eccentric portion into the cavity or retract it wholly therefrom, said spur having a shoulder whereby said eccentric may lock said spur either in retracted or projected position or may permit it to pass the eccentric freely.

4. In an anti-slipping device, the combination of a heel having a cavity intersecting its tread surface, a spur seated in said cavity and adapted to be projected or retracted, said heel having also a hole extending from the breast rearward and intersecting said first named cavity at one side, a locking pin in said intersecting hole, and coöperating means on said spur and said locking pin whereby the spur may be locked either in retracted or projected position.

5. In an antislipping device for shoes, the combination of a heel having a cavity intersecting its tread surface and a hole intersecting said cavity, said hole opening at the breast of the heel, a spur adapted to reciprocate in said cavity, a rotary pin in said hole carrying an eccentric portion adapted in one position to project into the said cavity and in another position to be wholly retracted therefrom, a lever arm on the exposed end of said pin extending laterally

therefrom and in a direction substantially parallel with the radius of eccentricity of said eccentric portion, said spur having a shoulder adapted to coöperate with the eccentric portion of said pin.

6. In an antislipping device for shoes, a socket member, a shouldered spur adapted to reciprocate therein, a spring arranged to force said spur outward, and a locking device adapted to be moved in engagement with the shoulder on either side thereof and lock the spur in either retracted or extended position according to which surface is engaged, whereby the spur may be locked either retracted or extended, or may be left free to reciprocate under spring tension.

In testimony whereof I affix my signature.

JOHN HENRY LYNN.