G. H. ECHOLS.

ICE CREEPER FOR HORSESHOES.

APPLICATION FILED JUNE 7, 1909.

940,381. Patented Nov. 16, 1909.

Fig. 1.

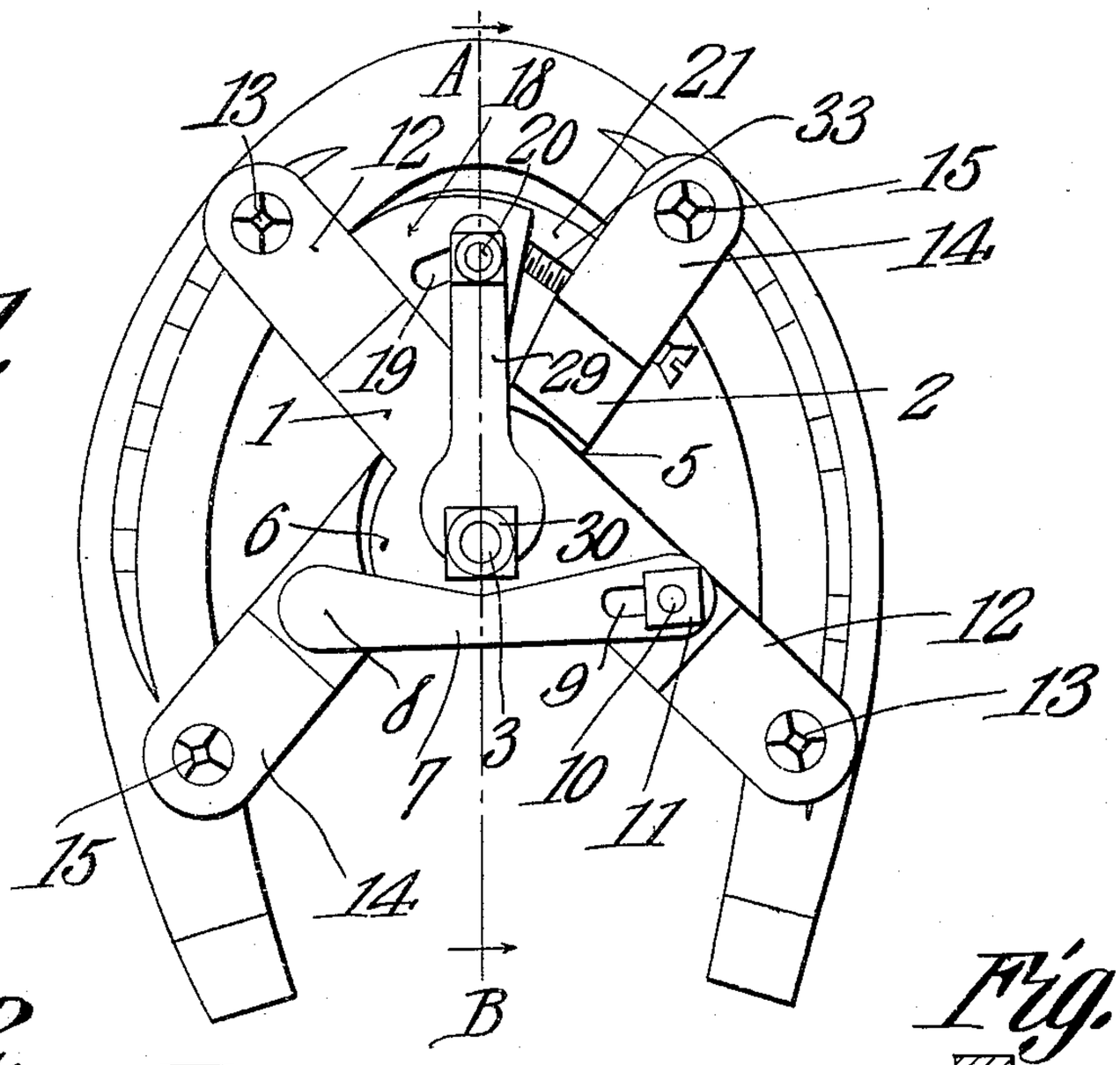


Fig. 2.

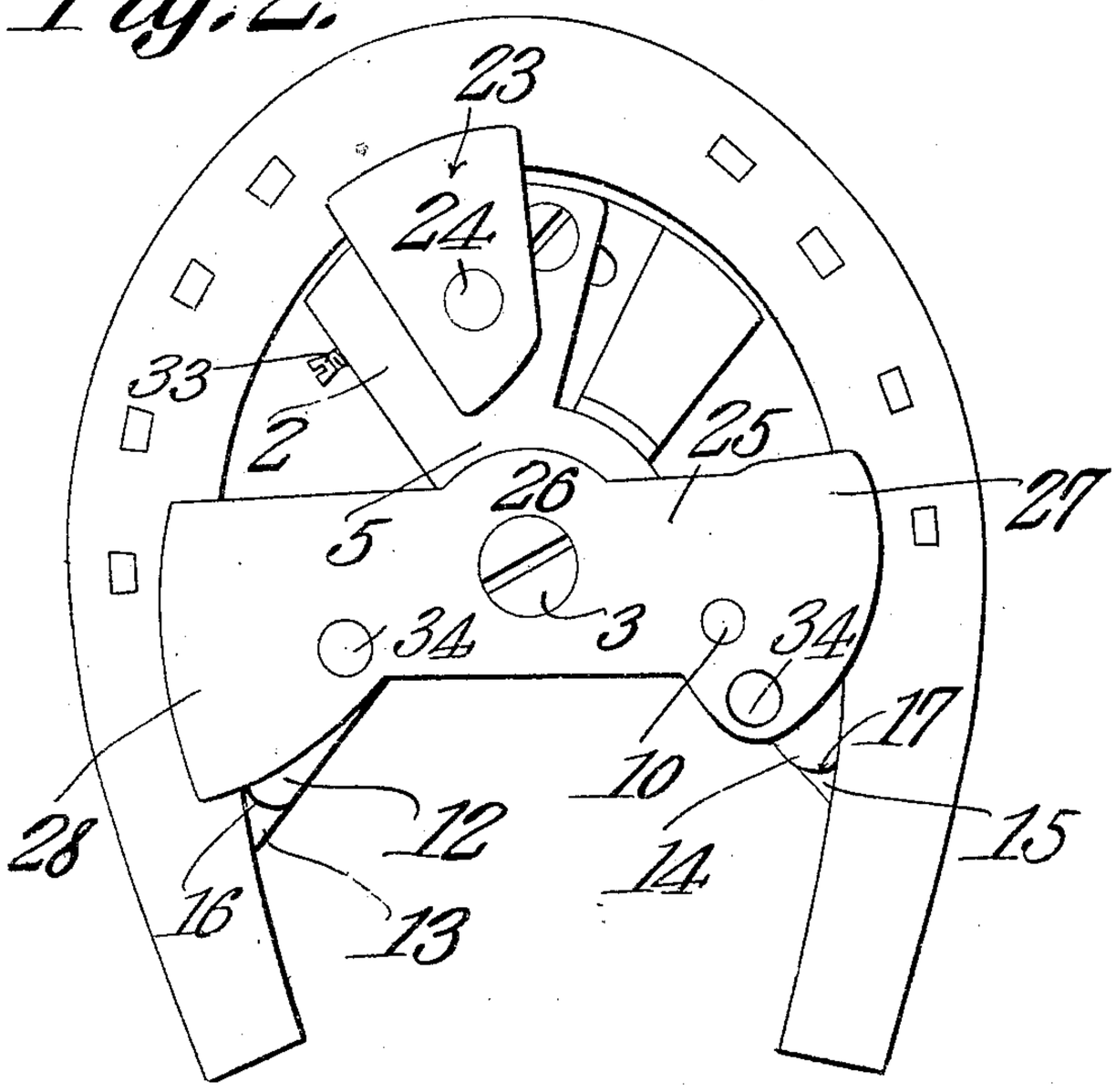
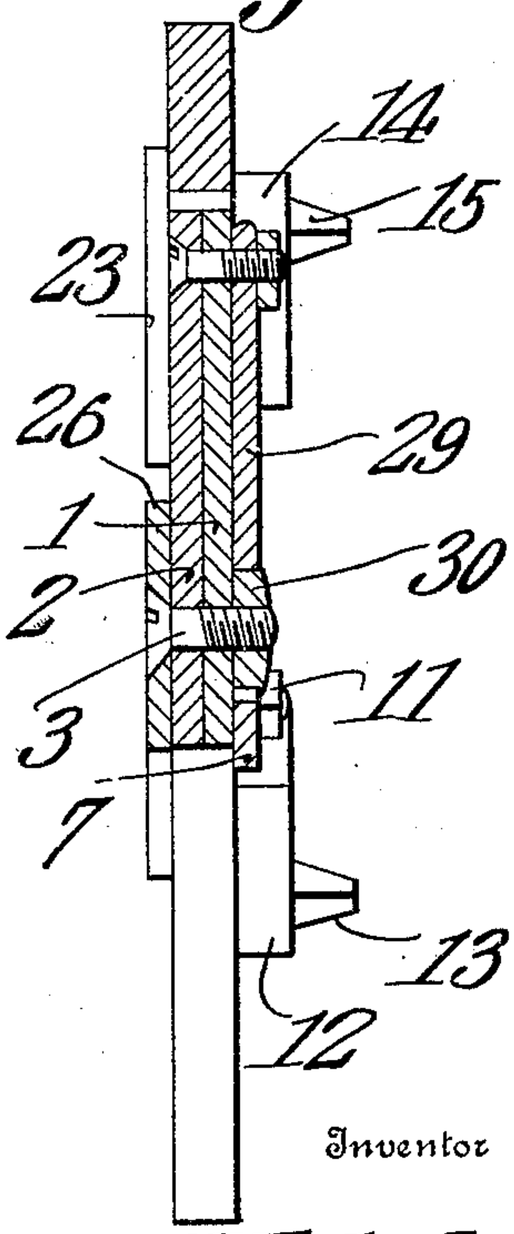


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

GEORGE H. ECHOLS, OF SPRINGFIELD, WEST VIRGINIA.

ICE-CREEPER FOR HORSESHOES.

940,381. Specification of Letters Patent. **Patented Nov. 16, 1909.**

Application filed June 7, 1909. Serial No. 500,544.

To all whom it may concern:

Be it known that I, GEORGE H. ECHOLS, a citizen of the United States, residing at Springfield, in the county of Hampshire and State of West Virginia, have invented a new and useful Ice-Creeper for Horseshoes, of which the following is a specification.

My invention relates to ice creepers, particularly to horse shoe ice creepers, and has for an object to provide a device of this character which can easily be removed in order to minimize damage to the plank floors of stables and avoid danger to other stock resulting from the use of undetachable sharp or rough shoes.

Another object is to provide a device of this character which will be practicable and durable and can be quickly attached by any unskilled person and requires only a small pair of pliers for this operation.

Still another object is to provide a device of this character which will consist of a few simple parts, will not easily get out of order, and can be manufactured at a minimum cost.

With these and other objects in view which will appear in the following specification and be set forth in the claims, my invention embraces the structure illustrated in the accompanying drawing, in which—

Figure 1 is a front elevation of an ice creeper constructed in accordance with my invention in applied position the clamping devices being omitted for the sake of clearness. Fig. 2 is a rear elevation of the same. Fig. 3 is a longitudinal section through the line A—B of Fig. 1 looking in the direction of the arrows.

The ice creeper consists principally of two interfitting pivotally connected cross bars having terminal extensions extending out over the horse shoe into which are secured sharp pointed steel calks. The main body of the ice creeper fits snugly in the inner walls of the horse shoe and is clamped in this position by a movable heel clamp and stationary toe clamp adapted to adjust the creeper to a wide or narrow shoe.

In a more detailed description of my invention wherein like characters of reference designate similar parts in the views shown, 1 and 2 designate cross bars, each of which is preferably made from a single strip of metal, and is sufficient in length to extend diagonally of the shoe from toe to heel. Each of the cross bars terminate in rounded ends adapted to slidingly fit the inner walls of the horse shoe and are pivotally connected together intermediate the ends by a king bolt 3, the middle portion 5 of one of the cross bars 2 being under-cut and expanded to receive and slidingly fit the expanded and under-cut middle portion 6 of the cross bar 1. By this arrangement of interfitting pivotally connected cross bars, the adjustment of the creeper to fit the different widths of horse shoes is effected, and in order to lock the creeper in any desired position of adjustment, an adjustable link 7 is provided having one end 8 pivoted on the cross bar 2, and provided with a longitudinal slot 9 at the other end for engagement with the shank of a screw 10 carried by and projecting through the cross bar 1, one end of said screw carrying a nut 11 adapted to be turned home against the surface of the link and prevent further movement of the parts.

Secured to the opposite ends of the cross bar 1 are extension arms 12 which extend over and engage the under side of the horse shoe adjacent the toe and heel, and into which are screwed sharp pointed steel calks 13 to impinge the ice on frozen pavements, and prevent the horse shoe from slipping. Secured to the opposite ends of the cross bar 2 are similar extension arms 14 provided with sharp pointed calks 15. The extension arms 12 and 14 may be secured to the cross arms in any preferred manner, but in this instance the extensions are made integral with the cross bars and are off-set to extend out over the under surface of the horse shoe, the off-set portions constituting stop shoulders 16 and 17 that slidingly fit the inner wall of the horse shoe.

The cross bar 1 is provided with a laterally projecting ear 18, which is substantially a sector in outline, and has formed adjacent its periphery a slot 19 adapted to slidingly fit an adjusting bolt 20 carried by a similar projecting ear 21 formed on the opposed lateral face of the cross bar 2. The projecting ear of the cross bar 1 slidingly fits the projecting ear of the cross bar 2, and may be adjusted to any position on the latter by means of the slot 19, and can be locked in the adjusted position by turning home the nut on the end of the bolt 20, the toe portion of the ice creeper being thereby locked securely in position.

For clamping the creeper to a horse shoe, toe and heel clamps are provided. The toe clamp 23 is essentially a triangular metal

plate secured to the cross bar 2 by a bolt or similar connector 24 and extending out over the upper surface of the horse shoe a sufficient distance to securely support the toe portion of the creeper. The heel clamp 25 is in the nature of a revoluble slide plate, the middle portion 26 of which is expanded and provided with an annular opening to receive and slidingly fit the shank of the king bolt 3. The plate terminates in flared ends 27 and 28 adapted to extend out over the horse shoe, one of which is provided with an annular opening to receive the shank of the adjusting screw 10 carried by the cross bar 1.

As may be readily seen from the above construction, the creeper may be removed from a horse shoe by simply placing a wrench on the squared head of adjusting screw 10 and backing out the screw when the heel clamp may be revolved until the terminal bearing portions are free from the surface of the horse shoe when a downward and backward pull will remove the creeper entirely from engagement with the shoe.

It will be noted that unless the creeper is first pulled downward it cannot be removed from the shoe, as the lower stop shoulders 16 and 17 will bind against the inner walls of the shoe when the device is shoved backwardly and will remain in this position. The advantage of this construction is that should the horse stumble or strike the toe of the creeper against any object in the road, the creeper will not be dislodged as there is no backward or lateral movement that will remove the creeper from a horse shoe when once adjusted thereto without first giving the creeper a downward pull to clear the lower stop shoulders from the interior wall of the shoe.

In order to further brace and hold the parts in locked position, a small wrench 29 is provided, one end of which is engaged by the bolt 20 carried by the projecting ear of the cross bar 2, the opposite end of which is engaged by the nut 30 of the king bolt 3. For a like purpose an adjusting screw 33 is provided which is engaged in a threaded opening formed transversely in the extension arm 14 of the cross bar 2 and bears against the lateral edge of the projecting ear 18 formed on the cross bar 1. Thus it is evident that the cross bars are adjusted in position by the adjusting bolt 20 and screw 33 which also securely brace the parts and increase the efficiency of the creeper.

Formed in the heel clamp 25 are openings 34 to engage a hook or similar tool whereby the device may be slid snugly into its final position, thus obviating the necessity of using a hammer or similar striking tool in applying the creeper to operative position.

The construction shown and described permits the creeper to be disengaged from a shoe without disturbing the adjustment, thus avoiding the necessity of readjusting the calks every time the creeper is applied to the shoe.

From the foregoing description, taken in connection with the accompanying drawing, the construction and operation of my invention may be easily understood without requiring a more extended explanation, it being understood that various changes in the form, proportion and minor details of construction may be made without sacrificing any of the advantages or departing from the spirit of the invention.

Having thus described my invention, what I claim is:

1. The combination with a horse shoe, of relatively movable cross bars terminally adapted to secure sharp pointed calks, a toe clamp combined with said cross bars, a revoluble heel clamp assembled with said cross bars, and means for holding said cross bars in operative position.

2. The combination with a horse shoe, of pivotally connected cross bars terminally adapted to secure sharp pointed calks, a toe clamp terminating in a clamping portion engaging the upper face of said horse shoe, and an adjustable link for holding said cross bars in operative position.

3. The combination with a horse shoe, of pivotally connected cross bars terminally adapted to slidingly fit the inner walls of a horse shoe and to secure sharp pointed calks thereto, one of said cross bars being provided with a laterally extending ear having an adjusting bolt, the other provided with a lateral extending ear having formed therein a slot to engage said adjusting bolt, clamping members adapted for contact with the upper surface of said horse shoe whereby to secure said cross bars to said horse shoe, and an adjustable link combined with said cross bars and operating to lockingly hold the said cross bars in operative position.

4. The combination with a horse shoe, of relatively movable cross bars having terminal off-set portions adapted to slidingly fit the inner walls and lower surface of a horse shoe and to secure sharp pointed calks thereto, a king bolt pivotally connecting said cross bars, a toe clamp secured at one end to one of said cross bars and terminating at the other end in a clamping portion engaging the upper surface of said horse shoe, a heel clamp axially engaging said king bolt and revoluble thereupon, and a link connecting said cross bars and adapted to lock the same in operative position.

5. The combination with a horse shoe, of interfitting cross bars terminating in off-set extensions adapted to receive sharp pointed calks, one of said cross bars having a laterally extending ear and the other a set screw

adapted to bear against said ear whereby to adjust said cross bar in operative position, a king bolt pivotally connecting said cross bars, a toe clamp engaging the toe portion of said horse shoe, a heel clamp mounted for rotation on said king bolt and terminating in flared clamping portions for engagement with the upper surface of said horse shoe, and a link connecting the free ends of said cross bars and operating to lock the members in operative position.

6. The combination with a horse shoe, of cross bars having terminal extended portions provided with calks, and intermediate interfitting portions pivotally connected together, a screw carried by and projecting through the lateral faces of one of said cross bars, a link pivotally connected to the other of said cross bars and engaging said screw to lockingly hold the cross bars in operative position, and a revoluble clamp assembled on said cross bars and adapted to secure the same to a horse shoe, said clamp having an annular opening formed in one end to engage said projecting screw whereby to limit the movement of said clamp and secure the same in operative position.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

GEORGE H. ECHOLS.

Witnesses:

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E. E. PARSONS.