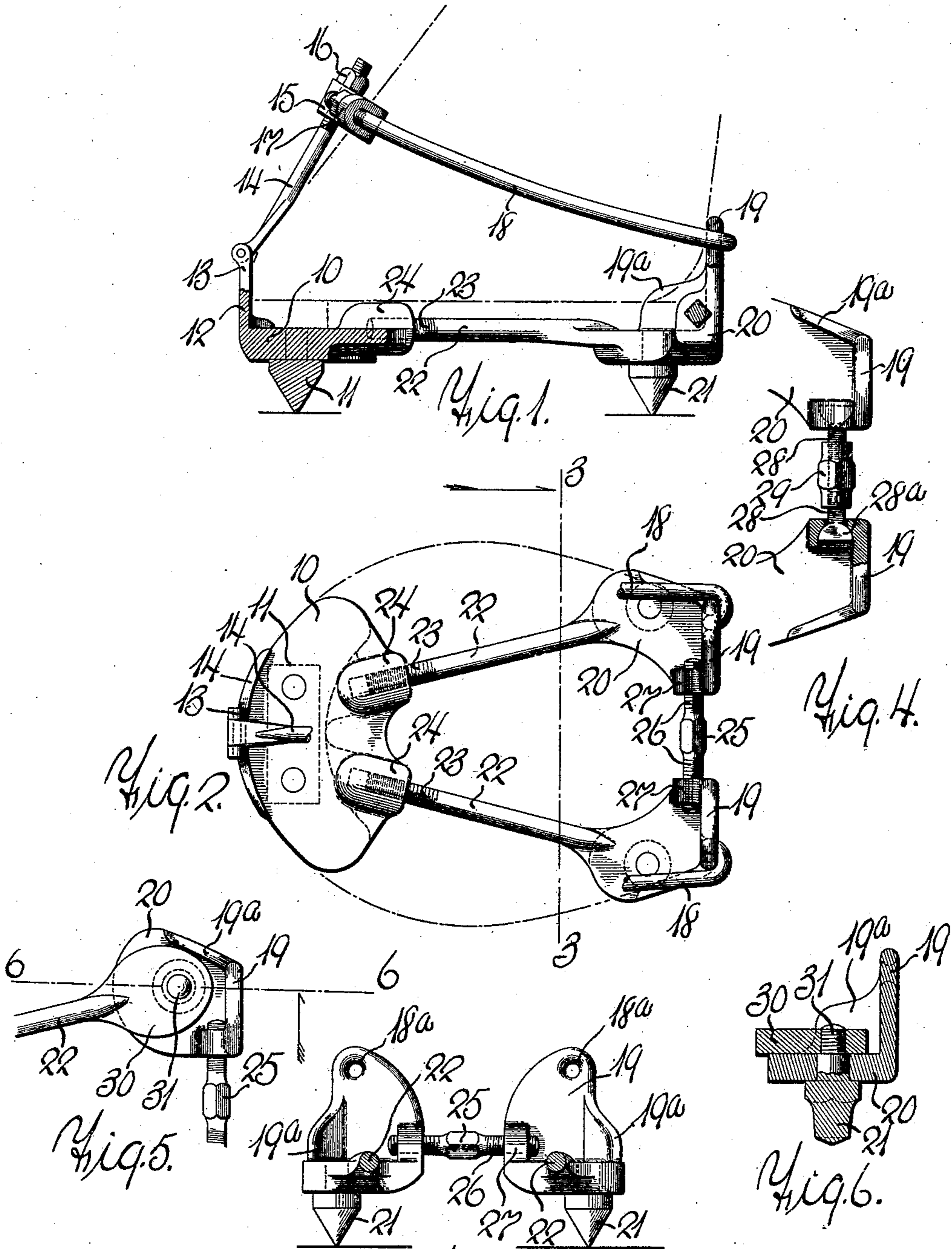


J. W. ROPER.
 AUXILIARY HORSESHOE.
 APPLICATION FILED APR. 21, 1908.

929,021.

Patented July 27, 1909.



Witnesses:
 Ralph Lancaster,
 Frank L. Stubbs

Fig. 3. Joseph W. Roper, Inventor
 By his Attorney
 W. D. Hutchinson

UNITED STATES PATENT OFFICE.

JOSEPH WELWOOD ROPER, OF EAST ORANGE, NEW JERSEY.

AUXILIARY HORSESHOE.

No. 929,021.

Specification of Letters Patent.

Patented July 27, 1909.

Application filed April 21, 1908. Serial No. 428,348.

To all whom it may concern:

Be it known that I, JOSEPH WELWOOD ROPER, of East Orange, Essex county, New Jersey, have invented a new and useful Improvement in Auxiliary Horseshoes, of which the following is a full, clear, and exact description.

My invention relates to improvements in horseshoe attachments and devices, and the object of my invention is to produce a simple auxiliary horseshoe which can be quickly and firmly attached to the hoof of a horse directly over another shoe, or directly to the hoof, and which is constructed in such a way that it can be applied with great facility and secured so firmly that it cannot accidentally be displaced.

The invention is particularly intended to be applied temporarily to the foot over the ordinary shoe in case of slippery going to prevent smooth shod horses from slipping and being injured.

The invention is also intended to produce a good foot-hold for horses in temporarily slippery going, so that loads of ordinary size can be pulled without inconvenience.

Reference is to be had to the accompanying drawings forming a part of this specification in which similar reference characters indicate corresponding parts in all the views.

Figure 1 is a longitudinal section of the shoe embodying my invention. Fig. 2 is a plan thereof. Fig. 3 is a cross section on the line 3—3 of Fig. 2. Fig. 4 is a detail view of a slightly modified form of attachment for spreading the heel pieces. Fig. 5 is a broken detail plan of one of the heel pieces and its connections in a slightly modified arrangement, and Fig. 6 is a cross section on the line 6—6 of Fig. 5.

The shoe is provided with a piece 10 adapted to fit against the under part of the toe of the hoof, and has therefore the necessary rounded outline, the outline of the hoof being indicated by dotted lines in Figs. 1 and 2. This toe piece 10 has preferably a suitable calk 11 which can be of any improved kind, and it has an upturned flange 12 shaped to fit the toe of the hoof and terminating in a member 13 to which an adjusting and fastening strap 14 is pivoted, this strap being adapted to lie against the front part of the hoof and having its upper end screw threaded and fitted into a toe

clamp 15 to which it is fastened securely by the nut 16. The toe clamp 15 has preferably end flanges 17 to which the side straps 18 are secured, which straps are in the form of rods or wires having thread and nut connections with the toe clamp 15, and having their rear ends connected with the heel flanges 19 of the heel pieces 20. This connection is preferably formed by having the rear ends of the strap 18 shaped into hooks which fit holes 18^a in the flanges, but any other suitable flexible connection can be made. The heel pieces 20 are separate and have the flanges 19 and 19^a which fit around the back and sides of the hoof and so prevent the heel pieces from sliding forward or laterally. The heel pieces are connected with the toe piece 10 by the forwardly extending metallic arms 22 which are rigid on the heel pieces 20 and which are preferably of spring material, these arms being screw threaded at the end as shown at 23 and fitting into tapped bosses 24 on the toe piece 10. This provides for longitudinal adjustment of the shoe. The heel pieces 20 also connect laterally by a screw in the nature of a turn buckle having a flattened part 25 to receive a wrench and having screws 26 of opposite pitch engaging bosses 27 on the heel pieces 20. It will thus be seen that by turning the turn-buckle backward or forward, the heel pieces may be spread or contracted so as to fit the hoofs of different sizes, and the spring of the arms 22 permits this adjustment.

In Fig. 4 I have shown a slightly modified connection between the heel pieces, in which a turn buckle 29 fits on separate screws 28 which have heads 28^a pivoted in sockets in the heel pieces, and the heel pieces can be pulled together by the turn buckle, and when the latter is loosened, the spring of the metal in the arms 22 will separate them. The heel pieces are provided with suitable calks 21.

Another slight modification is shown in Figs. 5 and 6, in which the rear ends of the arms 22 terminate in plates 30 which lie flat on the heel pieces 20 to which they are pivoted as shown at 31, the pivot screw being preferably formed on the top of the heel calk 21. This pivotal connection permits the heel pieces to turn on the pivots 31 and be adjusted more or less without springing the arms 22.

It will thus be seen that I have provided an auxiliary shoe in which the side parts of the shoe is dispensed with, and a light, cheap

article is produced which is readily adjustable and which can be firmly fastened to the hoof of a horse. It will be further noticed that by tightening up the nuts on the straps 18 and turning down the nut 16, the fastening may be made extremely tight and secure.

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

1. An auxiliary horseshoe comprising a toe piece, heel pieces separable from the toe piece and from each other, the toe and heel pieces being shaped to seat against the bottom of a horseshoe and having calks on the under side, an adjustable connection between the heel pieces and the toe piece and between the heel pieces also, and fastening means for passing over the hoof for securing the toe and heel pieces to the hoof of a horse.

2. An auxiliary horseshoe comprising separate toe pieces and heel pieces, shaped to fit the under side of a horseshoe at the toe and heel and engaging over the outer edges of the shoe, the said toe and heel pieces carrying calks on the under side, a connection between the toe and heel pieces, a screw mechanism for adjusting the heel pieces with reference to each other, and a screw mechanism for adjusting the heel pieces with relation to the toe pieces.

3. An auxiliary horseshoe comprising a toe piece, heel pieces having forwardly extending arms connected to the toe piece and adjustable back and forth in relation to the toe piece, the toe piece and heel pieces being shaped to fit the bottom of a horseshoe and

engaging over the outer edges thereof and having calks on the under side, means for adjusting the heel pieces with relation to each other, and fastening means for securing the structure to the hoof of a horse.

4. An auxiliary horseshoe comprising toe and heel pieces shaped to fit against the bottom of a horseshoe and engaging over the outer edges thereof, and having calks on the under side arranged in a generally triangular manner, and adjustable longitudinally and laterally with relation to each other, and means for fastening this structure to the hoof of a horse.

5. An auxiliary horseshoe comprising a toe piece having an upturned toe flange, heel pieces connected to the toe piece, means for adjusting the heel pieces with relation to each other, a toe strap pivoted to the toe flange, a toe clamp adjustably connected with the toe strap, and connections between the said clamp and the heel pieces.

6. An auxiliary horseshoe comprising a toe piece, heel pieces having forwardly extended arms adjustably connected with the toe piece, the toe and heel pieces being shaped to fit against the bottom of a horseshoe and having calks on the under side, a screw mechanism for adjusting the heel pieces with relation to each other, a clamp fitting the front part of the hoof and adjustable connections between the clamp and the toe piece and between the clamp and the heel pieces.

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Witnesses:

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