

UNITED STATES PATENT OFFICE.

HARRY ARMSTRONG, OF FIDELITY, ILLINOIS.

TOE-WEIGHT FOR HORSES.

SPECIFICATION forming part of Letters Patent No. 481,611, dated August 30, 1892.

Application filed April 5, 1892. Serial No. 427,940. (No model.)

To all whom it may concern:

Be it known that I, HARRY ARMSTRONG, of Fidelity, in the county of Jersey and State of Illinois, have invented a new and useful Improvement in Toe-Weights for Horses; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention relates to an improvement in the fastenings of toe-weights for horses.

My object is to provide a secure and simple fastening by which the weight may be quickly and firmly secured in position without requiring the use of either screw-driver or wrench, and at the same time be free from any part projecting sufficiently far beyond the surface of the weight to collect trash or mud or anything calculated to encumber the weight or in any way interfere with the action of its fastening.

With these ends in view my invention consists in a certain construction and combination of parts explained in the following specification and illustrated in the accompanying drawings, in which—

Figure 1 is a front view of the weight shown in connection with a portion of the horse's hoof and shoe. Fig. 2 is a side sectional view of the same, taken in the line *x x*, Fig. 1; and Fig. 3 is an enlarged perspective view of the fastening mechanism shown in connection with a section of the toe-weight, so as to exhibit the action of the parts of which the fastening and locking mechanism consist.

In the drawings, A represents the weight; B, the hoof; C, the shoe; D, a pin for fastening the weight to the hoof; E, a locking-bolt for securing the pin D in position.

The hoof is prepared for the reception of the weight by cutting a channel *p'* (see Fig. 2) in the bottom thereof, so that the tongue *p*, which projects from the lower part of the weight, will fit snugly therein between the hoof and the shoe. The rear part of the weight, which rests against the front of the hoof, is made concave, so as to fit the latter as perfectly as possible.

To securely retain the weight in the position shown and also admit of its easy removal and replacement, I employ a pin D, which is inserted from the upper side of the weight,

as indicated by arrow 3 in Fig. 2. Referring to the latter figure and also to Fig. 3, it will be noticed that the pin D has a semicircular notch *r*, made near its upper part on the same side as the bent head S, and that the lower part of said pin is beveled, as shown at *l*, and that the shoe is provided at its front part with an oblique hole *a* for the reception of the beveled end of the pin D. (See Fig. 2.) The semicircular notch *r* is for the reception of a portion of the cylindrical part of the locking-bolt E, which is made to slide horizontally in a cylindrical channel provided for its reception in the weight transverse to the line of travel of the fastening-pin D. Beyond the end of the locking-bolt E, as shown in Fig. 3, is a cylindrical cavity in the weight, in which is inserted a spiral spring F, adapted to push the locking-bolt outward to a distance limited by a small pin *d*, as shown in Figs. 1, 2, and 3, said pin being so located in reference to the locking-bolt as to rest lightly upon a recess formed upon its upper side of such length as to limit its travel to and fro, as shown in Fig. 3. In regard to the bevel *l* at the lower end of the fastening-pin D, the object of this is to make it serve the purpose of a drift or wedge for drawing the weight snugly up to the hoof, and thus prevent the possibility of any shake when in position. The small arm *s*, terminating in a dowel *t* at the head of the fastening-pin D, is for the purpose of enabling the operator to withdraw the pin with the thumb and forefinger, the dowel *t*, which enters a cavity provided for its reception, serving to prevent anything becoming entangled with it. This part will be readily understood by reference to Fig. 2.

The manner of securing the weight to the hoof is as follows: The pin D being withdrawn the tongue *p* is first thrust into the channel provided for its reception in the bottom of the hoof. The bolt E is then pushed against the resistance of the spring F, as indicated by arrow 4 in Fig. 3, until the notch *g* is in line with the channel in which the pin D fits. The latter is then inserted with the arm *s* and dowel *t* turned outward, as shown in dotted lines *i* in Fig. 2, so that the beveled side *l* of the lower part of the pin will come in contact with the front part of the oblique hole *a* in the shoe. It follows that by thrusting the

pin D home while thus turned half way round the bevel acts as a drift or wedge on entering the hole in the shoe and draws the weight tight up to the hoof. The fastening-pin is then turned round to the position shown in full lines, thus bringing the dowel *t* into the cavity formed for its reception in the hollow *g* in the front face of the weight. The notch *r* in the pin D is by this means brought in line with the channel in which the locking-bolt E slides, and consequently the latter is instantly thrust back by the reaction of the spring F into the position shown in Fig. 3, and the fastening-pin is thus secured against either turning round or shaking out. The locking-bolt is prevented from either turning round or shaking out by the small retaining-pin *d*, as shown in Fig. 3.

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

1. In a toe-weight for horses, said weight having a tongue adapted for insertion in a channel in the bottom of the hoof, a fastening mechanism comprising a pin D, adapted to pass downward through the weight into the front of the shoe, said pin having a notch *r* in the side thereof for the reception of the side of a transverse locking or retaining bolt E, having a similar notch *g*, adapted, when said bolt is pushed inward to the limit

of its travel, to allow the withdrawal of the fastening-pin, a spiral spring F, located in a cavity at the end of said locking-bolt, adapted to push the latter back after being pushed in, a pin *d* inserted in the weight at right angles to the locking-bolt, in the side of which is a recess of such length and breadth as to limit the travel of the locking-bolt and prevent the latter turning round, all of said parts constructed, combined, and adapted to operate substantially as and for the purpose set forth.

2. A toe-weight for horses, having combined with the body thereof a fastening mechanism comprising a fastening-pin and locking-bolt constructed and adapted to each other as described, the bevel *l* upon the lower end of the pin D, adapted, when the pin is turned half round and in that position thrust into the shoe, to draw the weight snugly up to the hoof, the said fastening-pin D being provided with a bent head and dowel *t* to facilitate its withdrawal and turning round, as and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 12th day of January, 1892.

HARRY ARMSTRONG.

Witnesses:

RALPH L. VANDENBURG,
G. R. SMITH.