

No. 854,536.

PATENTED MAY 21, 1907.

T. A. SHAVER.

HARNESS FOR PRODUCING FREE ACTION OF THE LIMBS OF HORSES.

APPLICATION FILED DEC. 5, 1905.

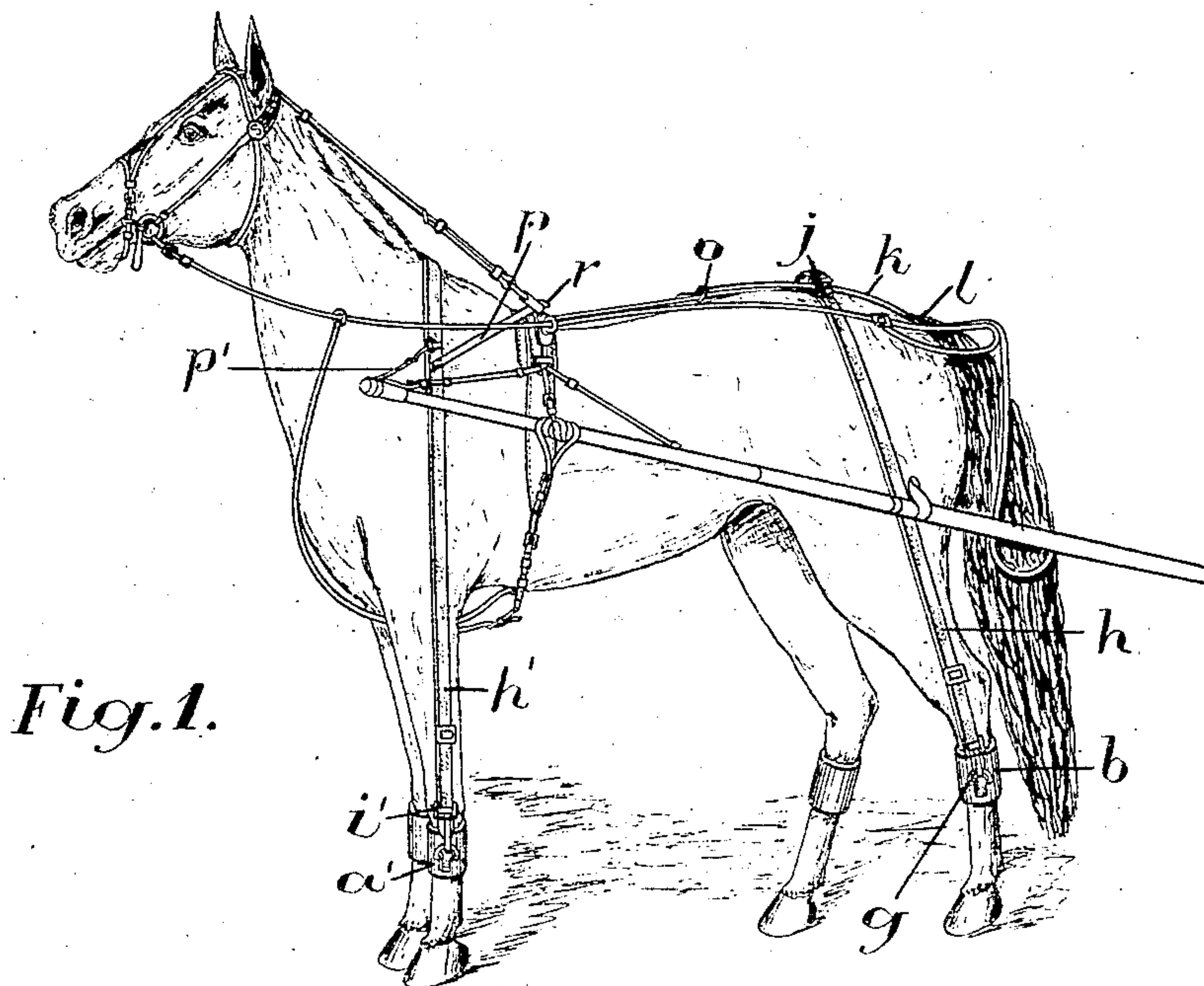


Fig. 1.

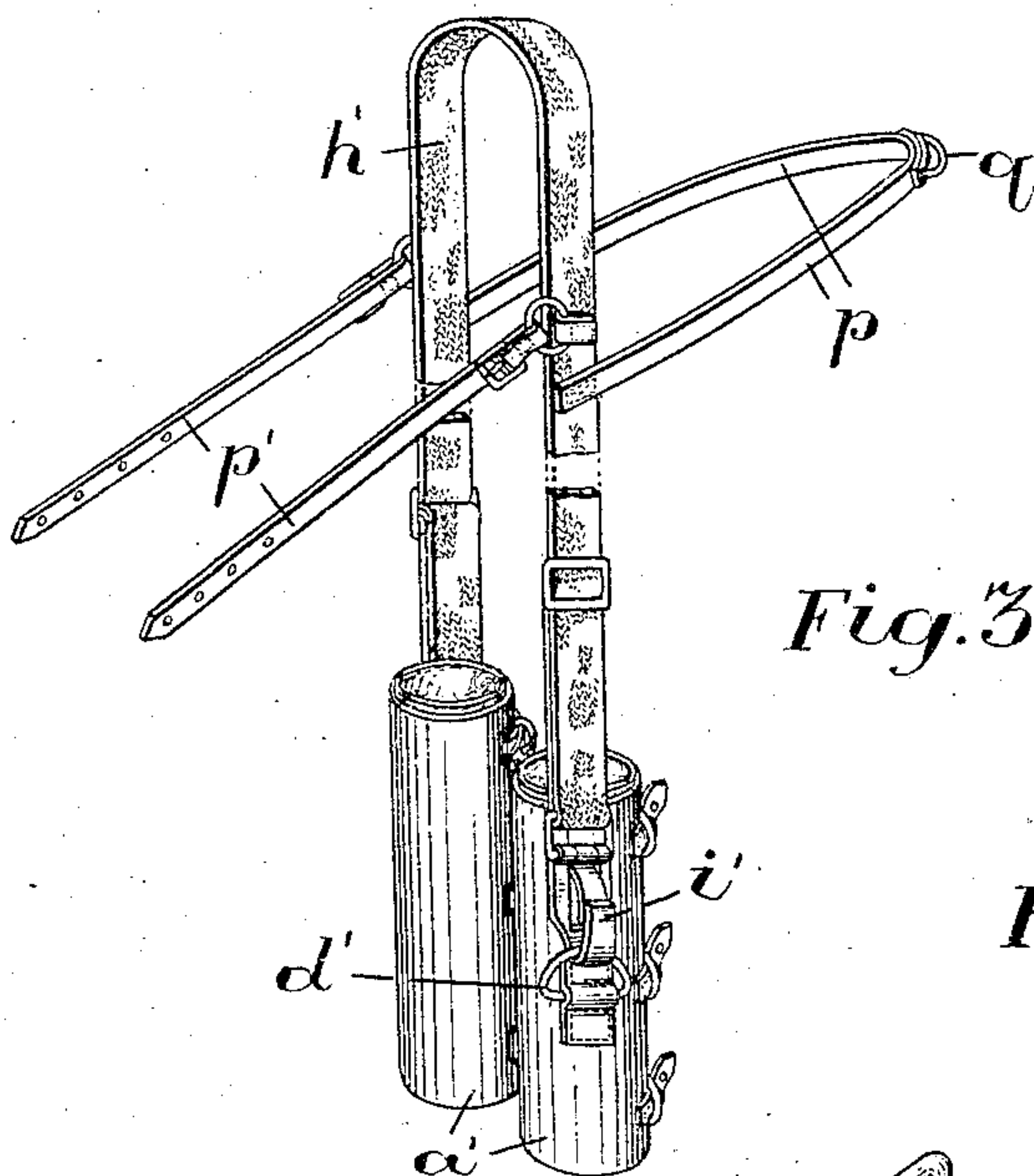


Fig. 3.

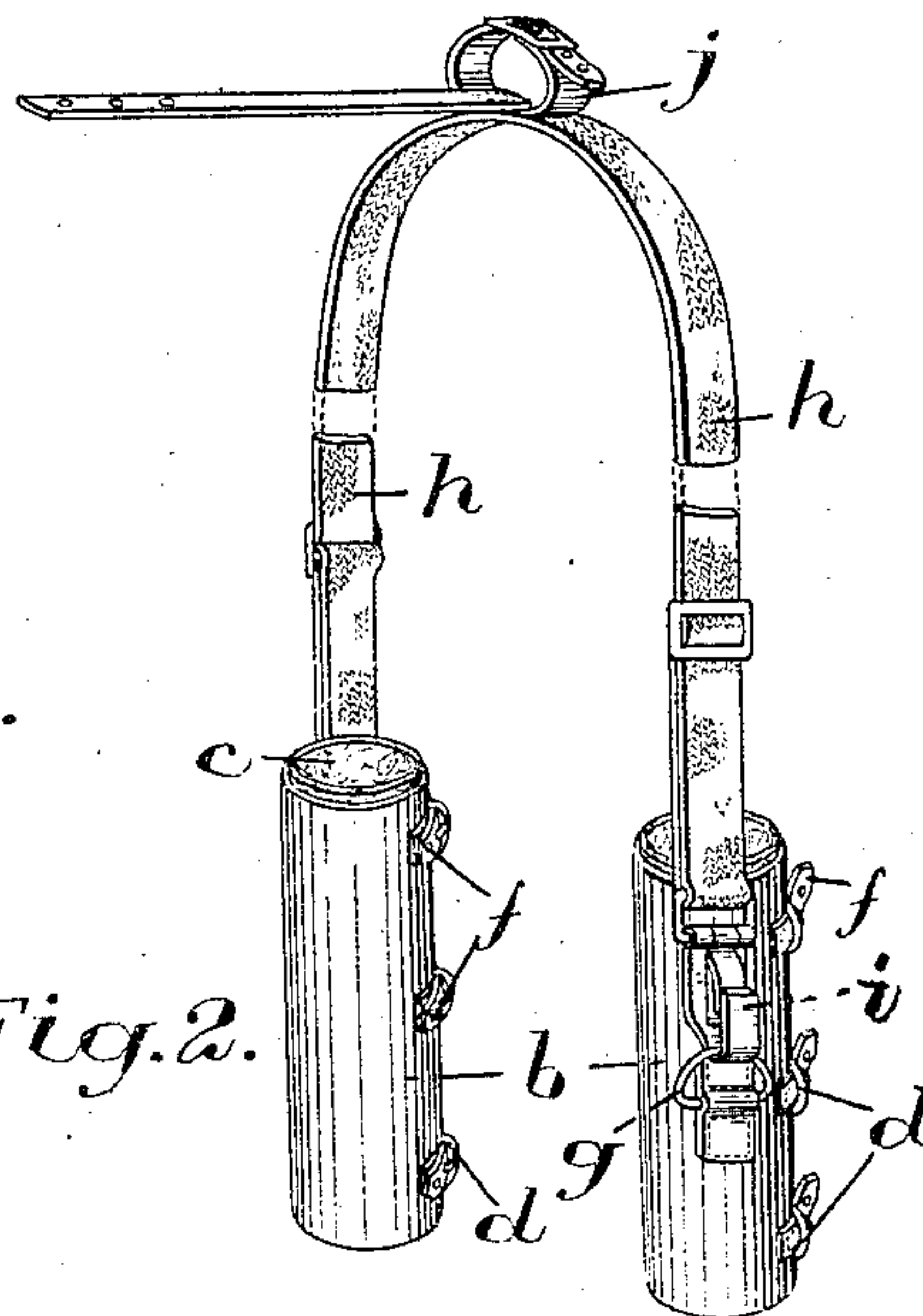
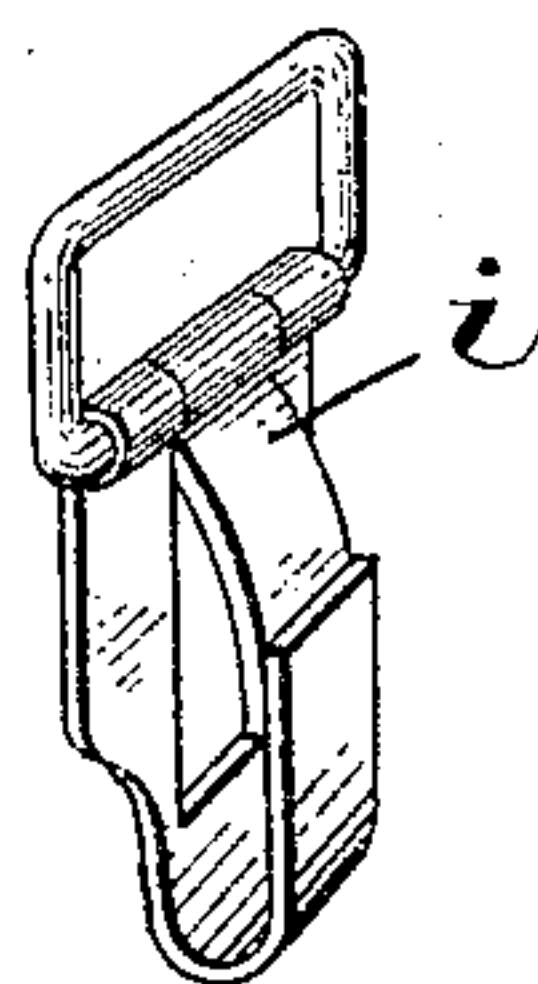


Fig. 2.



Witnesses.

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Fig. 4.

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UNITED STATES PATENT OFFICE.

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HARNESS FOR PRODUCING FREE ACTION OF THE LIMBS OF HORSES.

No. 854,536.

Specification of Letters Patent.

Patented May 21, 1907.

Application filed December 5, 1905. Serial No. 290,466.

To all whom it may concern:

Be it known that I, THOMAS ALBERT SHAVER, of the township of Toronto, in the county of Peel and Province of Ontario, Canada, and whose post-office address is Lorne Park, Ontario, have invented certain new and useful Improvements in Harness for Producing Free Action of the Limbs of Horses; and I hereby declare that the following is a full, clear, and exact description of the same.

This invention relates to a harness which will prevent what is technically known to horsemen as "cross-firing," "over-reaching" and "interfering," and it may be described as comprising a set of leggings for the shanks of the hind legs, and another set of leggings for the shanks of the fore legs, and elastic straps passing over the haunches and neck respectively, and so connected to the leggings that it will by its extension and contraction direct the motion of the feet without limiting the speed or impeding the action of the muscles or circulation of the blood, as hereinafter more fully set forth and more particularly pointed out in the claims.

For a full understanding of the invention reference is to be had to the following description and to the accompanying drawings in which,

Figure 1 is a view of the harness showing it fitted to the fore and hind legs of a horse. Fig. 2 is a perspective view on a larger scale than in Fig. 1, of that part of the harness for use on the hind legs. Fig. 3 is a similar view of that part of the harness for use on the fore legs. Fig. 4 is a detail view of one of the snap hooks.

Like letters of reference refer to like parts throughout the specification and drawings.

The harness for the hind legs consists of two leggings comprising leather bandages *b* with felt or fabric linings, buckles *d* and straps *f* to fasten the meeting edges thereof together, and loops *g* so positioned thereon that when the leggings encircle the shanks the loops will be on the outer sides thereof, an elastic strap *h* to pass over the haunches between the hips and crupper and snap hooks *i* to detachably fasten the ends of the strap to the loops *g*, a retaining strap *j* connected to the middle of the elastic strap to embrace the crupper strap *k* in front of the crupper dock *l* to prevent the displacement of the elastic strap sidewise on the haunches, and a back

strap connected to the middle of the elastic strap to be held by the buckle *o* of the crupper strap *k* to prevent the displacement of the elastic strap rearwardly over the haunches.

The harness for the front legs consists of leggings *a'* similar to the leggings for the hind legs, an elastic strap *h'* to pass over the neck immediately in front of the withers and connected to the loops *d'* of the leggings *a'* by snap hooks *i'*, two rearwardly extending straps *p* connected to the elastic strap *h'* where it contacts the shoulders provided with a ring *q* to be engaged by the check rein hook *r* of the harness saddle, two forwardly projecting straps *p'* for the elastic strap *h'* to be connected to the shafts near the points thereof, the purpose of the straps *p* and *p'* being to prevent the forward or rearward displacement of the elastic strap *h'* on the neck. During the movement of the animal the extension and contraction of the elastic straps draw the legs asunder and assists the animal in lifting and propelling its feet forward and cushions the impact of the replacement of the feet on the ground. In pacing the hind and fore legs on one side of the horse advance simultaneously, and the hind and fore feet on the opposite side are then stationary, and it is a common occurrence for fast pacers to "cross-fire" *i. e.* to "over-reach" with the hind foot on one side and strike the fore foot on the opposite side, which not only impedes the stride of the horse but also renders it unfit for racing and for driving purposes. The extension and contraction of the elastic straps of the harness spread the feet asunder and prevent them crossing a line drawn centrally between the hind and fore feet so that under no possibility can the hind foot on one side interfere with the fore foot on the opposite side and particularly where both the hind and fore legs are equipped with the harness.

In trotting the hind foot on one side is advancing simultaneously with the fore foot on the opposite side and it is necessary for horses having a tendency to "over-reach" that the advancing hind foot should "clear," on the outside, the stationary fore foot, and this is effected by the elastic strap, connected to the leggings on the hind legs of the horse, spreading the hind feet wider asunder than the elastic strap connected to the leggings on the fore legs by reason of the fact that the horse is wider across the haunches than at the shoul-

ders; the draw of the elastic strap on the fore legs being sufficient only to prevent the knees knocking during the movement of the fore legs, and to maintain the fore feet on their
 5 respective sides of said central line so that the hind feet will at all times be entirely clear of the front feet and on the outer side thereof. The leggings are so fitted to the shanks that they will not impede the circula-
 10 tion of the blood nor the action of the muscles or tendons, but with sufficient tightness that they cannot be drawn by the elastic straps over the knees or hocks, and the elastic straps are so located that they will not interfere
 15 with the action of the muscles of the shoulders or legs.

To describe the operation of the apparatus we will assume that the horse is advancing by either a pacing or trotting action. The elas-
 20 tic straps over the haunches and neck yield opposite the sides of the haunches and shoulders to permit of the forward movement of the legs, the strength of the straps being sufficient only to cushion the fall of the foot and
 25 draw the feet asunder as they descend. When the feet are advancing and prior to being placed on the ground, the straps are extended and remain partially extended when
 30 the feet are on the ground so that when the feet are being raised from the ground to be carried forward the straps will contract to accelerate their speed from their initial move-
 ment until they again commence their descent to be replaced thereon.

35 Having thus fully described my invention what I claim as new and desire to secure by Letters Patent is;

1. A harness for producing free action of the limbs of horses comprising two leggings
 40 adapted to embrace the shanks of the forelegs below the knee joints, a continuous elastic strap connected to the leggings at the outer sides thereof and adapted to extend

vertically along the sides of the forelegs and shoulders and across the back at the withers 45 so as to spread asunder the front hoofs during the movement of the forelegs.

2. A harness for producing free action of the limbs of horses comprising a pair of leg-
 50 gings adapted to embrace the hind legs below the hock joints, a continuous elastic strap connected to the leggings at the outer sides thereof and adapted to extend vertically
 55 along the outer sides of the hind legs and the hips and across the animal's back at the rump so as to spread asunder the hind hoofs and prevent them crossing the middle line
 60 extending lengthwise between the front and rear hoofs during the movement of the hind legs.

3. A harness for producing free action of the limbs of horses, comprising one or more sets of leggings for the shanks of the legs, an
 65 elastic strap for each set of leggings passing over the horse to be connected to said leggings on the outer sides of the shanks, and a retaining strap for the middle of the elastic
 70 strap of the hind legs to embrace the crupper strap of the vehicle harness in front of the crupper dock.

4. A harness for producing free action of the limbs of horses, comprising one or more sets of leggings for the shanks of the legs, an
 75 elastic strap for each set of leggings passing over the horse to be connected to said leggings on the outer sides of the shanks, a retaining strap for the middle of the elastic
 80 strap of the hind legs to embrace the crupper strap of the vehicle harness in front of the crupper dock, and a back strap to be held by the buckle of the crupper strap.

Toronto, November 23rd, A. D. 1905.

THOMAS ALBERT SHAVER.

Signed in the presence of—

C. H. RICHES,

L. F. BROCK.