

Oct. 5, 1965

LE ROY J. HYMAN

3,209,516

HOCK PROTECTOR

Filed April 2, 1965

2 Sheets-Sheet 1

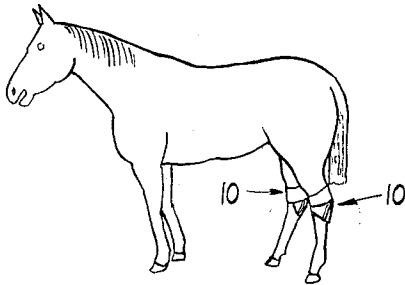


Fig. 1

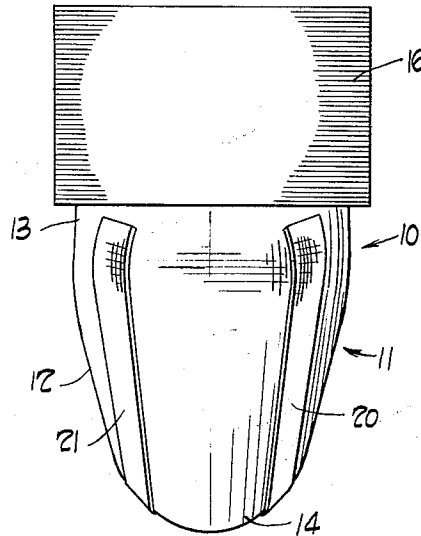


Fig. 3

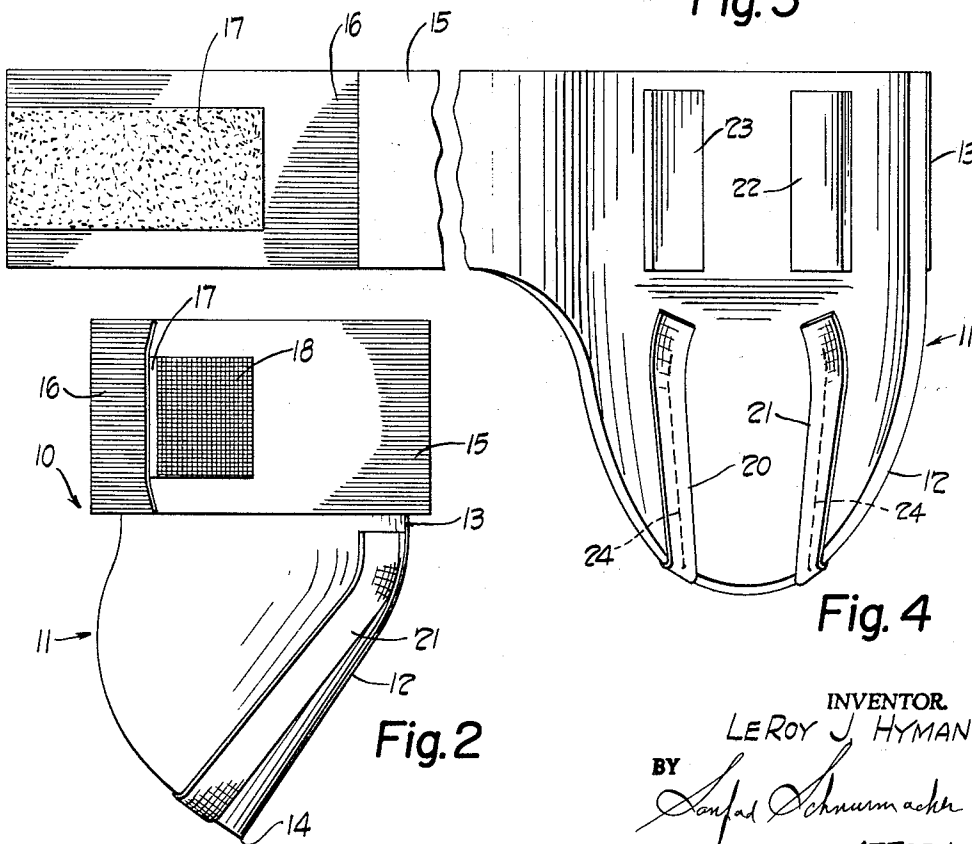


Fig. 2

Fig. 4

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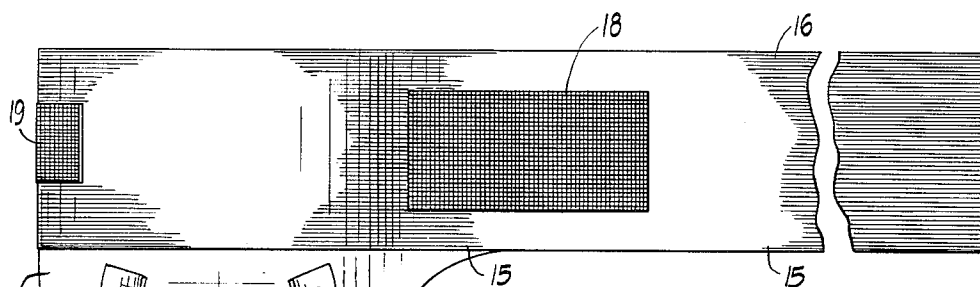


Fig. 5

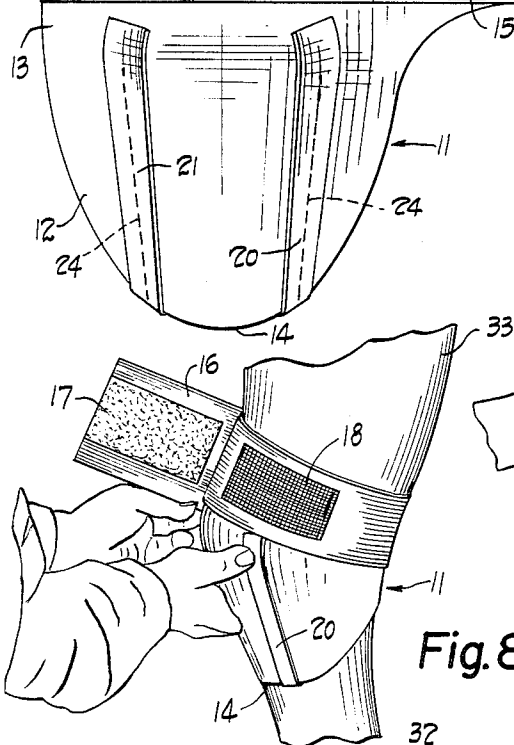


Fig. 8

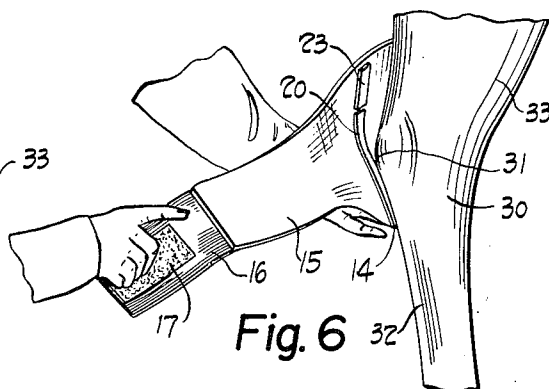


Fig. 6

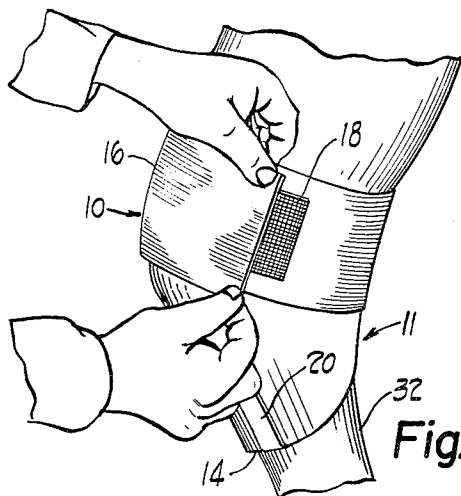


Fig. 9

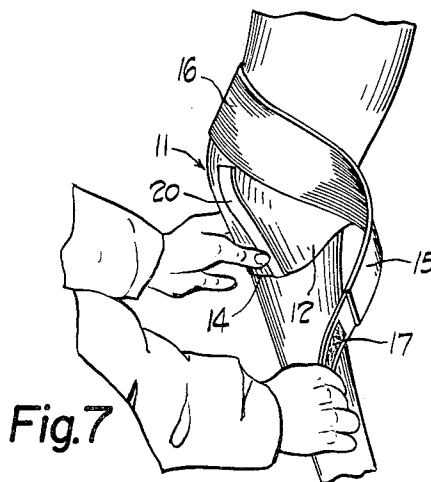


Fig. 7

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3,209,516

HOCK PROTECTOR

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3 Claims. (Cl. 54-82)

This invention relates to protective pads, and particularly to a hock protector for horses.

Conducive to a better understanding of the invention, it may be well to point out that the most common seriously injured areas are the hocks of horses. Horsemen have tried for years to perfect hock protection with little success.

The primary object of this invention, therefore, is to provide a hock protector that will stay firmly in place, will not slip when the hock is flexed, while at the same time absorbing all shock.

Another object is to provide a hock protector that is flexible, allowing full range of movement, but not binding, thus creating no circulation problems.

A further object is to provide a hock protector that will not absorb moisture or sweat, is easy to keep clean, and can be washed with soap and water.

Still other objects are, to provide a hock protector that is extremely light in weight; conforms to shape; is easy to put on and take off, without employing buckles, metal zippers, or clamps; and is fabricated from a sealed cell polymeric composition that does not have the faults of foam rubber.

These and other objects of the invention will become apparent from a reading of the following specification and claims, together with the accompanying drawing, wherein like parts are referred to and indicated by like reference numerals and wherein:

FIGURE 1 is a perspective view of a pair of the hock protectors that are the subject of this invention, shown in place on the hocks of a horse;

FIGURE 2 is an enlarged side elevation of one of the hock protectors, in its protective condition, with the horse's hock not shown;

FIGURE 3 is a right end view of the hock protector illustrated in FIGURE 2;

FIGURE 4 is an inside view of the hock protector in its spread out, fully open condition;

FIGURE 5 is an outside view of the hock protector illustrated in FIGURE 4;

FIGURE 6 is a perspective view of the device, showing it in a first position, as it is being applied to the hock of a horse;

FIGURE 7 shows a second position as it is being applied to the hock of a horse;

FIGURE 8 is a third position; and,

FIGURE 9 shows the hock protector fully mounted over the hock, and locked in place.

Referring more particularly to the drawing, there is seen in FIGURE 1, a pair of the hock protectors that are the subject of this invention, broadly indicated by reference numeral 10, as they appear mounted over the hocks of a horse, providing protection against injury.

Each hock protector 10 is fabricated from a single sheet of a sealed cell polymeric composition, preferably $\frac{7}{32}$ " thick, which provides a sheath that will absorb and cushion all blows against the surface thereof.

The sheet is cut to provide a cap portion 11 having a laterally extending, leg encircling, band 15; the band being a continuation of the upper part 13 of the cap 11.

The lower portion 12 of the cap 11 has two spaced "V" cuts whose edges 24 are brought together and held by rib strips, of approximately $\frac{1}{16}$ " thickness, 20 and 21, which are secured in place by means of a suitable adhesive, to

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both the inner and outer faces of the lower cap portion 12, as is seen most clearly in FIGURES 4 and 5. This construction shapes the cap 11 to conform to the shape of the hock 30, immediately above and below the point of the hock 31, as seen in FIGURE 6.

Reference numeral 16 indicates an elastic strap that is glued to the outer face of the leg encircling band 15, and extends beyond the end of the band 15. The adhesive holds the strap 16 immovable on the band 15, but the strap 16 is free to expand or contract beyond the end of the band 15.

The spacing of the opposed edges of the two ribs 20 and 21 on the inner face of the cap portion 12 is such that they will receive the posterior tendons of the cannon bone 32 that insert into the point 31 of the hock 30, therebetween.

Two spaced ribs 22 and 23, made of the same thickness as the cap 11 material, are mounted on the inside face of the upper portion 13 of the cap 11. These are spaced apart to receive the tendons posterior of the tibia 33, that insert into the point 31 of the hock 30, therebetween.

A length of woven nylon tape 18 is glued to the outer surface of the strap 16 proximate the cap 11, as seen in FIGURE 5. The tape 18 forms one of the two strips of a fastener which is preferably of the type known as a "VELCRO FASTENER." A second length of similar tape 17, is glued to the inner face of the elastic strap 16, at the end thereof, as seen in FIGURE 4.

Fasteners of this type are described in U.S. Patent No. 2,717,437, to which reference may be had for a complete understanding of their construction and use.

To mount the hock protector 10, the following procedure is followed:

As seen in FIGURE 6, the cap portion 11 is fitted over the point 31 of the hock 30 with the tendons posterior of the cannon bone 32 that insert into the point of the hock 31 positioned between ribs 20 and 21, and with the tendons posterior of the tibia 33 that insert into the point of the hock 31 positioned between the cap ribs 22 and 23. The so fitted cap 11 will now appear as in FIGURE 7.

The band 15 is then wrapped around the leg, upon itself to the position shown in FIGURE 8.

The elastic end of the elastic strap 16 is then stretched to hold the cap 11 securely in place, and then the end fastener tape 17 is pressed firmly down against the second fastener tape 18 to secure the end of strap 16 firmly in place.

In brief, tape 17 is provided on its outer surface with raised pile threads, and the tape 18 is similarly provided on its outer surface with raised pile threads, so that when the tapes are pressed together, by mere hand pressure, the threads interlock with each other to cause removable securement of the tape 17 to tape 18. This securement being such as to maintain the strap 16 and the band 15, on which it is mounted, in firm encirclement of the horse's leg around the hock, under all normal conditions. At the same time the tape 17 can be readily removed from the tape 18 by merely pulling the end of the strap 16 away from the tape 18.

A small section of fastener tape 19 is mounted on the strap 16, spaced from tape 18, proximate the opposite edge of the cap 11, which acts as a friction means to prevent cross-wise movement of the band 15 when the band is wrapped upon itself, in its leg encircling condition.

The so mounted cap 11 is open to the anterior side of the hock, while the lower edge 14 of the cap 11 will bear against the posterior side of the muscles of the cannon bone when the hock is flexed.

The so mounted hock protector 10 is held against rotation on the hock by the ribs 20-21 and 22-23, which bear against the posterior tendons of the cannon bone and

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tibia, while, at the same time, contact of the lower edge 14, of the cap 11, with the posterior of the cannon bone muscles holds the cap 11 from downward movement when the hock is flexed rearwardly.

Thus the hock protector 10 embraces the hock in such a manner that it will not slip out of place, while still allowing a full range of movement of the rear leg.

While this device is primarily intended for use in protecting the hock of a horse, it is to be understood that it may also be used to protect any sharply angled joint, such as the human elbow or knee, by suitably fitting it over the point of the joint, as described hereinabove.

It will now be clear that there has been provided a device which accomplishes the objectives heretofore set forth.

While the invention has been disclosed in its preferred form, it is to be understood that the specific embodiment thereof, as described and illustrated herein, is not to be considered in a limited sense, as there may be other forms or modifications of the invention which should also be construed to come within the scope of the appended claims.

I claim:

1. In a hock protector, a leg encircling band having interengaging means adapted to overlap and be locked upon itself and having a cap portion contoured to fit over the point of the hock, around the tendons posterior of the tibia that insert into the point of the hock as well as the tendons posterior of the cannon bone that insert into the point of the hock; the inner surface of the cap having spaced vertically extending and parallel locating ribs that engage the tendons posterior of the tibia above the point of the hock and the tendons posterior of the cannon bone below the point of the hock, therebetween, to prevent rotation of the cap; the lower edge of the cap being adapted to bear posteriorly against the cannon bone, when the hock is flexed, to prevent downward movement of the cap.

2. In a hock protector, a leg encircling band, of a sheet of a sealed cell polymeric composition of a thickness to provide adequate shock absorbing properties, said band

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having interengaging means adapted to overlap and be locked upon itself, and having a cap portion contoured to fit over the point of the hock, around the tendons posterior of the tibia that insert into the point of the hock as well as the tendons posterior of the cannon bone that insert into the point of the hock; the inner surface of the cap having spaced vertically extending and parallel locating ribs that engage the tendons posterior of the tibia above the point of the hock and the tendons posterior of the cannon bone below the point of the hock, therebetween, to prevent rotation of the cap; the lower edge of the cap being adapted to bear posteriorly against the cannon bone, when the hock is flexed, to prevent downward movement of the cap.

3. A hock protector as disclosed in claim 2, wherein the interengaging means comprise outwardly directed first raised pile means secured to the outer surface of the leg encircling band, intermediate its ends; inwardly directed raised pile means secured to the inner surface of the band, proximate its end most distant from the cap portion; said first and second raised pile means adapted to be interengaged to releasably secure the end of said leg encircling band upon itself to anchor the band in place.

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