May 9, 1961 J. K. GROOT 2,982,968

ADJUSTABLE LEG GUARD

Filed May 16, 1958

FIG. 1

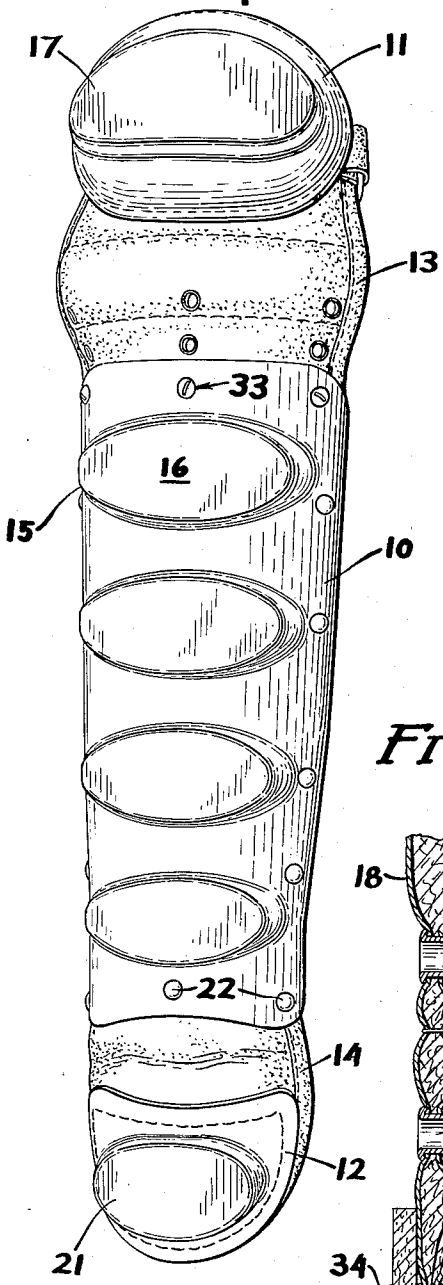


FIG. 2

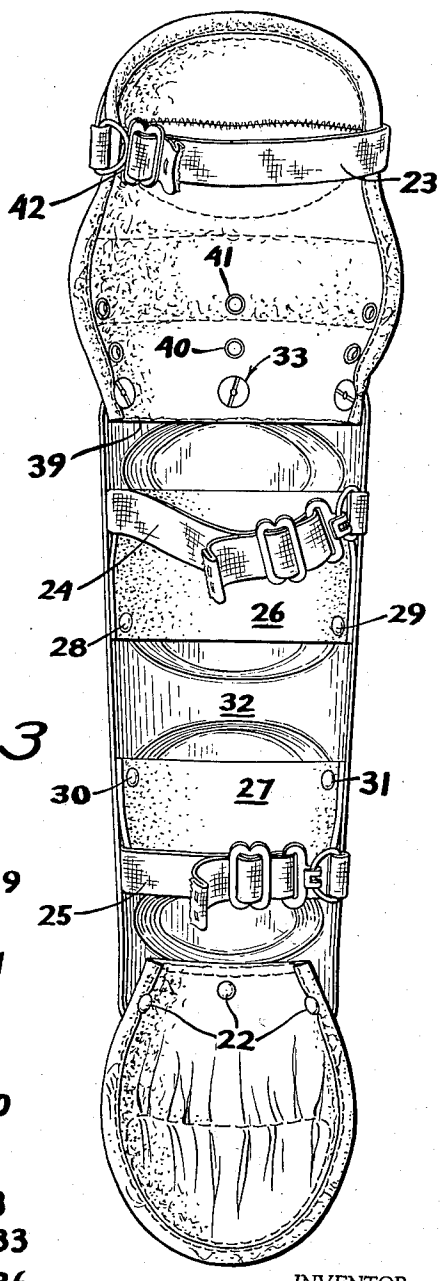
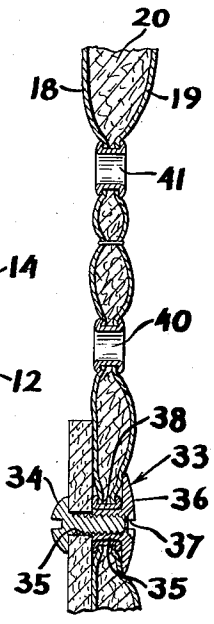


FIG 3



INVENTOR.
John K. Groot
BY Norton, Davis, Brewer and Brugman
Attorneys

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ADJUSTABLE LEG GUARD

John K. Groot, Evanston, Ill., assignor to Wilson Athletic Goods Mfg. Co., Inc., River Grove, Ill., a corporation of Delaware

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1 Claim. (Cl. 2—22)

This invention relates to leg guards such as are used by baseball catchers, and particularly to a leg guard which is adjustable as to length.

To provide the requisite protection for a baseball catcher the leg guards which he normally uses are actually constructed of three relatively rigid protecting sections connected together by a somewhat flexible joint. The principal rigid section is an elongated shield of hard material, the function of which is to protect the shin bone of the wearer. The other two sections are a kneecap guard disposed above the central or shin guard section and an instep guard disposed below the said central section. The sections are connected together by padded flexible material which, though not affording the same protection as the material of the aforesaid sections, are nevertheless adequate for the purpose intended.

Inasmuch as the knee section is usually provided with a strap by which it may be fastened over the player's knee, and since the flexible connection between the instep section and the shin bone section must necessarily be placed substantially at the ankle of the player, the length of the leg guard as a whole is thus determined by the length of the leg of the player. It has been customary heretofore to construct the leg guard as a complete, inseparable unit having a fixed length, and consequently, where a team has a number of relief catchers of various heights, it has been necessary to provide several sizes of leg guards for these catchers and, in effect, fit them individually so that each might be adequately protected. This required that each team have a relatively large supply of leg guards, not only as equipment to be worn, but as spares, and that these leg guards be transported from place to place with the team. This, in turn, resulted in considerable expense for the team in equipping its catchers with leg guards and spares, and also in transporting this equipment with the team.

It is an object of this invention to provide a leg guard constructed in a manner to permit adjusting its length to at least a limited extent to reduce the number of such guards that a team is required to stock and still be in a position to provide adequate leg protection for all of its catchers.

As a more specific object, this invention has within its purview the provision of a leg guard comprised of at least two rigid sections connected together by a flexible section, with means for adjusting the connection between the sections in a manner to produce a greater or lesser separation between them, thereby effecting a lengthening or shortening of the leg guard as a whole.

This invention has for another of its objects the provision of a separable connection between two relatively rigid sections of a leg guard, wherein said separable connection may be quickly disassembled, adjusted and reassembled to effect a change in the length of the leg guard, said separable connection being unobtrusive in appearance and having no detrimental effect on the normal functioning of the guard.

These and other objects of this invention will become

apparent from the following detailed description when taken together with the accompanying drawings in which:

Fig. 1 is a front elevational view of a leg guard assembly incorporating the length-adjusting feature of this invention;

Fig. 2 is a corresponding rear elevational view of the leg guard assembly of Fig. 1; and

Fig. 3 is an enlarged cross sectional view of a fragment of the leg guard assembly of Fig. 1 showing the adjustable attaching means for two of the sections of the guard in detail.

It may be appreciated that leg guard assemblies vary in appearance and construction as between the various manufacturers thereof and that therefore the leg guard assembly shown in the accompanying drawings and described hereinafter is representative of but one embodiment of a leg guard to which this invention may be applied.

Referring now to the drawings for a detailed description of the invention, there is shown in Fig. 1 a leg guard assembly, comprised of a shin guard **10**, a knee guard **11** and an instep guard **12**, with flexible means **13** and **14** for connecting the knee guard and instep guard, respectively, to the shin guard **10**. Said shin guard **10** is made of hard, relatively inflexible fibrous material held together by a resinous binder and having in general a curved, slightly tapered contour to fit around the forward portion of a player's leg substantially over the shin portion thereof. A plurality of elliptical bosses **15**, substantially equidistantly and vertically spaced with respect to one another, are formed in shin guard **10** by a molding operation or otherwise in the forward surface of the shin guard **10**, said bosses having relatively flat surfaces **16** for deflecting a ball in a generally forward direction with respect to the wearer of a leg guard assembly. Said bosses **15** also serve to stiffen the shin guard **10**.

Knee guard **11** has an outer covering **17** of leather or similar relatively soft material, of a somewhat oval shape to cover the kneecap of the wearer, said leather cover being mounted on a relatively rigid backing conformed to the shape of the cover, said backing extending downwardly from the cover **17** to form the flexible connector **13** between the knee guard **11** and shin guard **10**. Said flexible connector **13** may comprise front and back layers **18** and **19** (Fig. 3) of soft leather covers between which is packed padding **20** to absorb to some extent the force of a ball striking the connector.

Instep guard **12** is comprised of a relatively hard cover **21** which has formed therein a substantially oval-shaped boss, said cover being sewn to the connector **14**. Said connector **14** is similar in construction to connector **13** and is made of two layers of relatively soft leather between which is inserted padding (not shown) similar to padding **20**, likewise giving protection against the force of a ball striking thereon.

Instep guard **12** and its connector **14** are secured to the lower edge region of shin guard **10** by a plurality of rivets **22** which pass through the connector and the said lower edge regions of shin guard **10**. The connection between shin guard **10** and instep guard **12** therefore is permanent, though flexible to permit the instep guard to be swung about the lower region of shin guard **10** to follow the movements of the wearer's foot.

Knee guard **11** is secured over the knee of the wearer by a strap **23** and a buckle **42** which are secured to the rigid portion of the knee guard, the strap passing around the back of the wearer's knee. Shin guard **10** is fastened over the wearer's shin by straps **24** and **25** secured to the guard and adapted to be passed around the wearer's leg and made secure therearound. Straps **24** and **25** are preferably of the same type as strap **23**. As is customary in leg guard constructions, the shin guard **10** is preferably

held in spaced relation to the wearer's shin by strong leather braces **26**, **27** riveted at their sides as at **28**, **29** and **30** and **31** in a manner to hold the central regions of the braces **26**, **27** spaced from the forward central regions **32** of the shin guard **10**.

It may be apparent from the description thus far given that with the knee guard **17** strapped to the wearer's knee and the instep guard **12** properly overlying the wearer's instep, the length of the leg guard assembly is a function of the length of the wearer's leg, and that therefore to supply wearers having different leg lengths with proper leg guards would require a relatively large assortment of such leg guards. In the present invention, however, this situation is to a large extent obviated by the provision of adjustable means for securing connector **13** to shin guard **10**. Thus, instead of applying permanent rivets such as are used at **22** to secure connector **14** to shin guard **10**, the present invention utilizes a screw post type of fastener shown enlarged in section at **33** in Fig. 3. Said fastener is comprised of a machine screw **34** which is inserted into openings **35** provided therefor in the upper regions of the shin guard **10**, and into an internally threaded, relatively short post **35** having a flat disc-shaped head **36** which does not project inwardly of the connector an appreciable extent and which is provided with a screw driver slot **37** by which it may be held while machine screw **34** is tightened thereinto. Post **35** is received in an eyelet **38** preferably made of metal or similar rigid material passing through the connector and having edges crimped over the adjacent areas of the front and back leather surfaces of the connector. In the embodiment shown in Figs. 1, 2 and 3, three such screw posts **33** are shown, said screw posts being disposed near the lower edge **39** of the connector **13**. Obviously, the number of screw posts may be varied to suit specific constructions of shin guards and connectors.

To shorten the leg guard assembly, additional sets of eyelets **40** and **41** are provided in connector **13**, said eyelets being located on the connector in such manner that they may be aligned with the corresponding openings **35** in the shin guard **10**. Thus, to make the leg guard assembly shorter, eyelets **40** may be aligned with the openings **35** in the shin guard **10** and screw posts **33** are then passed therethrough and fastened together to secure the lower end of the connector **13** to the shin guard. Alternatively, eyelets **41** may be brought into alignment with openings **35** and the connector thus similarly fastened to the shin guard by the screw posts **33**. Thus, each row of eyelets above the eyelets **38** makes possible a shortening of the spacing between the knee guard **17** and shin guard **10** and thereby makes possible a shortening of the leg guard assembly to adapt it to wearers having legs of different lengths. Where the difference in leg length is greater than that which may be adjusted for by the available eyelet rows of a given connector, a second and possibly a third size of leg protector assembly will be required, but in any event the number of different sizes of leg protectors will be reduced by two-thirds, that is, one leg protector constructed in accordance with the teachings of this invention will suffice for three previously furnished sizes.

The adjustment from one size to another may be quickly effected by the use of two ordinary screwdrivers

and can be done in just a few minutes so that the use of leg guard assemblies made in accordance with this invention will not occasion an undue loss of time in preparing for a game. The fasteners **33** do not protrude into the leg guards sufficiently to transmit the force of a blow striking shin guard **10** directly to the wearer's leg. It may be recalled further that brace **26** holds the shin guard **10** away from the wearer's leg and that therefore, at least insofar as the central screw post is concerned, there is no direct transmission of force from the shin guard **10** to the wearer's leg. As for the screw posts on either side of the central post, a blow struck by a ball will be transmitted in a direction parallel with the leg rather than into the leg, and hence again, although said end fasteners may be closer to the wearer's leg than the central fastener and may at times contact it, nevertheless no serious injury or pain will be caused by these fasteners.

Although the invention has been described with reference to the use of separable fasteners for securing connector **13** to shin guard **10**, it is obvious that similar fasteners may be used in place of the rivets **22** and with a choice of openings in connector **14** to vary the spacing between shin guard **10** and instep guard **12**. Furthermore, such adjustability may be provided either in addition to separable fasteners and the above described adjustability between connector **13** and shin guard **10**, or in lieu thereof. The number of separable fasteners **33** used may also be varied without departing from the spirit of this invention. It is further understood therefore that the scope of this invention is not to be limited to the foregoing illustrative embodiment of the invention, but is to be determined by the appended claim.

I claim:

A leg guard assembly comprising a rigid shin guard element having an upper edge region disposed substantially transversely of the said shin guard element for passing around the front and side regions of a leg, said shin guard element having horizontally spaced openings in said upper edge region, a rigid knee guard element disposed in longitudinal spaced relation to said upper edge region of the shin guard element, a flexible padded intermediate leg cover and connector transversely corrugated by stitching through the padding, said connector being of equal width with said upper edge region to extend thereacross and around the front and side regions of a leg, said connector having a plurality of parallel rows of reenforced openings disposed adjacent the transverse corrugations and disposed in depressions adapted to be selectively aligned with the openings in said upper edge region of the shin guard element, to vary the overall length of the leg guard assembly, and separable fasteners extending through aligned openings in the shin guard element and in said connector for securing the shin guard element to the connector.

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