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DESCRIPTION

Description

[0001] The present invention concerns a bit for horses.

[0002] As is well known, a horse bit generally comprises a central element, for example made of metal, possibly articulated, suitable for insertion into the mouth of the horse, and at least one pair of side rings, each attached at one end of the central element for connecting to the reins.

[0003] In one known embodiment, each ring is free to slide through a hole made in the end of the central element.

[0004] In order to protect the lip of the horse from contact with the ring and, in particular, to prevent the lip from getting caught at the coupling point between the central element and the ring, e.g. in the ring hole, a bit guard is fitted on each end of the central element. Such bit guard is in practice a disc wherein is made a circular opening in which the central element is inserted.

[0005] Document GB154419 discloses a bit for horses comprising a metallic core element covered by a rubber substance.

[0006] One object of the present invention is to propose a bit particularly comfortable for horses, which is able to prevent the lip or tongue of the horse from being pinched between the side ring and the central element.

[0007] Another object of the invention is to provide a bit that allows smooth and, at the same time, safe control of the horse.

[0008] A further object of the invention is to propose a bit with a light structure, composed of a reduced number of components and economical to manufacture.

[0009] Such objectives are achieved by means of a bit according to claim 1 and a method of manufacture according to claim 6. The dependent claims describe preferred embodiments of the invention.

[0010] The features and advantages of the bit according to the invention will, in any case, become evident from the description provided hereinafter of the preferred embodiments thereof, provided by way of indicative and non-limiting examples, with reference to the accompanying figures, wherein:

- figure 1 is a perspective view of the bit according to the present invention;
- figure 2 is a front view of the bit;
- figure 3 is an end view of the bit;
- figure 4 is another front view of the bit in partial cross-section; and
- figure 5 shows the bit in use.

[0011] In said drawings, a bit for horses according to the invention has been indicated collectively at 1.

[0012] In a general embodiment, the bit 1 comprises a central element 10, suitable for insertion into the mouth of the horse, and a pair of side rings 12, each connected to a respective end 10' of the central element for connecting to the reins 2.

[0013] In accordance with the invention, the central element 10 is made of a plastic material and the ends 10' of the central element are overmolded onto coupling portions 14 of the respective side rings 12.

[0014] In one embodiment, the central element 10 consists of a straight bar or, preferably, one slightly curved towards the corners of the horse's mouth.

[0015] In one embodiment, the central element 10 gradually tapers towards the center. Moreover, preferably, such central element 10 is flattened in the direction of closing of the horse's jaws.

[0016] In one embodiment, the side rings 12 form an angle equal to or greater than 90° with the central element 10. Preferably, the side rings 12 are slightly divergent so as to follow the anatomy of the horse's muzzle, which progressively widens toward the neck.

[0017] In one embodiment, each side ring 12 is also made of a plastic material, e.g. nylon. However, the side rings 12 could also be made of a metallic material suitable for coupling to the plastic material of the central element.

[0018] If both the central element 10 and the side rings 12 are made of plastic, the plastic material of the central element 10 should preferably be softer than the plastic material of the side rings 12.

[0019] For example, the central element 10 is made of nylon, while the side rings are made of reinforced nylon.

[0020] In accordance with another aspect of the invention, in the central element 10 is completely embedded a reinforcing metal core 16, which extends between the coupling portions 14 of the side rings 12.

[0021] According to the invention, each end 16' of the metal core 16 is attached to the respective coupling portion 14 of the side ring 12.

[0022] According to the invention, each coupling portion 14 of each side ring 12 comprises a recess 142 into which extends at least one coupling crosspiece 144. Such coupling crosspiece 144 is substantially perpendicular to the central element 10.

[0023] Each end portion of the metal core 16 forms a hook 16' which engages with the respective coupling crosspiece 144.

[0024] According to the invention, the metal core 16 consists of a reinforcing rod 18.

[0025] According to the invention, in the recess 142 extend two parallel, inner and outer, coupling crosspieces 144, 146. Each hook 16' of the reinforcing rod 18 is S-shaped so as to engage both the coupling crosspieces 144, 146, passing over the outer crosspiece 144 and under the inner crosspiece 146. In this way, during the molding of the bit, the side rings 12 and the reinforcing rod 18 maintain a fixed and stable position, while the plastic material of the central element 10 is cast around the reinforcing rod 18 and onto the coupling portions 14 of the side rings 12.

[0026] In one embodiment, each side ring 12 is D-shaped, with the straight side adjacent to the end 10' of the central element 10.

[0027] In one embodiment, in each side ring 12, two or more through-holes 20, 20a, 20b are made around the center of the side ring to connect the side ring 12 to reins, bridles, ropes, chains, etc., for example to implement different levers on the horse.

[0028] In addition, a method for manufacturing the bit described above is object of the invention.

[0029] First, the two side rings 12 are made, for example out of plastic material by molding.

[0030] The two side rings are thus positioned in a special mold for molding plastic materials so that the reciprocal position of said side rings in the mold coincides substantially with the reciprocal position of the side rings in the finished bit.

[0031] At this point, the central element is molded out of plastic material in the mold so that the ends of the central element are molded over and around the coupling portions of the side rings.

[0032] In a preferred embodiment, before the step of casting the plastic material for forming the central element, a reinforcing metal core, which extends between the two side rings, is positioned in the mold.

[0033] The plastic material is then cast around the reinforcing metal core so that it is completely embedded in the plastic material of the central element.

[0034] The bit according to the invention is comfortable for the horse due to its shape, lightness and the softness of the materials used to manufacture it, in particular the plastic material of the central element.

[0035] The slightly curved and flattened shape of the central element and the slightly diverging side rings increase the comfort of the horse.

[0036] The overmolding of the central element on the side rings to form a single body makes it possible to improve the rider's control of the horse, especially when starting training. The horse feels more guided with a single-piece bit.

[0037] The absence of holes at the ends of the central element in which the side rings are inserted makes it possible to avoid the risk of the horse's lip or tongue being pinched by the bit.

[0038] The presence of the reinforcing metal core, in addition to reinforcing the central element, helps to securely anchor the central element to the side rings.

[0039] Moreover, the rod-shaped metal core is firmly supported by the side rings in the mold before and during casting of the plastic material to form the central element.

[0040] The side rings, provided with several peripheral openings separated from each other, allow the connection, even simultaneous, of bridles, reins, chains and ropes.

[0041] To the embodiments of the bit according to the invention, one skilled in the art may, to satisfy contingent needs, make modifications, adaptations and substitutions of some elements with others that are functionally equivalent, without departing from the scope of the following claims. Each of the features described as belonging to a possible embodiment may be implemented independently from the other described embodiments.

REFERENCES CITED IN THE DESCRIPTION

Cited references

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Patent documents cited in the description

- GB154419A [0005]

Patentkrav

1. Et bid til heste omfattende et centralt element (10) egnet til indføring i hestens mund og et par sideringe (12), der hver er forbundet til en tilhørende ende af det centrale element, for tilslutning til tøjlerne, hvor det centrale element er lavet af et plastmateriale, og enderne af det centrale element er overstøbt på tilkoblingsdelene på de tilhørende sideringe, og
- 5 hvor en forstærkende metalkerne (16), der strækker sig mellem tilkoblingsdelene på sideringene, er fuldstændigt indlejret i det centrale element, og
- 10 hvor hver ende af den forstærkende metalkerne er fastgjort til sideringens respektive tilkoblingsdel (14), og
- hvor hver tilkoblingsdel på hver sidering omfatter en fordybning (142), hvor mindst et tilkoblingstværstykke (144) strækker sig, og hvor enden af den forstærkende metalkerne danner en krog, der griber ind i tilkoblingstværstykket,
- 15 og
- karakteriseret ved**, at den forstærkende metalkerne består af en forstærkningsstang (18), og
- ved**, at der i fordybningen strækker sig to parallelle, indre og ydre tilkoblingstværstykker, og hvor hver krog på forstærkningsstangen er S-formet
- 20 til at gribe ind i begge tilkoblingstværstykker, der passerer over det ydre tværstykke og under det indre tværstykke.
2. Bid ifølge krav 1, hvor det centrale element er dannet af en lige eller let buet stang, og hvor sideringene danner en vinkel lig med eller større end 90° med det centrale element.
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3. Bid ifølge krav 1 eller 2, hvor hver sidering er fremstillet af et plastmateriale, f.eks. nylon.
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4. Bid ifølge det foregående krav, hvor plastmaterialet i det centrale element er blødere end plastmaterialet i sideringene.

5. Bid ifølge et hvilket som helst af de foregående krav, hvor der i hver sidering er lavet to eller flere gennemgående åbninger omkring midten af sideringen med henblik på binding til tov, lænker, reb eller kæder.

5 **6.** Fremgangsmåde til fremstilling af bid i henhold til et hvilket som helst af de foregående krav, karakteriseret ved at den omfatter følgende trin:

- fremstilling af de to sideringe

- placering af de to sideringe i en form til støbning af plastmateriale, således at den gensidige position af nævnte sideringe i formen falder i det væsentlige sammen med den gensidige position af sideringene i det færdige bid

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- støbning af det centrale element fremstillet af plastmateriale i nævnte form, således at enderne af det centrale element støbes over og omkring tilkoblingsdelene på sideringene.

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7. Fremgangsmåde ifølge det foregående krav, karakteriseret ved at der forud for trinnet med afstøbning af plastmaterialet til støbning af det centrale element er en forstærkende metalkerne, der strækker sig mellem de to sideringe, anbragt i formen, således at plastmaterialet støbes omkring den forstærkende kerne.

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