Feb. 12, 1963 R. H. MESINGER 3,077,363

CYCLE SADDLE COVERS

Filed Jan. 22, 1957

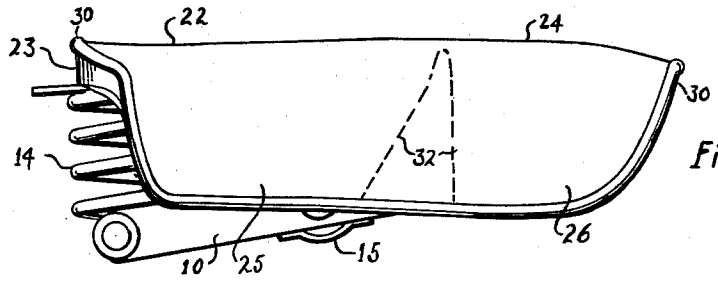


Fig 1

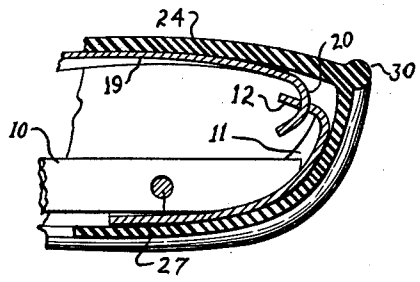


Fig 4

Fig 2

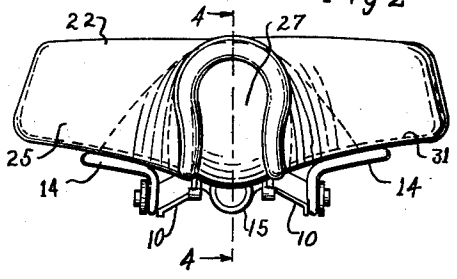
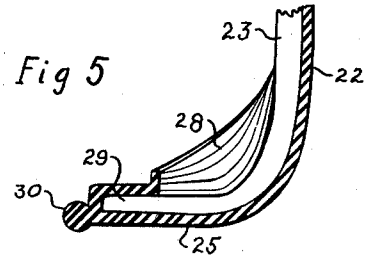


Fig 5



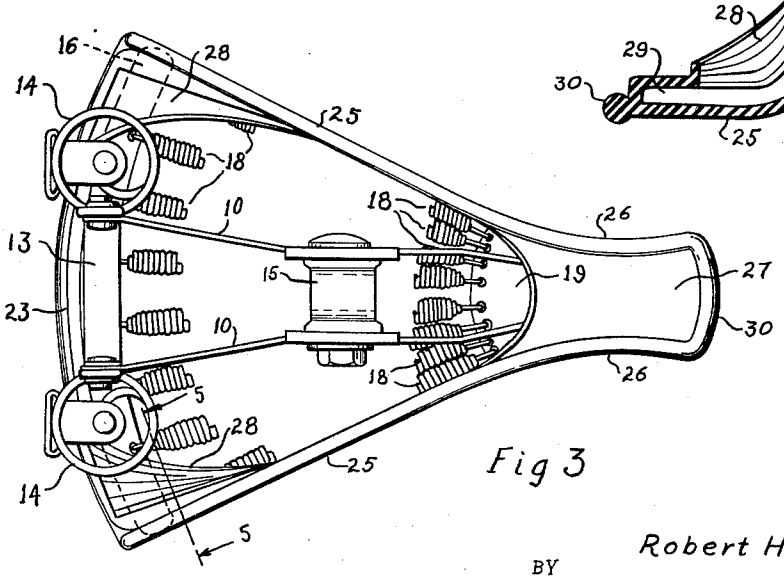


Fig 3

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CYCLE SADDLE COVERS

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This invention relates to cycle saddles and more particularly to a novel seamless unitary cover for enclosing the seat portion of a bicycle saddle and to novel means for securing such cover on a saddle seat support.

The invention provides a unitary homogeneous saddle cover of a heat-cured vinyl-resin base plastisol for covering the seat supporting portion of cycle saddles such as the "mattress" type and for seats having a rigid base plate which may also have a layer of cushioning material thereon. The customary coverings of sheet material such as leather or coated fabric involve problems of forming and shaping the material around the double curved edge contours and of securing the material to the saddle top. This has been accomplished by various troublesome methods requiring the use of stitching all around the edges or by riveting the cover to the frame or securing it by the use of an extra steel bottom plate for clamping the leather edges to the main seat base. Difficulty is also caused by the shape of the saddle seat which has a generally triangular seat area with a forwardly extending narrow nose or pommel portion, it being difficult to form and stretch the leather or fabric around the double curved and concave contours.

Such a top construction moreover is subject to damage in use, particularly if abrasion causes the stitches to come loose and when this occurs the top frays, becomes unsightly and soon becomes useless. The customary construction also involves difficulty in manufacture due to the many hand operations for assembling the several pieces of material.

Principal objects of the present invention are to provide a top cover for a saddle which avoids the above named objections; which is more durable, can be more quickly and cheaply manufactured, provides rider comfort for a longer period of use, which can be installed in place of out-worn customary type tops; and which is made of a tough unitary heat-cured vinyl-resin base plastisol.

Further objects of the present invention are to provide an improved saddle seat cover of unitary seamless flexible and durable plastic material which can be securely retained on the seat after assembly without requiring clamping plates, stitching, riveting or other special securing means, and which can be manufactured at lower cost than many conventional saddle coverings.

Other objects and advantages of the invention will be apparent from the following description having reference to the drawing in which:

FIG. 1 is a side elevational view of a saddle with a top cover according to the invention;

FIG. 2 is a front end view of the saddle;

FIG. 3 is a bottom view of the saddle with portions of the supporting springs broken away and showing integral securing webs of the top cover;

FIG. 4 is a fragmentary view of a section taken on the line 4—4 of FIG. 2; and

FIG. 5 is a fragmentary view of a section taken on the line 5—5 of FIG. 3 showing a rear corner web of the top cover.

According to the preferred embodiment of the invention a saddle frame or undercarriage particularly of the mattress type is covered with a unitary homogeneous top covering secured to the frame by an integral transverse web connecting the skirt portions of the nose or pommel portion of the top within which is enclosed the nose portion of the saddle frame and by integral webs across and under the rear corners of the top for engaging around the rear corner portions of the metal saddle frame. This unitary top covering is made of moulded plastic composition preferably of the type for making articles by a slush moulding process. Such top covering is sufficiently resilient that it can be assembled by force onto the frame and be held securely thereon by the web portions. The plastic material can also be made thick enough to provide a cushion over the metal top supporting portions of the frame. It likewise has a pleasing feel and the surface pattern and appearance can be easily varied as desired.

These novel saddle seat covers may have any desired texture, color, are free of wrinkles, are very durable, do not shift or come loose and can be manufactured economically. Such saddle covers can also be used to replace worn out covers on used saddles.

Referring to the drawing, the metal saddle frame illustrated is one exemplary construction and may be similar to that described in U.S. Patent #2,149,247 issued to F. Mesinger. It comprises a top supporting portion secured upon frame members including fore and aftly extending reach members **10** with forward ends secured to a front member **11** (FIG. 4) that has a perforated upper portion **12**. The rear ends of the reach members are secured to a transverse bridge **13** and to the lower ends of coil springs **14**. A clamp **15** for securing the reach members to the seat post of a bicycle is shown secured between the mid portions of the reach members. The top supporting portion of the frame includes an arcuate rear cantle member **16** which has brace portions not shown connecting the outer ends of the cantle **16** with the front portions of the reach members **10** and with the front member **11**. These brace portions are hidden by the top covering. The brace portions resist the tension of a number of narrow coil springs **18** stretched between the cantle member and a pommel member **19** which has its forward end **20** hooked into the perforation in the upper portion **12** of front member **11**. The springs **18** form a mattress support for the seat portion of the top covering. The upper ends of the coil springs **14** resiliently support the top supporting portion of the frame by being secured to the cantle **16**.

The top covering has a generally triangular seat portion **22** having an arcuate rear edge flange portion **23** that extends downward a short distance below the cantle member **16**. The seat portion merges with a forwardly extending nose or pommel portion **24** and with downwardly extending skirt portions **25** and **26**. The skirt portions **26** are joined by an integral web **27** along their lower edges. This web **27** encloses the forward portion of the frame including the front member **11**. At the rear corners there are formed integral webs **28** joining the lower edge of the portion **23** with the skirts **25**. Between the webs **28** and the skirts **25** there are formed pockets **29** (FIG. 5) that enclose the rear edges of the aforementioned brace portions connected to the outer ends of the cantle **16**. The top cover may also be provided with an integral edge bead **30** of suitable form.

An important feature is the provision of increased thickness of material along the juncture of the webs **27** and **28** with the respective skirt portions **26** and **25** respectively and with the rear flange **23**. This is obtained by a special mould feature as set forth in U.S. Patent No. 3,008,190 and provides insurance against tearing of the webs from the skirts.

The top covering is assembled on the frame by insertion of the forward end of the frame into the nose portion of the top and then successively forcing the webs **28** and pockets **29** over the outer ends of the cantle **16**. The top cover is then held tightly to the frame by enclosure

of the nose portion and rear corner portions of the frame by the web portions 27, 28 and pockets 29 so that no additional fastenings are required.

To form a seat cover, a measured quantity of plastisol is poured into the preheated mould, the mould temperature being preferably between 130° to 175° F. The cover is placed on the filling opening and the mould is secured on the mould carrier of an oven that heats the mould while turning it over and over to distribute the plastisol on the interior of the mould. The heat first gels the plastisol when the mould reaches a temperature of 220° F. and continuous heating to higher temperatures cures the plastisol. After partly cooling the mould, removal of the mould cover generally tears off the plastisol that forms on the cover. With the mould cover off, the still-warm saddle cover can be pulled entirely out of the mould through the filling opening.

The plastisol material is preferably of a composition which initially gels at about 220° F., and the gelled skin then fuses and cures to its final state at a temperature of 350° F. The temperature of the oven and the time in the oven are adjusted so that curing is accomplished in a reasonable time. For example with an oven temperature only slightly over 350° F. about 20 minutes of heating is required. High oven temperatures for shortening the time involves the danger of deleteriously over-heating parts of the product.

The plastisol material may be a vinyl resin dispersed in a medium of non-volatile liquid plasticizer which can be gelled by heat and cured into a tough elastomeric plastic. The cover so made has great toughness and greater abrasion resistance than leather and fabric materials customarily used.

After the cover is pulled from the mould it can be immediately assembled on a seat by pushing the nose of the seat into the nose portion of the cover through the bottom opening. Then forcing one lateral side after the other of said cover over the corresponding lateral sides of the seat support. If the cover has been allowed to cool, so that it is too stiff or if it is to be assembled on a saddle after shipment to another location, the cover may be softened by warming, such as by dipping in warm or hot water before it is assembled as described above.

It is to be understood that the saddle covers according to this invention may be used as the original cover part of saddles having a layer of padding material such as hair felt, sponge rubber, or the like on the upper surface and under the top cover, or that the saddle cover may be used as a repair or replacement item for a saddle having a worn out original cover.

This application is a continuation-in-part of application Serial No. 392,121 filed November 16, 1953, now abandoned, and of application Serial No. 528,631 filed August 16, 1955, and issued as Patent No. 3,008,190.

What is claimed is:

1. A unitary top cover for cycle saddles having an under frame including a top support, said top cover comprising a generally triangular seat portion with a forwardly extending nose portion, downwardly depending side and front skirt portions formed integral with the seat and nose portions, a downwardly depending rear flange, a transverse web integral with and interconnecting the forward portions of said side skirt portions and said front skirt portion and adapted to enclose the forward end of said top support, and web portions integral with and interconnecting the rear portions of said side skirts with said rear flange said web portions being adapted for engagement around at least the rear corner portions of said top support, each of said web portions comprising two parts, the one part being joined to the side skirt and extending upward for a sufficient distance parallel to the side skirt to form therewith a pocket for receiving down turned rear ends of the frame, and the other portion in the form of a gusset joining the lower rim of the rear flange, the one part, and the side skirt, the free edges of said webs with portions of said skirts and rear flange defining a bottom opening which is smaller in area than said seat portion, said unitary top cover being constituted of substantially homogeneous heat cured plastic composition.

2. A top cover according to claim 1 in which said composition is a vinyl resin base plastisol.

3. A unitary top cover for cycle saddles having an under frame including a top support, said top cover comprising a generally triangular seat portion, with a forwardly extending nose portion, downwardly depending side and front skirt portions formed integral with the seat and nose portions, a downwardly depending rear flange, a transverse web integral with and interconnecting the forward portions of said side skirt portions and said front skirt portion and adapted to enclose the forward end of said top support, and rear corner web portions integral with and interconnecting the rear portions of said side skirts with said rear flange, each of said web portions comprising two parts, the one part being joined to the side skirt and extending upward for a sufficient distance parallel to the side skirt to form therewith a pocket for receiving down turned rear ends of the frame, and the other portion in the form of a gusset joining the lower rim of the rear flange, the one part, and the side skirt, the integral connections of said transverse web with said front and side skirt portions having increased thickness of material providing integral reinforcement therealong, the free edge of said web with portions of said skirts and rear flange defining a bottom opening which is smaller in area than said seat portion, said unitary top cover being constituted of substantially homogeneous heat-cured vinyl resin base plastisol.

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