My invention pertains to improved flexible seats and more particularly to improved seats especially desirable for use on tractors.

It is an object of my invention to provide an improved, flexible, contoured type of seat which will yield and take a suitable conformation for fitting and distributing the pressure substantially uniformly against the body of the person seated thereon so that all persons of different weights and sizes may be comfortably supported.

It is also an object of my invention to provide a seat possessing a flexible, contoured material suspended from a three-sided frame member and means for supporting the frame.

It is a further object of my invention to provide a flexible, contoured seat having the flexible material in the front of the seat under the legs of the operator suspended under tension in a flexible contouring manner free from supporting members so that excessive pressure will not be applied on the legs of the operator to impede the circulation of the blood.

Another object of my invention is to provide a flexible, contoured seat comprising a substantially U-shaped frame member open toward the front of the seat, a flexible sheet of contoured material secured along the edges to the seat frame, and a supporting structure secured to the seat frame for supporting it.

Further objects and advantages are within the scope of my invention, such as relate to the arrangement, operation and function of the related elements of the structure, to various details of construction, and to economies of manufacture and numerous other features as will be apparent from a consideration of the specification in conjunction with the drawings disclosing a specific embodiment of my invention, in which:

Fig. 1 is a plan view showing a flexible bucket seat made in accordance with my invention; and the concealed structural members being shown in dotted lines;

Fig. 2 is a side elevational view partially broken away and sectioned on line 2—2, Fig. 1, to show how the seat frame is attached to the back of a supporting bracket;

Fig. 3 is a front elevational view of the seat; and

Fig. 4 is a back elevational view thereof;

Fig. 5 is a detail sectional view of a modified arrangement for fastening the sheet material to the seat frame member;

Fig. 6 is a detail sectional view of a modified structure showing how the material may be attached to an angle-iron seat frame member.

Referring more specifically to the drawings, it will be seen that my improved bucket seat comprises a flexible sheet material 1 which is suspended from a frame member 2 of a substantially U-shaped conformation opening at the front. The flexible sheet material 1 which is suspended in the U-shaped frame 2 may be any sheet material having suitable strength, durability and flexibility. For this purpose rubber-covered cotton material has proven to be very satisfactory. The U-shaped frame 2 may be made of any suitable rod or structural member. A piece of tube, such as steel, is conveniently bent into shape and being strong and light is very satisfactory for this purpose. A blank of suitable shape being cut from the rubberized cotton sheet material 1, is stretched and shaped to approximately the correct contour, placed in a mold folded over the frame and vulcanized. Upon removal from the mold it is a complete seat ready for mounting.

For mounting the seat a three point supporting structure is fabricated comprising a channel iron support 3 the main portion of which extends horizontally under the center line of the seat from front to back where the channel iron is bent upward. The upturned end of the support 3 is suitably conformed to fit snugly against the underside of the seat frame 4, at the center of the back where it is firmly secured by a countersunk bolt 5 passed therethrough and secured by a nut 6 and lock washer 7 on the lower end. The other two points of the three point supporting structure are provided by a metal strip or cross-piece 8 passing across the upper side of the front end of the channel support 3 to which it is secured in any suitable manner, as by welding or riveting. As shown in Fig. 4, the outer ends of the cross-piece 8 are turned up and suitably conformed to fit under the sides or ends of the U-shaped frame 2 of the seat to which these may be secured in any suitable manner, as by bolts or screws.

As shown more clearly in Fig. 2, a horn 10 may be secured on top of the front end of the channel support, as by rivets 11, from which it rises and projects forwardly to provide additional support for the flexible seat material 1 at a central point and serving to maintain the longitudinal and forward lateral contour and resist forward movement of the seated person. The front edge of the seat material 1 may be secured to the horn 10 as by rivets 12 passing into the front side thereof. The front edge portions of the seat material 1 under the legs are in tension, having no supports directly thereunder. Each leg of the seated person is thereby supported separately on a flexible
support which conforms to the contour on the underside of the leg. There is no tendency for the flexible material to form a single catenary curve, forcing the two legs together in an uncomfortable position, as when seated in a hammock. This is especially important in seats provided for operators of machinery, but for porch furniture, basement, kitchen and bridge table seats the centrally disposed horn may be omitted, if desired.

The completed seat may be mounted in any suitable manner, as by securing by a bolt 23 to one end of a heavy piece of a suitably curved strip of spring steel 21, as shown in Fig. 2. The other or lower end of the curved spring is then secured as by bolts 25 to tractor or other machinery. Also it will be understood that the curved spring support 21 may be suitably conformed at the lower end to provide a pedestal for mounting the chair on the floor or ground in accordance with the usual practice with tubular furniture.

In Fig. 5, I have shown a modified fastening arrangement which is also useful for attaching the edges of the flexible sheet material to the seat frame member 3. For this purpose straps or elongated clamp members 27 are provided in substantially U-shaped form. They are applied over the outside of the frame member 3 and project inwardly. The edges of the flexible sheet 1, which are clamped between the ends of the clamps, are folded back to form a thick seam or hem 29 which fits in a recess 31 provided therein. Rivets or screws are passed through suitably aligned holes in the inner ends of the clamps and the sheet material and serve to draw the ends of the clamps together in firm gripping engagement on opposite sides of the fabric sheet. At the same time the thick seam or hem 29 is clamped in the recess 31 which holds it securely. This holds the hem from unfolding and at the same time takes most of the strain of supporting a person sitting in the seat.

In Fig. 6, I have shown a different fastening arrangement which is useful for securing the flexible sheet material when the U-shaped seat frame is made from a piece of angle iron 36 or other non-tubular member. For this purpose the inner edge of the steel frame member 36 is preferably provided with an offset or depressed edge 37 forming a marginal recess 39 for receiving the sheet material 1 and protecting the edge thereof. Suitable fastening means 41, such as large headed rivets or screws, are then passed through suitable aligned holes in the edge of the flexible sheet material and the offset edge 37 of the frame. Preferably a large number of the fastening members are provided positioned as closely as possible and drawn as tight as possible without cutting the material.

It is apparent that within the scope of my invention, modifications and different arrangements may be made other than herein disclosed, and the present disclosure is illustrative merely.

the invention comprehending variations thereof.

I claim:

1. A flexible bucket seat comprising, a substantially U-shaped frame open toward the front of the seat, a flexible sheet material secured around the edges to said frame, a support passing horizontally under said seat from front to back and bent upwardly at the back and secured to said U-shaped seat frame in such a manner as to provide a central support for the back of the seat, and means secured to the forward portion of said support and extending laterally and upwardly to engage and support the frame at opposite sides.

2. A flexible bucket seat comprising, a substantially U-shaped seat frame open toward the front of the seat, a flexible sheet material secured around the edges to said frame, a support passing horizontally under said seat from front to back and bent upwardly at the back and secured to said U-shaped seat frame in such a manner as to provide a central support for the back of the seat, and means secured to the forward portion of said support and extending laterally and upwardly to engage and support the frame at opposite sides.

3. A flexible bucket seat comprising, a substantially U-shaped seat frame open toward the front of the seat, a flexible sheet material secured around the edges to said frame, a supporting structure secured to said seat frame for supporting the seat at a plurality of spaced points, and a horn secured to said supporting structure and rising to support the flexible sheet material at a central point between the open front ends of the seat frame and suspending the flexible material for tension therebetween by the legs of a seated person.

4. A flexible bucket seat comprising, a substantially U-shaped seat frame of metal tube open toward the front of the seat, a flexible sheet material secured around the edges to said frame, a metallic support member of channel cross-section passing horizontally under said seat from front to back and bent upwardly at the back and secured to said U-shaped seat frame in such a manner as to provide a support for the back of the seat, a cross-piece secured to the forward portion of said support member and extending laterally and upwardly to engage and support the frame at opposite sides.

5. A flexible bucket seat comprising, a substantially U-shaped seat frame of tubular metal open toward the front of the seat, a flexible sheet material secured around the edges to said frame, a channel support member passing horizontally under said seat from front to back and bent upwardly at the back and secured to said U-shaped seat frame in such a manner as to provide a support for the back of the seat frame, means secured to the forward portion of said support and extending laterally to engage and support the frame at opposite sides, and a horn secured to the forward portion of said channel support member and rising to support the flexible sheet material at a central point between the open front ends of the seat frame and suspending the flexible material for tension therebetween by the legs of a seated person.

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