April 4, 1939. H. E. CROUTER 2,153,326

SADDLE

Filed Jan. 22, 1938 3 Sheets-Sheet 1

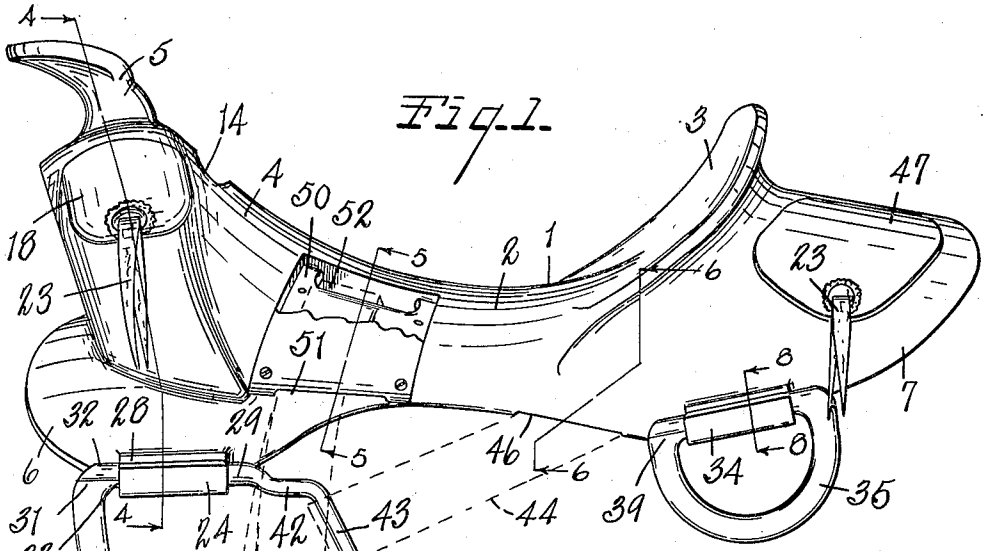


Fig. 1.

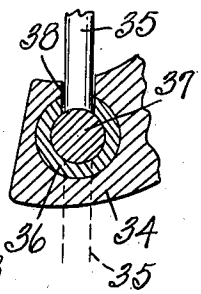


Fig. 3.

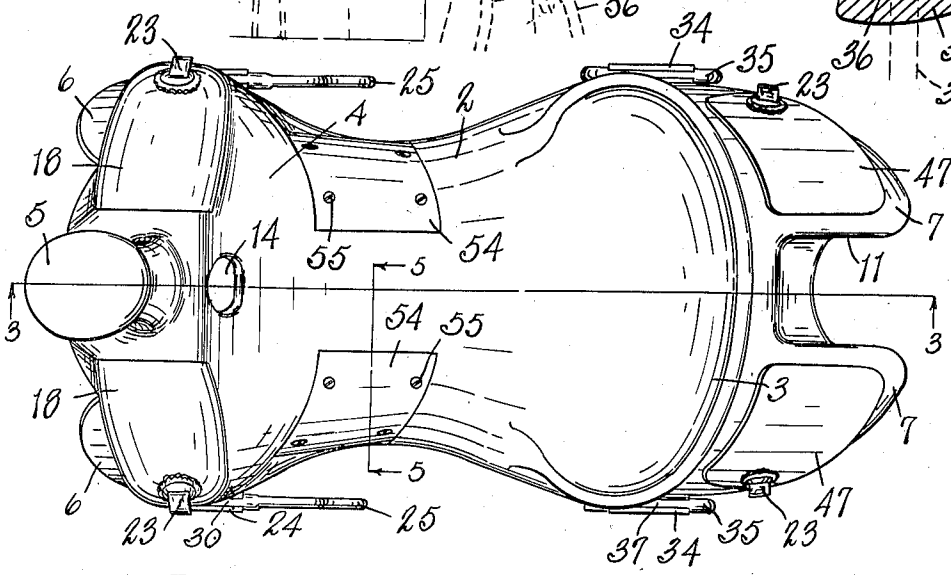


Fig. 2.

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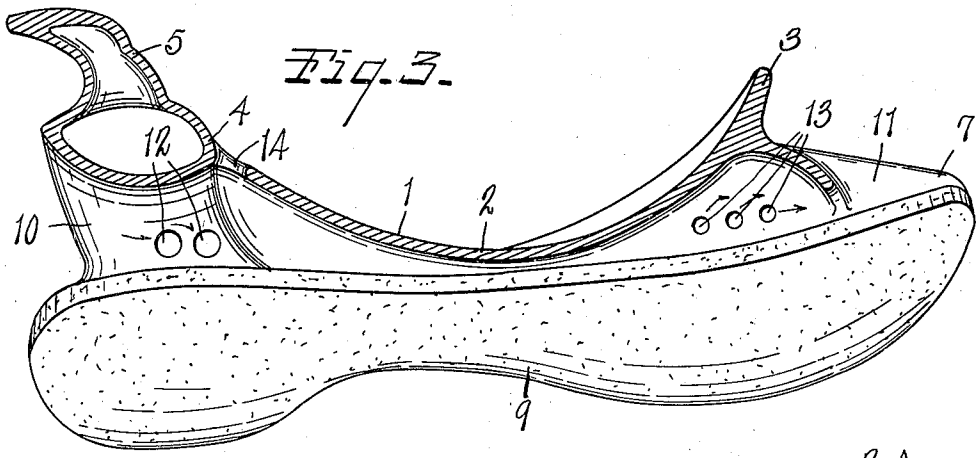


Fig. 3.

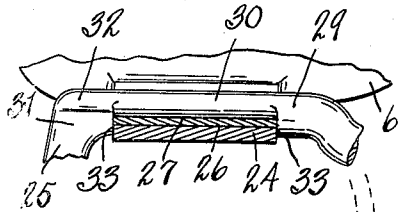


Fig. 7.

Fig. 4.

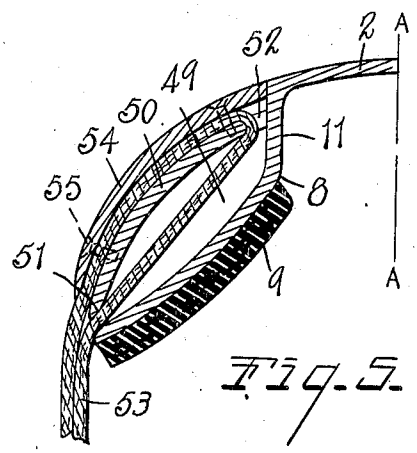


Fig. 5.

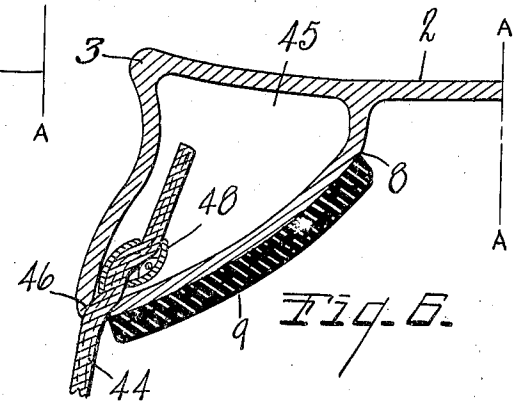


Fig. 6.

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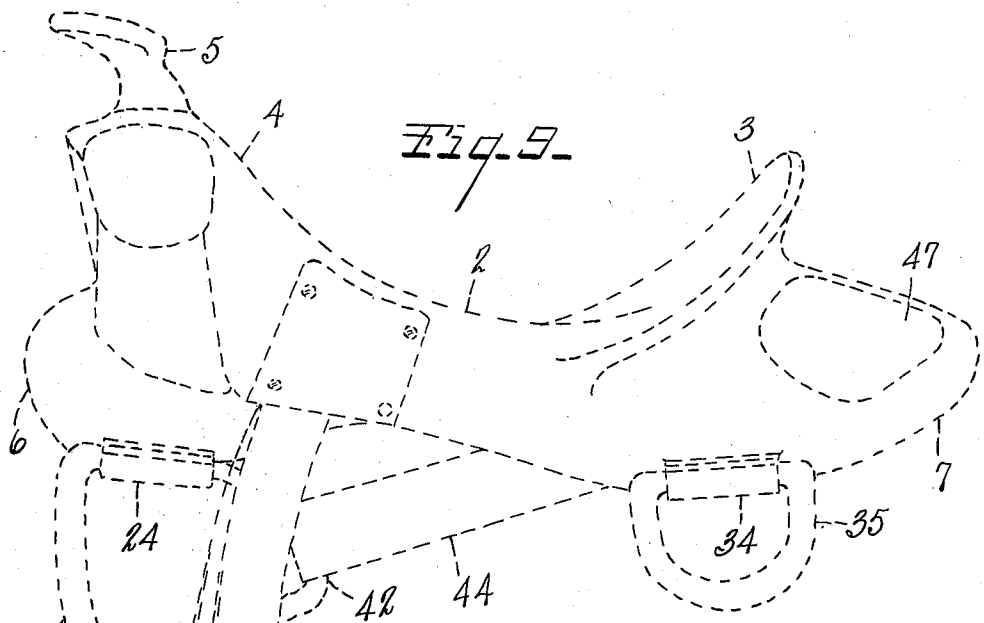


Fig. 9.

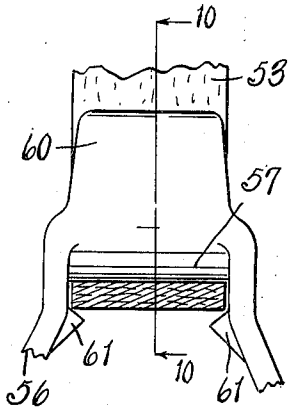


Fig. 11.

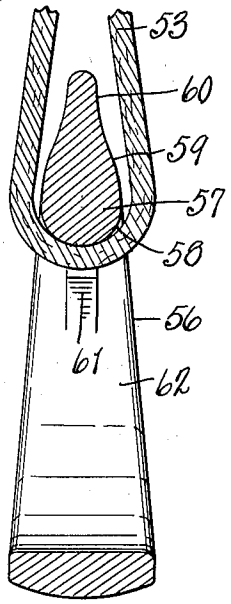


Fig. 10.

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UNITED STATES PATENT OFFICE

2,153,326

SADDLE

Herbert E. Crouter, Flint, Mich.

Application January 22, 1938, Serial No. 186,401

18 Claims. (Cl. 54—44)

This invention relates to improvements in saddles.

The main objects of my invention are:

First, to provide a saddle of cast metal construction having the surface thereof in the form of the completed saddle so as to dispense with further padding or covering material therefor.

Second, to provide a saddle which is fabricated of metal or moulded material characterized by its lightness and strength and which is hollow in part to further minimize the weight thereof.

Third, to provide a saddle of the type described having girth rings associated therewith in a novel and improved manner.

Fourth, to provide a moulded saddle of the type described providing thorough interior ventilation.

Fifth, to provide a moulded saddle of the type described having compartments conveniently located therein wherein articles may be stored, and covers for closing said compartments.

Sixth, to provide a saddle of the type described having novel and improved means for securing stirrup and rigging straps thereto.

Seventh, to provide an improved stirrup.

Further objects relating to details and economies of my invention will appear from the description to follow. The invention is defined and pointed out in the claims.

A structure embodying the features of the invention is illustrated in the accompanying drawings, wherein:

Fig. 1 is a side elevational view of the saddle of my invention having girth rings associated therewith and rigging and stirrup straps indicated in dotted lines, the view being partially broken away to more clearly illustrate details of construction.

Fig. 2 is a plan view of the saddle.

Fig. 3 is a view of my saddle in central longitudinal section on line 3—3 of Fig. 2, illustrating details of construction thereof.

Fig. 4 is an enlarged fragmentary view in section on the broken line 4—4 of Fig. 1.

Fig. 5 is an enlarged fragmentary view in section on line 5—5 of Figs. 1 and 2.

Fig. 6 is an enlarged fragmentary sectional view on the broken line 6—6 of Fig. 1.

Fig. 7 is a fragmentary view partially broken away and in vertical section, illustrating a detail of construction of the means for pivotally connecting a girth ring to the saddle.

Fig. 8 is an enlarged fragmentary view in section on line 8—8 of Fig. 1, further illustrating the construction whereby a girth ring is secured to the saddle, the parts being illustrated in the position occupied by the same during insertion of the ring.

Fig. 9 is a side elevational view illustrating the saddle in dotted lines and with the rigging and stirrup straps assembled thereon and illustrating my novel provisions for hanging a stirrup on the strap to prevent excessive swinging thereof.

Fig. 10 is an enlarged fragmentary sectional view on line 10—10 of Fig. 11, more clearly illustrating the construction of the stirrup whereby undue swinging and jiggling of the same relative to the stirrup strap is prevented.

Fig. 11 is an enlarged fragmentary view partially in section, still further illustrating the construction of the stirrup, the strap being shown in operative position relative to the stirrup.

This invention relates in general to the provision of a saddle in finished form fabricated of a light but strong metal or other moldable or conformable material and adapted for use without further padding, covering, etc. I am aware that it has been suggested in the past to form saddle trees of wood, metal, and the like. However, these trees have to be built up, padded, covered, etc., before they assume the form of a finished saddle. Therefore, my invention consists broadly in the provision of a saddle suitably conformed so that no further provisions are necessary to render the same capable of use. More specific aspects of my invention have been referred to in the foregoing statements of invention and will be hereinafter further pointed out.

In the drawings, the reference numeral 1 indicates in general the saddle of my invention, which is of substantial thickness from inside to outside and is hollow to reduce the weight thereof and also for other purposes as will later appear. The saddle is molded or formed of a suitable metal or plastic, preferably material characterized by its lightness and strength. In practice, I find the alloy known as Dow metal admirably suited to the purpose. The parts may be made of stampings and secured together. The saddle illustrated is moulded in finished form, being suitably conformed to provide a proper seat 2, cantle 3, pommel body 4, and horn 5, in the case of the western type saddle which I have adopted for purposes of illustration. Appropriate cores are provided to enable the saddle to be made hollow, as illustrated in Figs. 1, 3, 4, 5 and 6, thereby reducing the weight of the finished product and at the same time furnishing various compartments and hollow spaces adapted to be utilized for the purposes hereinafter referred to. Cores are likewise uti-

lized to provide a number of apertures and slots in the metal of the saddle for purposes which will be referred to. After casting, the saddle is subjected to an appropriate pickling bath to impart a desired surface coloration or skin finish thereto and prevent discoloration of the saddle in use.

My invention consists not only in forming the hollow saddle itself of Dow metal or other appropriately light and strong material, but I also contemplate forming the various girth rings, compartment covers, and anchoring plates, to be hereinafter described, of the same type of metal and by similar casting and finishing processes, whereby the appearance of the saddle and fittings therefor will be uniform and the complete outfit will be characterized by uniform characteristics of strength and lightness.

Referring to Figs. 1 to 6, inclusive, it will be observed that the casting forming the saddle carries forward side flanges 6 and a rearwardly extending hollow portion 7, said flanges and rear portion, as well as the portion of the saddle intermediate the same, being conformed on their lower sides to provide a continuous surface 8 adapted to receive a pad 9 of rubber, sponge rubber, and the like, the surface 8 being suitably shaped and of sufficient lateral and longitudinal area to distribute the weight of the saddle and rider well over the animal's back. Similar surfaces 8 and pads 9 are formed and provided on either side of the longitudinal central line of the saddle indicated by the letters A—A in Figs. 4, 5 and 6. These provisions serve to space the middle of the saddle from the animal's back throughout the length of the saddle, as illustrated in Fig. 3. Intermediate the said surfaces and pads, I form a forward central passage 10 underneath pommel body 4 and a rearward central passage 11 beneath the cantle 3 to permit entrance and exit or flow of a draft of air. Likewise, groups of suitable forward vent openings 12 and rear vent openings 13 are formed in the saddle, which openings with passages 10, 11 assure a free circulation of air beneath the saddle to cool the animal's back. Centrally of the saddle and immediately behind horn 5, I provide a hand hole 14 whereby the saddle may be readily grasped for transportation and manipulation.

Referring to Fig. 4, it will be seen that the pommel body 4 is cored to provide relatively large side compartments 15 and the compartments have a number of spaced internal lugs 16 cast integral therewith, the same constituting brackets upon which a suitable article receiving pouch 17 may be supported. Compartment 15 opens to the top of the pommel body 4 and has a cover 18 pivotally mounted thereto at 19. The cover is held in either open or closed position by means of a coil spring 20 anchored at 21 to the saddle and connected to the cover at 22, so that the spring swings past the pivot 19 as the cover is swung from open to closed position or vice versa. The open position is illustrated in dotted lines in Fig. 4 wherein it will be observed that the spring 20 is disposed on the opposite side of pivot point 19 from the position it occupies in closed position of the cover. An ornamental hand piece 23 may be provided as means to manipulate the cover. Corresponding compartments 15 are furnished on either side of the center line of the saddle, see Fig. 2.

The forward flanges 6 each carry an integral extension or elongated lug 24 adapted to support a forward girth ring 25. See Figs. 1, 4, and 7. For this purpose, the extension is provided with an elongated journal 26 having a bearing bushing or insert 27 therein. A vertical slot 28 which is restricted in width relative to the diameter of the bushing communicates with the interior of the ring pivot thus provided. The forward girth or cinch ring 25 has the cross bar 29 rounded in part to furnish an intermediate bearing portion 30 of circular section and of length corresponding to the length of the bushing 27 and extension 24. Likewise, bar 29 which, except for portion 30, is of non-circular section, is ground at 31 to provide a rounded portion 32 communicating with bearing portion 29 so that the girth ring may be inserted by sliding the same lengthwise of extension 24, the ring being held in vertical upwardly extending position for this purpose After such sliding insertion to bring the bearing portions 29, 27 of the ring and extension respectively in longitudinal registry, the ring is swung downwardly through 180° into the operative position illustrated in Fig. 1, with the enlarged shoulders 33 of the ring adjacent bearing portion 29 engaging extension 24 and preventing further relative longitudinal movement.

The foregoing construction, whereby the forward girth ring is pivotally mounted on the saddle, allows the necessary pivotal movement of the said cinch ring yet prevents excessive movement in a longitudinal direction such as would result in chafing or ring sores.

At either side of cantle 3, I provide rear lateral extensions 34 similar to extensions 24 for pivotally mounting the additional or rear girth rings 35 usually found in the western type saddle. These latter rings may, of course, be omitted if desired in saddles of the eastern type. In general, the construction of extension 34 and the bearing surface thereof is similar to that of extension 24, the said bearing surface consisting of a bushing 36 adapted to receive the bearing portion 37 of ring 35 and having similar provisions whereby in operative position the latter is restrained from longitudinal movement, but is permitted to pivot to the extent necessary. Figs. 1 and 8 illustrate the construction referred to, the solid lines in Fig. 8 indicating the ring in its vertically disclosed upwardly extending position for insertion in the vertical restricted slot 38 which corresponds to slot 28 on the forward extension. It will be observed that the cross bar of the rear ring is likewise machined at 39 to allow endwise insertion of the latter in the manner referred to above. The final or operative position of ring 35 is illustrated by dotted lines in Fig. 8.

A suitable girth strap is secured between the rear girth rings 35 in well known manner. The front girth ring 25 has a rounded portion 39 adapted to receive the usual latigo or cinch strap, which portion 39 will be referred to as the latigo portion. Ring 25 is offset to extend rearwardly at portions 41, 42 thereof, which portions are connected by rigging bar 43 around which the rigging or quarter strap is disposed, said strap being shown in dotted lines in Fig. 1 and indicated by the reference numeral 44. The other end of quarter strap 44 is secured within a hollow space 45 of the saddle in a manner to be hereinafter described.

Offset portion 41, it will be observed, extends angularly between rigging bar 43 and latigo portion 39, being slightly bowed or convex between the same. In assembling the stirrup straps relative to the saddle and front girth ring 25, the top and bottom portions of the stirrup strap are

passed, respectively, over and under the offset portion 42 of the ring. Both portions pass over the angular portion 41. This disposition serves to restrain the stirrup strap somewhat yet allows a desired freedom of movement which cannot be obtained in any other manner.

The space 45 referred to above is located beneath and behind cantle 3 (see Fig. 6) and opens to the lower edge of the saddle through an angular opening 46 shown in Figs. 1 and 6, the said opening being relatively small but sufficient in area to receive quarter strap 44. Space 45 communicates with an opening in rear portion 7 closed by cover 47, through which opening access to the strap is had for taking up the same. I employ a suitable buckle 48 adapted to be clamped on quarter strap 44 to secure the same in properly tensioned condition, the said buckle wedging against opening 46 in operative position as illustrated in Fig. 6.

My invention also contemplates novel and improved means for securing the stirrup straps to the saddle and the said means is illustrated to best advantage in Figs. 1, 2, and 5. Reference to Fig. 5 indicates that the saddle is cast to provide a hollow space 49 closed in part by an integral curved strap supporting plate 50, which plate is curved in accordance with the general contour of the saddle adjacent the same, but is, however, offset inwardly of said surface. At opposite ends of the said plate, openings 51, 52 are provided between the plate and the saddle proper to receive the stirrup strap which is designated by the reference numeral 53. Thus, as illustrated in Figs. 1 and 5, the said strap passes over the portion of flange 6 adjacent opening 51, thence upwardly through hollow 49 through opening 52 and around plate 50. In order to complete the exterior outline of the saddle, I provide a finish or anchoring plate 54 which is adapted to be set in the recess resulting from the inward offsetting of plate 50. The latter plate is drilled and threaded and plate 54 is likewise drilled and countersunk to receive screws 55 anchoring the stirrup strap in position. Reference to Fig. 5 indicates that plate 54 is curved and inset to be flush with the rest of the saddle in assembled position, thereby completing the outline of the same so as not to occasion discomfort to the rider.

In Figs. 9, 10, and 11, I illustrate the preferred manner of mounting stirrups 56 on straps 53 whereby to minimize swinging and flapping of the same. For this purpose, I form the cross bar 57 of the stirrup with a lower rounded surface 58 having upwardly extending sides 59 of considerable length gradually tapering inwardly to form a fin 60 which, it will be observed, will engage the strap 53 at either side upon swinging of the stirrup through a few degrees and thereby prevent further swinging of the same. In order to still further maintain the stirrup in a given operative position relative to the strap, I form a pair of lugs 61 integral with the legs 62 of the stirrup and extending inwardly immediately beneath strap 53, thus minimizing vertical play of the stirrup relative to the strap.

From the foregoing, it will be apparent that in general I have provided a saddle which is excessively light in weight. The saddle of my invention weighs approximately eleven pounds, whereas similar finish saddles previously employed weighed many times as much. My saddle may be readily handled by any person and obviously materially reduces the weight carried by the animal. Further, the interior of the saddle is cooled by a constant flow of air through the entire length thereof, with the result that discomfort and chafing of the animal is prevented.

Specific features of my invention reside in the manner of securing the stirrup and quarter straps to the saddle without interrupting the outline thereof so as to cause chafing to the rider; the manner wherein the girth rings are mounted on the saddle for a desired movement, but are otherwise restrained from objectionable longitudinal chafing or swinging movement such as would irritate the animal and cause ring sores; the provision of a saddle having hollow compartments for the storage of articles; and in the provision of a novel and improved mounting for stirrup straps so as to minimize flapping and jiggling of the same.

I have described my saddle as being in finished form and not requiring further padding, covering, etc. However, it will be apparent that in the event a leather covered saddle is desired, nothing in my construction prevents the covering thereof in a suitable manner and in more expensive saddles this may be desirable. However, I desire to emphasize that the primary and broadest object of my invention is the provision of a saddle which does not require padding and/or covering to adapt the same for immediate use.

I have illustrated and described my invention in an embodiment which is very practical. I have not attempted to illustrate or describe other embodiments or adaptations as it is believed this disclosure will enable those skilled in the art to embody or adapt my improvements as may be desired.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A saddle of substantial thickness and hollow in the interior thereof to minimize the weight thereof, said saddle having side portions adapted for engagement with the back of an animal throughout a substantial area to distribute the weight of the saddle and rider, said saddle being formed whereby the middle thereof is spaced substantially above the back of the animal, said saddle having front and rear central passages alined with said middle and groups of front and rear apertures therein to ventilate the interior thereof, said saddle having hollow spaces therein opening to the top thereof and forming compartments, and covers hingedly mounted on the saddle to close said compartments, said hollow spaces having provision for supporting an article receiving member.

2. A saddle of substantial thickness and hollow in the interior thereof to minimize the weight thereof, said saddle having side portions adapted for engagement with the back of an animal throughout a substantial area to distribute the weight of the saddle and rider, said saddle being formed whereby the middle thereof is spaced substantially above the back of the animal, said saddle having front and rear central passages alined with said middle and apertures therein to ventilate the interior thereof, said saddle having hollow spaces therein opening to the top thereof and forming compartments, and covers movably mounted on the saddle to close said compartments.

3. A saddle of substantial thickness and hollow in the interior thereof whereby to minimize the weight thereof, said saddle having provision

to space the middle thereof substantially above the back of the animal, and having a central passage on the lower side thereof and apertures therein to ventilate the same, said saddle having hollow spaces forming compartments therein opening to the top thereof, and covers operatively mounted on the saddle to close said compartments, said hollow spaces having provision for supporting an article receiving member.

4. A saddle of substantial thickness and hollow in the interior thereof whereby to minimize the weight thereof, said saddle having provision to space the middle thereof substantially above the back of the animal, and having a central passage on the lower side thereof and apertures therein to ventilate the same, said saddle having hollow spaces forming compartments therein opening to the top thereof, and covers operatively mounted on the saddle to close said compartments.

5. A saddle of moulded construction conformed to adapt the same for use without covering, said saddle having top and bottom surfaces spaced substantially from one another and being hollow between said surfaces to provide a plurality of spaces, certain of said spaces opening to the exterior of the saddle and having movable covers closing the same, a rigging strap having an end thereof inserted in one of said spaces, said one of said spaces having a restricted opening communicating with the exterior of the saddle to receive said strap, and means for restraining movement of said strap through said restricted opening, comprising an adjustable buckle member engageable with the strap and wedging against said restricted opening.

6. A saddle of molded construction conformed to adapt the same for use without covering, said saddle having top and bottom surfaces spaced substantially from one another and being hollow between said surfaces to provide interior spaces, a rigging strap having an end thereof inserted in one of said spaces, said one of said spaces having an opening communicating with the exterior of the saddle and receiving said strap, and means for restraining movement of said strap through said opening.

7. A saddle hollow throughout, said saddle being conformed in certain of the hollows thereof to provide compartments, covers for closing said compartments, and means for securing stirrup straps to the saddle, comprising a plate integral with the saddle and inset relative thereto, said plate being spaced at its ends from the rest of the saddle to permit the strap to be disposed about the plate, and an anchoring plate removably secured to said first named plate, said anchoring plate being curved to conform to the exterior outline of the saddle and being inset relative to the saddle so as to be flush with the surface thereof.

8. In combination, a saddle of moulded construction, said saddle being of substantially thick construction and hollow throughout, and means for securing stirrup straps to the saddle, comprising a plate integral with the saddle and inset relative to the surface thereof, said plate having spaces at its ends to permit the strap to be disposed about the plate, and an external anchoring plate engaging the strap and removably secured to said first named plate, said anchoring plate being curved to conform to the exterior outline of the saddle and being inset relative to the saddle so as to be flush with the surface thereof.

9. In combination, a saddle, and means for securing stirrup straps to the saddle, comprising a plate inset relative to the surface of the saddle, said plate having spaces at its ends to permit the strap to be disposed about the plate, and an external anchoring plate engaging the strap and removably secured to said first named plate, said anchoring plate being curved to conform to the exterior outline of the saddle and being inset relative to the saddle so as to be flush with the surface thereof.

10. A saddle of moulded construction, said saddle being hollow throughout substantially the entirety thereof, girth rings, and means for pivotally securing said girth rings to the saddle comprising elongated extensions integral with the saddle having pivotal bearing surfaces, said extensions having restricted slots communicating with said bearing surfaces, and bearing portions on said rings of length similar to the length of the extension bearing surfaces, said rings being rounded adjacent the bearing surfaces thereon to permit endwise sliding insertion of the rings in the extensions, said extensions upon swinging of the rings relative thereto preventing longitudinal movement of the rings.

11. A saddle of moulded construction, girth rings, and means for securing said girth rings to the saddle comprising lugs on the saddle having pivotal bearing surfaces, said lugs having restricted slots communicating with said bearing surfaces, and bearing portions on said rings of length similar to the length of said bearing surfaces and adapted to engage the same, said rings being rounded adjacent the bearing surfaces thereon to permit endwise sliding insertion of the rings in the lugs, said lugs upon swinging of the rings relative thereto preventing longitudinal movement of the rings.

12. In a saddle of the type described, girth rings for the saddle, and means for mounting said rings on the saddle for pivotal movement, said means preventing excessive movement of the rings other than said pivotal movement, said means comprising elongated extensions integral with the saddle and having rounded interior bearing surfaces, said extensions having elongated slots of restricted width parallel with the length thereof and communicating with said surfaces, said rings having a rounded bearing portion of length corresponding to the length of the extensions and shoulder portions adjacent said rounded bearing portion, one of said shoulder portions being rounded in part whereby to permit endwise sliding insertion of the ring in the bearing surface of the extension, said partially rounded portion of the ring permitting such insertion and said shoulders preventing undue movement of the ring in mounted position.

13. A saddle of moulded construction having side extensions integral therewith for the reception of girth rings, said extensions having bearing surfaces and the rings having rounded portions to engage said surfaces for pivotal support of the rings, said rings having a rearwardly extending rigging bar, a rounded latigo portion, and an angular portion integral with and connecting said rigging bar and latigo portion, said angular portion extending upwardly and rearwardly of the ring in operative position thereof.

14. A saddle having side extensions for the reception of girth rings, said extensions having bearing surfaces and the rings having rounded portions to engage said surfaces for pivotal support of the rings, said rings each having a rearwardly extending rigging bar, a rounded latigo portion, and an angular portion integral with and

connecting said rigging bar and latigo portion, said angular portion extending upwardly and rearwardly of the ring in operative position thereof.

15. A girth ring adapted to be connected with a saddle to control movement of a stirrup strap, comprising a rounded portion on the ring adapted to pivotally engage the saddle, a rearwardly extending rigging bar, a rounded latigo portion, and an angular portion integral with and connecting said rigging bar and latigo portion, said angular portion extending upwardly and rearwardly of the ring in operative position thereof.

16. A saddle of cast metal, said saddle being of substantial thickness and hollow in the interior thereof to minimize the weight thereof, said saddle having side portions adapted for engagement with the back of an animal throughout a substantial area to distribute the weight of the saddle and rider, said saddle having hollow spaces therein opening to the top thereof and forming compartments, and covers movably mounted on the saddle to close said compartments.

17. A metal saddle having a smooth seat conformed for use without covering said saddle having a recess in the upper surface thereof adjacent said seat adapted to receive a stirrup strap to secure the latter to the saddle and a plate fitting said recess and engaging the strap to hold the same in position, the surface of said plate being flush with the surface of the saddle to preserve the smooth exterior of the latter.

18. A metal saddle having a recess in the upper surface thereof adapted to receive a stirrup strap to secure the latter to the saddle and a plate fitting said recess and engaging the strap to hold the same in position, the surface of said plate being flush with the surface of the saddle.

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