No. 627,461. Patented June 20, 1899.

C. F. HOLLENBECK.

SADDLE CLIP.

(No Model.) (Application filed Apr. 19, 1897.)

FIG. 1.

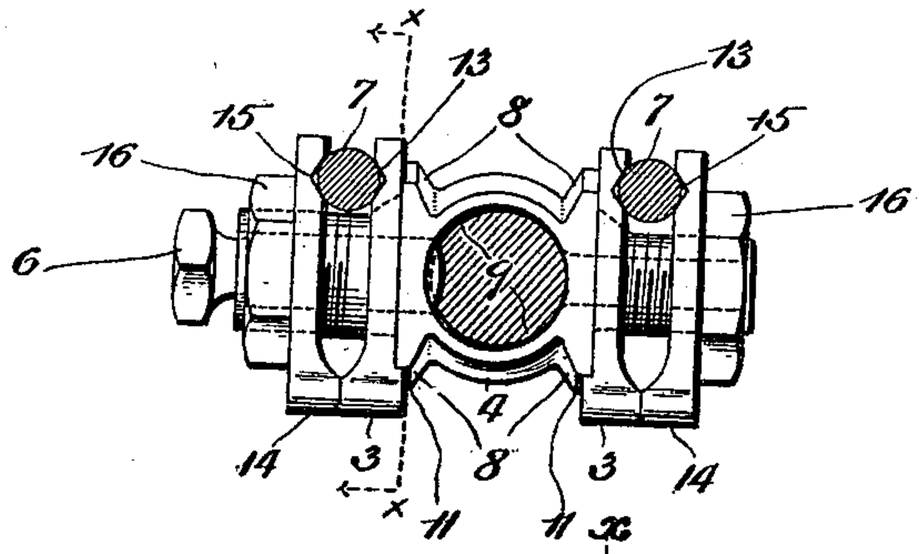


FIG. 3.

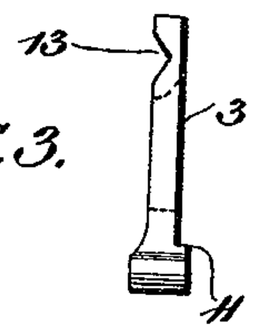


FIG. 2.

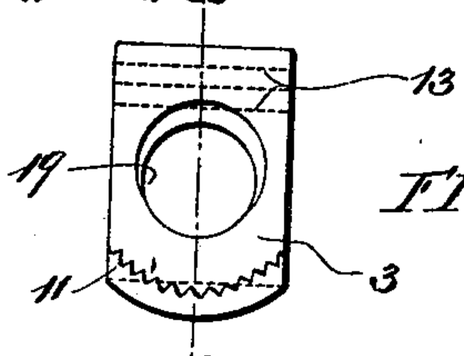


FIG. 4.

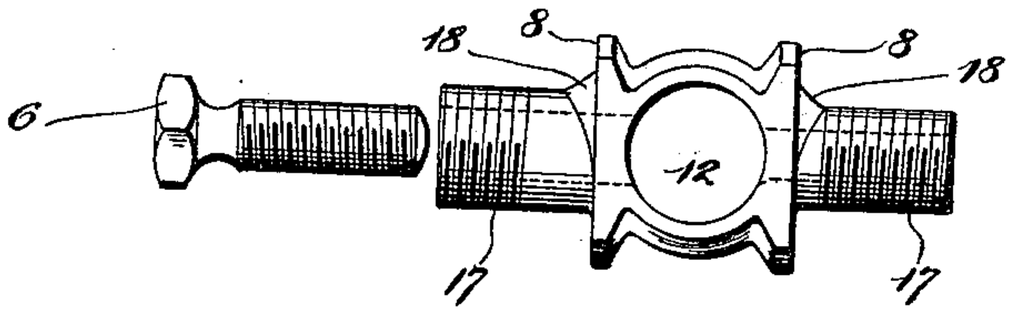
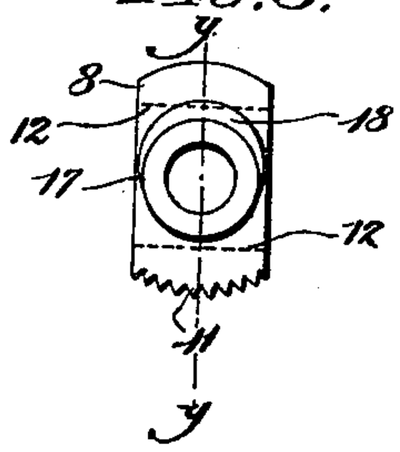


FIG. 5.



WITNESSES:

Wm. Stokes Adams

C. F. Grace

INVENTOR

Charles F. Hollenbeck

by Wm Edwards atty

UNITED STATES PATENT OFFICE.

CHARLES F. HOLLENBECK, OF SYRACUSE, NEW YORK.

SADDLE-CLIP.

SPECIFICATION forming part of Letters Patent No. 627,461, dated June 20, 1899.

Application filed April 19, 1897. Serial No. 632,804. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. HOLLENBECK, a citizen of the United States, residing at Syracuse, in the county of Onondaga and State of New York, have invented a new and useful Saddle-Clip, of which the following is a specification.

My invention relates to saddle-fastening devices; and among the objects of my invention are, in providing means of securing the saddle or seat to the seat post or frame of a vehicle, to provide a device which shall be strong and simple in its construction and which shall be readily adjusted to hold securely the seat at any required inclination and which shall permit of having the seat at the least possible distance from the top of the frame of the vehicle.

In the accompanying drawings, Figure 1 is a front view of my device, showing the horizontal member of the seat-post and the seat-springs in cross-section. Fig. 2 is a plan view of one of the clamp-plates. Fig. 3 is a side view of same. Fig. 4 is a front view of the body or yoke of the clip, with the other parts removed. Fig. 5 is an end view of the same.

In Fig. 1 the seat-springs are shown in cross-section at 7 and the seat-post in cross-section at 9. The clamp-plates 3, provided with the apertures 19 in Fig. 2, are adapted to slip over the threaded arms of yoke 4 and press against shoulders 8 of same. These plates 3 are provided with lips 11, curved and serrated upon their inner or concave sides in the arc of a circle approximately corresponding with the convex serrated edges of the lower shoulders 8 of the yoke and adapted to adjustably engage therewith. The other sides of the lower edge of plates 3 are also projecting and adapted to engage with the similar projecting edges of plates 14. The same sides of the upper portion of plates 3 are provided with channels or grooves 13. The plates 14 have projecting lower edges to engage with said projecting lower edges of plates 3 and at the upper part channels or grooves 15, corresponding with and facing grooves 13 and adapted to coöperate therewith to embrace and securely hold the portions 7 of the saddle-spring upon pressure exerted by clamping the said plates together against shoulders 8 by the operation of nuts 16. The set-screw 6 serves to clamp the complete device to the seat-post 9 or frame of the vehicle. I may also provide the yoke with semicircular bevels 18 at the juncture of the upper part of the arms 17 and shoulders 8, these bevels being adapted to engage with the beveled margins of the apertures 19 of plates 3 to cause a closer and more effectual engagement of the serrated lips 11 with the serrated shoulders 8.

The serrations on lips 11 of plates 3 are arranged in a curved line or arc of a circle approximately the same or a trifle larger than the arc of a circle in which are arranged serrations of the lower shoulders 8, so that the serrations of the plates 3 are adapted to engage with those of shoulders 8 with equal efficiency at various relative positions—that is to say, in Fig. 5 the opening through which passes the cross-piece or horizontal member of the seat-post is indicated by dotted lines 12. In Fig. 2 the dotted lines 13 represent the groove 13 in plate 3. Assuming that the spring-wires of the seat at the point of their engagement with the clip are parallel with the plane of the seat and the serrations of plates 3 are placed in engagement with the serrations of shoulders 8, so that the line $x\,x$ in Fig. 2 will coincide with the line $y\,y$ of Fig. 5, then the seat will be held in a horizontal position, or the plates 3 may be turned before being brought into engagement with shoulders 8, so that the line $x\,x$ of Fig. 2 may be at any required angle with the line $y\,y$ of Fig. 5 to procure any required inclination of the seat.

The distance on line $x\,x$ of Fig. 2 between the serrations on lip 11 and the upper edge of aperture 19 should only exceed the distance on line $y\,y$ of Fig. 5 between the serrations on shoulder 8 and the upper side of arm 17 sufficiently to permit the serrated lip to slide closely over and engage with the serrated shoulder. It is obvious that the said serrations will in such case be held in close engagement with each other—that is, the vertical or downward movement of plate 3 necessary for the disengagement of the serrations of the lip from the serrations of the shoulder is prevented by the engagement of said upper edge of aperture 19 against arm 17, or the lines of force which maintain the engagement of the serrations will be at right angles with the lines of force

which hold the plates in place. It will thus be seen that as long as the serrated lip overlaps the serrated shoulder the engagement of the serrations is absolute and unvarying and does not depend upon any pressure, such as is exerted by the nut 16. The nut serves to prevent the lateral withdrawal of the serrated lip from the serrated shoulder.

In all similar devices employing serrated faces between the plate and yoke to prevent rotary movement after adjustment which have come to my attention the lines of force securing said engagement are identical or parallel with the lines of force exerted by the nuts, and the efficient engagement of such serrated surfaces is dependent entirely upon the efficiency of the pressure of the nut. While the force or resistance which maintains the engagement of the serrations of lip 11 with the serrations of shoulder 8 or which prevents their radial separation is approximately at right angles with and practically independent of the force exerted by the means employed to prevent their lateral separation, the work required of such means is reduced and the efficiency of the complete device increased. I consider this an essential feature of my invention.

The advantages due to the present construction are quite marked. In a construction wherein the parts are held together by engagement in a lateral direction only the tendency of the parts to separate as soon as the pressure which maintains their close engagement is in any way relieved is well known. This is not the case in the present construction, where the direction of the engaging teeth or serrations is radial with respect to the transverse axis of the yoke as distinguished from a mere lateral direction of engagement. Furthermore, in the present construction when the weight of the rider is by a sudden jolt brought to bear upon the forward or the rear portion of the saddle the tendency is to draw the toothed or serrated faces, or certain portions thereof, into closer engagement, particularly if the aperture 19 be large enough to permit a slight degree of vertical play of the clamp member, thus checking at the outset the tendency of the said parts to slip upon each other by reason of such jolt.

By the term "transverse axis of the yoke" as above used and as used in the claims I refer to the axis thereof which is transverse with respect to the saddle.

It is only in case the aperture 19 is considerably larger than the arm 17 that it may be convenient to employ semicircular bevels 18 to insure the efficient engagement of the lip with the shoulder. It will be noted that in this case, however, the force which maintains the close engagement of the serrated lip with the shoulder is partly shifted to the nuts, which in most instances I consider an objectionable feature, and therefore prefer usually to rely upon a close fit of the serrated lip upon the serrated shoulder, as first above described.

I do not wish to be confined to the specific form of device shown and described, but may vary the same without departing from the spirit of my invention. For instance, I may dispense with the plates 14, having the seat-spring secured between the plate 3 and the shoulder 8, retaining the same arrangement of the serrated lip and shoulder.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a saddle-clip, the combination with a yoke having segmental shoulders formed with peripheral teeth or serrations thereon which extend in a direction radial with respect to the transverse axis of said yoke, of clamp members having segmental toothed or serrated lips thereon whose teeth or serrations are adapted to engage those of the said shoulders, the said teeth or serrations of the yoke and clamp member being on arcs of concentric circles, those of the yoke being on the inner arc, and means for preventing the separation of said members, substantially as specified.

2. In a saddle-clip, the combination with a yoke having convex end shoulders peripherally toothed or serrated, and laterally-extended threaded arms, of nuts engaging said arms, and clamp members or plates movable upon the said arms intermediate of the said shoulders and nuts and having concave lips concentric with the said end shoulders, said lips having at their inner edges teeth or serrations adapted to extend into engagement with those of the said shoulders in a direction radial with respect to the transverse axis of the yoke, substantially as specified.

3. In a saddle-clip the combination of a yoke with convex serrated shoulders and threaded arms with semicircular bevels at the juncture of the shoulders and arms, nuts operative on the threaded arms and plates movable on the arms intermediate the shoulders and nuts adapted to engage the saddle-springs and having concave serrated lips adapted to overlap and adjustably engage the serrated shoulders, and having beveled apertures adapted to coöperate with the semicircular bevels on the arms as means of insuring efficient engagement of said lips and shoulders, substantially as described.

CHAS. F. HOLLENBECK.

Witnesses:
FRANK A. HOLLENBECK,
F. M. PRATT.