No. 683,793. Patented Oct. 1, 1901.

E. & H. T. PHILLIPS.

MANUFACTURE OF CYCLE SADDLE CLIPS.

(Application filed Sept. 5, 1900.)

(No Model.)

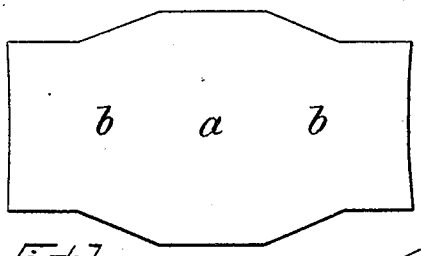


Fig. 1.

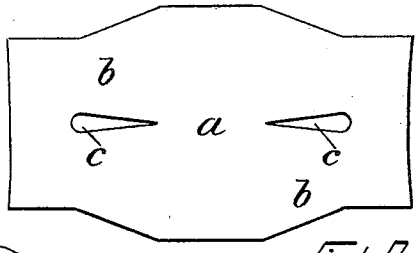


Fig. 2.

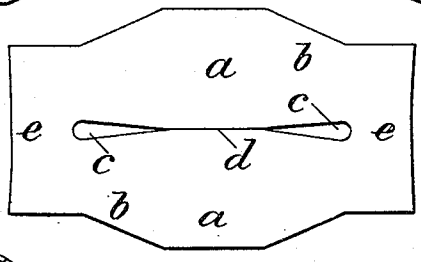


Fig. 3.

Fig. 4.

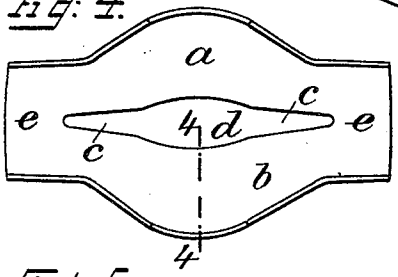


Fig. 4a.

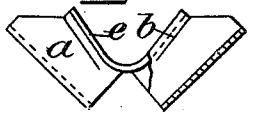


Fig. 5.

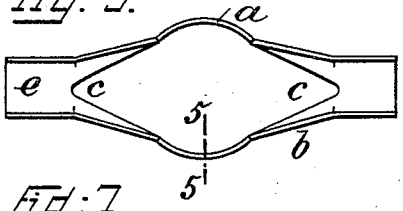


Fig. 5a.

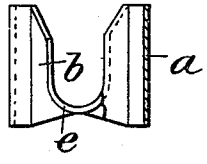


Fig. 7.

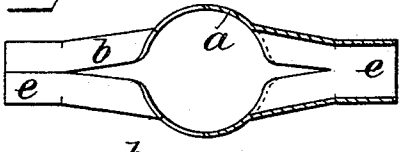


Fig. 6.

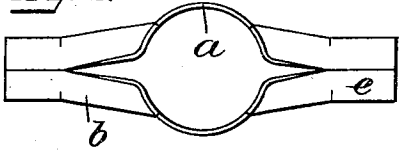
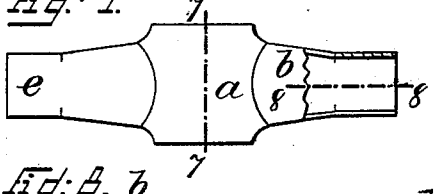


Fig. 7b.



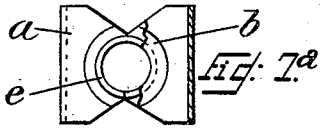
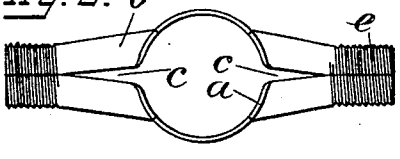


Fig. 7a.

Fig. 8.



Witnesses:
J. C. Lebret.
A. Witt.

Inventors:
Ephraim Phillips,
Edward T. Phillips.
By H. A. de Bras.
Attorney.

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UNITED STATES PATENT OFFICE.

EPHRAIM PHILLIPS AND HOWARD THOMAS PHILLIPS, OF BIRMINGHAM, ENGLAND, ASSIGNORS TO TOMCOX, LIMITED, OF LONDON, ENGLAND.

MANUFACTURE OF CYCLE-SADDLE CLIPS.

SPECIFICATION forming part of Letters Patent No. 683,793, dated October 1, 1901.

Application filed September 5, 1900. Serial No. 29,047. (No model.)

To all whom it may concern:

Be it known that we, EPHRAIM PHILLIPS and HOWARD THOMAS PHILLIPS, subjects of the Queen of Great Britain and Ireland, and residents of Birmingham, England, have invented certain new and useful Improvements in the Manufacture of Cycle-Saddle Clips, (for which we filed an application for British Letters Patent, No. 7,237, dated April 19, 1900;) and we do hereby declare the following to be a full, clear, and exact description of the same.

This invention relates to improvements in saddle-clips for cycles and other vehicles and in the method or process of making the same.

The purport of the invention is to provide a saddle-clip body having a central tubular eye to fit upon the saddle-pillar and two lateral tubular coned trunnions with cylindrical screw-threaded outer ends to receive clamping-washers and nuts, by which latter the washers are forced up the cones and are caused to grasp the saddle-frame and to cause the clip-body to grip the saddle-pillar made integral or in one piece shaped from sheet metal.

A saddle-clip body made according to this invention has the central eye part and adjacent coned trunnion parts so made as to more readily accommodate themselves to and to more efficiently grip saddle-pillars of different sizes than will the eye part of ordinary saddle-clip bodies made solid whether in one piece turned and bored from solid rods or in separable parts and, as regards clips of the latter formation, as to avoid the trouble incidental to locating and preventing the falling of the loose parts when the nuts are being adjusted and has the lateral trunnion parts so made as to avoid the weight of the like parts of saddle-clips made solid and as to avoid the trouble incidental to threading the nuts on the trunnion ends of saddle-clips made tubular in separable parts.

The improved method of construction also greatly cheapens the cost of making the clip-bodies, enabling the same to be produced much more rapidly and economically than trunnioned clips of ordinary formation and sufficiently accurate to be interchangeable, while also producing a clip-body of very light weight and much more general in its application to saddle-pillars of different sizes and more efficient in its operation owing to its spring-like grasp than trunnioned clips of ordinary formation.

The improved method is characterized by producing the said improved saddle-clip bodies integral or in one piece and of a tubular formation throughout by pressing or shaping the same from sheet metal, as hereinafter more fully described with reference to the accompanying drawings, in which—

Figures 1 to 8 are plan views representing the successive steps of the method of manufacturing the clip-body part. Figs. 4^a, 5^a, and 7^a are end views, partly in section, on the lines 4 4, 5 5, and 7 7 of Figs. 4, 5, and 7^b, respectively; and Fig. 7 is partly in section on the line 8 8, Fig. 7^b. Fig. 7^b is a plan view, partly in section, at right angles to Fig. 7.

According to the improved process a sheet-steel or other suitable ductile sheet-metal blank, Fig. 1, shaped somewhat like the required clip, but about double the width of the same at that part *a* which is to form the central tubular eye and also at those parts *b* which are to form the trunnions, is first stamped out. This blank is then pierced with two apertures *c*, Fig. 2, which are next joined by a slit *d*, Fig. 3, such apertures and slit forming a central longitudinal opening extending across that part of the blank which is to form the central eye and about to the commencement of those parts *e* of the trunnions which in the finished clip are cylindrical and screw-threaded. The thus-slit blank is then partly raised, Figs. 4 and 4^a, by suitable dies in a stamp or press, so as to partly open the slit *c d* and to partly form the central eye and side trunnions and is then further raised, Figs. 5 and 5^a, so as to form the central eye sectoral in cross-section and approximately of the proper size to fit on the saddle-pillar, Fig. 5, and the projecting side portions *b e* trough-shaped, Fig. 5^a, with one side open. The edges of the open side of the projecting side parts *b e* are then folded against each other, Fig. 6, so as to form the trunnions approximately of the proper size. The clip is then finished in suitable dies while supported by an inner mandrel or man-

drels, being reduced to the required shape and size, Figs. 7, 7ª, and 7ᵇ, after which it is planished and its cylindrical parts *e* screw-threaded, Fig. 8, when it is ready for use.

What we claim as our invention, and desire to secure by Letters Patent, is—

The hereinbefore-described process of making cycle saddle-clip bodies having a central tubular eye and two lateral tubular-coned trunnions with cylindrical screw-threaded ends integral therewith, which consists in first forming from sheet metal a blank shaped somewhat like the required clip-body and of about double the width, second, piercing such blank with two apertures in the location and centrally of the width of the coned parts, third, uniting such apertures by a slit, fourth, raising and folding the side parts of such blank so as to open the slit to the diameter of the central eye and to form the eye and to form the coned and cylindrical-ended trunnions, and fifth externally screw-threading the cylindrical trunnion ends, as set forth.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

EPHRAIM PHILLIPS.
HOWARD THOMAS PHILLIPS.

Witnesses:
BERNARD HENRY BIRCH,
WILLIAM HENRY BUTLERS.