H. UPDEGRAFF & D. B. COMLY.

Stirrup.

No. 219,608. Patented Sept. 16, 1879.

Fig. 1.

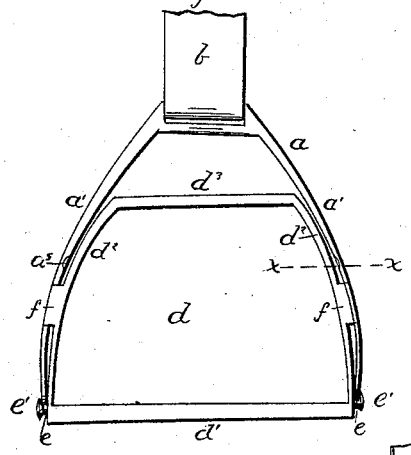



Fig. 2.

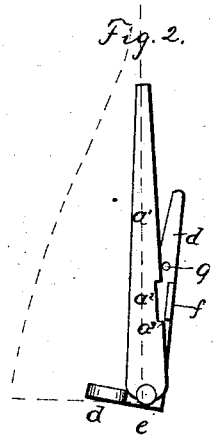



Fig. 3.

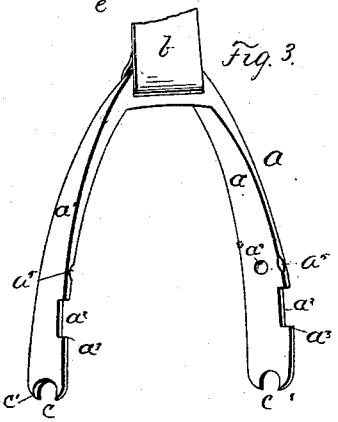
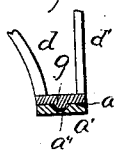



Fig. 4.




WITNESSES

J. B. Holderly

F. D. Thomason

INVENTOR

Horace Updegraff

David B. Comly

By R. S. & A. P. Lacey ATTORNEYS.

# UNITED STATES PATENT OFFICE.

HORACE UPDEGRAFF, OF SMITHFIELD, AND DAVID B. COMLY, OF ADENA, OHIO.

## IMPROVEMENT IN STIRRUPS.

Specification forming part of Letters Patent No. **219,608**, dated September 16, 1879; application filed July 3, 1879.

*To all whom it may concern:*

Be it known that we, HORACE UPDEGRAFF, of Smithfield, and DAVID B. COMLY, of Adena, both in the county of Jefferson and State of Ohio, have invented certain new and useful Improvements in Stirrups; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention has for its object to furnish a safety-stirrup in which it will be impossible for the rider's foot to get fastened and hung when thrown from the saddle.

It consists in having a stirrup composed of a frame or yoke adapted to be attached to the saddle-strap, and of a loop for the foot, the said yoke and loop being constructed and held together by projections and studs, so that the said loop will be detached from the yoke and remain on the foot of the rider if the latter should be thrown from the saddle, all of which will be hereinafter fully explained.

In the drawings, Figure 1 is a front elevation of a complete stirrup or foot-support for a saddle constructed according to our invention. Fig. 2 is a side or edge elevation, showing the inner loop or stirrup detached from its fastening. Fig. 3 is a perspective view of the outer frame. Fig. 4 is a cross-section on line *x x* of Fig. 1.

*a* is the outer frame, made of any suitable material, and in the form of the bow or arch of the ordinary stirrup, having the usual loop by which it is attached to the stirrup-strap *b*.

The arms $a^1$ $a^1$ of the arch *a* have formed in their edges the notches $a^2$ $a^2$, so as to provide a square shoulder, $a^3$, and in their inner faces, slightly above the line of said notches, the small recesses $a^4$ and the inclined or beveled surfaces $a^5$, which form an inclined track from the edges into said recesses. In the lower ends of the arms $a^1$ there are formed the notches *c* and the outer beveled surfaces *c'*.

*d* is the loop for holding the foot. It has the general form of the ordinary stirrup without a slot for attaching it to the stirrup-strap. It has the foot-rest $d^1$ and the side arms or bars $d^2$, which have their upper ends connected by a cross-bar, $d^3$, the whole forming a substantial frame or loop, which fits neatly between the arms $a^1$ $a^1$ of the frame *a*.

The loop *d* is by preference constructed so that the cross-bar $d^3$ will be near to the upper side of the foot when the latter is placed in the stirrup. This is done as an additional security, though the device would work about as well if the said bar were not employed and the side arms $d^2$ $d^2$ extended up and united at the top of the frame *a*.

On the outer edges and at the lower ends of the side arms *d* are fixed the pins *e*, having heads *e'*, rounded or enlarged on their inner sides, so that they will fit snugly in the recesses *c* and beveled surfaces *c'*.

On the edges of the loop *d* there are also formed the projections *f f*, which are arranged and adapted to enter the notches $a^2$ $a^2$ and be held firmly in place by the shoulders $a^3$. The loop *d* is also provided with small retaining-pins *g*, which enter the recesses $a^4$. The pins *g* and recesses $a^4$ are provided as additional securities; but for all ordinary use the shoulders $a^3$ and projections *f* will hold the loop *d* firmly in place.

The frame *a* and loop *d* are put together as shown in Figs. 1 and 2. The projections *f* are pressed into the notches $a^2$, and the pins *g* into the recesses $a^4$, with the notches *c* resting on the pins *e* and held by the heads *e'* from spreading. The two parts being thus locked together, it will be readily seen that the inner loop, *d*, cannot be taken out of the frame *a* except by a rear force exerted in a line at right angles to the arms $a^1$, so as to force the projections *f* off the shoulders $a^3$.

The inner arms, $d^2$ $d^2$, of the loop *d* are of the same transverse width as the arms $a^1$ of the yoke or frame *a*, so that the boot of the rider, when in the stirrup, cannot come in contact with any part of said yoke. If the rider be thrown from the saddle, his foot, if it hangs in the stirrup, will be held fast either between the side bars $d^2$ $d^2$ or between the bars $d^1$ $d^3$, or by all the bars together. In any case the friction or binding force by which the foot is held will cause the weight of the rider to wrench

the loop $d$ from its fastenings in the yoke, and the rider will be released from the saddle, the loop $d$ remaining on the foot.

It will be readily seen that it is immaterial in what manner or in what position the foot is fastened in the stirrup, the loop $d$ will be detached if the rider be thrown or otherwise improperly displaced from the saddle.

The foot is inserted into the stirrup on the side on which the recesses $a^2$ and projections $f$ are formed. An attempt to mount the horse with the foot inserted from the opposite side would force the loop $d$ out of the frame $a$. Any ordinary movement in mounting or dismounting, or while riding, does not affect the position of the loop $d$, which is held and remains as firmly in place as though it were a part of the frame $a$. The pins $g$ and recesses $a^4$ give additional security, but ordinarily their use is not necessary. In placing the loop $d$ in the frame $a$ the arms $a^1$ $a^1$ will yield or spring apart sufficiently to permit the pins $g$ to pass into the recesses $a^4$.

Instead of recesses $a^2$, formed to provide the shoulders $a^3$, the latter may be formed as projections on the edge of the frame $a$, and the projections $f$ being arranged to correspond so that they will catch over the said shoulders; but we prefer to construct the device as shown in the drawings, as a neater finish can be given to the stirrups.

If desired, to prevent the putting of the foot into the stirrup from the wrong side, the ordinary hood or cover may be suspended from the strap $b$ down to the foot-bar $d^1$, as indicated in dotted lines in Fig. 2.

When the open notches $c$, with their surrounding bevels $c'$, are placed on the pins $e$ the heads of the latter fit snugly into the bevels $c'$, the arms $a^1$ will be prevented from spreading, and in case the loop $d$ becomes first detached on one side and turns edgewise out of the frame $a$ the bevels $c'$ will permit this edgewise movement without binding or injury to either part, or without affecting the ready separation of the loop from the frame.

We are aware of the patents granted to L. R. Jones, dated May 20, 1873, and Joseph B. Waggoner, May 11, 1875, stirrups, and therefore do not claim what is contained therein; but

What we do claim is—

1. A stirrup composed of a frame or yoke adapted to be attached to the saddle-strap, and of a loop for the foot, the said yoke and loop being constructed as described, and held together by projections and studs $a^5$ and $e'$, so that the said loop will be detached from the yoke and remain on the foot of the rider if the latter should be thrown from the saddle, substantially as set forth.

2. The combination, with the frame $a$, having shoulders $a^3$ and notches $c$, arranged as described, of the loop $d$, provided with projections $f$ and pins $e$, substantially as and for the purpose set forth.

3. In a safety-stirrup the combination, with the frame $a$, constructed as described, and provided with recesses $a^4$ and cam-surfaces $a^5$, leading into said recesses, of the detachable loop $d$, constructed as described, and having the pins or projections $g$, adapted to slide into the recesses $a^4$ and provide an additional safety-support for the stirrup, substantially as set forth.

4. The combination, with the frame $a$, constructed with the open notches or recesses $c$ in the lower ends of its arms $a^1$ $a^1$, and having the beveled edges $c'$ surrounding said notches, of the detachable loop $d$, provided with pins $e$, having heads $e'$, enlarged or rounded on their inner sides, and adapted to fit snugly in the notches $c$ and bevels $c'$, substantially as and for the purpose set forth.

In testimony that we claim the foregoing as our own we affix our signatures in presence of two witnesses.

HORACE UPDEGRAFF.
DAVID B. COMLY.

Witnesses:
JOHN WHITE,
JEHU YOUNG.