

R. N. Eagle,
Riding Stirrup,

No 37,158,

Patented Dec. 16, 1862.

Fig. 4.

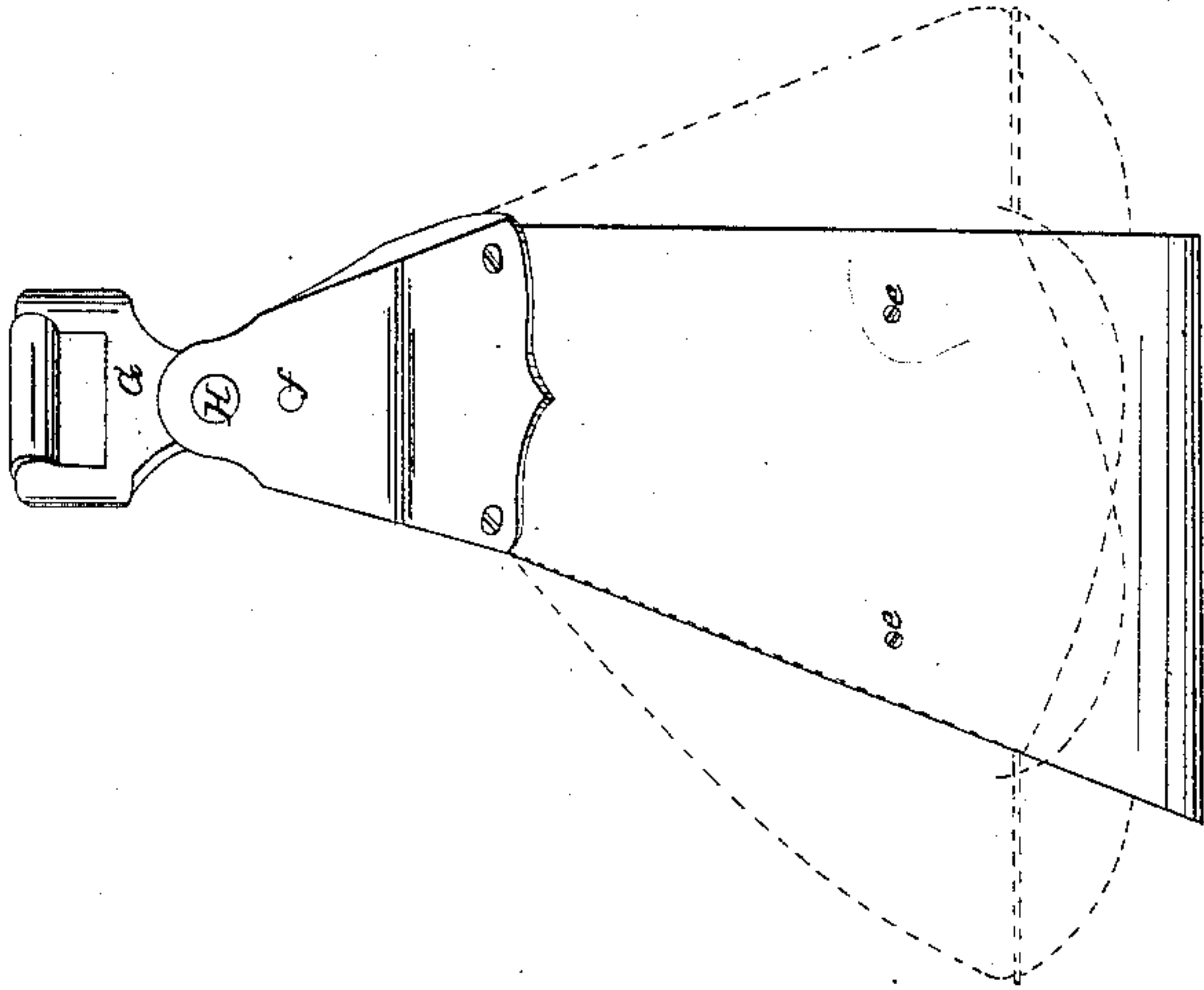


Fig. 3.

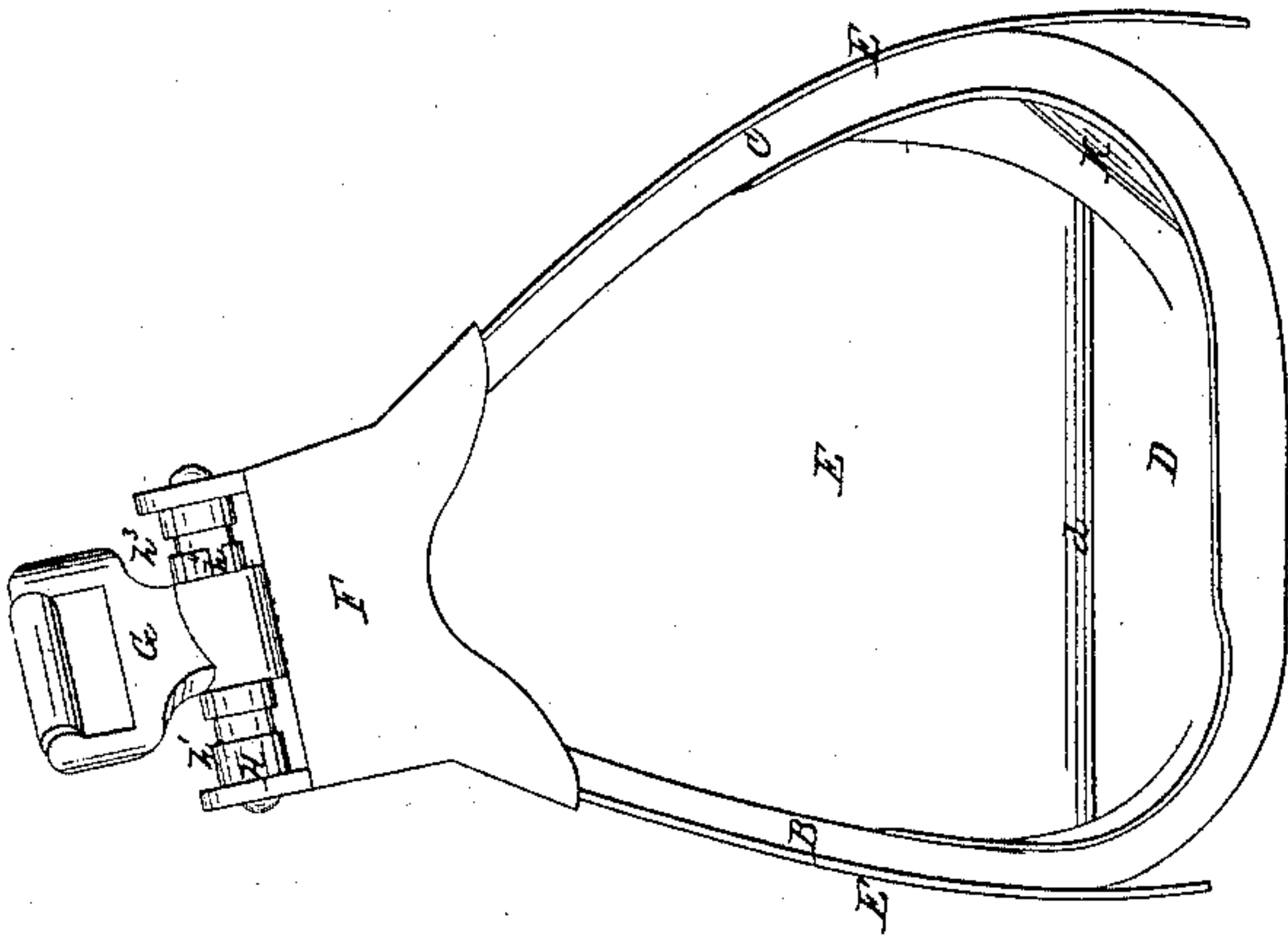
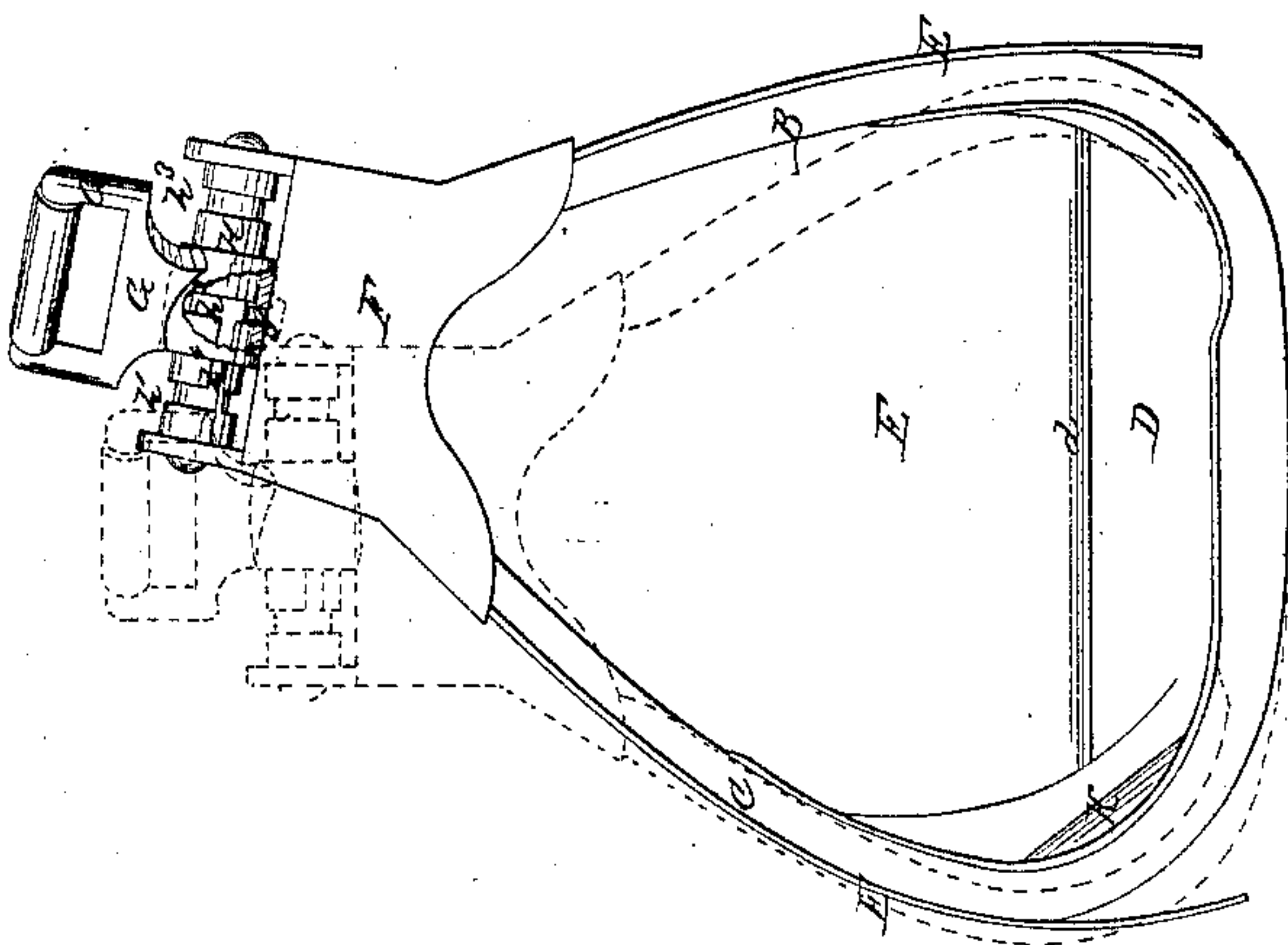


Fig. 2.



Witnesses.
O. W. Wright
A. H. Smith

Inventor.

R. N. Eagle

UNITED STATES PATENT OFFICE.

ROBERT NELSON EAGLE, OF NEW YORK, N. Y.

IMPROVEMENT IN RIDING-STIRRUPS.

Specification forming part of Letters Patent No. 37,158, dated December 16, 1862.

To all whom it may concern:

Be it known that I, ROBERT NELSON EAGLE, of the city, county, and State of New York, have invented certain new and useful Improvements in Riding-Stirrups and their covers; and I do hereby declare the following to be a clear and exact description of the same, reference being had to the accompanying drawings making part of this specification, in which—

Figure 1 is a perspective view of my improved stirrup. Figs. 2 and 3 are rear elevations thereof, illustrating it in three different forms. Fig. 4 is a side elevation of the same, illustrating it in two different forms. Fig. 5 is a side elevation of a modification of the same. Fig. 6 is a rear elevation of a modification of the same.

Similar letters of reference indicate corresponding parts in the several figures.

My present invention relates to certain improvements in riding-stirrups, the body of which I propose to construct of wood or other analogous material, and the cover of leather, pelt, or their equivalent.

The invention consists, First, in so constructing and suspending a stirrup that the tread may assume any inclination desired in a longitudinal, lateral, or oblique direction, as will be hereinafter more fully described; second, in providing a stirrup, made of wood or equivalent material, with a metal cap to connect and secure the ends together, as well as to confine the upper part of the cover (when one is used) and to form a suitable attachment for the strap by which the stirrup is suspended; third, in an improved construction of cover, hereinafter described; fourth, in the combination of pelt or rawhide with the body of a stirrup, whereby not only greater strength and durability are given, but other important advantages are attained; fifth, in the arrangement of my improved suspending-bar, as hereinafter described; sixth, in an adjustable suspension applied to a stirrup or its cap, as hereinafter described; seventh, in the peculiar construction of the body of a stirrup by which in practice the tread is caused to incline from a horizontal line either to the front or to the rear, as hereinafter described.

To enable others skilled in the art to fully understand, make, and use my invention, I

will proceed to describe the same more fully and explain the manner of carrying it into effect.

In the drawings, the body of the stirrup consists of a single piece of wood so bent as to form a bow resembling in its general outline an ordinary stirrup with the tread A and sides or arms B C inclined at any desired angle in relation to each other, as will presently be more fully explained.

The cover is formed of two pieces of leather, namely: First, sole D, placed within the stirrup, completely covering the tread A, and extending some distance up the sides; secondly, an upper piece, E, stitched or otherwise attached in front to the sole, as shown at d, which completely covers the outsides of the arms and front of the stirrup. The front of the cover, at the junction of the sole and upper, has a convex form in a horizontal direction, as shown in red, in Fig. 4.

e e are rivets passing through the sides or arms and both thicknesses of leather, to secure the latter in place.

The sole D may also be placed and secured under the tread.

F is a cap or its equivalent, which may be made of either wrought, cast, or sheet metal, so formed and applied as to connect the upper ends of the sides or arms B C and to confine the top of the cover E, for which latter purpose the cap may be formed convexly in front, as shown at f', to admit of its fitting over the said cover and imparting a correct form thereto.

f is the bolt, which passes through the ends of the arms, and secures the upper part of the cap to the wooden frame.

f' f' are rivets securing the lower ends of the cap and upper portion of the cover to the body of the stirrup.

G is an eye or loop attached to the cap F, or its equivalent, by means of a shaft or axle, H, which shaft or bar may be placed in a horizontal line longitudinally with the tread of the stirrup, or laterally or obliquely to said longitudinal or lateral lines.

This arrangement or manner of constructing the suspension device will give to the tread any proper inclination, for the purposes hereinafter mentioned.

K is a knob projecting inward from the

angle or concavity formed by the junction of the tread and outer arm and near the rear edge of the latter.

When the tread is inclined inward and upward to any great degree, the said knob forms a bearing for the sole of the boot, and prevents undue pressure upon the little toe and outer side of the foot.

The drawings illustrate different ways of carrying my invention into effect.

In the type given in Figs. 1, 2, and 3 the side or arm B (which is intended to be next the horse) is somewhat shorter than the outer arm, C. The effect of this is to give the tread an inclination, which in use will tend to turn the foot of the rider inward, causing his leg involuntarily to grasp the barrel of the horse.

The arms, however, may be of equal length, if preferred, being bent at equal angles to the tread, and the latter, by means of the suspension device hereinafter more fully described, may be capable of adjustment to any desired degree of inclination. The dotted lines in Fig. 2 illustrate the different positions of the arms in relation to the tread when the former are made of equal length.

By means of the shifting-eye G (shown in Figs. 1, 2, and 3) the point of suspension may be changed to either side of or at a line perpendicular to the center of the tread, so as to incline the latter in any degree within the capacity of the adjustable suspension device, thereby adapting it to the various wants of the rider, as well as to the preferences and prejudices by custom of different individuals and nations, and to the physical conformation of users generally.

The eye G may be fixed immovable, or be incapable of changing position by sliding on its axis. On the other hand, it may be shifting and afford various points of suspension; or, finally, be applied to a stirrup with equal or unequal arms, in the latter case the inside arm being the shorter.

In the instance first mentioned (where the eye is fixed immovable) it would be permanently secured in some one position, and the stirrup—as in the case where the eye is permitted to turn upon without shifting or sliding along the shaft—would have to conform in shape to the particular point of suspension, while in either of the latter cases it could be adjusted to any desired point without necessitating a change of construction by means of the eye passing along the shaft H.

To permit the eye G to be thus adjusted and secured in any required position, the shaft H may be formed with two, three, or more latitudinal grooves, h^1 h^2 h^3 , as shown in Figs. 1, 2, and 3, connected by longitudinal grooves h^4 .

A pin, g , projecting inward from the inside of the eye, engages in either of the said latitudinal grooves, so as to retain the eye in any position to which it may be adjusted. Or, by turning the eye to the necessary point, the pin may be passed through the longitudinal

grooves from one latitudinal groove to another, and the eye be thus shifted in position as desired.

If preferred, the shaft may be provided with pins h^5 , as shown in Fig. 5, adapted to pass through a groove in the upper part of the eye, as indicated by dotted lines in the same figure, which will accomplish the same effect as the adjusting device illustrated in Figs. 1, 2, 3, and 4.

It is obvious that many modifications of this suspension device, producing in effect the like result, might be made; but I believe I am the first inventor to make application of the principle involved in the adjustable suspension of stirrups.

The illustrations here given in Figs. 1 and 4 represent the front edges of the arms perpendicular to the tread, and the rear edges at such obliquity as to give the required upper taper to the arms and elevation to the front of the tread when the stirrup is hanging.

If preferred, the arms may be formed with their front and rear edges at equal angles to the tread, as shown in Fig. 5, or with the obliquity chiefly or wholly in front, as indicated by dotted lines in Fig. 4. Both of these modifications are indispensable for certain uses.

Arms tapered equally at front and back place the point of suspension over the center of the tread, and hence the gravity of the stirrup and the pressure of the foot will naturally tend to set the tread in a nearly horizontal position longitudinally.

By making the taper chiefly at back the center of the tread is placed in the rear of the point of suspension, and the heel of the stirrup and of the rider thereby caused to droop. In like manner by making the taper chiefly in front the toe is thrown down and the heel up.

In the modification of my invention shown in Fig. 5 the shaft H, upon which the eye slides, is placed transversely to the tread of the stirrup, so that by setting the eye forward or backward the inclination of the tread may be adjusted in one and the same stirrup.

The shaft H may be placed either longitudinally or transversely to the tread, or at any angle of obliquity between these two directions, and by either of these means; or, by the combination of the principles, before explained, of varying the point of suspension longitudinally or laterally in respect to the tread, together with the longitudinal and lateral inclination of the arms, a stirrup (even without the inclination of the shaft in the ascending or descending direction) may be produced with a tread of any longitudinal, lateral, or oblique inclination which its particular use or the preference of the user may demand.

The shaft or bar H may be inclined in a vertical plane either in the direction as shown in Fig. 6 or in a direction at right angles therewith, as indicated by dotted lines in Fig. 5, or in any oblique position between these two.

In the construction of my stirrup I prefer for general use the inclined shaft as represented in Fig. 6 and by dotted lines in Fig. 5, the use of which obviates the necessity of changing in any considerable degree the form of the stirrup-body as usually made.

The advantages of constructing a stirrup, especially of wood, in the manner herein proposed must be obvious, as the ends of the wood are protected from splits and shakes or from being otherwise affected by wear and weather by being driven into and incased in a wedge-shaped cap or cone of metal, and the strain which heretofore was applied to the ends of the bow being by this method transferred to the body or lower arms of the stirrup, as shown by rivets *f' f'* in Figs. 1 and 5, thus constituting a durable as well as a comely article.

The advantages of forming the cover in two pieces are, first, that it requires less material; second, that the sole-piece can be made of heavier and cheaper material; third, that a convex form can be imparted to the cover in front at the junction of its sole and upper extending to the metal cap, rendering it more finished in appearance as well as more convenient to the foot.

For ordinary uses, however, I prefer the combination of pelt or rawhide with the frame or body of a stirrup, as it affords a cheaper style of cover without materially increasing the weight of the article or presenting edges to affect its wear and tear in hard service. The adaptability of the material itself for receiving and retaining desired shapes renders it equal, if not superior, to any other known material for this especial use, while wood bound by rawhide is as effectually strengthened for such purposes as if by partial bands of iron or other metal.

This class of cover may be constructed as follows: The pelt or rawhide in its green and humid state is secured by tacks or stitches to the frame or body of the stirrup, completely covering it outside and in. To give form to the stirrup when the rawhide is to serve as a guard for the foot as well as a covering for the sides or arms of the stirrup, a wood or metal last is inserted while the hide is damp, and a protuberance of convex form horizontally given or blocked out, as it were, upon the front and lower part of the cover, thus affording the desired facility in shape for a guard to prevent the boot from being exposed or from passing too far through. A light band

or bow of iron or other material adapted to the arc formed by the above-mentioned "protuberance" in front of the cover may be fastened at each of its ends on the inside of the arms, to serve as a stay or support for the toe of the boot which would be liable to press the guard out of shape when the cover was damp from rains or dews, though many preparations—such as varnish, paint, india-rubber, gutta-percha, &c.—might successfully be applied to the entire surface of the material, which would render it less liable of being affected by the causes mentioned.

Having thus described the nature of my invention and the manner of carrying it into effect, I wish it understood that I do not restrict myself to the precise details herein laid down, as the same might manifestly be varied without departing from the essential principles of my invention; but

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

1. Giving any desired longitudinal, lateral, or oblique inclination to the tread of a stirrup (with arms of equal length or with the inner arm the shorter) by means of the location given to the point of suspension, substantially as hereinbefore described.
2. A metal cap or its equivalent employed to connect the arms of a stirrup and constituting the means of attaching the suspending-straps, and for confining the upper part of the cover when one is used.
3. A cover composed of two or more pieces of leather or its equivalent, and applied substantially as hereinbefore described.
4. The combination of the rawhide or pelt with the frame or body of a stirrup, substantially as and for the purposes specified.
5. The arrangement of the shaft *H* in inclined positions as represented in Fig. 6 and described, for the purposes specified.
6. The combination of an adjusting-suspension with a stirrup or its cap, substantially as and for the purposes set forth.
7. Giving to the sides or arms of a stirrup, whether of wood or other material, an oblique direction in front and a perpendicular direction or line in rear, substantially as represented in Fig. 4, or the converse or described equivalent thereof, for the purpose specified.

R. N. EAGLE.

Witnesses:

OCTAVIUS KNIGHT,
CHARLES SMITH.