Aug. 1, 1950 W. I. COULL 2,516,959

DEHORNER

Filed April 30, 1945 2 Sheets-Sheet 1

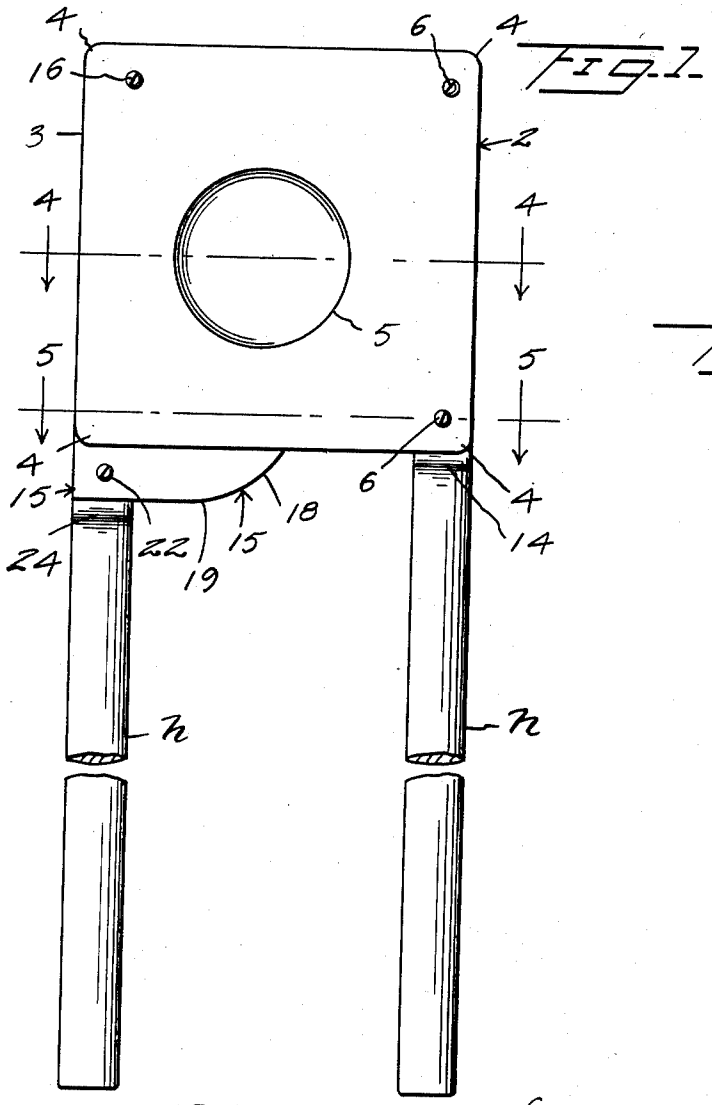



FIG. 1.

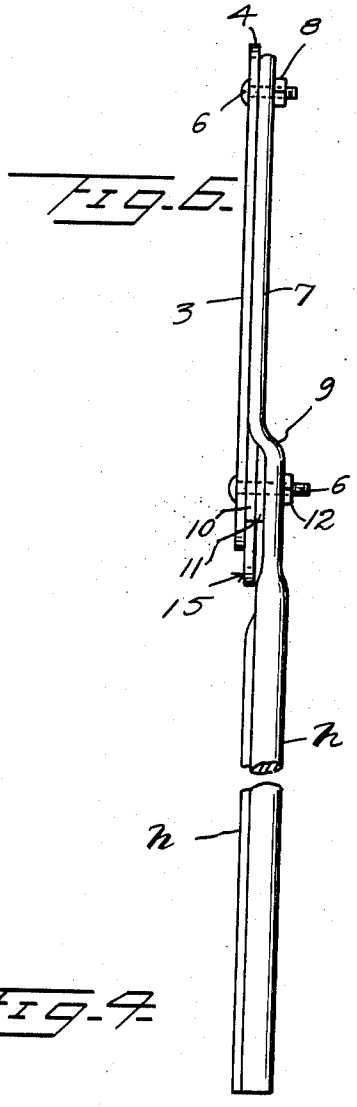



FIG. 6.

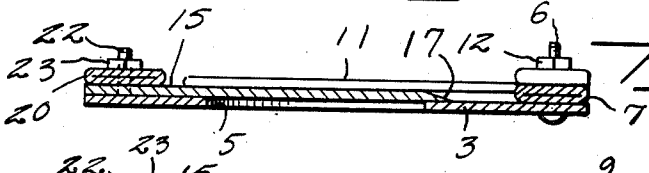



FIG. 4.

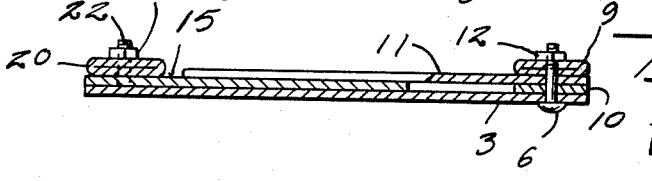



FIG. 5.

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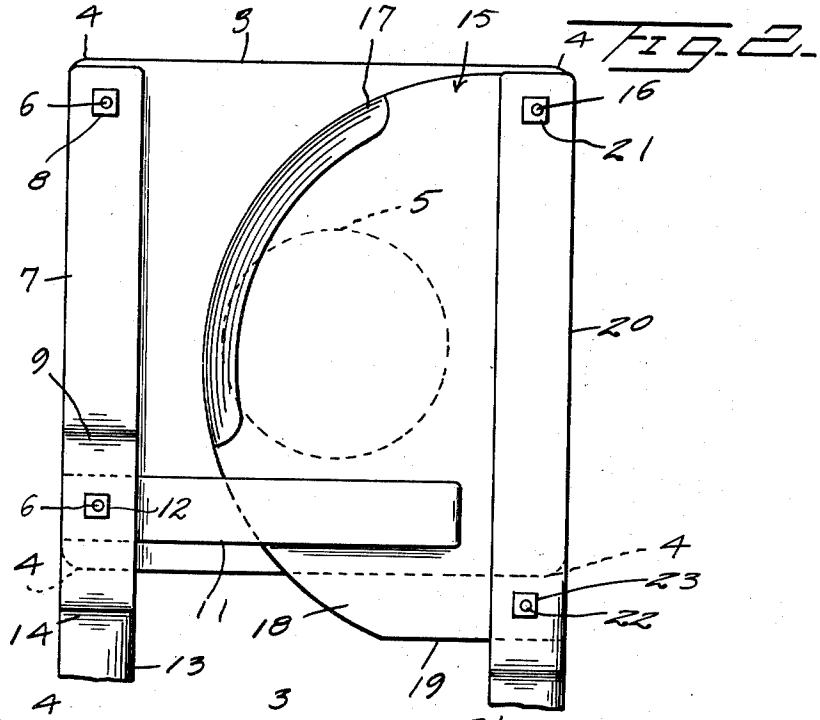



FIG. 2.

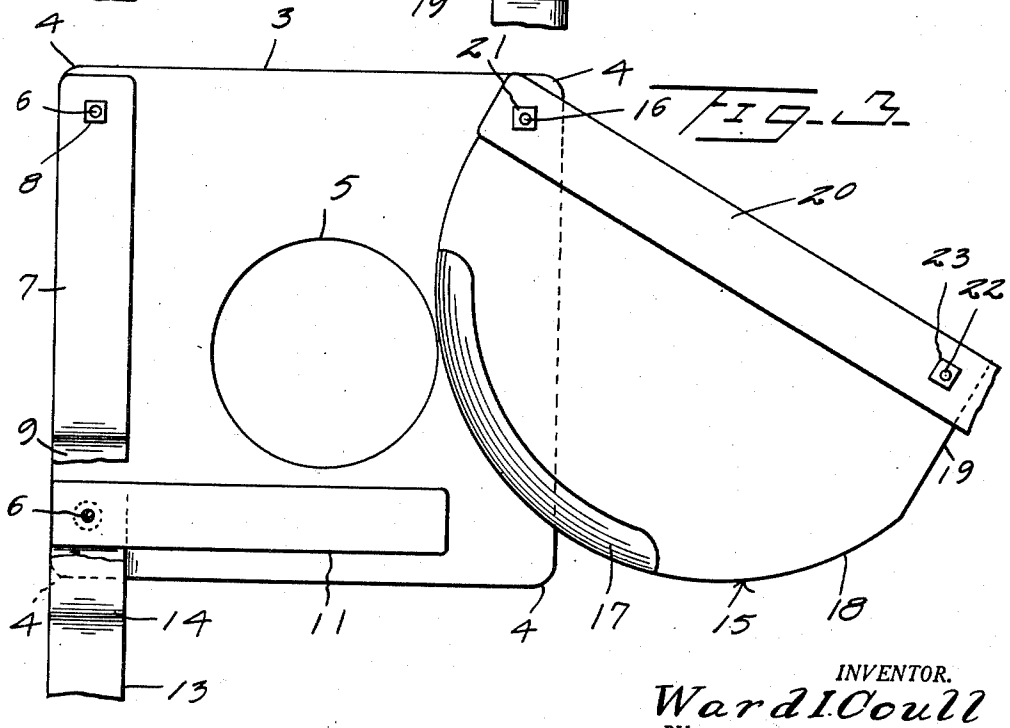



FIG. 3.

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# UNITED STATES PATENT OFFICE

2,516,959

## DEHORNER

Ward I. Coull, Timber Lake, S. Dak.

Application April 30, 1945, Serial No. 591,207

1 Claim. (Cl. 30—131)

1

This present invention relates to a device for dehorning cattle or other horned animals and for cropping the bony part of a horse's tail or similar operations and has for its primary objects the provision of an instrument of this character which may be readily placed over the member of an animal to be removed and is easily and quickly and humanely operated to bring about efficient and complete severance of the member and without danger of mutilation of the member stub remaining on the animal.

Another object of the invention is the construction of a sturdy and simple device which may be manufactured at low cost.

Another object of the invention is to positively guide and swing the blade with sufficient force and smoothness to insure that the cutting operation does not result in splintering.

With these and other objects which will become apparent as the description proceeds, in view, this invention consists in certain novel features of construction, combination and arrangement of parts to be hereinafter more fully described and claimed and illustrated in the accompanying drawing in which—

Figure 1 is a front view of the preferred embodiment of my invention in closed position;

Figure 2 is an enlarged rear view in the same position, the lower handle portions being broken away;

Figure 3 is an enlarged rear view in fully opened position, the lower handle portions being broken away;

Figures 4 and 5 are horizontal, transverse sections of the device in closed positions on lines 4—4 and 5—5 respectively;

Figure 6 is an edge view of the device viewed from the right side of Figure 1.

In the drawings which form a part of this application and in which like numerals indicate like or similar parts in the several views, the embodiment of my invention is generally designated by the numeral 2 and includes a substantially rectangular plate 3 of any suitable material preferably metal and having rounded corners 4. In this plate is formed an opening 5 of a size to permit the easy insertion therein of the horn or other member of the animal to be cropped. In the upper and lower right-hand (Figure 1) corners of the plate are apertures for bolts 6 bearing with their heads against the plate. The shank of the upper bolt 6 passes also through an aperture formed in the upper end of a flat bar 7 of a width equal to about one-seventh of the width of the plate to which the bar is at-

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tached by the nut 8 threaded upon the bolt shank. The bar 7 extends downwardly on the rear side of the plate and along the righthand side edge thereof and has a portion 9 located adjacent to and above the lower edge of the plate which is offset outwardly or away from the plate. The space between the rear side of the plate and the front side of the offset bar portion is partly occupied by a substantially square spacer plate 10 centrally apertured for the passage of the lower bolt 6. The function of this spacer plate will appear as the description proceeds. The space referred to is also partly occupied by the right-hand (Figure 4, 5) end portion of a guide bar 11 of about the same width as the bar 7 and extending at right angles to the latter. The purpose of the guide bar will become obvious as other parts are described. The end portion referred to of the guide bar is also apertured for insertion of the lower bolt 6 which also passes through an aperture in offset portion of bar 7. A nut 12 is threaded upon the outer end of the lower bolt and bears against the rear side of the offset portion of bar 7. The lower portion of the latter extending below the plate is somewhat offset forwardly at 14 and is also rounded for serving as a handle *h* which may be hollow and of steel.

The blade 15 is substantially semi-circular and has a diameter substantially in excess of the vertical height (Figure 1, 2) of the plate 3 to the upper right-hand (Figure 2) corner of which the blade is pivoted by a bolt 16 passing through a hole in the blade located adjacent the intersection of the periphery with the diameter. The blade has the same thickness as the spacing plate 10 and about a quadrant of its periphery is formed into a cutting edge 17 by beveling the peripheral side edge of the blade away from the rear side of the plate with which the blade has sliding contact during the operation of the device to be described. The cutting edge quadrant extends from a point on a line passing through the upper bolts 6 and 16 to a point on a line parallel to and above the upper edge of the guide bar 11 and tangential to the bottom of the opening 5 (Figure 2). Since the top edge of the plate is tangential to the blade at the intersection of the diameter with the periphery and since the former is substantially in excess of the vertical height of the plate, a blade portion 18 projects below the latter and has a straight edge 19. To the rear side of the blade is attached a bar 20 of about the same width and thickness as bar 7 by means of the upper bolt 16 and the nut 21

threaded thereon. The outer edge of the bar **20** is in alignment with the diametrical edge of the blade. The lower blade portion **18** is secured by a bolt **22** and nut **23** threaded thereon to a portion of the bar **20** lying adjacent to, but below the lower edge of the plate **3**. The portion of bar **20** which extends below the blade portion **18** is offset forwardly at **24** and forms a round handle *h* which may be duplicate in construction and material of the handle *h* fixed to the plate and described.

The construction according to which the lower portion of the blade (Figure 2) extends below the lower edge of the plate is justified by the fact that thereby the countersinking of the head of bolt **22** is avoided which would be necessary if such bolt passed through a portion of the blade in sliding contact with the plate.

In order to operate the device the operator grasps the fixed handle with one hand and the blade handle with the other hand and swings the latter outward from the position of Figure 1, 2 to the position of Figure 3. He then places the opening **5** on the horn to be removed. Swinging the blade handle in the opposite direction will sever the horn, the blade being guided during this stroke by the guide bar. During this cutting motion of the blade every portion of a member extending beyond the rear face of the plate and through the opening is subjected to the cutting stroke of a curved element on the cutting edge moving in a circular path and having therefor a saw action. This characteristic motion of the cutting edge makes a clean cut which heals soon and does not crush the horn of the cattle as other dehorners do and therefore saves the animal pain and hastens healing. It is noteworthy that in the position of Figure 3 very little of the cutting edge extends beyond the right edge of the plate whereby the danger of injury to the operator is minimized.



While it is believed that from the foregoing description read in connection with the accompanying drawing, the nature and advantages of the invention will be readily apparent, I desire to have it understood that the specific details of the embodiment of my invention do not constitute a limitation or restriction of the same and that changes and modifications obvious to one skilled in the art may be resorted to when derived as fall within the scope of the appended claim.

What I claim and desire to secure by Letters Patent is:

A dehorning device comprising a substantially rectangular plate having a centrally disposed horn receiving opening, a handle member rigidly secured to and projecting from one corner of said plate, a lever pivotally connected at one of its ends to the opposite corner of said plate for movement in a plane parallel to the plate, a blade secured to said lever and disposed for movement across one side of the plate and having an arcuate cutting edge for movement across the plate opening, and a guide strip having one end anchored to the first mentioned corner of the plate and extending thereacross and spaced from the aforementioned side thereof for engaging a portion of the outer side of the blade for retaining the blade in engagement with the plate as the cutting edge thereof is moved across the plate opening.

WARD I. COULL.


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