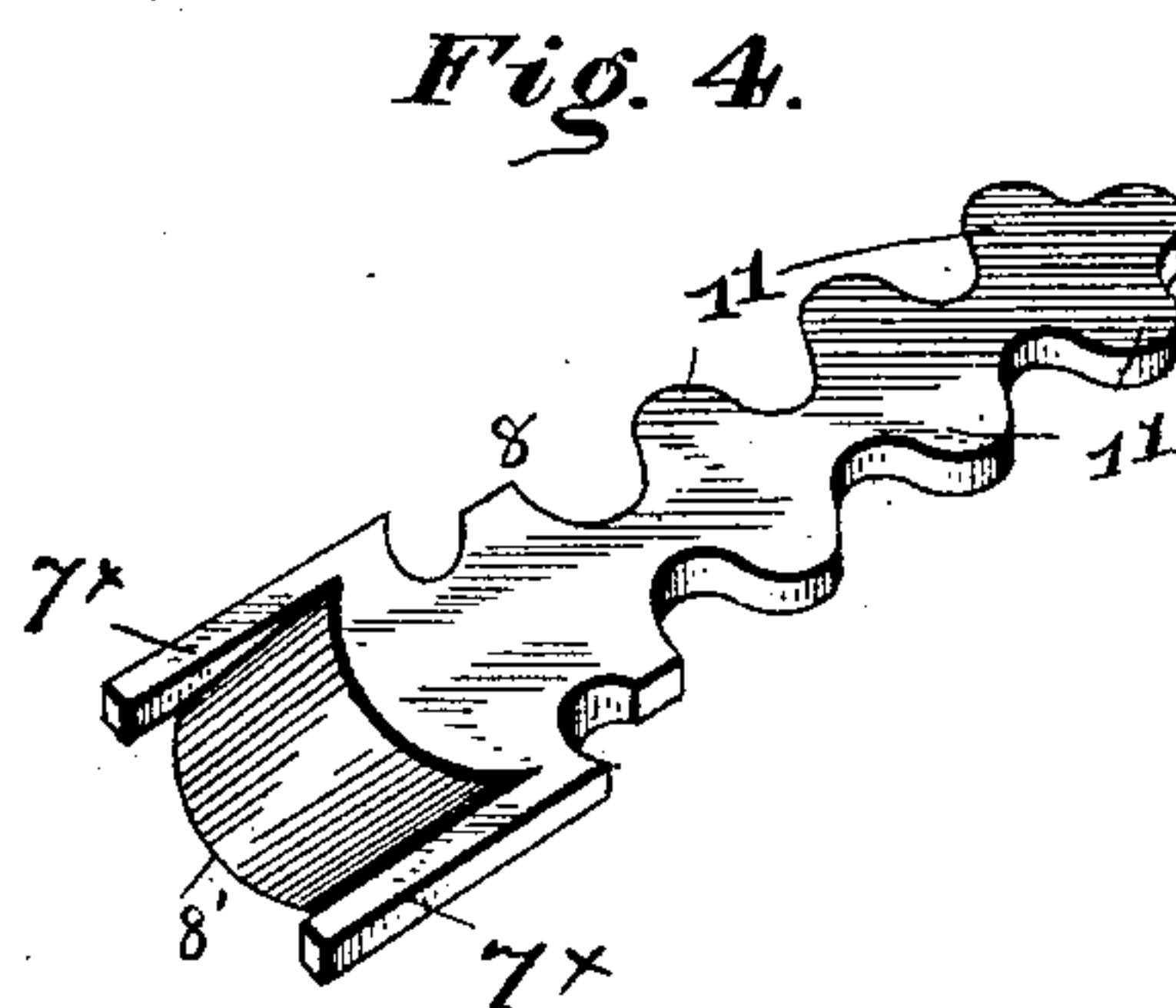
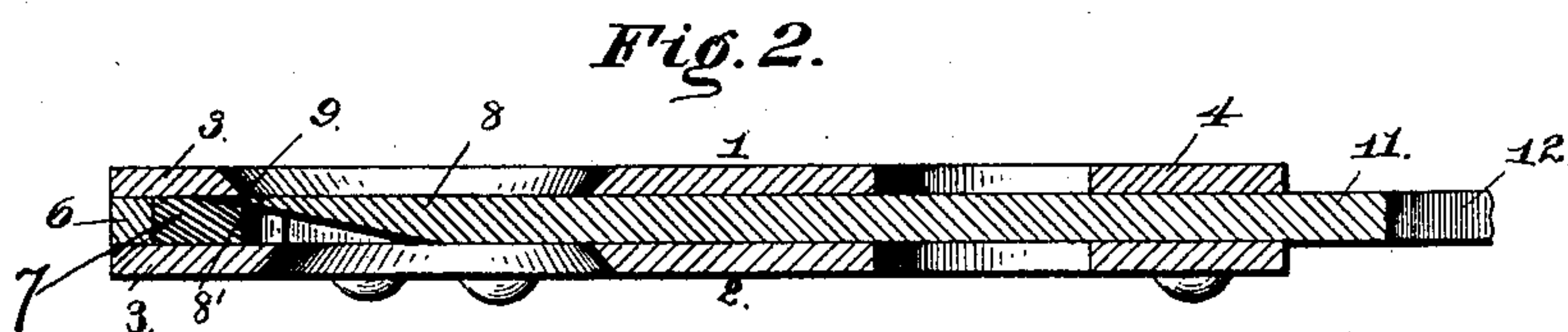
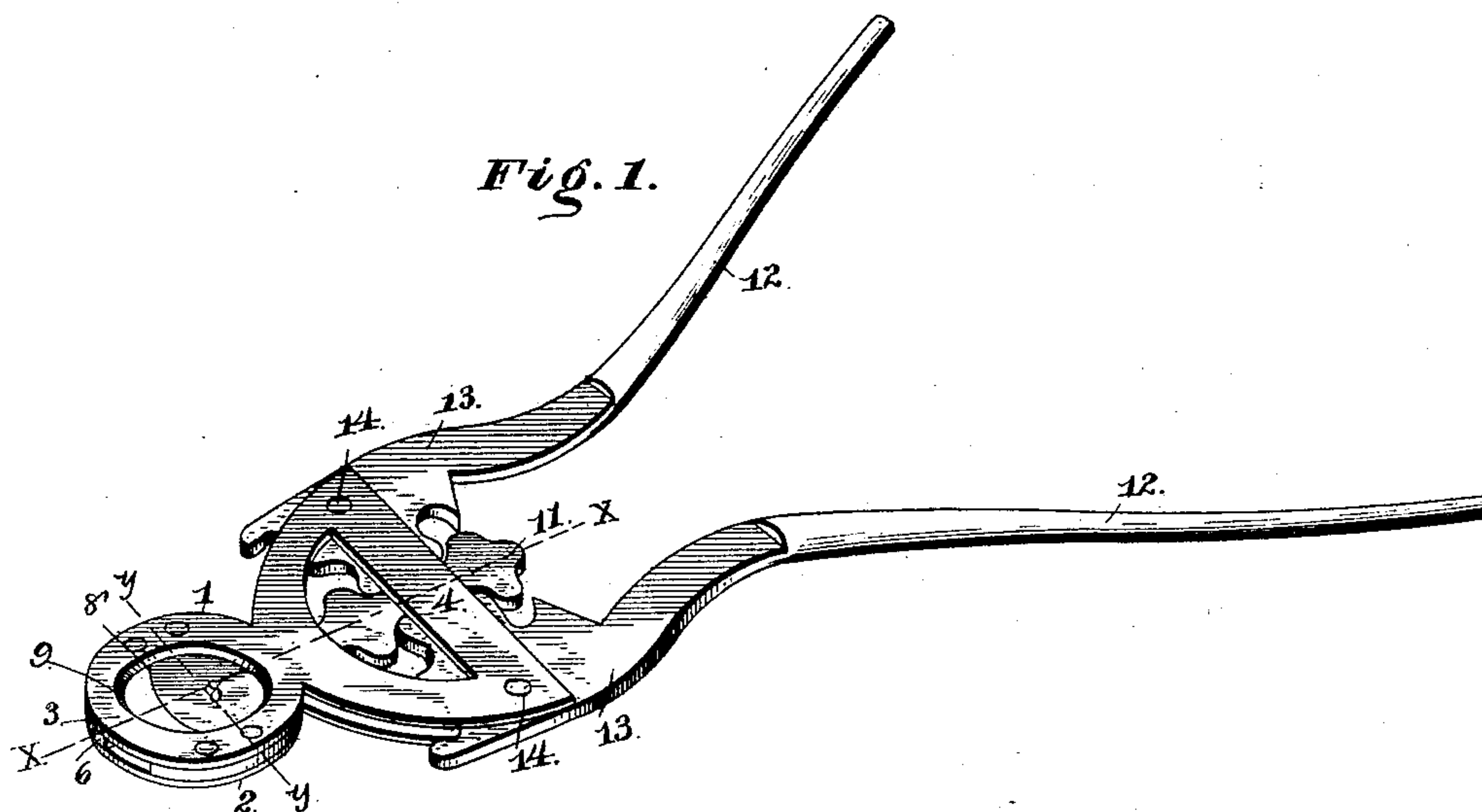


(No Model.)

J. M. MILLS.
DEHORNER.

No. 480,932.

Patented Aug. 16, 1892.



Witnesses:

Chas. A. Ford.

W. S. Duval.

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UNITED STATES PATENT OFFICE.

JAMES M. MILLS, OF MODESTO, ILLINOIS.

DEHORNER.

SPECIFICATION forming part of Letters Patent No. 480,932, dated August 16, 1892.

Application filed December 31, 1891. Serial No. 416,718. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. MILLS, a citizen of the United States, residing at Modesto, in the county of Macoupin and State of Illinois, have invented a new and useful Dehorner, of which the following is a specification.

This invention relates to improvements in cattle-dehorner, the objects in view being to provide a dehorner of cheap and simple construction, that is so constructed as to require but little power to force the knife through the horn, and which will produce a clean cut or amputation of the horn without danger of injuring the bones of the head of the animal.

With these objects in view the invention consists in certain novel features hereinafter described, and particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a perspective of a dehorner constructed in accordance with my invention. Fig. 2 is a longitudinal section on line *x x*, Fig. 1. Fig. 3 is a transverse section through the head or ring portion of the frame on line *y y*, Fig. 1. Fig. 4 is a detail of the knife.

Like numerals of reference indicate like parts in all the figures of the drawings.

In practicing my invention I provide a frame consisting of the opposite plates or sections 1 and 2. These plates each comprise a front ring 3 and a rear or inner flared base 4, wider than the ring. The plates are spaced apart at opposite sides of the ring and at the front end of the same by space-blocks 5 and 6, respectively, the two former forming opposite ways for the reception of the cutting medium, hereinafter mentioned, while the latter space-block forms a support for a rubber packing 7, against which the cutting-edge of the knife comes after it has passed through and completed the severance of the horn. The blocks 5 and 6 and the opposite plates are riveted together, as shown. The inner opposing edges of the space-blocks 5 and 6 are straight and parallel and form a straight guideway between the rings.

8 designates the cutting-blade, which is very nearly as wide as the distance between the inner opposing straight edges of the blocks 5 and 6 and is formed at opposite sides with

parallel guide-bars 7^x by beveling the lower face of the cutting-blade 8' proper from the rear upward, and thereby removing the metal and leaving the bars 7^x free to act as guides and also shielding and protecting the opposite sides of the cutting-blade against strain. The said bars 7^x are parallel with each other and have straight outer edges, and are of a thickness vertically and of a width apart from each other proportionate to the size of the space between the rings 3 and the blocks 5 and 6 in order that the cutter or blade may have free movement between the said parts in a straight line, but at the same time be prevented from having irregular lateral play by the engagement of said bars 7^x with the straight inner sides or edges of the said blocks 5 and 6.

It will be noted that the knife shears or cuts against the upper plate, and the edges of the circular openings or rings of these plates are rounded or beveled, as shown. The opening in the lower plate is circular, while that in the upper plate is extended slightly at its front end, as indicated at 9, or, in other words, is very slightly elliptical.

The rear end or shank of the knife extends between the base portions of the two plates and its opposite edges are toothed, as shown at 11.

A pair of hand-levers 12 terminate at their inner ends in segmental toothed heads 13, which are pivoted concentrically, as at 14, to the opposite corners of the base, and the teeth of said heads engage with the teeth of the opposite edges of the knife-shank.

The extreme simplicity of the device is so very apparent as to necessitate no specific mention of the same, and I will therefore proceed direct to the operation of the device, pointing out the advantages accruing from its use. The handles or levers are spread at their free ends, and the segmental heads, operating in the teeth of the shank of the knife and being immovable, except rotatably, serve to rearwardly reciprocate the knife and uncover the rings or openings with which the opposite plates are provided at their front ends. These plates are now introduced over the horn to be severed, the lower ring or opening being circular snugly embracing the

horn at all points of its circumference. When the device is thus placed in position, it is simply necessary to compress the handles or force them together, which causes a forward movement of the knife between the plates 1 and 2 and the parallel space-blocks 5 and 6. As the edge of the knife is forced through the horn it will be seen that the inner edge of the lower plate, which is below the plane of the knife, is the only portion of the frame having contact with the horn, the upper opening in the frame being out of contact at its rear or outer circular edge by reason of the elliptical shape given said opening and the fact that the edge of the opening is beyond that in the lower plate. Hence it follows that as the horn is severed or the knife bears against the same it slightly yields to the pressure of the knife and continually falls from the same as the cut is made, thus opening the kerf or passage-way of the knife in the horn and materially decreasing the power necessary to operate the knife or force it through the horn. By this means I am enabled to cut or sever the horn with about two-thirds the power necessary were this difference in the size of the openings in the plates not present.

By means of the rubber packing or shield 7 in the front part and between the rings 3 injury to the cutting-edge of the blade 8 is prevented by having the same contact with a yielding substance.

Having described my invention, what I claim is—

In a dehorner, the combination of oppositely-situated simicircular plates with integral rings projecting from the central front portions thereof, space-blocks inserted between and secured to the said rings and having outer curved edges conformed to the shape of the rings and inner straight edges to form parallel guides, a rubber block interposed between the front portions of said rings and resting against said space-blocks to shield the cutting-edge of the knife, handles with toothed heads pivotally mounted in the corners of the aforesaid semicircular plates, and a cutting-blade having parallel guide-bars at the front thereof of rectangular form and embracing the opposite sides of an inclined or beveled knife, and a rear toothed shank to be engaged by the aforesaid toothed heads of the handles, the said parallel guide-bars having the front ends thereof extending beyond the front end of the cutting-blade and adapted to move against the inner straight edges of the said space-blocks, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JAMES M. MILLS.

Witnesses:

JNO. LEDBROOK,
G. M. KELLOGG.