(No Model.)

T. A. CROWELL.

DEHORNER.

No. 454,563. Patented June 23, 1891.

Fig II.

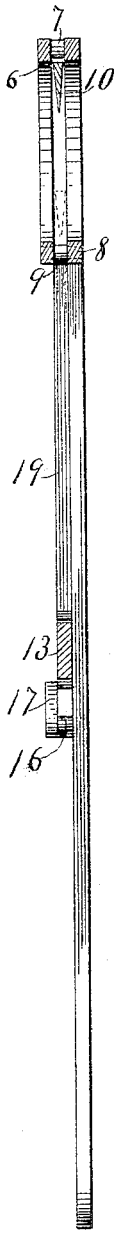
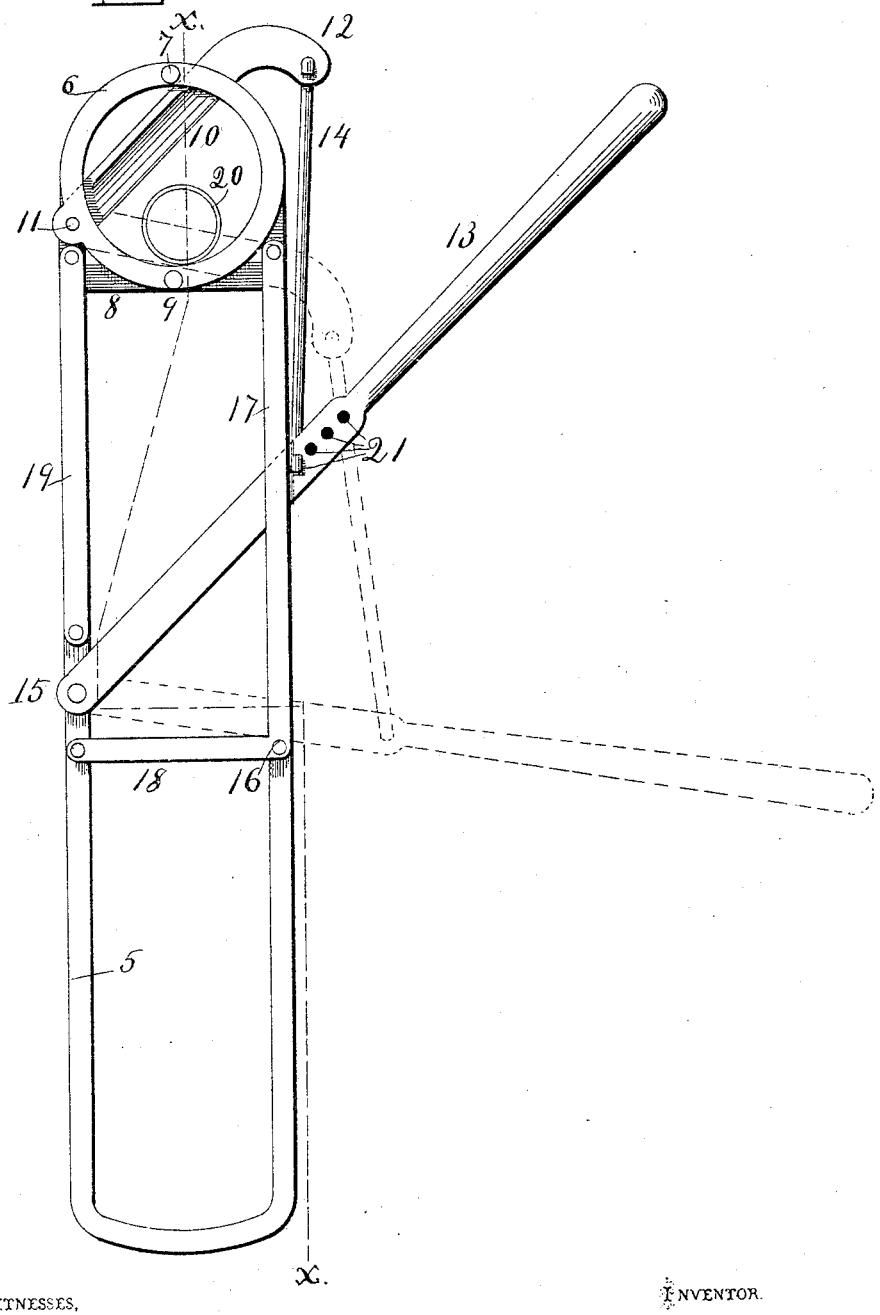


Fig I.



WITNESSES.

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UNITED STATES PATENT OFFICE.

THOMAS A. CROWELL, OF WASHINGTON, DISTRICT OF COLUMBIA.

DEHORNER.

SPECIFICATION forming part of Letters Patent No. 454,563, dated June 23, 1891.

Application filed March 31, 1891. Serial No. 387,137. (No model.)

To all whom it may concern:

Be it known that I, THOMAS A. CROWELL, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Dehorners; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to that class of surgical instruments by means of which the horns of cattle may be removed; and its object is to provide a device by means of which the operator standing at a safe distance from an animal may quickly remove its horns one at a time.

To this end my invention consists in the construction and combination of parts forming a "dehorner" hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure I is a plan or top view showing my invention with the blade open ready for service. Fig. II is a vertical longitudinal section at line *x* of Fig. I.

5 represents the body or frame in shape of a loop of steel, which will in practice be made about three feet long with its two sides about five inches apart.

6 represents a ring of steel located above the body at one end thereof and secured thereto by means of a stud 7 and a cross-bar 8, which is secured at its ends to the frame and forms a portion thereof and a stud 9 connecting the ring and cross-bar. The two studs 7 and 9 hold the ring fixed about one-quarter of an inch away from the plane of the frame 5 to admit a blade 10, which is pivoted at 11 to both the ring and the frame, and is connected at its free end 12 with a lever 13 by means of a rod 14. The lever 13 is pivoted at 15 to the frame.

16 is a shoulder or stop upon the frame to limit the forward motion of the lever 13, and it is so located as to stop the lever and the blade 10, which is actuated thereby, before the blade shall have reached the stud 9.

17 represents a guiding-rail fixed to one side of the frame to guide the lever 13 in its proper plane of action.

18 is a girder extending between the sides of the frame to stiffen it. 19 also represents a stiffener secured to one side of the frame and extending from the end of the cross-bar 8 to the end of the lever 13.

In operation the instrument is first placed with the body and ring portion over the horn of the animal, which horn may be represented by the ring 20. Then a single movement of the lever 13 pulls the blade 10 to close upon the horn and press it against the ring 6 and the cross-bar 8 in the region of the stud 9, whereby the horn is cut off. There is no action of shears, properly speaking, but the ring and the cross-bar supporting the horn both above and below the plane of the blade render its action positive. The blade has a sharp thin edge which acts upon the horn with a drawing motion as a knife would upon a finger-nail, because of the near location of the blade-pivot, and the great leverage obtained through the lever 13 enables the operator to perform the service instantaneously. There are a number of holes 21 in the lever 13, at either one of which the rod 14 may be connected to increase or decrease the leverage.

The construction of the frame here described and its extreme lightness of weight enable the operator to hold by its two sides to guide it into position and render it sufficiently strong to resist the very considerable strain required. If the blade acted at one side of a mated blade-like shears, the extreme strain required in quick service would tend to twist the instrument and render its action ineffective; but my ring 6 and cross-bar 8, supporting the horn at both sides of the plane of the blade, render its action positive.

Having thus fully described my invention, what I believe to be new, and desire to secure by Letters Patent, is the following:

The combination, in dehorners, of a loop-shaped frame provided with the cross-bars 9 and 18, the guide-rail 17, the stiffener 19, and the fixed shoulder 16, the ring 6, secured to

the frame at one side of the plane thereof by means of studs 9 and 7, the lever 13, pivoted to the frame at 15 and located between the body of the frame and the rail 17, and provided with a series of holes 21, a blade 10, pivoted at one end to the said frame and ring and located between the same, and a rod 14, connecting the free end of the blade with the lever 13, the shoulder 16 being located to limit the forward movement of the lever and blade, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

THOMAS A. CROWELL.

Witnesses:
W. X. STEVENS,
M. C. HILLYARD.