No. 610,669. Patented Sept. 13, 1898.

J. & C. E. ARMS.

DEHORNING CLIPPER.

(Application filed Mar. 30, 1896.)

(No Model.)

Fig. 1.

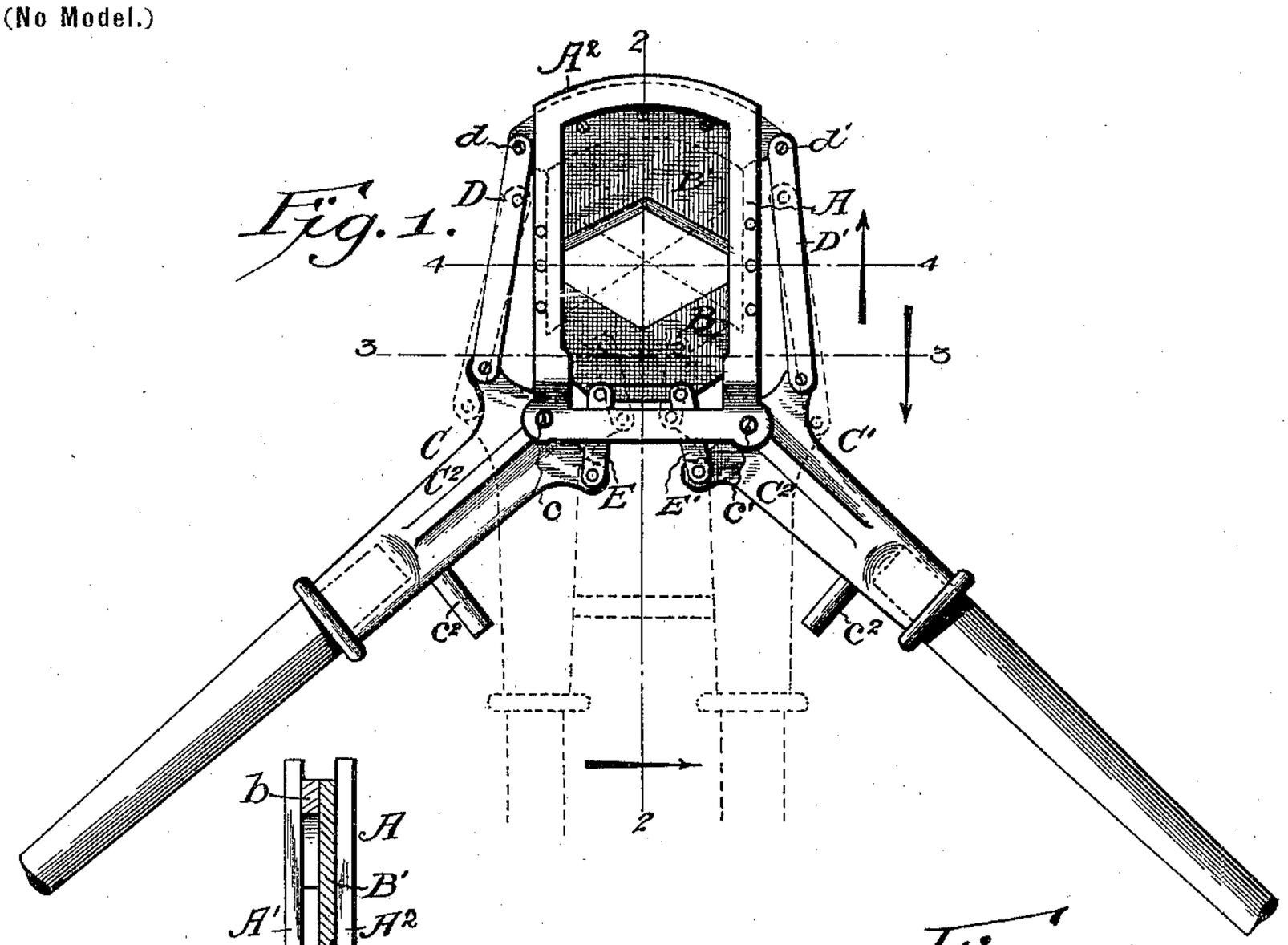


Fig. 2.

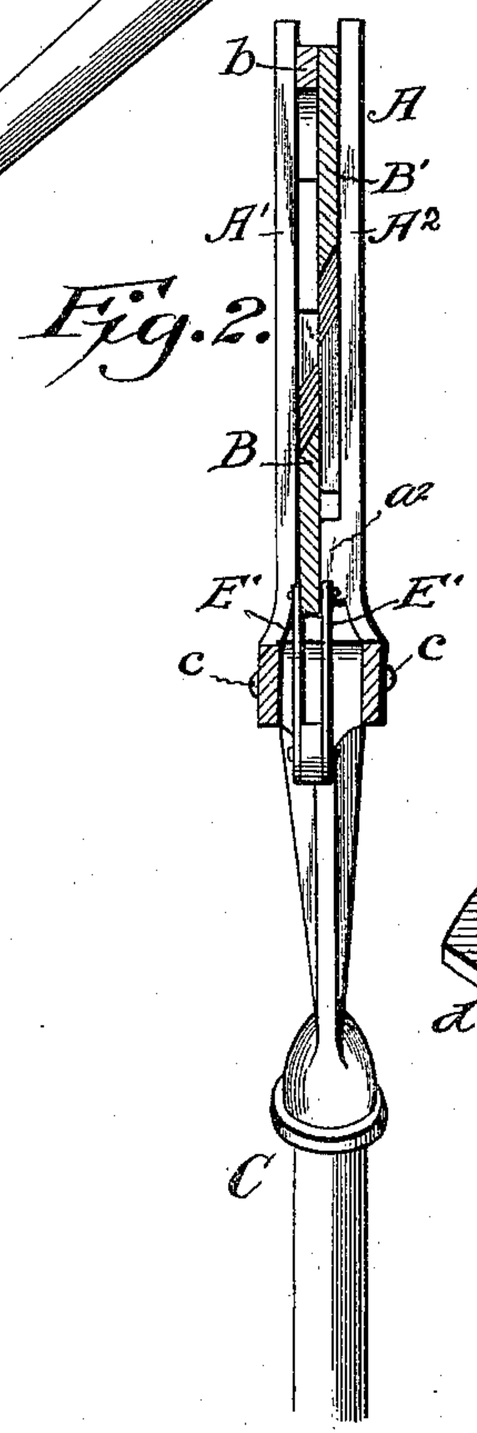
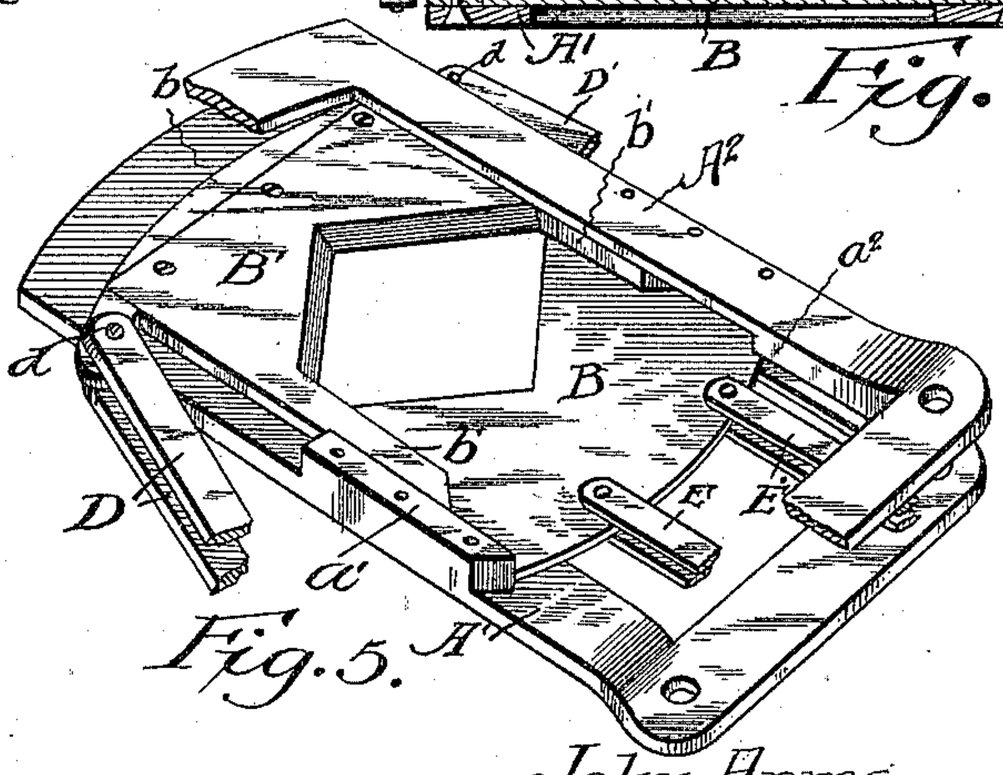


Fig. 3.

Fig. 4.

Fig. 5.



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN ARMS AND CHESTER E. ARMS, OF SOUTH LYON, MICHIGAN.

DEHORNING-CLIPPER.

SPECIFICATION forming part of Letters Patent No. 610,669, dated September 13, 1898.

Application filed March 30, 1896. Serial No. 585,330. (No model.)

To all whom it may concern:

Be it known that we, JOHN ARMS and CHESTER E. ARMS, citizens of the United States, residing at South Lyon, county of Oakland, State of Michigan, have invented a certain new and useful Improvement in Dehorning-Clippers; and we 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, reference being had to the accompanying drawings, which form a part of this specification.

Our invention has for its object certain new and useful improvements in dehorning-clippers; and it consists of the construction, combination, and arrangement of devices hereinafter described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a view in elevation. Fig. 2 is a view in section on the line 2 2, Fig. 1. Fig. 3 is a view in section on the line 3 3, Fig. 1. Fig. 4 is a view in section on the line 4 4, Fig. 1, when the levers are in closed position, as indicated in dotted lines in Fig. 1. Fig. 5 is a view in perspective, showing features of our invention, certain parts being broken away.

Our invention aims to provide an article of this description of superior efficiency and utility and which will not be liable to get out of order.

We carry out our invention as follows: A represents a suitable frame, preferably made of two similar parts A′ A^2, spaced apart in any suitable manner, as by intervening partitions or shoulders *a a′*, which may or may not be integral with one of the portions of the frame.

B and B′ indicate two cutter-blades having a reciprocatory engagement in said frame. These blades are preferably formed with V-shaped cutting edges of reverse form, so as to give a shear cut.

An important feature of our invention is in the provision of means to reciprocate both of the knives. This we accomplish by means of levers C and C′, fulcrumed to said frame at its lower corners, as indicated at *c* and *c′*, each of said levers being eccentrically connected with said knives B B′, respectively, by connecting-links, links D D and D′ D′ connecting said levers eccentrically with the knife B′ and links E E and E′ E′ connecting said levers eccentrically with the knife B.

The knife B′ may be provided with a stiffening-bridge *b*, to the extremities of which the links D D and D′ D′ are pivotally connected, as shown at *d d′*. The links connect the knife B′ and the knife B to the levers C C′ on opposite sides of the fulcrum of the respective levers, as indicated more particularly in Figs. 1 and 3.

We do not limit ourselves to any particular manner of constructing the operating-levers C C′; but they are shown constructed each with a metallic head C^2, having ears on opposite sides of the fulcrum, said links being connected with said ears of said levers.

The knives B B′, it will be seen, are located between the two portions A′ A^2 of the frame, said frames forming guideways for the reciprocation of the knives. The knife B′ we prefer to form with projecting arms *b′ b′*, said arms bearing on the inner edges of the partitions or shoulders *a a′*. These arms are made to overlap the adjacent portions of the knife B, and the parts are so constructed that the knives cannot be opened far enough for the edges of the knife B and the arms *b′* to pass by each other and lock. An interference of the knives the one with the other in their reciprocation is thus prevented.

Ribs or flanges a^2 project inwardly from the side edges of the frame-section A^2 near one end of such section and form bracing-guides for the sliding cutter B to prevent any tendency of such cutter to spring out of the plane of its movement, especially when the two cutters are farthest apart and about to be closed on the horn. We prefer to form the portions A′ A^2 of the frame outwardly deflecting at their lower ends, as indicated in Fig. 2, to give room for the ready operation of the links E E and E′ E′. The levers C C′ are formed with stops c^2 to limit the inward movement of said levers.

The operation of the device will now be understood. By spreading the levers apart the knives are opened to engage over the horn. Then by forcing the levers together the knives are closed upon the horn to clip it. In closing the levers together it will be observed that the links E E and E′ E′ exert an upward

movement of the knife B, while the links D D and D′ D′ cause a downward movement of the knife B′.

It will be perceived that when the implement is open to engage a horn the leverage upon the knives is the shortest at the very beginning of the desired cut. It is also evident that the larger the horn the shorter will be the initial leverage, these features being of special advantage in the implement embodied in our invention and are features not to be found, it is believed, in any other implement of this class.

What we claim as our invention is—

A dehorner comprising duplicate superposed frames having intermediate filling-pieces spacing them apart a proper distance, the frames being outwardly and oppositely deflected at one end, and one of the frames being formed at its inner side edges near one end with ribs or tracks a^2, oppositely-disposed cutters slidably mounted between the frames and one of the cutters being provided at its opposite sides with projecting portions b' overlapping the other cutter and working against the inner sides of said filling-pieces, said other cutter being adapted to ride on said ribs when the implement is opened up for use, operating-handle heads fulcrumed to the corners of the frames at the deflected ends thereof and having oppositely-extending arms, elongated links arranged outside of the frames and connecting the outer arms of said heads with one cutter, and short links connecting the inner arms of the heads with the other cutter and arranged to work in the space between the deflected ends of the frames, substantially as set forth.

In testimony whereof we sign this specification in the presence of two witnesses.

JOHN ARMS.
CHESTER E. ARMS.

Witnesses:
DWIGHT DUNLAP,
CHAS. HAVESHAW.