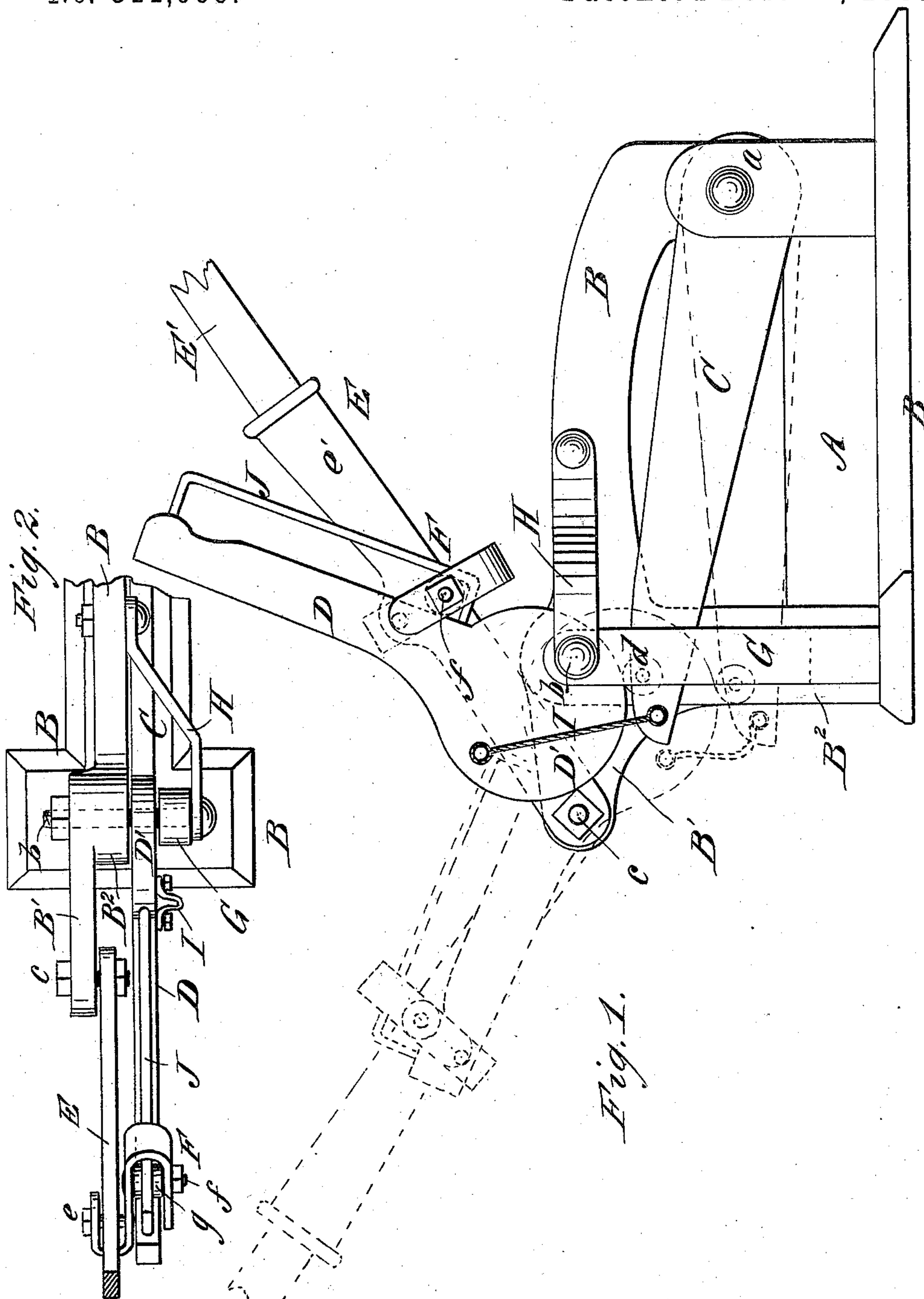


(No Model.)

G. McDONALD.
METAL SHEARS.

No. 311,999.

Patented Feb. 10, 1885.



WITNESSES:

Donn Twitchell.
C. Sedgwick

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UNITED STATES PATENT OFFICE.

GILBERT McDONALD, OF AUGUSTA, KANSAS, ASSIGNOR TO HARTFORD M. MEREDITH, OF SILVER CITY, AND JAMES A. LUCAS, OF GEORGETOWN, TERRITORY OF NEW MEXICO.

METAL-SHEARS.

SPECIFICATION forming part of Letters Patent No. 311,999, dated February 10, 1885.

Application filed April 24, 1884. (No model.)

To all whom it may concern:

Be it known that I, GILBERT McDONALD, of Augusta, in the county of Butler and State of Kansas, have invented a new and Improved Metal-Shears, of which the following is a full, clear, and exact description.

My invention is an improvement in the class of hand-shears for cutting metal in which a plain and eccentric lever are combined and connected with the movable jaw for acting on the latter with great force.

The invention consists in the construction and combination of parts, as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 is a side elevation of my new and improved shears, showing in full lines the levers in the positions they assume for raising or opening the movable jaw, and in dotted lines the position they assume in closing the movable jaw; and Fig. 2 is a detailed plan view of a part of the shears.

A represents the stationary jaw, fixed in the main frame B of the shears.

C represents the movable jaw, pivoted at *a* to the main frame B, and D represents the eccentric lever, pivoted at *b*, and E represents the plain or hand lever, pivoted at *c* to the forward extension, B', of the main frame B, and coupled to the eccentric lever D by the S-shaped yoke or coupling F. The free end of the movable jaw C moves between the upright portion B² of the main frame B and the upright side piece, G, and the eccentric lever D is pivoted between these said upright pieces B² G, so that the eccentric portion D' of the lever D will act upon the upper edge of the jaw C, as will be understood from Fig. 1, and the tie strap or brace H is provided for strengthening the upright plate G, and also the main frame B, and the jaw C is connected with the eccentric portion of the lever D by the cord or small chain I, so that when the levers D E are turned to the position shown in full lines in Fig. 1 the cord or chain I will

act to raise the free end of the jaw C, and a small friction-roller, *d*, is fitted in the upper edge of the jaw C, to reduce the friction of the eccentric lever D upon the jaw C.

Any sliding coupling may be used for connecting the lever E to the eccentric lever D; but I prefer to employ the S-shaped coupling-plate F, which is attached to the lever E by the bolt *e*, and held to the lever D by the bent rod J, over which one loop of the coupling-plate F reaches, as shown clearly in Fig. 2, the bolt *f* being passed through the loop within the bent rod J, and upon the bolt *f* is placed the friction-roller *g*, which acts to reduce the friction of the coupling F with the back of the lever E, and the lever E is by preference formed with the socket *e'*, to receive the separate extension E', which may be removed and replaced at will, and which may be of any length desired, according to the power required.

The action of the shears is obvious from the drawings. By swinging the lever E from the position shown in full lines in Fig. 1 to that shown in dotted lines, the connection F will cause the eccentric lever D to be carried downward, bringing its eccentric portion D' upon the upper edge of the jaw C, which will force it downward with great power, causing it to cut whatever may be placed between the jaws of the shears, and by swinging the lever E back to its original position—that shown in full lines—the roller *g* of plate F, acting against the bent rod J, will raise the eccentric lever D and cause the cord or small chain I to raise the jaw C.

The arrangement of the eccentric lever D and plain lever E furnishes a powerful leverage for operating the movable jaw C, so that the shears are adapted for hand use and for cutting heavy bars or plates of iron. Besides, the shears are practical, strong, durable, and cheap.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The eccentric lever D, connected to and adapted to act upon the jaw C, and provided

with the bent rod J, in combination with the lever E, pivoted in front of the pivot of the lever D, and coupled thereto by the sliding or shifting coupling-plate F, substantially as
5 and for the purposes set forth.

2. The combination, with the eccentric lever D, having a bent rod, J, and the lever E,

coupled to lever D by a bent plate, F, of the anti-friction roller *g*, substantially as shown and described.

GILBERT McDONALD.

Witnesses:

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