

No. 656,610.

Patented Aug. 21, 1900.

W. O. ORR.

LEVER OPERATED CUTTER MECHANISM.

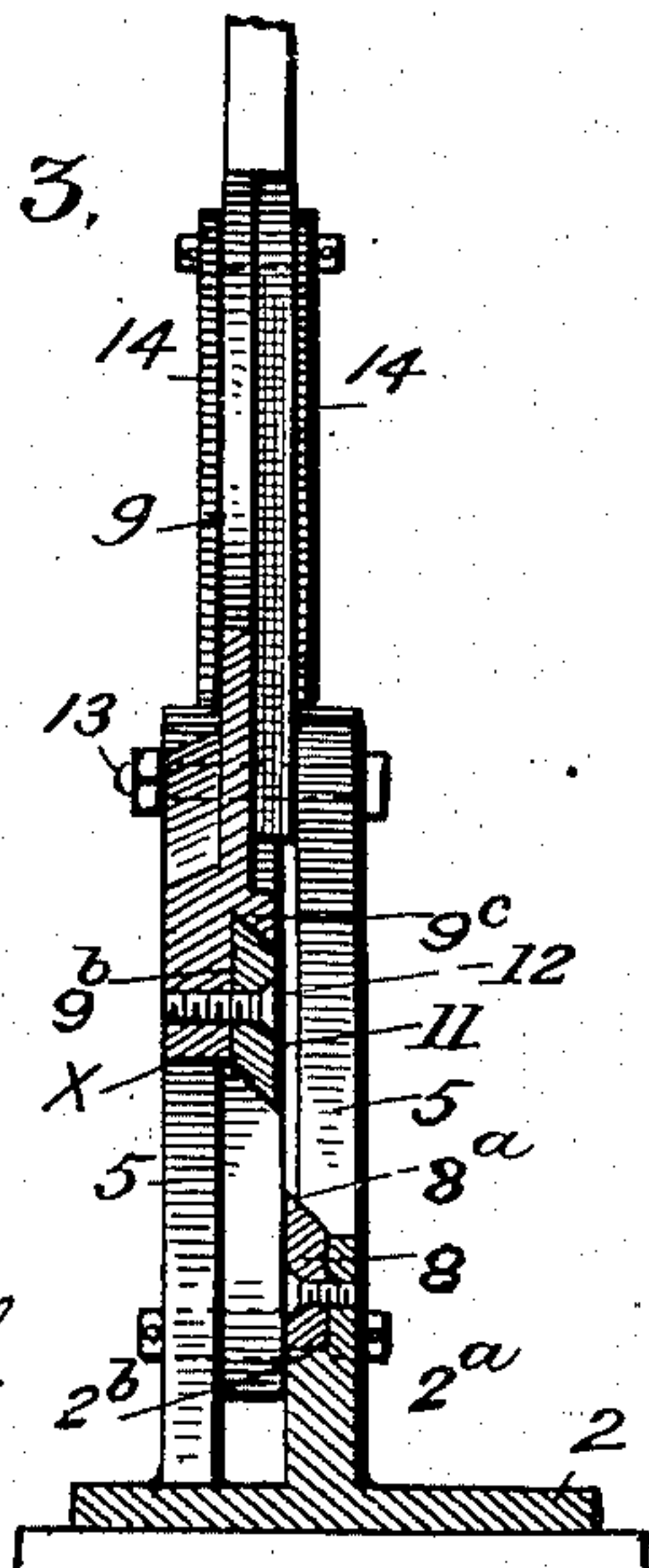
(Application filed May 11, 1900.)

(No Model.)

2 Sheets—Sheet 1.



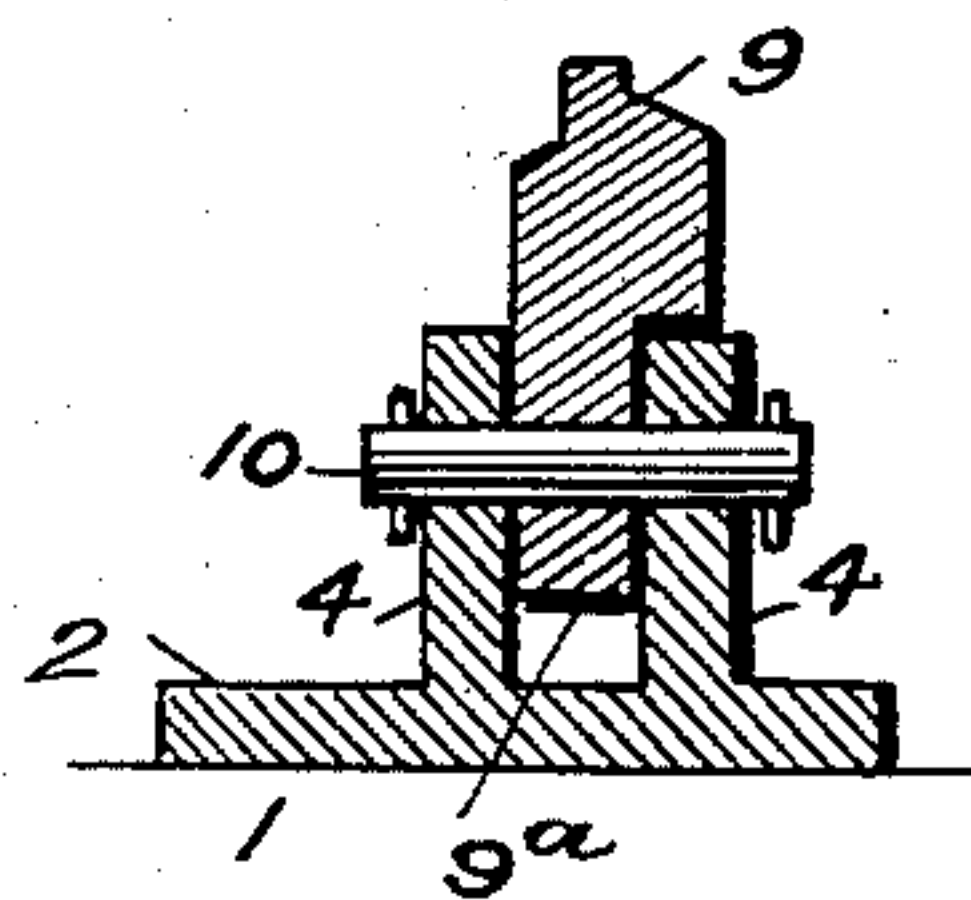
Fig. 3.



WITNESSES:

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Fig. 4.



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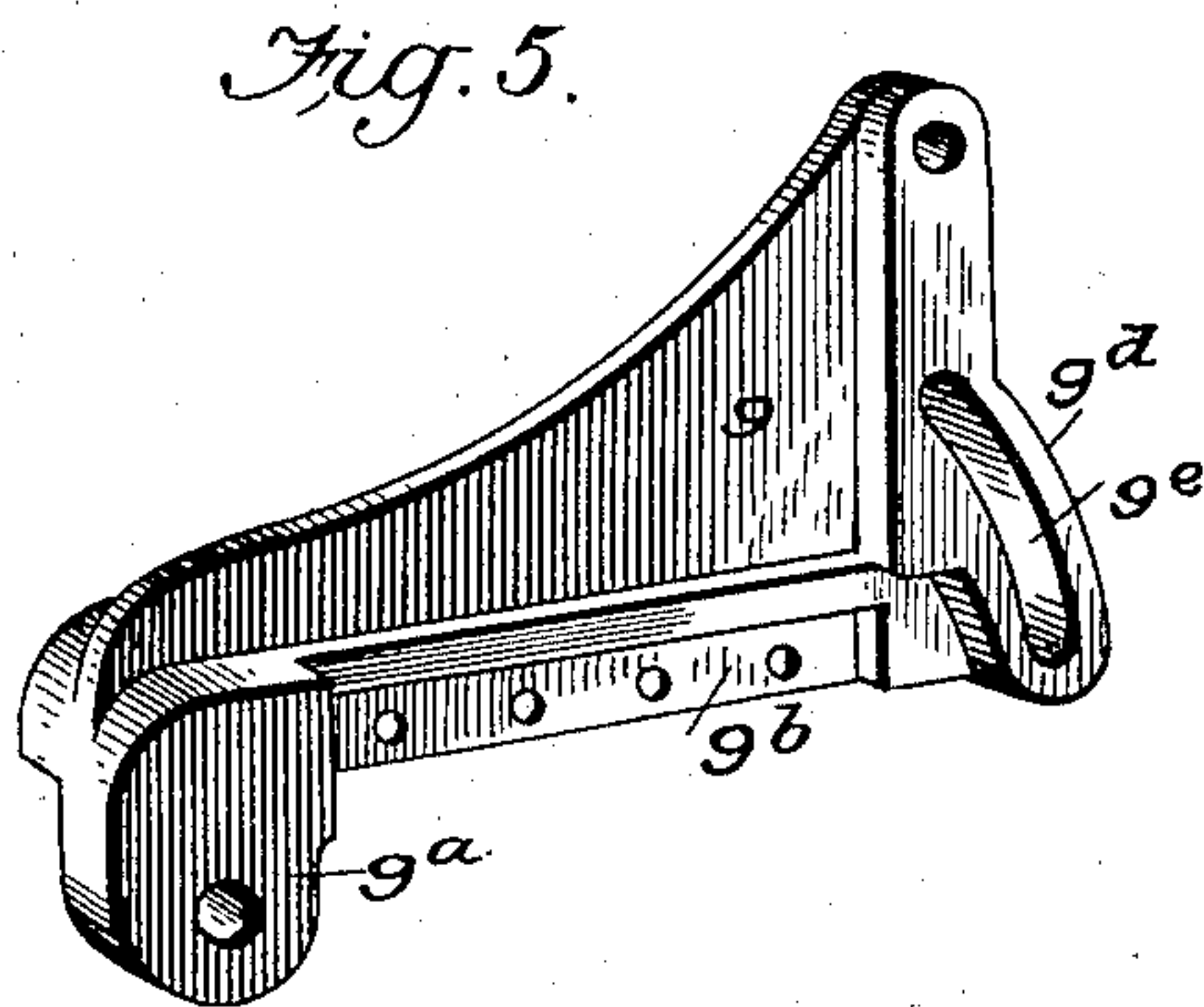
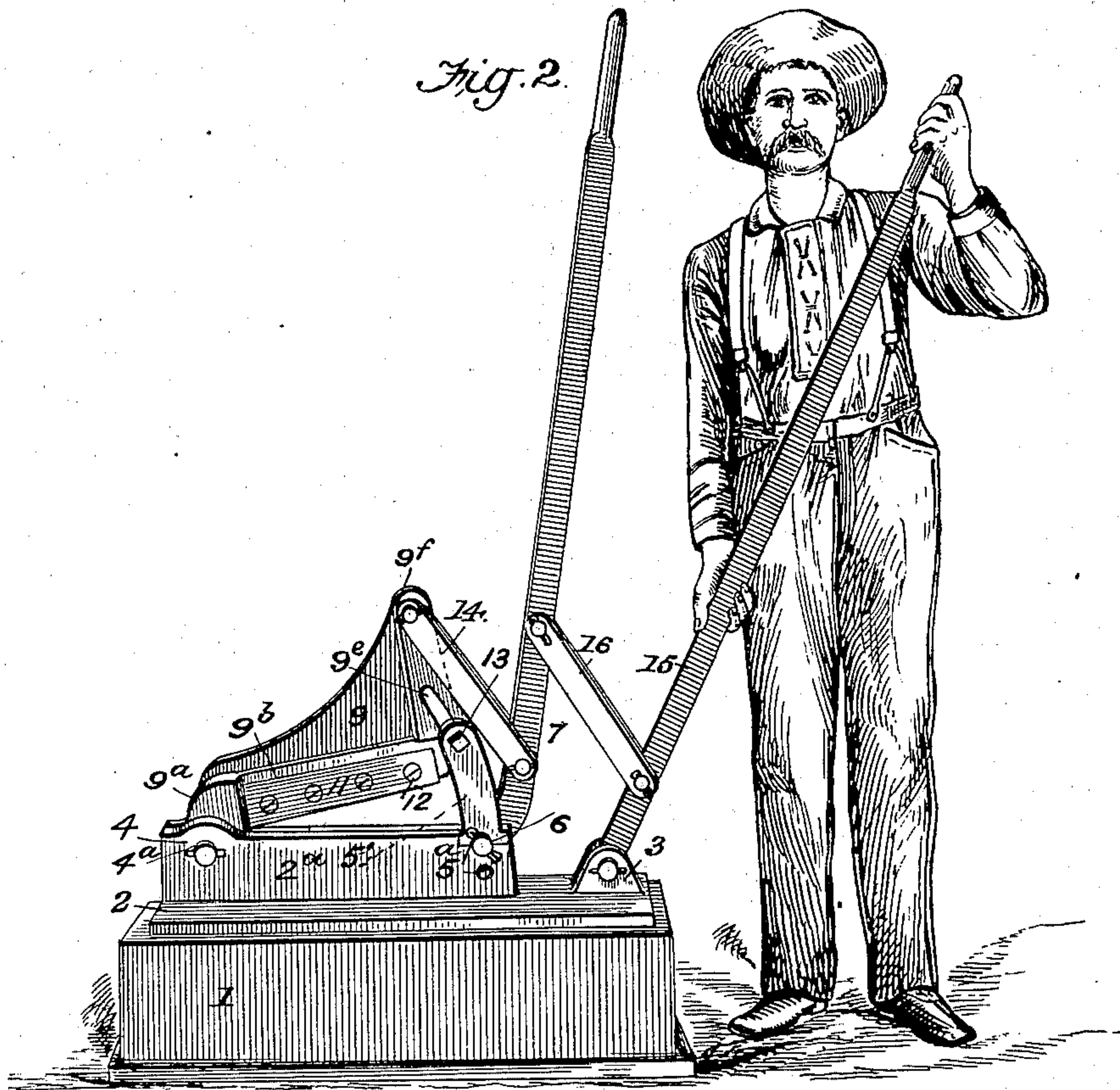
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# UNITED STATES PATENT OFFICE.

WILLIAM OLIVER ORR, OF PIONEER, TEXAS, ASSIGNOR OF TWO-THIRDS TO  
J. S. WHITACRE AND WILLIAM T. CARLTON, OF SAME PLACE.

## LEVER-OPERATED CUTTER MECHANISM.

SPECIFICATION forming part of Letters Patent No. 656,610, dated August 21, 1900.

Application filed May 11, 1900. Serial No. 16,361. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM OLIVER ORR, residing at Pioneer, in the county of East-land and State of Texas, have invented a new and Improved Lever-Operated Cutter Mechanism, of which the following is a specification.

This invention relates to improvements in that class of cutting mechanism having shearing edges; and it primarily seeks to provide a mechanism of this character numbering among its characteristic features simplicity of construction, stability, ease of manipulation, and the no less desirable quality of providing a cutting member having a plurality of cutting edges and adapted to be adjustably and reversibly held, whereby as one edge becomes worn the cutter can be quickly changed to bring the other edge into an operative position.

This invention also comprehends in its complete make up a duplex arrangement of lever members, whereby a powerful or compound lever action can be quickly effected, the general arrangement of the remaining members being of such novel and simplex form that the same may be readily made without the aid of any especially-constructed machinery.

In its subordinate features this invention embodies certain details of construction and peculiar combination of parts, all of which will be first described, and then be specifically pointed out in the appended claims, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of one side of my improvement, showing the manner of operating the same by manipulating both of the lever members. Fig. 2 is a similar view of the opposite side of the machine, showing the manner of operating the same by means of a single lever. Fig. 3 is a vertical section taken substantially on the line 3 3 of Fig. 1. Fig. 4 is a similar view taken on the line 4 4 of Fig. 1, and Fig. 5 is a perspective view of the movable jaw detached.

In its practical construction my invention comprises a suitable base or support 1, upon which is mounted my improved cutting mech-

anism, which consists of a bed-plate 2, made fast to the base 1 in any suitable manner and having at the front end upwardly-projecting bifurcated ears 3 and at the rear end a pair of vertically-projecting ears 4, the purpose of which will presently appear.

At a point between the ears 3 4 and in proper alinement therewith the bed-plate 2 is provided with a pair of upwardly-projecting standards 5, said standards being curved on an arc having as its center the apertures 4<sup>a</sup> in the members 4, and the lower end of each of the members 5 has a series of apertures 5<sup>a</sup>, in either one of which is adapted to be detachably held a pivot-pin 6, which forms the fulcrum for the inner operating-lever 7. The bed-plate 2 at one side has an integral upwardly-projecting flange 2<sup>a</sup>, the upper inner face of which is formed with a horizontally-extending seat 2<sup>b</sup>, in which is detachably fitted the lower or stationary cutting-blade 8, as best shown in Fig. 3, by reference to which it will be seen that the bevel or shearing edge 8<sup>a</sup> of said blade projects above the flange 2<sup>a</sup>.

9 indicates a casting that forms a movable jaw, said casting having an apertured ear 9<sup>a</sup>, adapted to fit between the members 4 4, between which it is pivotally held by the pivot-pin 10, that passes through the apertures 4<sup>a</sup> and the ear 9<sup>a</sup>, as clearly shown in Fig. 4. The front face of the casting 9 is integrally formed with an enlargement 9<sup>a</sup>, extending nearly the length of its lower edge, and the said enlarged portion 9<sup>a</sup> is formed with a seat 9<sup>b</sup>, the upper edge of which is undercut, as at 9<sup>c</sup>, (see Fig. 3,) and in the said seat 9<sup>b</sup> is detachably and reversibly held the upper or movable cutter-blade 11, which is made fast by the screws 12, as shown. This blade, as will be noticed by reference to Fig. 3, has its opposite upper and lower sides formed with cutting or shearing edges, the said blade and the seat in which it is fitted being relatively so arranged that when the blade is fitted in position for use one of the edges of the lower end may project below the edge X of the casting 9 and in proper relation to the cutter 8 to effect a shearing action when the casting 9 is moved down in the manner pres-



ently explained, while the upper edge of the cutter will seat snugly in the undercut portion 9<sup>c</sup> of the seat 9<sup>b</sup>.

By forming the blade 11 in the manner described—that is, with upper and lower cutting edges—and the seat portion 9<sup>b</sup> with the undercut part it is manifest that the blade 11 may be readily removed when dulled at one edge and reversed to bring its opposite cutting edge in position to cooperate with the blade 8, it being also manifest that by reason of the upper or cutting edge of the blade fitting in the seat 9<sup>c</sup> the blade will be thereby more firmly held in its position, materially aiding the screws 12 in holding the said blade in proper position. The cutting edges of the blade are projected in diametrically-opposite directions, so as to form a proper reversing of the same, as stated.

The casting 9, which is illustrated in detail in Fig. 5, has its outer end provided with a curved extension 9<sup>d</sup>, which extension is formed with a slot 9<sup>e</sup>, curved on the arc concentric with the curvature of the members 5, and the said curved portion 9<sup>d</sup> is held to move between the members 5 and to provide for a proper steady movement of the said member 8. A stud-bolt 13 is journaled in the upper ends of the member 5 and passed through the slot 9<sup>e</sup>, as clearly shown in the drawings. The outer end of the casting 9 is also provided with an upwardly-extending portion 9<sup>f</sup>, to which the upper ends of a pair of link-arms 14 are pivotally connected, and the lower ends of the said arms 14 are similarly connected to the lever 7 at a point below the stud-bolt 13.

15 indicates a second lever, which is substantially of a length of the lever 7 and is projected in close relation thereto, the said lever 15 being pivotally mounted at the lower end of the bifurcated ear 3 on the front end of the base 2, and the said lever 15 is connected with the lever 13 by a pair of link-arms 16, pivotally joined at the opposite ends to the two levers, as clearly shown in the drawings.

From the foregoing description, taken in connection with the accompanying drawings, it is thought the complete construction and operation of my invention will be readily understood.

For ordinary purposes the casting 9, with the upper knife, may be brought down in an operative position by pulling on either one of the levers 7 or 15. For cutting heavy iron pipes, railroad-rails, and the like, where great leverage power is required, such power can be readily acquired by manipulating the outermost lever 15, as shown in Fig. 2, or, if desired, both the levers 15 and 7 simultaneously, as indicated in Fig. 1.

By forming the upper cutting-blade in the manner shown and described it is manifest that when one edge becomes dulled the blade can be quickly reversed and the opposite edge used to coact with the blade 2 and by reason

of the upper cutting edge being protected by reason of its fitting in the seat 9<sup>c</sup> overcome all danger of being cut by contact with the upper edge of the blade.

My improvement, as will be noticed by reference to the drawings, embodies a stable construction that can be quickly manipulated to cut slabs, bolts, plow-points, shares, mold-boards, &c., and when made of proper size and strength it can be utilized for cutting railroad-rails or other large pieces of iron and steel. When used in shops where very little power is required, the outer lever 9 might be dispensed with.

By varying the fulcrum of the inner lever 7 the power can be readily increased or diminished, as may be desired, and while I have not so shown it it is obvious that both levers 7 and 15 may have a series of apertures for connecting the link-arms 14 16 therewith.

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

1. An appliance for the purposes described, comprising a suitable supporting base or bed-plate, having an upwardly-projecting portion formed with a horizontally-extending seat, the outer end of said vertical portion having a fulcrum-aperture and the opposite end having a pair of upwardly-projecting members curved on an arc with the fulcrum as the center, a lever adjustably pivoted between the lower ends of the curved members, a swinging jaw having a fulcrum engaging the aperture in the end of the upwardly-extending portion of the base, the front end of said jaw being movable between the curved members of the base, said jaw carrying a cutter held to cooperate with the fixedly-held cutter-base member, the front end of said swinging jaw having a slot curved on an arc with the pivot-pin of the jaw as the center, a stud-bolt mounted in the upper ends of the curved members of the base and passing through the slot in the said jaw, and the link-arms connecting the jaw and the lever, all being arranged substantially as shown and described.

2. In an appliance for the purposes described, the combination of the base, said base having an upwardly-extending curved guide at the front end, a fulcrum-aperture at the other end, and a cutting-blade fixedly held in a seat formed in the said base, of the swinging member 9, pivotally connected at one end to the base, its forward end moving in a circle in a plane with the upwardly-curved member of the base, said forward end having a curved slot, a stud-bolt secured to the upper end of the upwardly-curved member and projected through said slot, said swinging member 9, having a blade-receiving seat, a blade detachably held in said seat with its cutting edge arranged to cooperate with the fixedly-held blade, the lever 7, fulcrumed at its lower end at a point in advance of the front end of the cutter-blades, and below the lower cutter-blade, and the link-arm 14, connecting said



lever 7 and the member 9, all being arranged substantially as shown and for the purposes described.

5 3. In a cutting mechanism of the character described, the combination with the base and the fixedly-held knife, of the casting 9, pivotally connected to the base, lever mechanism for moving the casting 9 with a shearing action down over the base, said casting 9 having a seat 9<sup>b</sup>, whose upper edge is undercut  
10 or beveled upwardly, and a shearing-knife, said knife having its upper and lower edges formed with beveled cutting edges, said knife being adapted to fit the seat in the member  
15 9, with its upper edge projected into the undercut portion of the said seat, and means for securing the said blade to the casting 9, all being arranged substantially as shown and for the purposes described.

20 4. The combination with the base 2, having an upwardly integrally projecting portion 2<sup>a</sup>, provided on its upper inner face with a seat extended lengthwise thereof, the knife 8, fitting the said seat, and means for detachably  
25 connecting the said knife to the member 2<sup>a</sup>, said member 2<sup>a</sup>, having a bifurcated rear end

and having its upper end formed with upwardly-extending integral arms 5, said arms being curved inward, the member 9, pivotally connected to the outer end of the base 2<sup>a</sup>, said  
30 member 9, having an upwardly-projecting portion 9<sup>b</sup>, and an enlarged portion 9<sup>a</sup>, upon its rear side, said portion 9<sup>a</sup>, being formed with a seat 9<sup>b</sup>, terminating with the undercut upper portion 9<sup>c</sup>, a double-edged knife 11, detachably and reversibly held in the seat 9<sup>b</sup>,  
35 the member 9, having a slot 9<sup>e</sup>, the stud-bolt 13, passing through the slot, and engaging the upper ends of the members 5, the lever 7, fulcrumed at the point below the lower cutting-knife, the lever 15, fulcrumed on the base at a point below the lower cutting-knife, and the link-arms 16, connecting the two levers 7 and 15, and arms 13, connecting the lever 7 and the portion 9<sup>f</sup>, of the member 9,  
40 all being arranged substantially as shown and for the purposes described.

WILLIAM OLIVER ORR.

Witnesses:

W. J. COFFMAN,  
J. M. COFFMAN.