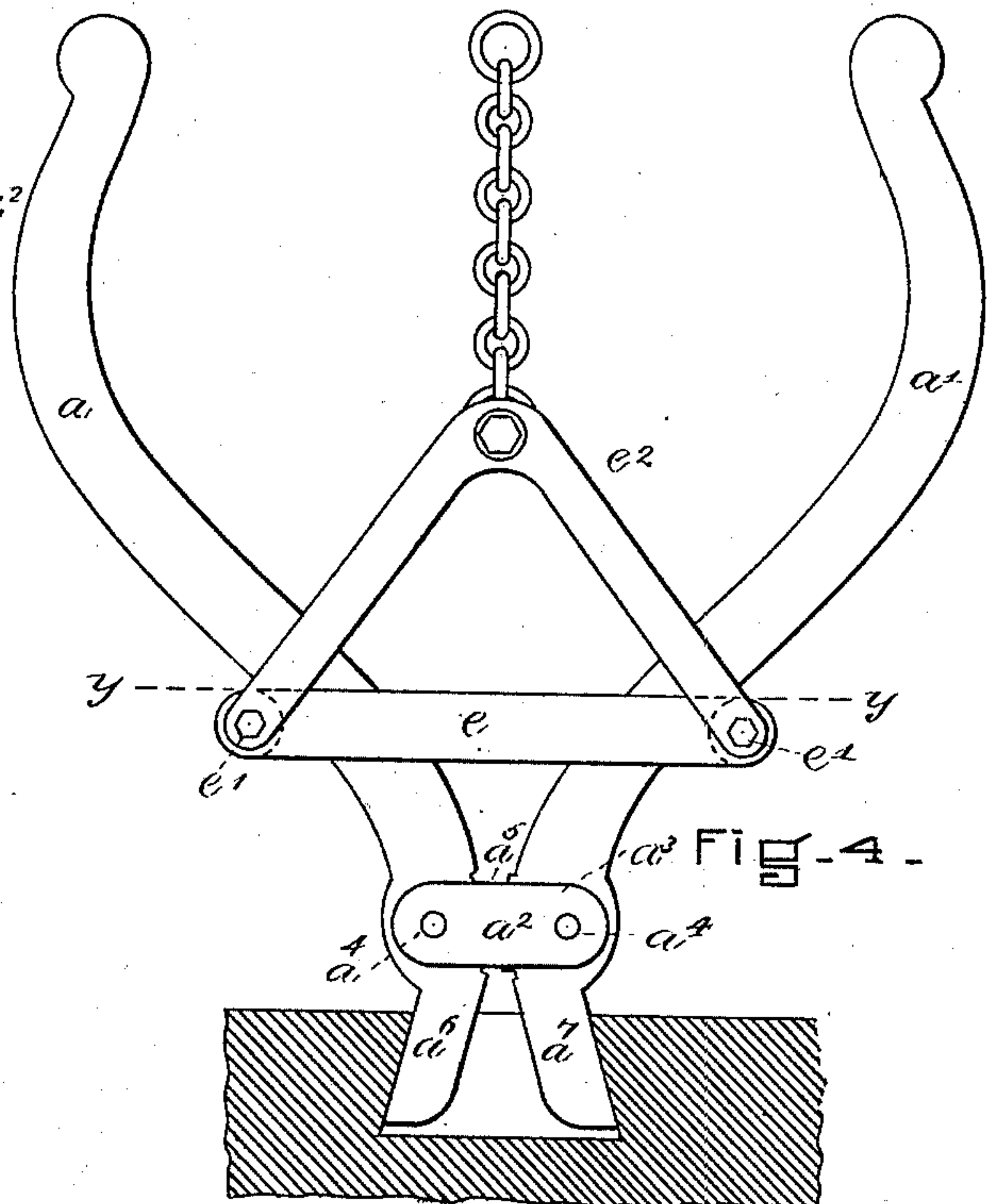
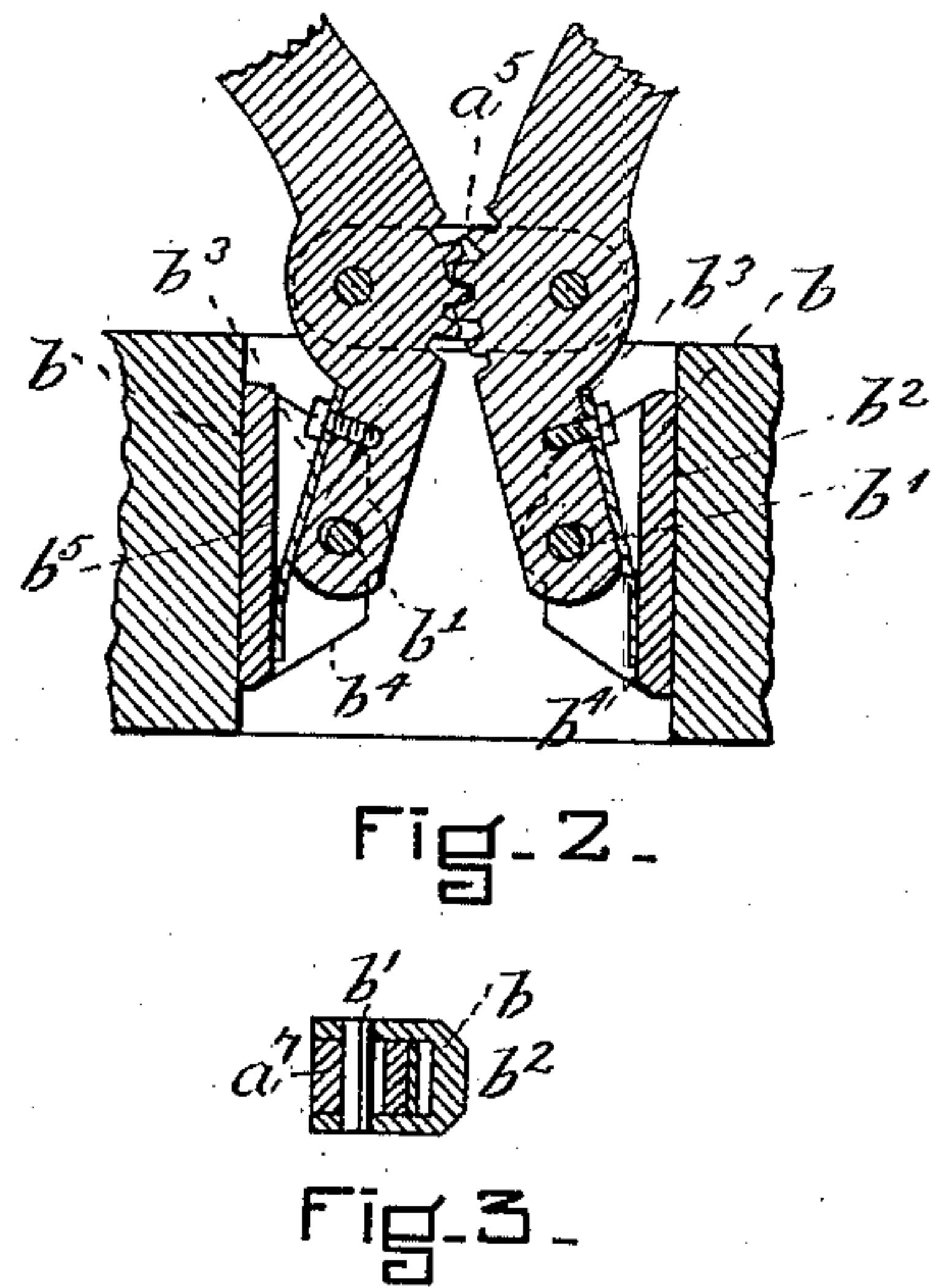
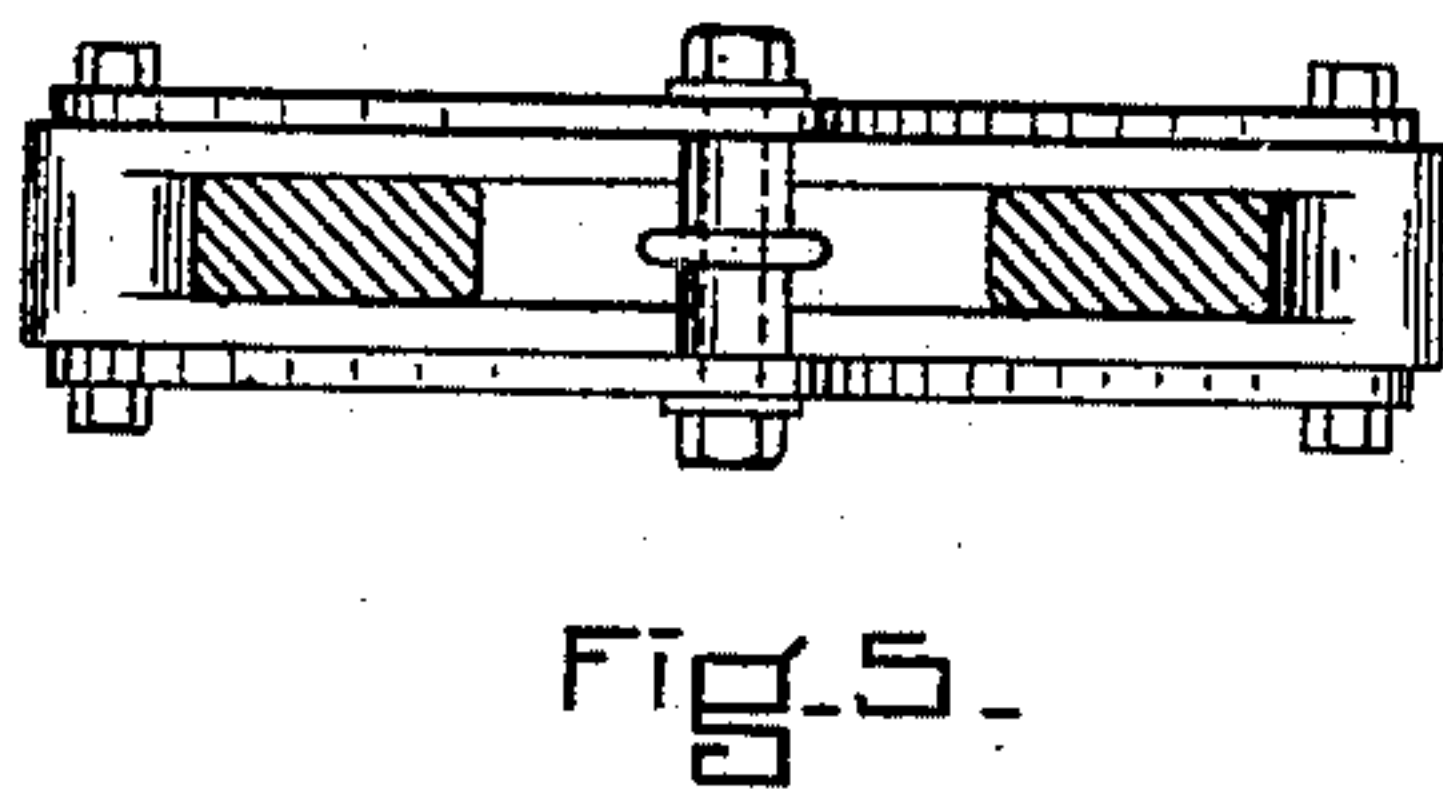
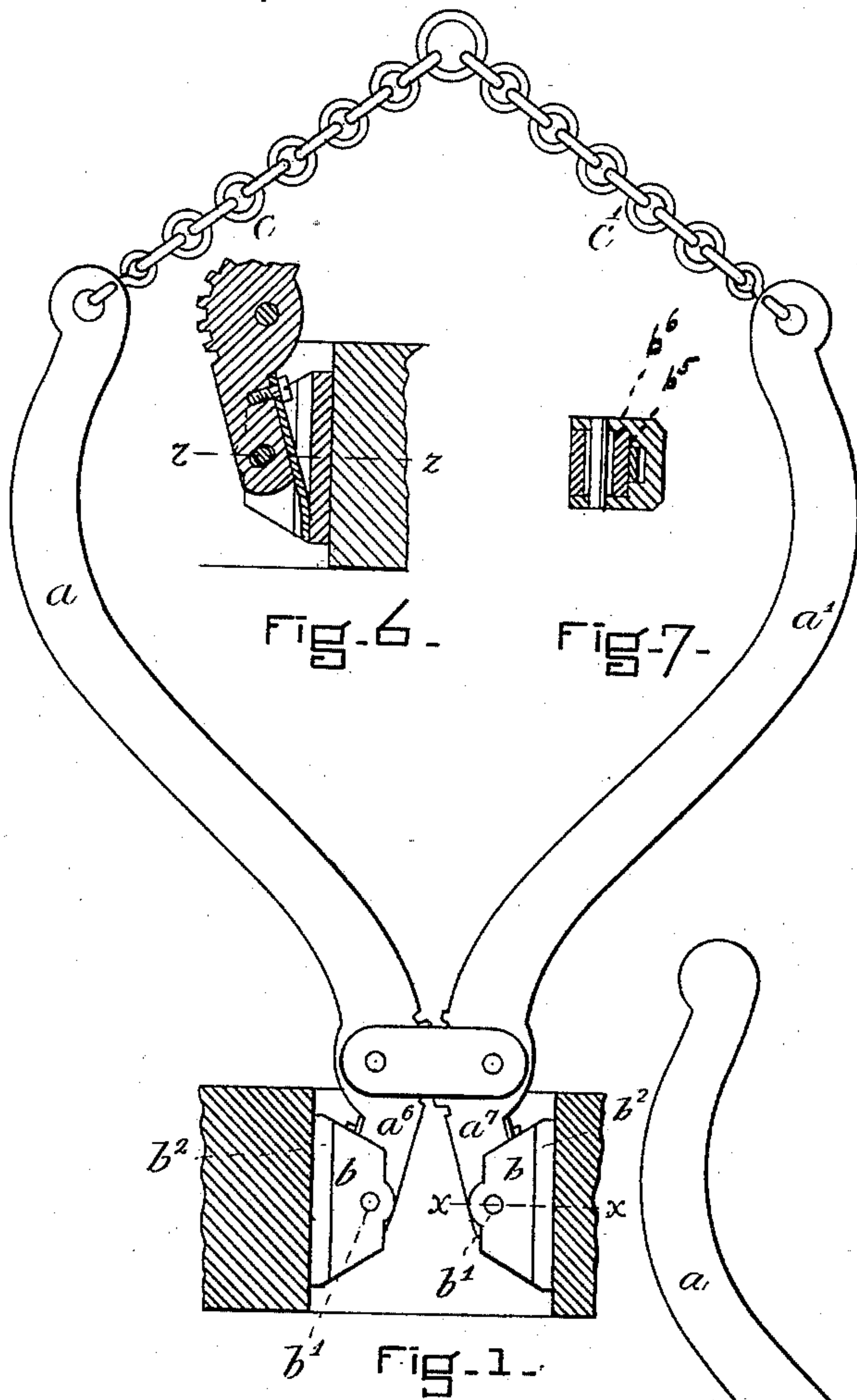


(No Model.)

C. W. ASH.
LEWIS.

No. 277,532.

Patented May 15, 1883.



WITNESSES
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TO JAMES N. LANDER, OF CONCORD, NEW HAMPSHIRE.

LEWIS.

SPECIFICATION forming part of Letters Patent No. 277,532, dated May 15, 1883.

Application filed January 4, 1883. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. ASH, of Boston, in the county of Suffolk and State of Massachusetts, a citizen of the United States, have
5 invented a new and useful Improvement in Lewises, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in explaining its nature, in
10 which—

Figure 1 represents a front elevation of my improved lewis. Fig. 2 is a vertical section of the lower portion thereof, representing it in use. Fig. 3 is a horizontal section upon the
15 line $x x$ of Fig. 2. Fig. 4 represents my invention as applied to a lewis adapted for use with tapering holes; Fig. 5, a view in horizontal section on the line $y y$ of Fig. 4. Figs. 6 and 7 are detail views.

20 The object of the invention is to provide a self-adjusting or automatic device for lifting grindstones, millstones, building-stones, and other heavy articles in the way that the lewis is now employed—that is, by means of a hole,
25 either straight or undercut, formed in the stone or article to be lifted. This I accomplish by hinging together, as hereinafter explained, two levers, the lower portions of which are adapted to enter the hole in the stone or article and
30 bear against the sides thereof, and the upper ends of which are adapted to be brought together by means of a chain, toggle, or in any other desirable way by or upon the lifting of the stone. For lifting building-stones or other
35 articles having undercut recesses the construction shown in Fig. 4 will answer very well; but for lifting grindstones or millstones, or articles having a straight-sided hole, the construction shown in Figs. 1, 2, and 3 is preferable.

40 Referring to the drawings, $a a'$ are levers, connected with each other at the point a^2 by means of the clasp-plates a^3 , which are pivoted to the levers at a^4 , as shown, and the interlocking gear a^5 , or by means of a hinge-
45 joint of equivalent construction—that is, of a construction that will prevent the movement of the two levers in relation to each other without one slipping upon the other. The lower ends, $a^6 a^7$, of the lewis may be straight, as

shown in Fig. 4, or they each may be provided 50 with a shoe, b , as represented in Figs. 1, 2, and 3. In case the shoe is employed, one is pivoted to the lower end of each lever at b' , and it swings thereon so that its outer or contact-
55 ing face, b^2 , can automatically conform to the line of the surface against which it comes in contact.

In order that the shoes may not hang freely from the ends of the arms and prevent their ready insertion into the lewis-hole, I have at- 60 tached to each arm a spring, b^3 , which bears against the lower end of the shoe b^4 , and keeps the shoe parallel with the outward surface of the ends $a^6 a^7$ when they are not in use and while they are being inserted into the lewis- 65 hole. In order that the strain or weight of the stone may not come entirely upon the pivots b' , I have provided in the shoes a shoulder, b^5 , against which a shoulder, b^6 , or any other portion of the lower end of the arm shall come in 70 contact when the lewis is in place, and to enable such contact to take place the holes b^7 in the ends of the lewis through which the pivots pass are enlarged, as represented, so that after the shoes have come to rest the ends a^6 75 a^7 shall move until their shoulders shall come in contact with the shoulders upon the shoe. The upper portions of the arms of the lewis are connected with each other and with the hoisting-chain by means of the chain or flexi- 80 ble connections $c c'$, which extend from the arms to the hoisting-chain, or by means of the cross-plate e , carrying the rolls e' at their outer ends, as shown in Figs. 4 and 5, and which bear upon the outer surfaces of the arms $a a'$ 85 and the metal or other connecting-bar e^2 , which extends from the ends of the plates c to the solid link and chain in Fig. 4.

In use the lower jaws of the lewis are brought together and inserted into the lewis-hole in the 90 stone or other article, and are opened so that the outer surfaces of the jaw contact with the side surface of the hole. This may be done by hand preparatory to the commencement of the hoisting or lifting of the articles; or it will be 95 done automatically upon the commencement of such action, as the movement or stress of such action upon the upper portions of the le-

vers causes them to be brought together, and consequently the lower jaws or portions to be separated, and the weight of the stone or article upon the lewis prevents the jaws from closing and produces sufficient friction between the contacting surface of the hole and that of the jaws to insure a safe holding by the lewis.

Having thus fully described my invention, I claim and desire to secure by Letters Patent of the United States—

1. A lewis having the arms $a\ a'$, shaped as described, the jaws $a^6\ a^7$, and the interlocking strapped joint, securing the arms together, all substantially as set forth.

2. The combination, in a lewis, of the two arms $a\ a'$, having jaws $a^6\ a^7$, the interlocking gear a^5 , and the connecting-plates a^2 , substantially as described, and for the purposes set forth.

3. The combination of the arms $a\ a'$, the jaws $a^6\ a^7$, having the adjustable shoes b , and means for uniting the arms to each other, substantially as specified, all substantially as and for the purposes described.

CHARLES W. ASH.

Witnesses:

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