

(No Model.)

2 Sheets—Sheet 1.

R. ASHE.

EDGE SETTING MACHINE.

No. 251,154.

Patented Dec. 20, 1881.

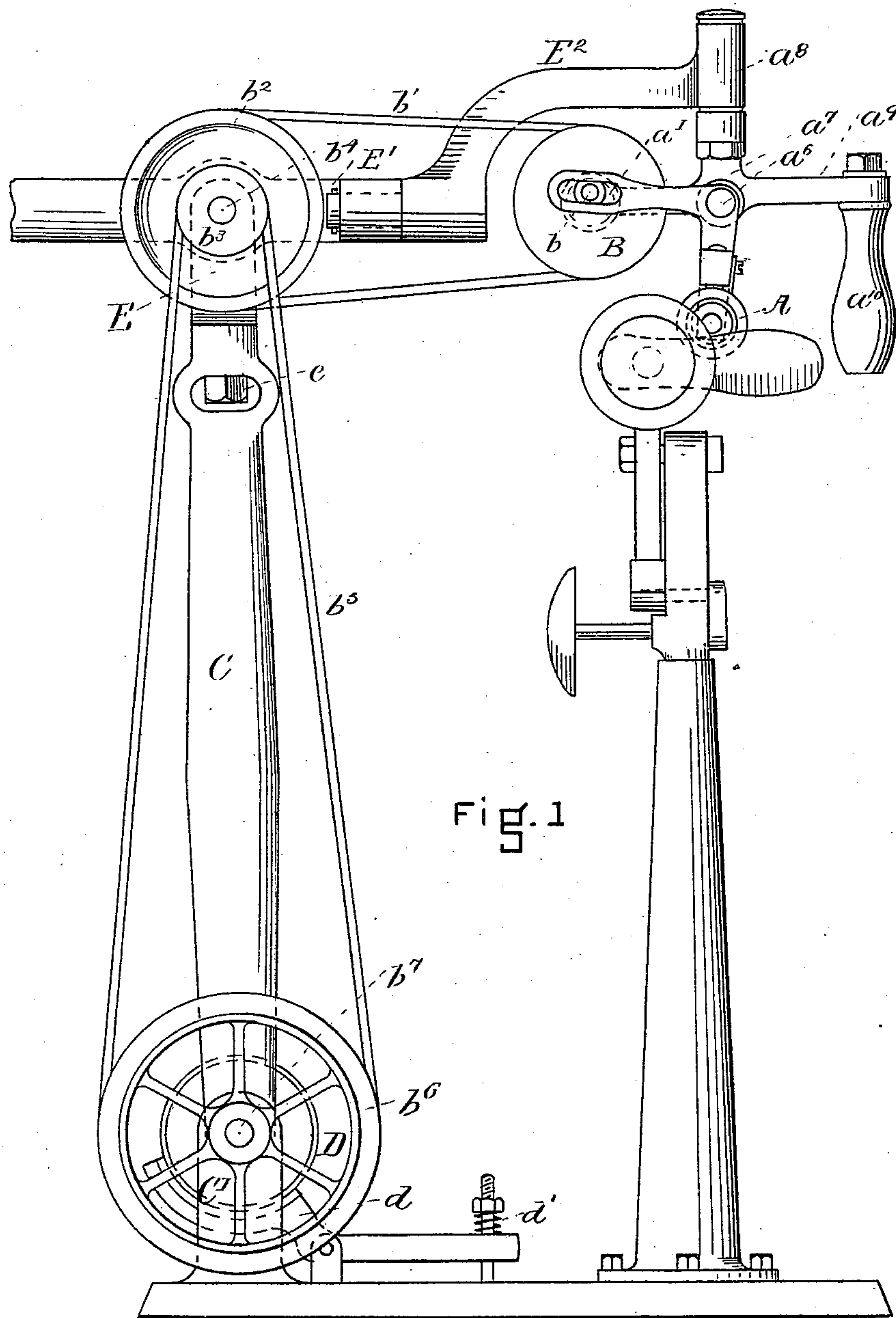


Fig. 1

WITNESSES

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*W. L. Fogg*

*Robert Ashe* INVENTOR

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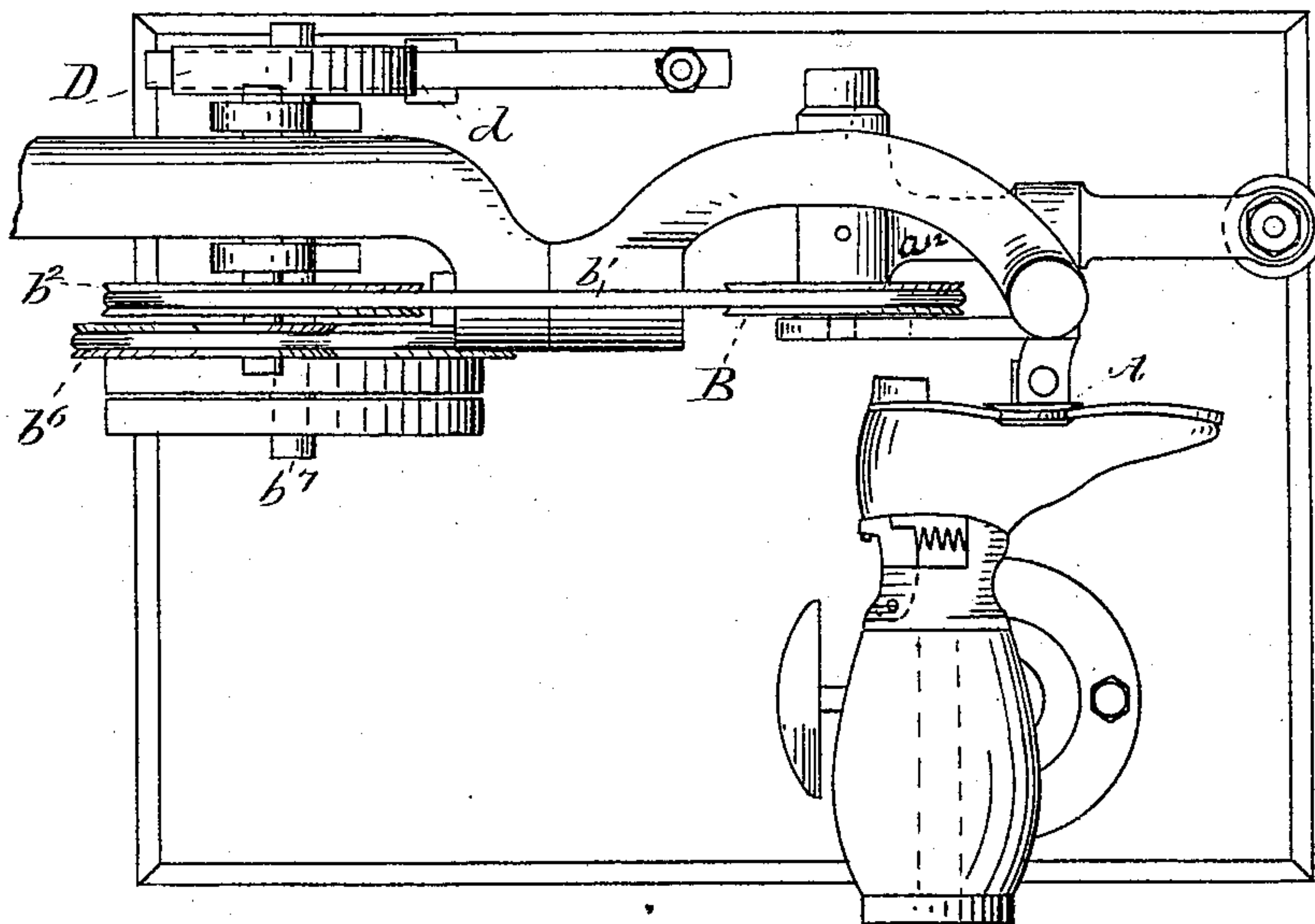


Fig. 2.

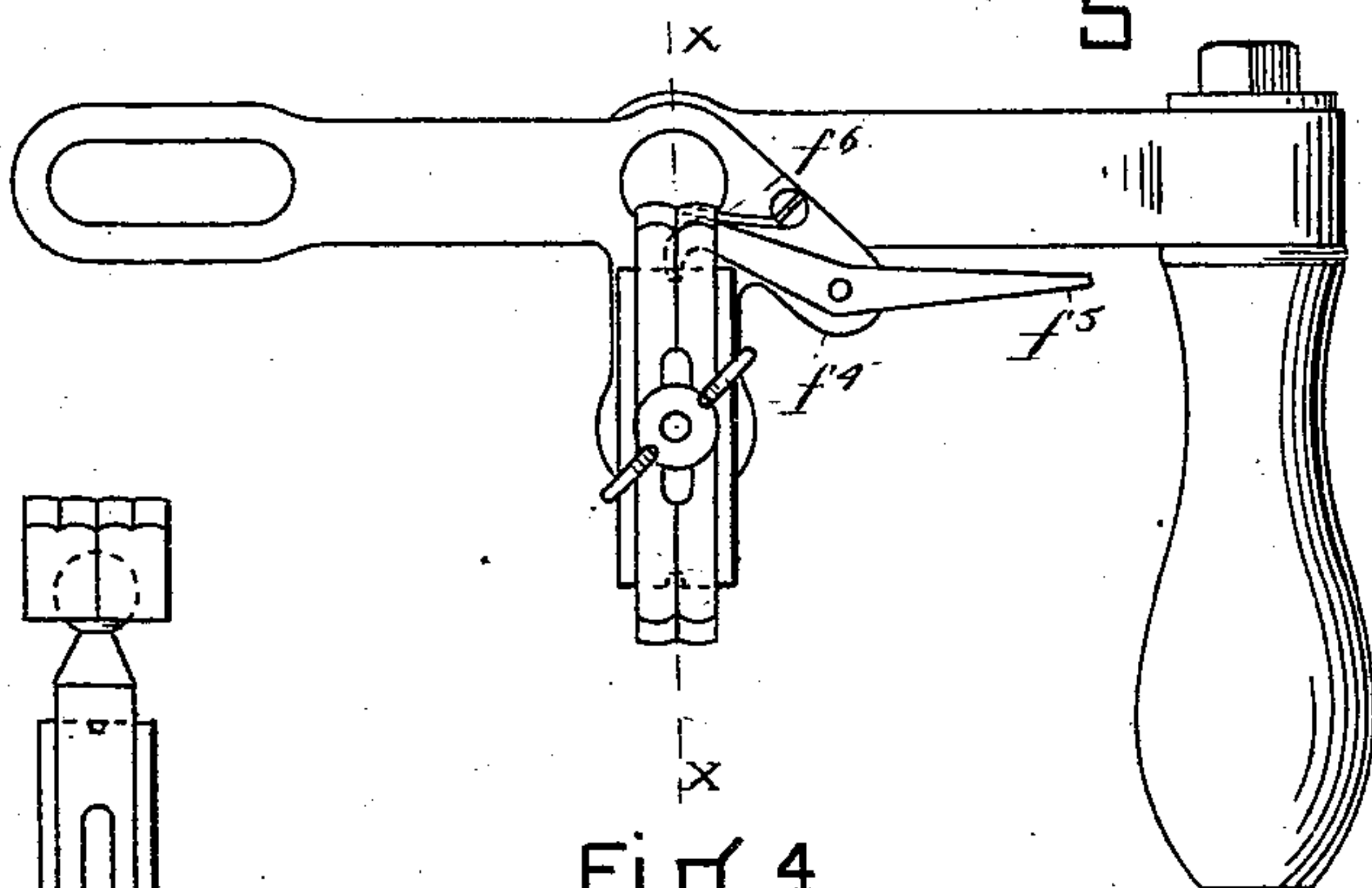


Fig. 4.

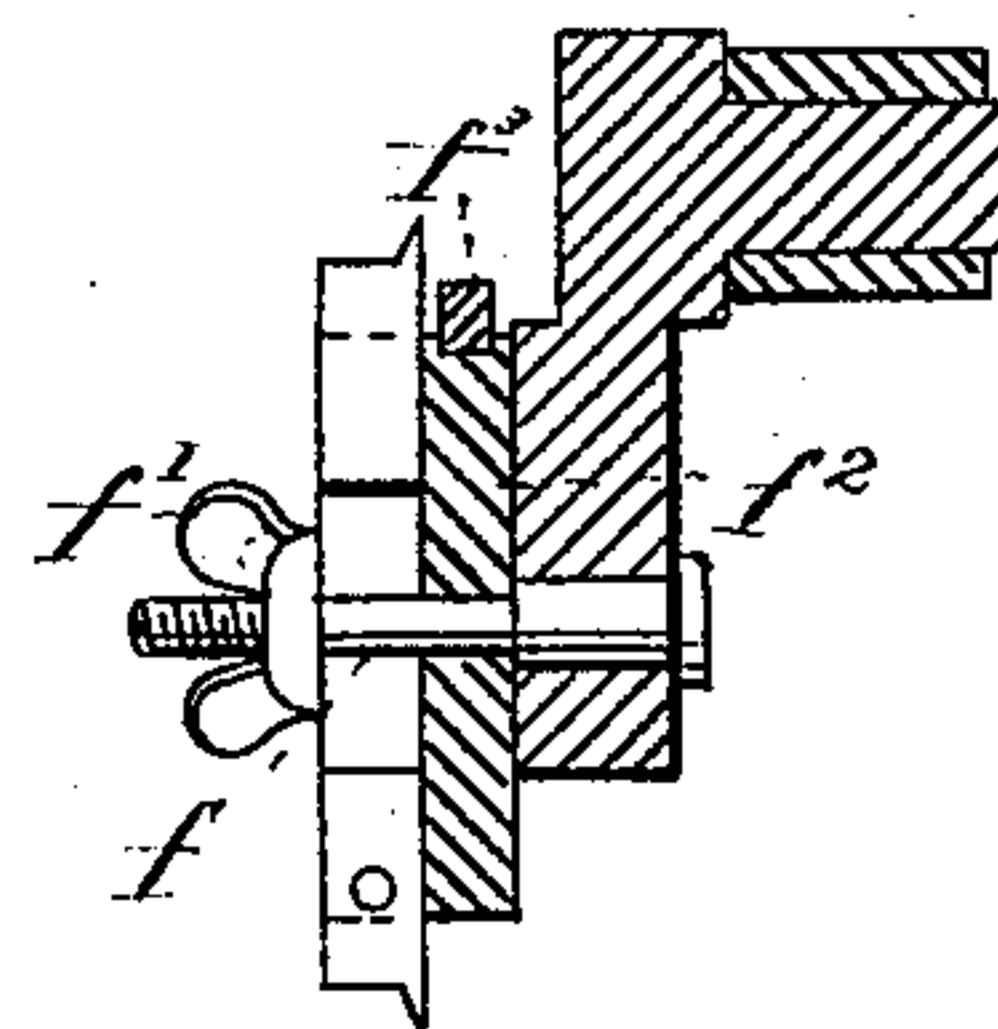


Fig. 5.

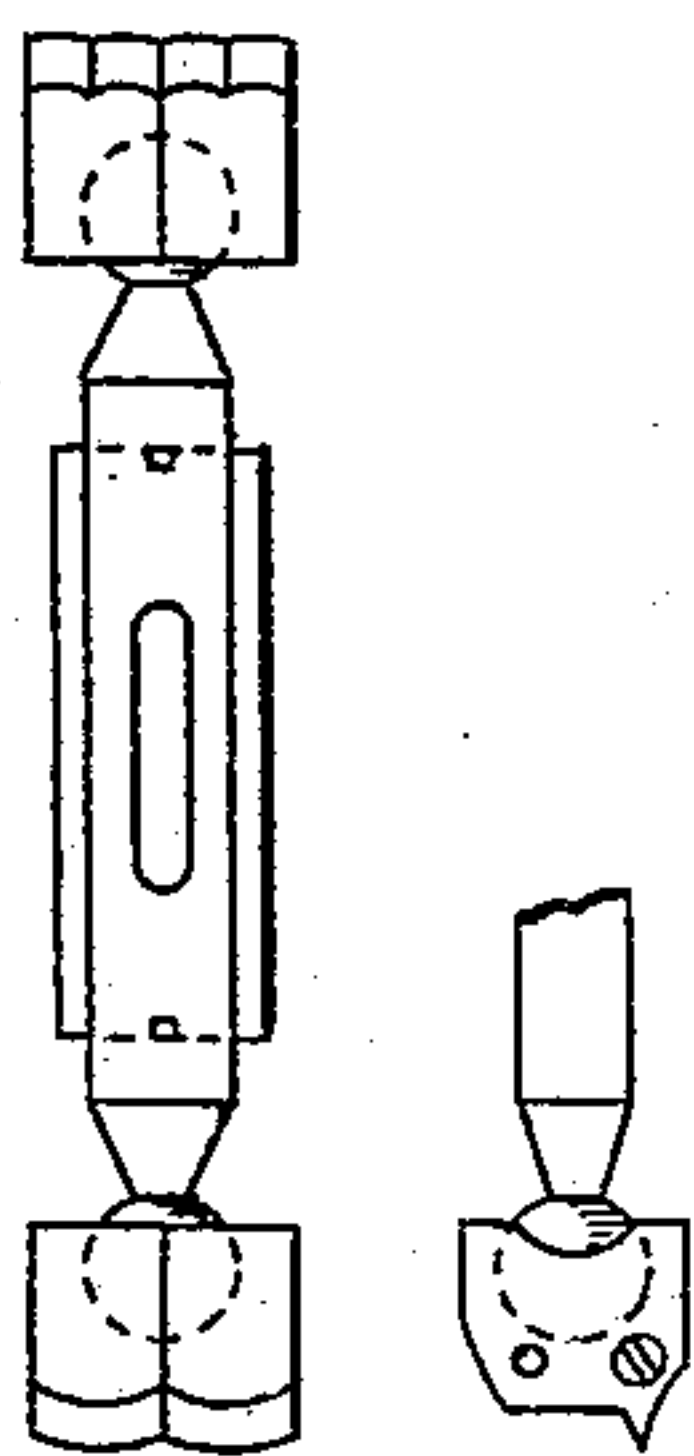


Fig. 6.

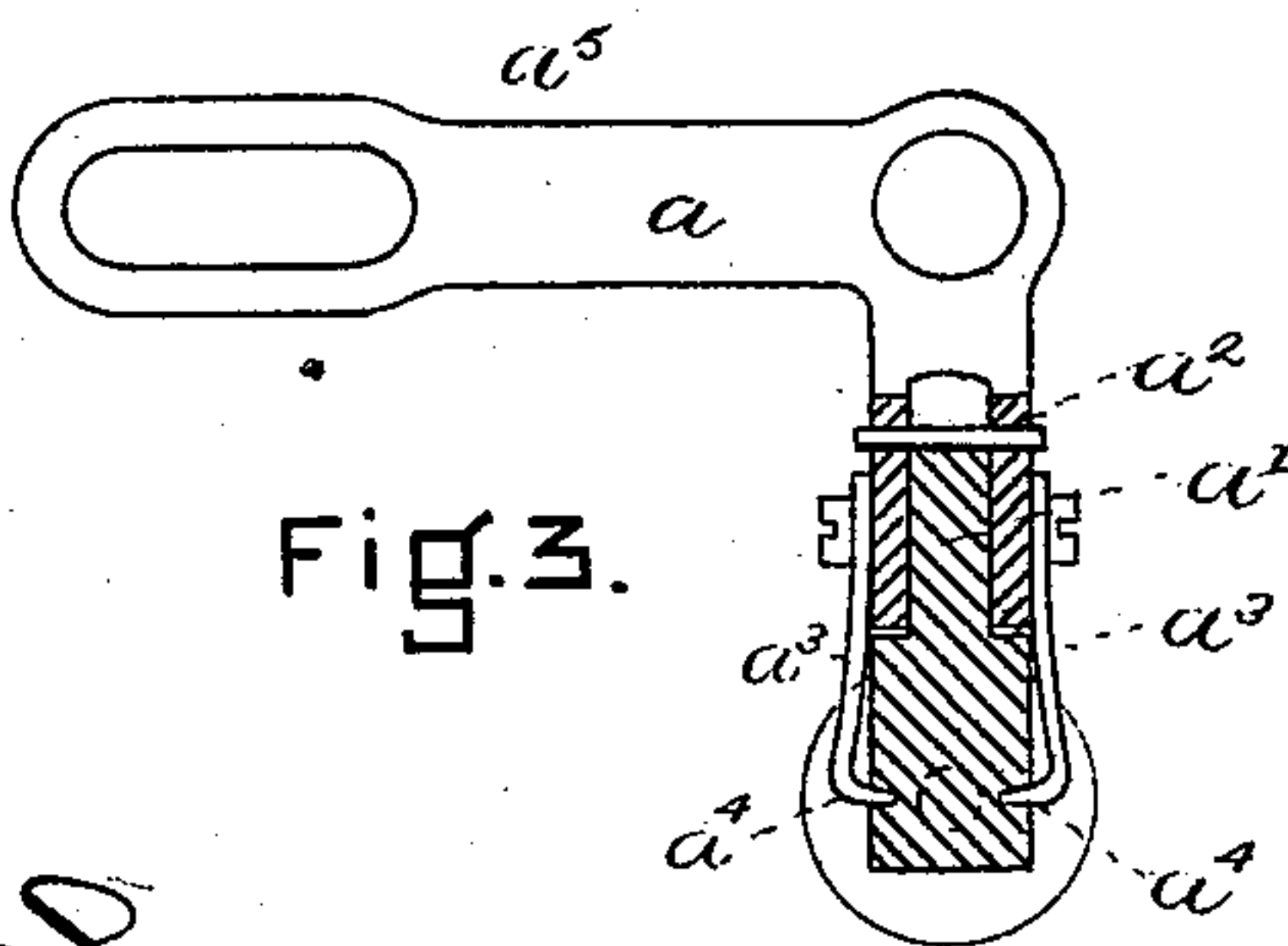


Fig. 3.

WITNESSES

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# UNITED STATES PATENT OFFICE.

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## EDGE-SETTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 251,154, dated December 20, 1881.

Application filed September 13, 1881 (No model.)

*To all whom it may concern:*

Be it known that I, ROBERT ASHE, of Somerville, in the county of Middlesex and State of Massachusetts, a citizen of the United States, have invented a certain new and useful Improvement in Edge-Setting Machines, 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 which—

Figure 1 represents a side elevation of my machine; Fig. 2, a plan view thereof; Fig. 3, a side elevation and section of a portion of the mechanism hereinafter described; Fig. 4, a side elevation of the bell-crank lever and an edge-setting tool, hereinafter more fully described. Fig. 5 is a vertical section on the line  $xx$  of Fig. 4. Fig. 6 represents in elevation a modification in construction of the setting-tool.

The object of this invention primarily is to provide a simple and efficient means for rapidly reciprocating the edge-setting tool; secondarily, it relates to various details in the construction of the tool-supporting mechanism whereby various necessary adjustments are obtained, and also to the construction, method of supporting, and reversal of the edge-setting tool.

In the drawings, A represents one of the edge-setting tools. It is shown in section in Fig. 3, and is fastened to the bell-crank lever  $a$  by means of the stud or spindle  $a'$ , which shuts into a socket or recess in the end  $a^2$  of the bell-crank lever, and by the springs  $a^3$ , attached to the arm  $a^2$  and adapted to close into the recesses or holes  $a^4$  upon each side of the stock of the tool, as represented. The bell-crank lever, in addition to its tool-supporting arm  $a^2$ , has the arm  $a^5$  projecting at right angles to the other arm, and it is pivoted at  $a^6$  to the bracket or support  $a^7$ , which is adapted to be turned horizontally in the socket or head  $a^8$  supporting it, and which has the arm  $a^9$  supporting the handle  $a^{10}$ , by which the position of the tool in relation to the work is changed from time to time, as desired. The arm  $a^5$  of the bell-crank lever has at its end the slot  $a^{11}$ , and into this slot projects the pin, eccentrically arranged on the disk or pulley B. This disk or pulley B is supported by the arm  $a^{12}$  projecting from the bracket  $a^7$ , and is revolved by means of the

belt  $b'$  and pulleys  $b^2 b^3$  upon the shaft  $b^4$ , belt  $b^5$ , and pulley  $b^6$ . This pulley  $b^6$  is revolved on the shaft  $b^7$  by a belt connected with any driving-pulley. This shaft  $b^7$  also serves as the pivot or hinge by which the post C is attached to the base  $C'$ , the shaft being keyed or otherwise rigidly fastened to the post, and turning in the supports upon either side. To prevent, however, the pulley  $b^7$  from throwing the post over in the direction of its revolution, I have arranged upon the opposite side of the shaft from that on which the pulley  $b^7$  has a bearing a friction device, consisting of the wheel D and the brake  $d$ , which is held against the wheel by means of the spring  $d'$ . This brake should be sufficiently powerful to prevent the pulley from moving the post, yet at the same time it should not be strong enough to offer any considerable resistance to its movement by the operator.

At the upper end of the post, and at right angles thereto, is the cross-piece E. This cross-piece has bearings in the intermediate block,  $E'$ , the shaft  $b^4$  acting as a pivot, thus providing for the vertical movement of the upper portion of the tool-supporting frame. The intermediate block,  $E'$ , has a spindle,  $e$ , which enters a socket in the upper part of the post and provides for the swiveling horizontally or laterally of the upper portion of the frame upon the post. The arm  $e^2$  is attached to the end of the cross-piece E in a manner that will enable it to be turned upon the horizontal axis of the said cross-piece, and it is curved upwardly, as represented, and supports at its end the arm or support  $a^7$ , as before indicated.

Any suitable jack may be used for holding the work during the action of the tool, and I represent in the drawings a well-known form of jack having all the necessary adjustments for revolving the boot or shoe and for properly presenting it to the tool.

By the eccentric and bell-crank lever a very simple and cheap method of reciprocating the setting-tool is provided. By the construction of the frame all necessary movements in position of the tool in relation to the work are effected.

In lieu of the tool A, I can use the tool shown in Fig. 5, which is attached to the arm  $a^2$  of the lever, or to a block fastened thereto by means of a bolt,  $f$ , and thumb-screw  $f'$ ; or the tool



may be fastened to the block  $f^2$ , in which case the tool is easily reversed, so that one shape may be easily changed for another shape without substitution.

5 To lock the tool in position I use the catch  $f^3$ , pivoted at  $f^4$ , and having the extension  $f^5$  projecting toward the handle. This catch  $f^3$  enters the hole in the block  $f^2$ , and is held therein by means of a spring,  $f^6$ . If it is desired to  
10 reverse the tool, the catch is lifted, the thumb-screw turned out a little, and the tool reversed, and the catch will then enter a corresponding hole upon the opposite side of the block, and the tool will be thus held in its place until it  
15 becomes again necessary to reverse.

In lieu of a tool having a rounded, flat, or convex surface, I may use one shaped as shown in Figs. 4 and 6, having two convex projections.

20 In Fig. 6 I represent a reversible tool in every way like the one already described, with the exception that the working portions of the tool are made separate or distinct from the connecting part, and are attached to the connecting part by a ball-and-socket joint, so that the  
25 tools have provision for some play upon the ends of their supports.

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

1. The combination, in an edge-setting machine, of a bell-crank lever, pivoted as described, and adapted to support a tool at the end of one arm, an eccentric supported by the frame carrying the bell-crank lever, and an edge-setting tool, all substantially as and for the purposes  
30 described. 35

2. In an edge-setting machine, the combination of the jointed frame  $E^2 E' C E$ , the bell-crank lever, one arm of which supports the tool and the other arm of which engages with an eccentric, and the eccentric, all substantially  
40 as and for the purposes described.

3. The combination of the arm  $a^2$ , having a socket and spring-latches,  $a^3$ , with the edge-setting tool having a spindle,  $a'$ , and the recesses  $a^4$ , whereby the tool is attached to the arm, all substantially as and for the purposes  
45 described.

4. In an edge-setting machine, the combination of a reversible tool, consisting of the block  
50  $f^2$  and the tool attached thereto, with the arm  $a^2$ , the stud or bolt  $f$ , and the thumb-screw  $f'$ , and the spring-catch  $f^3$ , all substantially as and for the purposes described.

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Witnesses:

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