

No. 721,395.

PATENTED FEB. 24, 1903.

D. F. SHEA.  
ROUNDING MACHINE TOOL.  
APPLICATION FILED MAY 2, 1901.

NO MODEL.

Fig. 1,

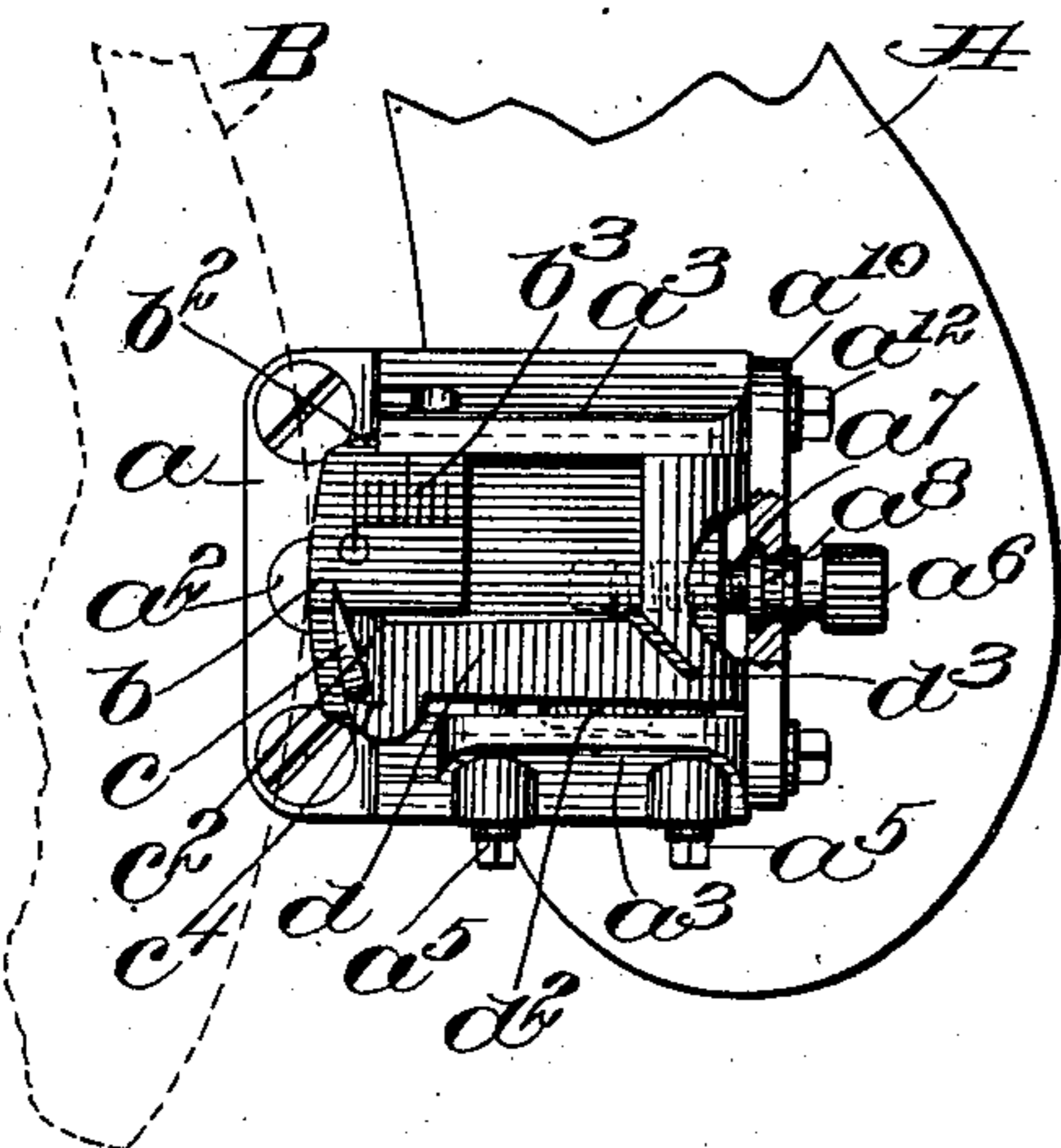


Fig. 4,

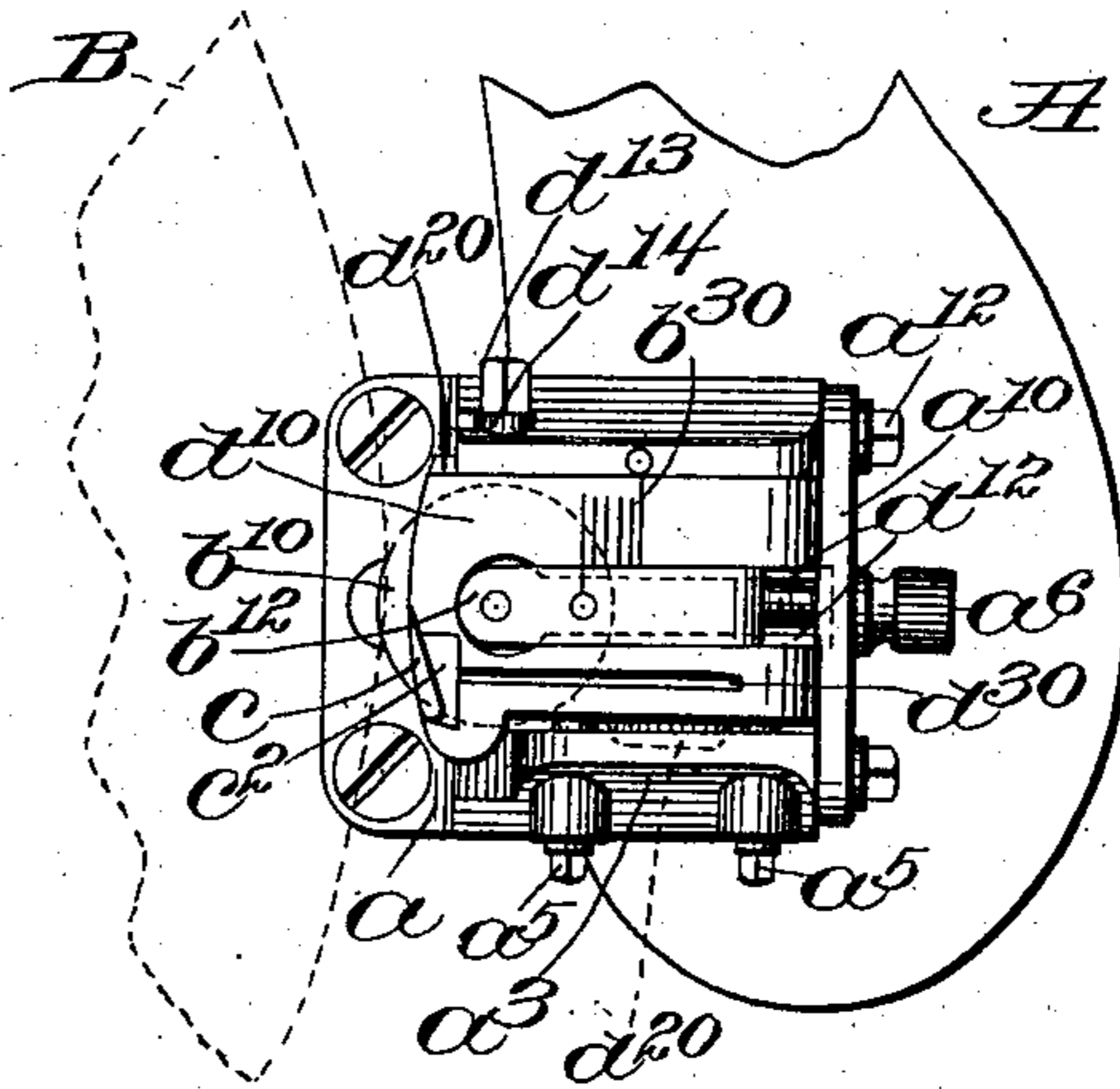


Fig. 2,

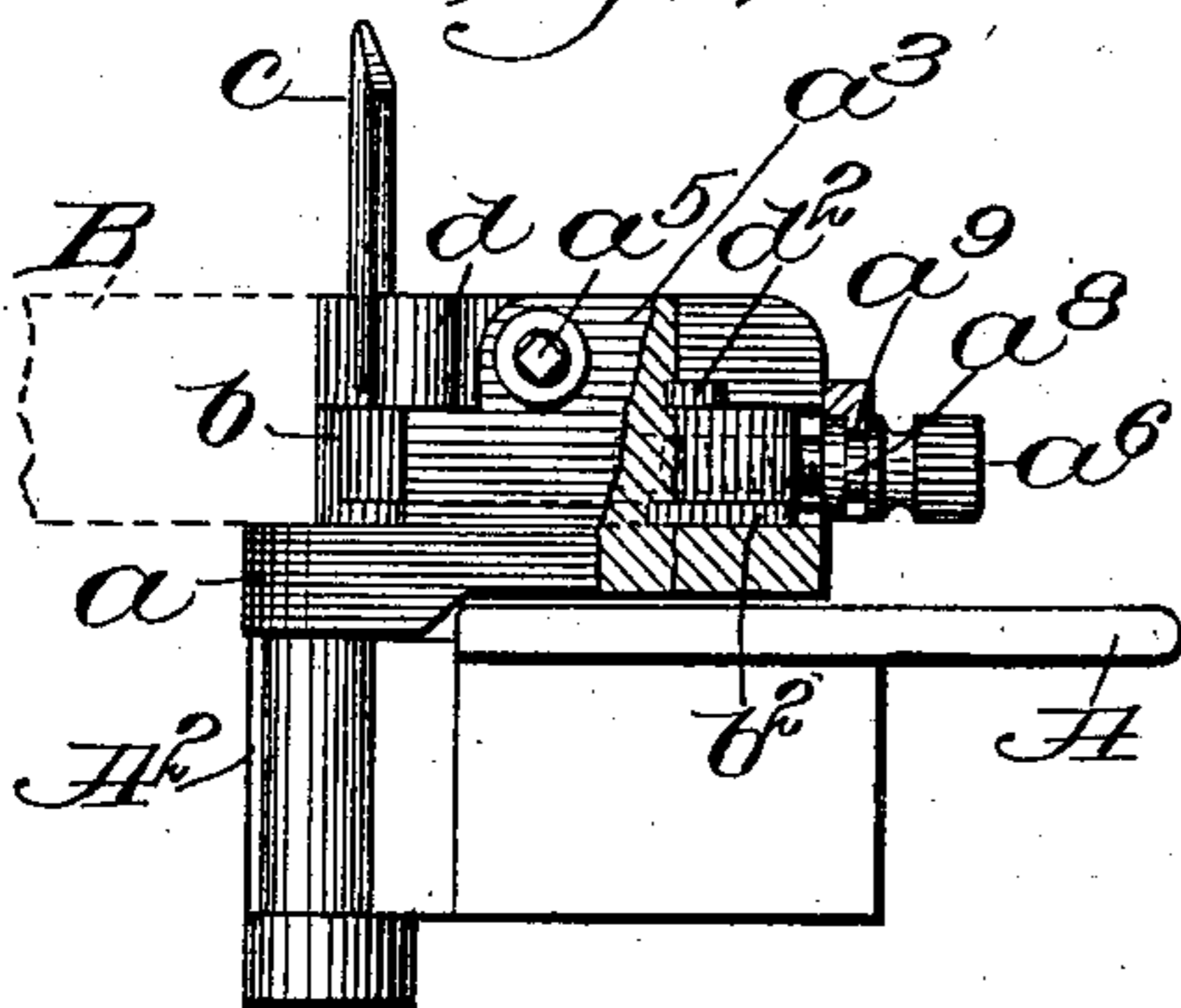


Fig. 5,

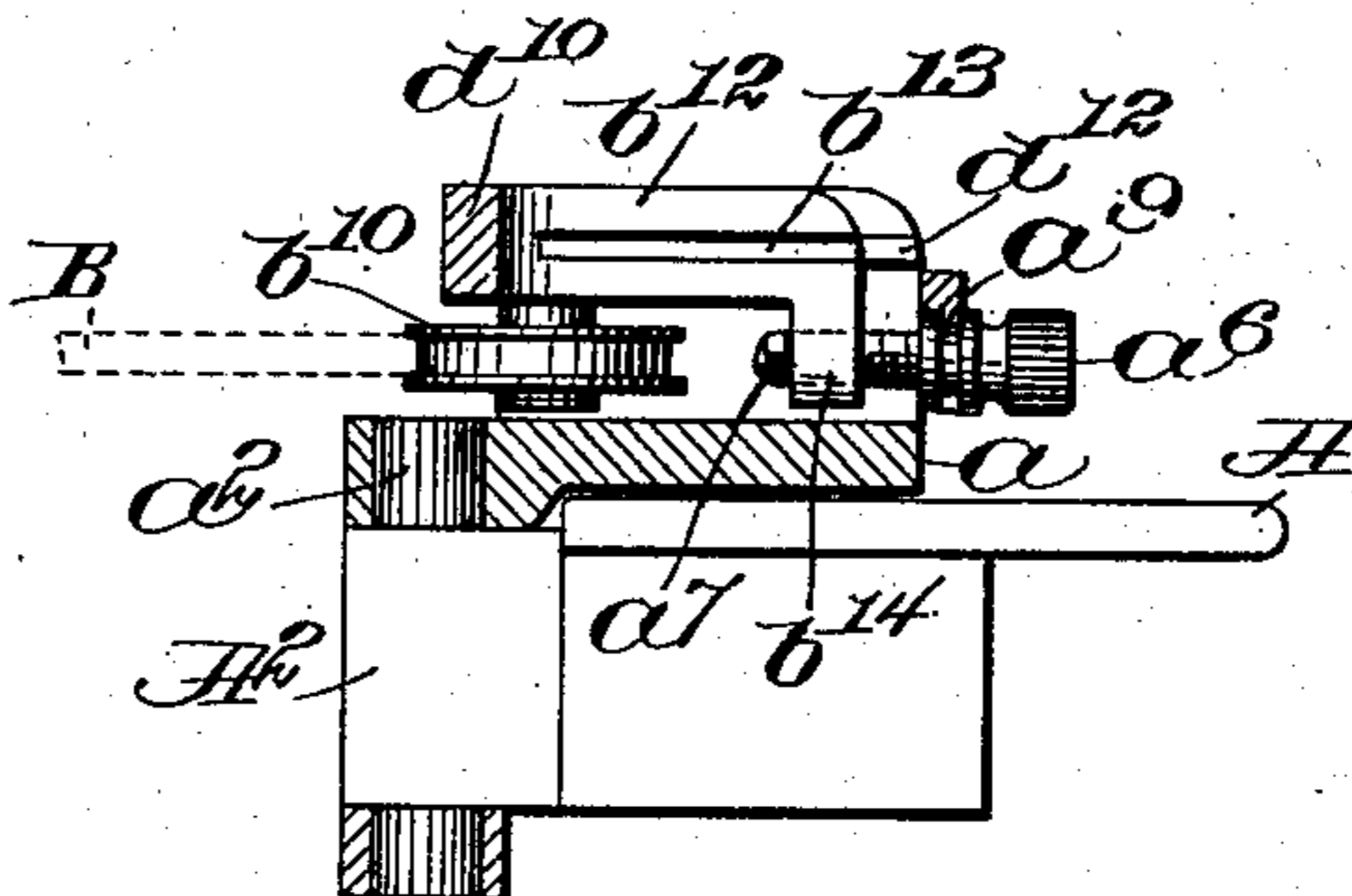


Fig. 3,

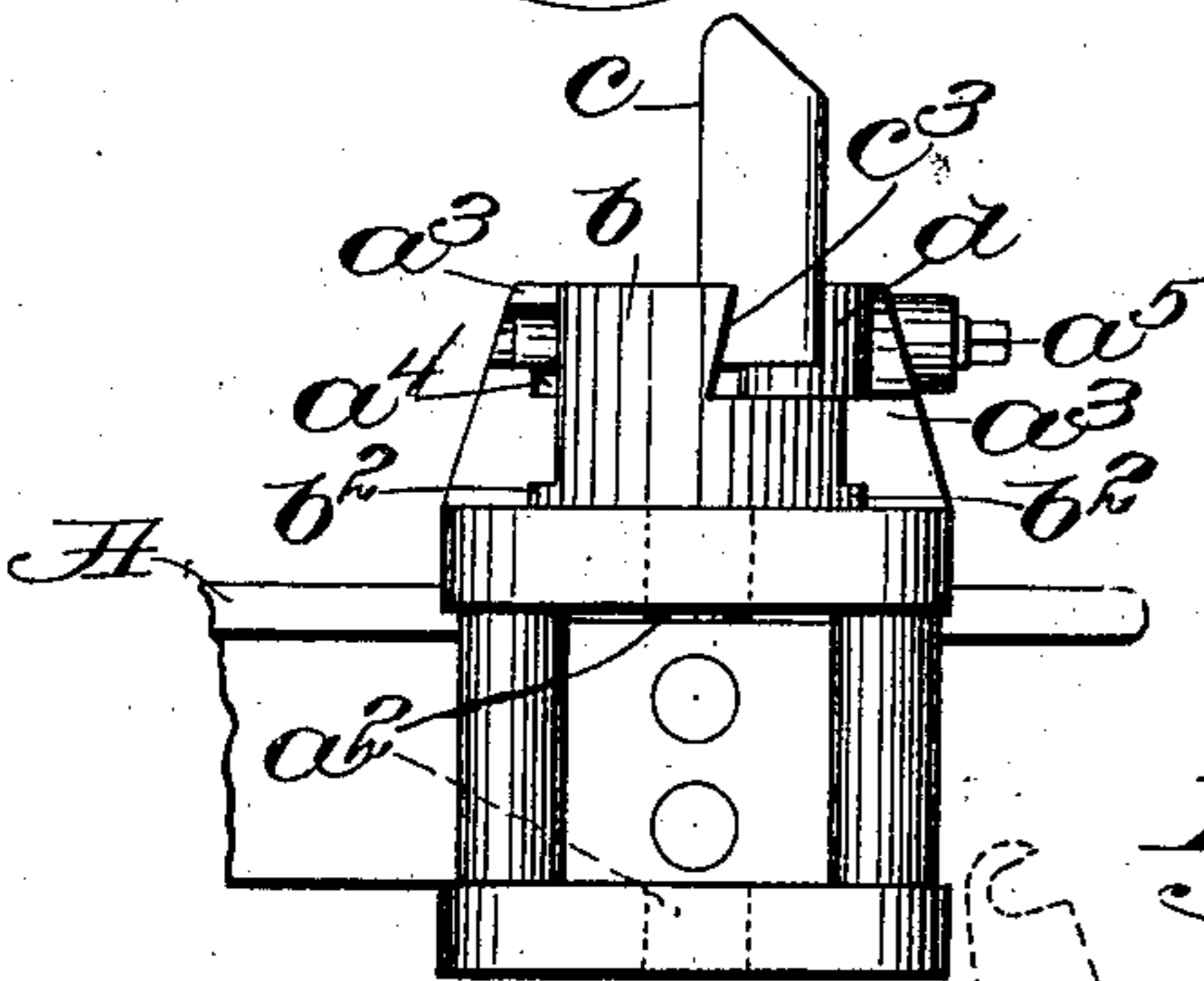


Fig. 6,

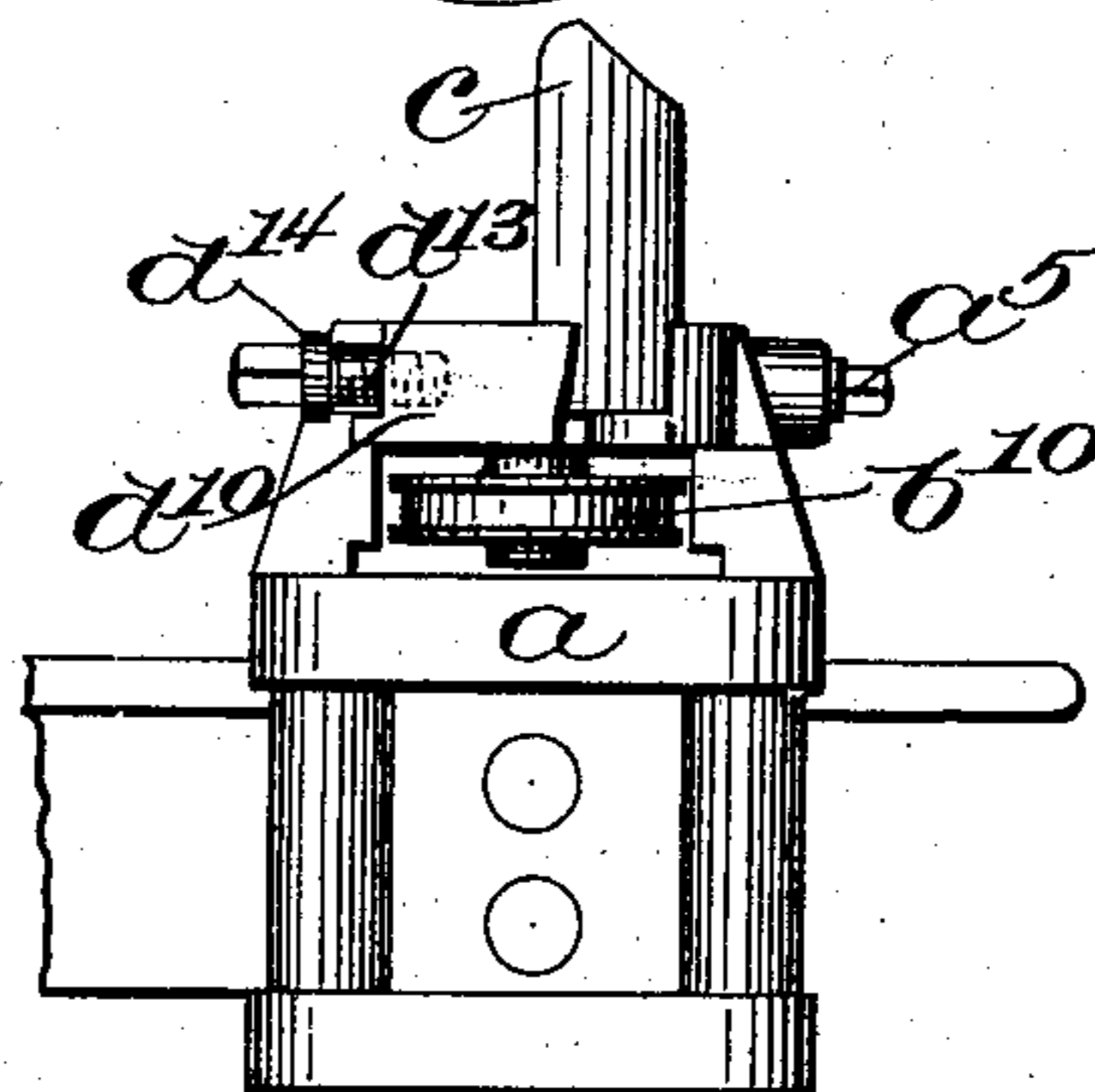
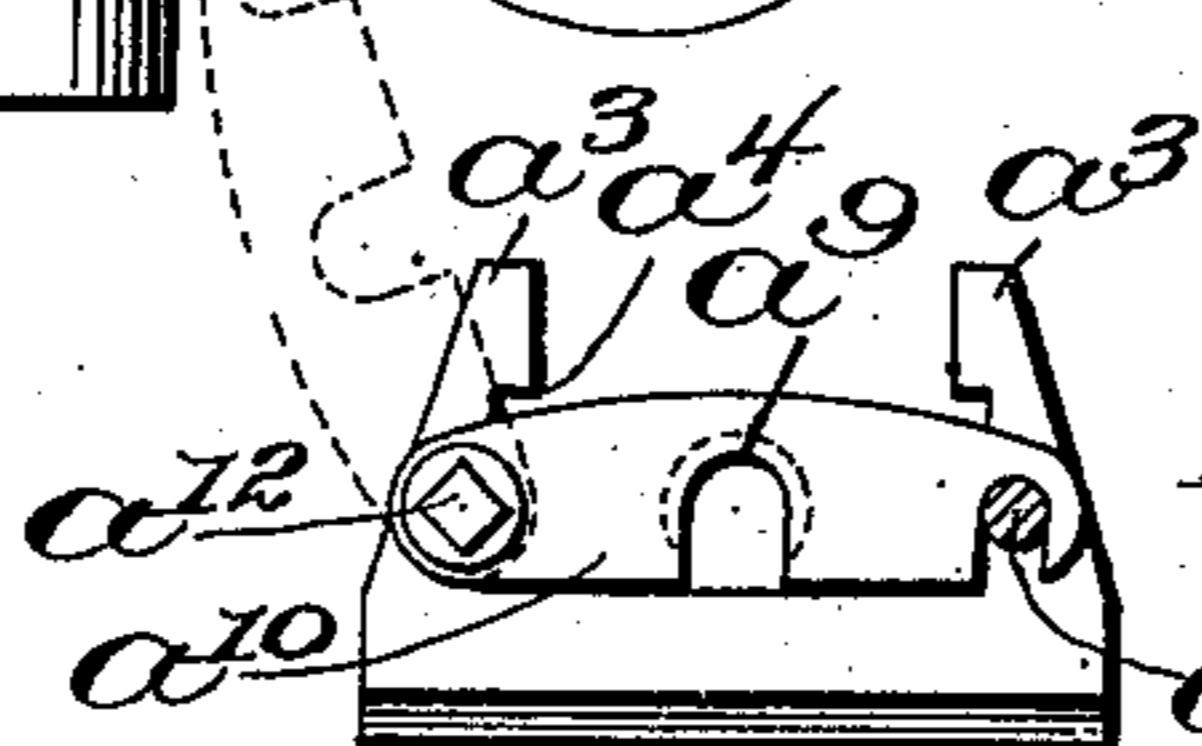


Fig. 7,



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Inventor,  
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Attys.

# UNITED STATES PATENT OFFICE.

DANIEL F. SHEA, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO UNITED SHOE MACHINERY COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION OF NEW JERSEY.

## ROUNDING-MACHINE TOOL.

SPECIFICATION forming part of Letters Patent No. 721,395, dated February 24, 1903.

Application filed May 2, 1901. Serial No. 58,464. (No model.)

*To all whom it may concern:*

Be it known that I, DANIEL F. SHEA, of Boston, county of Suffolk, and State of Massachusetts, have invented an Improvement in Rounding-Machine Tools, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

The present invention relates to a rounding-machine tool for cutting shoe-soles and is mainly embodied in a novel construction and arrangement of the gage and the knife and knife-holder whereby the gage may be readily adjusted and the knife firmly held in place and prevented from pulling out. The tool is further arranged so that the same tool-holder and the same knife may be employed with either a rotatable or non-rotatable gage, the former being used where a thin sheet-metal pattern is employed and the latter where a thick wooden pattern is in use.

Figure 1 is a top plan view of the tool embodying the invention; Fig. 2, a side elevation of the same, partly in section; Fig. 3, a front elevation; Figs. 4, 5, and 6, views similar to Figs. 1, 2, and 3, but showing the rotatable gage in place of the non-rotatable gage; and Fig. 7, a rear elevation.

The knife and gage holder  $a$  is pivotally supported at  $a^2$  in a projection  $A^2$  from the arm A of the machine, the operating mechanism of which machine is not herein shown, since it forms no part of the present invention. It may be stated, however, that in the operation of the machine the said arm travels around the sole, conforming to the outline of a pattern B, (shown in dotted lines,) the tool oscillating on its pivotal support, so that the knife will follow the pattern.

In order that soles varying somewhat in size may be cut by means of the same pattern, the tool is provided with a gage  $b$ , Figs. 1, 2, and 3, which is below the knife and adapted to bear against the side of the pattern B, upon which the sole to be cut is supported. The said gage  $b$  and the knife  $c$  are supported in the holder  $a$ , which is connected, as described, with the arm A. The said holder  $a$  is shown as provided with two wings or supporting members  $a^3$  and is adapted to receive the mov-

able gage  $b$  and the stationary clamping member  $d$ , the knife  $c$  being shown in Figs. 1, 2, and 3 as clamped between the gage  $b$  and the said clamping member  $d$ , the clamping devices which act on the clamping member serving to lock the gage in position after adjustment and to firmly secure the knife at the same time.

As best shown in Figs. 2 and 3, the wings  $a^3$  are provided with grooves or channels  $a^4$ , one of said grooves being adapted to receive a tongue or flange  $d^2$ , formed along one side of the clamping member  $d$ , said member resting at the opposite side on the body portion of the gage  $b$  and being clamped between the wings by means of set-screws  $a^5$ , screw-threaded in one of the said wings  $a^3$ . The said set-screws also serve to clamp the knife  $c$  in position, a portion of the member  $d$  being arranged to spring slightly, as by being cut away at  $d^3$ , and in order that the knife may be locked firmly in position and be prevented from pulling up out of its supporting-socket the said knife is shown as provided with a shank  $c^2$ , one side  $c^3$  of which is inclined outward toward the bottom to fit a wall of the supporting-socket, which is correspondingly inclined toward the top, the said wall in the construction shown in Figs. 1, 2, and 3 being formed in the gage member  $b$ . As will be seen from Figs. 1, 2, and 3, the knife  $c$  will be firmly clamped in position between one side of the member  $d$  and the undercut or inclined portion of the gage  $b$  when the set-screws  $a^5$  are tightened regardless of the position of the said gage. In the construction shown, furthermore, the set-screws also serve to clamp the gage in position after the adjustment is made, said gage being locked between the shank of the knife and the wing  $a^3$ . As indicated in Figs. 1, 2, and 3, in which the gage is non-rotatable, the said gage is shown as provided with flanges  $b^2$ , fitting undercut channels in the wings  $a^3$ , and in order to produce the adjusting movement of the said gage  $b$  it is provided with an adjusting member  $a^6$ , having a threaded extremity  $a^7$ , fitting a correspondingly-threaded opening in the end of the gage member, the said adjusting member having an annular groove  $a^7$ , into which fits a projection  $a^9$ ,

formed on a holding member  $a^{10}$ , which is shown as secured to the ends of the wings  $a^3$ , as by cap-screws  $a^{12}$ . By loosening the screws  $a^5$ , therefore, and turning the adjusting member  $a^6$  the gage  $b$  can be moved out and in, and in order to prevent the knife  $c$  from dropping out when the screws  $a^5$  are loosened and the gage is being moved the shank or supporting portion  $c^2$  of the knife is provided with an inclined side surface  $c^4$ , which fits behind a corresponding inclined surface of the member  $d$ . The gage  $b$  is shown as provided with a scale  $b^3$  in order to facilitate the adjustment thereof to the proper position, the scale-marks being graduated to accord with the sole sizes commonly used.

In Figs. 4, 5, and 6 a rotary gage  $b^{10}$  is shown as substituted for the non-rotating gage  $b$ , the construction and mode of adjustment being substantially the same, the said rotary gage, however, being supported in the member  $d^{10}$ , which corresponds to the member  $d$  of Figs. 1, 2, and 3. The said member  $d^{10}$  is provided with flanges  $d^{20}$  to fit the channels  $a^4$  in the wings  $a^3$  and is engaged and clamped by means of the screws  $a^5$ . The gage-wheel  $b^{10}$  is mounted on an arbor supported from a member  $b^{12}$ , having grooves  $b^{13}$  arranged to receive flanges  $d^{12}$ , formed along the sides of a slot cut in the member  $d^{10}$ , the said member  $b^{12}$  being engaged by the adjusting-screw  $a^6$ , which is held by the plate  $a^{10}$ , as in the construction already described. The adjusting-screw  $a^6$  engages in a threaded opening in a downward projection  $b^{14}$ , so as to stand in the same position relative to the tool-holder  $a$  as in the other construction, whereby the two different gage members are readily interchangeable. The same knife may be employed and supported in a socket in the member  $d^{10}$ , which is shaped like the socket shown in Figs. 1, 2, and 3, and the member  $d^{10}$  is provided with a slot  $d^{30}$ , corresponding to the slot  $d^3$ , but somewhat differently positioned, as shown, in order that the said member may serve to clamp the knife in position. The member  $a^{10}$  may, as best shown in Fig. 7, be in the form of a yoke, so that by simply loosening the screws  $a^{12}$  it can be disengaged and lifted, turning on one of the screws as a pivot, and one gage member can be substituted for the other without trouble. The rotating gage is also shown as provided with a scale  $b^{30}$ , the scale-marks being drawn on the member  $d^{10}$ . In order to prevent endwise displacement of the member  $d^{10}$ , said member is shown as provided with a screw  $d^{13}$ , having an enlarged portion  $d^{14}$ , adapted to enter a recess in one of the wings  $a^3$ , as best shown in Figs. 4 and 6. The said

wing is also provided with a slot cut in to meet said recess, the slot being narrower than the diameter of the portion  $d^{14}$ , but wide enough to admit the screw, so that the member  $d^{10}$  can be slid out endwise without wholly removing the screw.

I claim—

1. A tool for rounding-machines, comprising a holder for the knife; a clamping member secured in said holder and having a socket with a wall inclined inward toward the top and a wall inclined inward toward the rear; and a knife having a shank with sides inclined outward toward the bottom and rear to fit said walls, as set forth.

2. A tool for rounding-machines comprising a knife having a shank with a side inclined outward toward the bottom and a side inclined outward toward the rear; a knife-holder having a clamping-socket with walls correspondingly inclined toward the top and rear; and a gage adjustable with relation to said knife and holder.

3. A tool for rounding-machines comprising a pivotally-supported holder for a knife and gage; a knife stationary with relation to said holder; a gage adjustable with relation to said holder; an adjusting-screw threaded in said gage and having an annular channel; and a yoke removably secured to said holder and having a tongue to fit said annular channel, as set forth.

4. A tool for rounding-machines comprising a pivotally-supported holder for a knife and gage; a knife stationary with relation to said holder; a gage movable with relation to said holder; means for adjusting said gage; a clamping member and a socket for the knife formed between said clamping member and the gage, whereby the gage and knife are both clamped after the gage has been adjusted.

5. The herein-described holder for the knife and gage of a rounding-machine which consists of a pivotally-supported member having parallel wings, one of which is provided with a channel and the other with a shoulder and clamping-screws extending through the wing above the shoulder; and a yoke member secured to the ends of the wings, substantially as and for the purpose described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

DANIEL F. SHIEA.

Witnesses:

HENRY J. LIVERMORE,  
NANCY P. FORD.