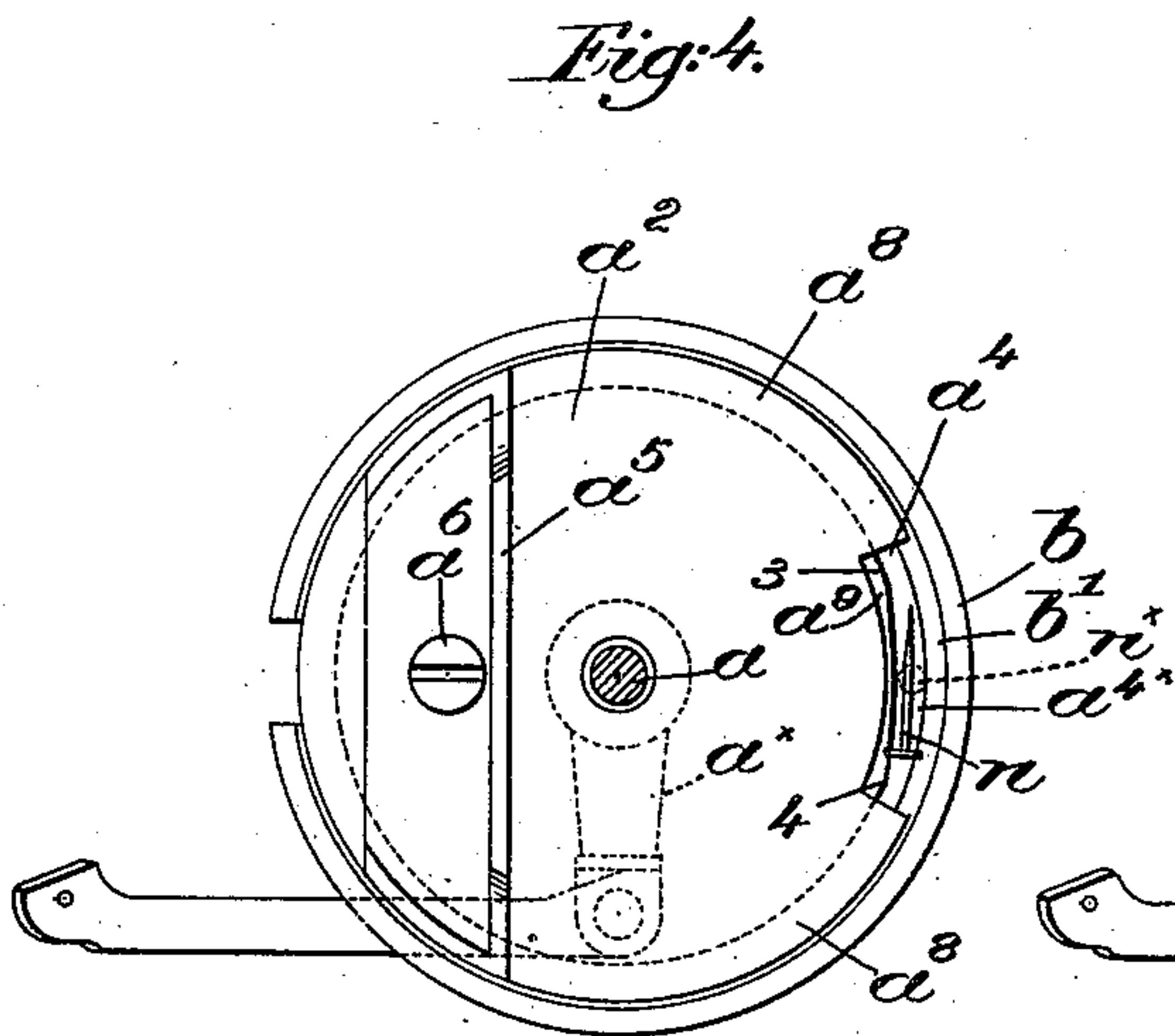
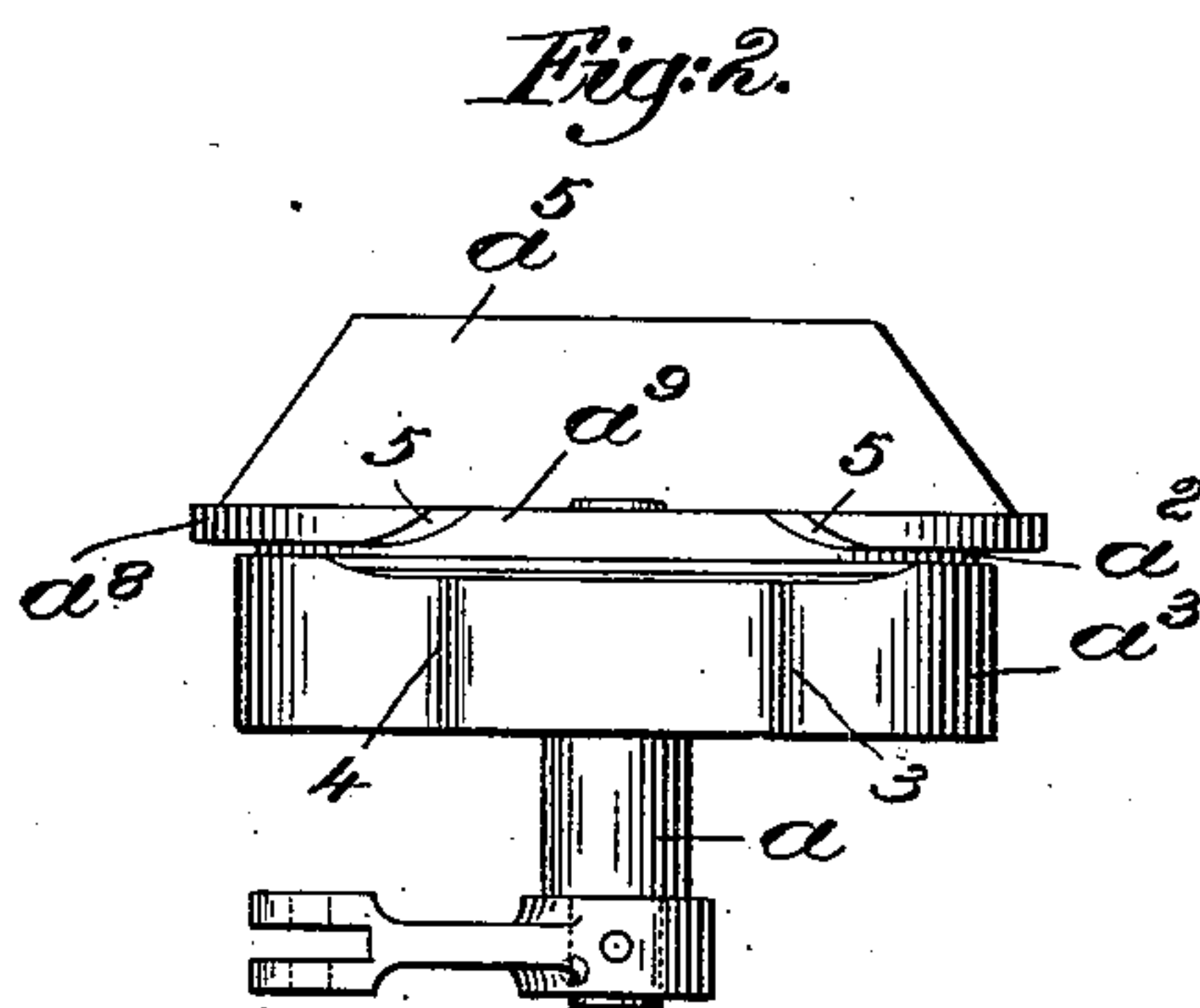
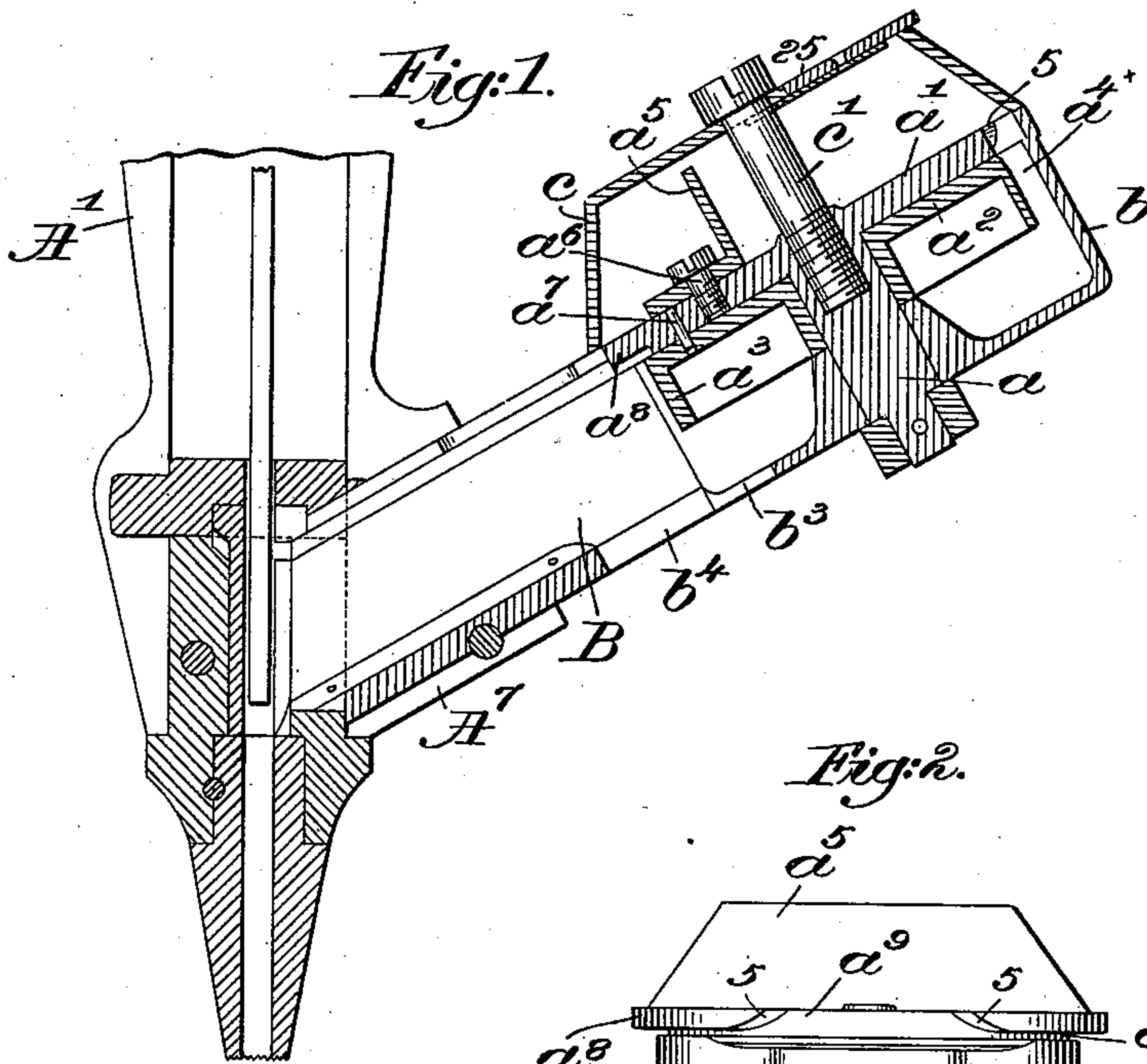


(No Model.)

F. CHASE.
NAIL PRESENTING MECHANISM.

No. 547,663.

Patented Oct. 8, 1895.



UNITED STATES PATENT OFFICE.

FRANK CHASE, OF WATERVILLE, MAINE, ASSIGNOR TO FRANK F. STANLEY,
TRUSTEE, OF SWAMPSCOTT, MASSACHUSETTS.

NAIL-PRESENTING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 547,663, dated October 8, 1895.

Application filed July 8, 1895. Serial No. 555,250. (No model.)

To all whom it may concern:

Be it known that I, FRANK CHASE, of Waterville, county of Kennebec, State of Maine, have invented an Improvement in Nail-Presenting Mechanism, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention relates to tools for receiving nails in bulk and feeding them into a revolvable carrier, from which they pass into a raceway to be driven from the nose thereof by suitable mechanism.

In another application filed by me, Serial No. 512,899, I have shown and described a tool of the class described, wherein a feed-table is located within the curb connected to the upper end of the raceway and covered by a cup-shaped cap, whose edges rest close to or on top of the curb, a narrow substantially circular slot being left between the curb and the feed-table, into which the shanks of the nails to be driven are adapted to drop and hang therein from their heads. As the table is reciprocated, the nails travel in the slot and finally enter the open upper end of the raceway and pass therefrom to suitable driving mechanism. As it sometimes happens, however, a nail will be so presented that instead of turning down point foremost into the circular slot leading to the raceway it will lie across the opening and will be carried around until it becomes jammed between the top of the slot-walls and the cover, and the operation of the tool is arrested until taken apart and the nail extracted. Again, the heads of some nails are smaller than they should be or they have no head, and they will be carried around to and delivered into the raceway to be driven, spoiling the appearance of the work, and sometimes the head is small enough in some directions to drop down into the slot and wedge.

This invention has for its object the production of novel means for preventing the jamming of a nail in the feed mechanism of a nail presenting and driving apparatus and for discharging nails having heads that are too small or improperly shaped or those nails which may be presented in such manner as to extend across the opening of the raceway.

Figure 1 is a sectional detail of a portion of a nail presenting and driving mechanism embodying my invention, taken through the feed-table and cap, raceway, and part of the frame. Fig. 2 is an elevation of the feed mechanism at the upper end of the raceway with the curb *b b* removed. Fig. 3 is a top or plan view of the feed-table and part of its actuating mechanism and its surrounding curb, as in my said application referred to; and Fig. 4 is a similar view of like parts constructed in accordance with my present invention.

Referring to Fig. 1, *A* represents a part of the main frame, to a projection *A'* of which is secured by a screw *A''* the raceway *B*, having at its upper end a circular curb or raceway *b*, attached to or forming a part of it, as in my said application. A shaft *a* is mounted in a suitable bearing in the curb *b*, and the curb receives within it a feed-table composed of a disk *a'*, attached to or forming a part of the shaft and having applied to its under side a second disk *a''*, having a downturned wall or flange *a'''*, forming the inner side of the slot *a''''*, into which may drop the shanks of the nails to be driven. The inner face of the curb *b* is circular and the greater portion of the periphery of the flange *a'''* is concentric therewith; but between the points 3 and 4, Fig. 4, the flange is of greater radius, thereby increasing the width of the slot at *a''''* for a purpose to be described. A shoulder *b'* is made in the curb and a corresponding shoulder is made in the disk *a''*, upon which the heads of properly-presented nails will rest with their shanks depending in the slot *a''''*, they following the slot around to the slotted upper end of the raceway *B*. An agitator *a''''* is secured by a screw *a'''''* to the disk *a'*, a pin or projection *a''''''* connecting the disks *a'* and *a''*, and thereby forming the feed-table. A cap *c*, made like a cup, is held in place by a suitable screw *c'*, extended into the shaft *a*, the edges of the cap resting upon the upper end of the curb *b*, a suitable door 25 being made in the cap, while by means of an arm *a''''''*, connected to the shaft *a*, the feed-table is oscillated, the arm being connected by suitable mechanism (not shown) to the driving devices.

The periphery or edge of the feed-table is

cut away to leave a projecting shed or web a^8 to overlap the heads of the nails in the slot a^4 , and also to form a protector for said nails, the shed lying between the heads of the nails going to the raceway and the bulk of the nails on the feed-table.

In order that the nails will be properly introduced into the slot a^4 with their heads under the shed a^8 and resting upon the shoulders in the curb and disk a^2 , the shed is cut away to leave an opening a^9 with inclined ends 5 5, (see Fig. 2,) which act on the nail-heads during the reciprocations of the table and settle the bodies of some of the nails properly into the slot a^4 . Now as the feed-table is reciprocated the agitator a^5 throws some of the nails toward the upper side of the feed-table, so that some of them can pass into the slot a^4 , and should a nail be presented horizontally above the slot and in the opening at a^9 , as at n , Fig. 4, the flattened portion of the flange a^3 between the points 3 and 4 permits the shank to descend into the slot, the head resting upon the shoulders in the curb and disk a^2 , so that the nail will pass on toward the raceway. In Fig. 3 I have shown the effect of such presentation of a nail n' should the curb b^x and the adjacent portion of the disk a^{2x} be concentric, the shank of the nail resting on the shoulder of the disk, so that it would either prevent the entrance of any more nails to the slot 10 or it would be carried forward and jammed beneath the shed a^{8x} .

Should a nail, otherwise properly presented to the slot a^4 , have a small or irregularly-shaped head, as shown by dotted lines at n^x , Fig. 4, it will drop down through the enlarged or widened portion a^{4x} of the slot into the curb, and thence out through an opening b^3 therein, Fig. 1.

If a nail should in passing from the slot a^4 to the upper end of the raceway B become tilted, with its shank extended into the raceway and its head caught at the opening thereof, it will slide down along the upper end of the raceway and out of the openings b^3 and b^4 in the curb and upper end of the raceway, respectively, as through an auxiliary raceway.

The feed-table located within the surrounding curb and the cap constitute a hopper, the feed-table forming a movable bottom therefor.

As shown in Fig. 1, the feed-table assumes an inclined position when in use, and the ends 5 5 of the space or opening a^9 in the shed a^8 act on the nails between them as the table is reciprocated, arranging said nails in the slot a^4 , leading to the raceway.

By the term "nail" I include any headed nail or tack.

I claim—

1. In a nail presenting mechanism, a raceway having at its receiving end a curb to constitute one side of a curved passageway to receive the bodies of and lead nails to the up-

per end of the raceway, combined with a feed table having the greater portion of its periphery concentric with the curb to constitute the other side of the passageway, a part of the periphery being of greater radius at the entrance to the passageway to increase the width of the latter, substantially as described.

2. In a nail presenting mechanism, a raceway having at its receiving end a curb to constitute one side of a curved passageway to receive the bodies of and lead nails to the upper end of the raceway, combined with a feed-table having the greater portion of its periphery concentric with the curb to constitute the other side of the passageway, a part of the periphery being of greater radius at the entrance to the passageway to increase the width of the latter, and an opening in the curb through which nails having improperly shaped heads, or headless nails, may be discharged, after passing through the widened portion of the passageway, substantially as described.

3. In a nail presenting mechanism, a raceway having a curb at its upper end, a vibratable feed-table therein having its periphery shaped to form with the curb a curved passageway to lead nails to the entrance to the raceway, and an opening in the curb adjacent the entrance to the raceway, to permit the exit from the passageway of nails improperly presented to said raceway, substantially as described.

4. The raceway, and its curb, combined with a feed-table having its periphery flattened for a portion of its length, and a shed or web on the feed table to overlap the heads of nails properly supported between the curb and periphery of the feed-table on their way to the raceway, said shed or web being cut away above the flattened portion of the periphery of the feed-table, substantially as described.

5. In a nail presenting mechanism, a raceway having a curb at its upper end, a vibratable feed-table therein having its periphery shaped to form with the curb a curved passageway to lead nails to the raceway, the periphery being flattened for a portion of its length to widen the passageway at the nail receiving point, the curb having openings therein below the widened part of the passageway and below the upper end of the raceway, through which nails improperly presented to the raceway, or those having improperly shaped heads may be discharged, substantially as described.

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

FRANK CHASE.

Witnesses:

HADLEY P. FAIRFIELD,
WALTER SHAW.