H. S. GOUGHNOUR.

PINLESS SWITCH.

APPLICATION FILED DEC. 2, 1907.

946,349. Patented Jan. 11, 1910.

Fig. 1.

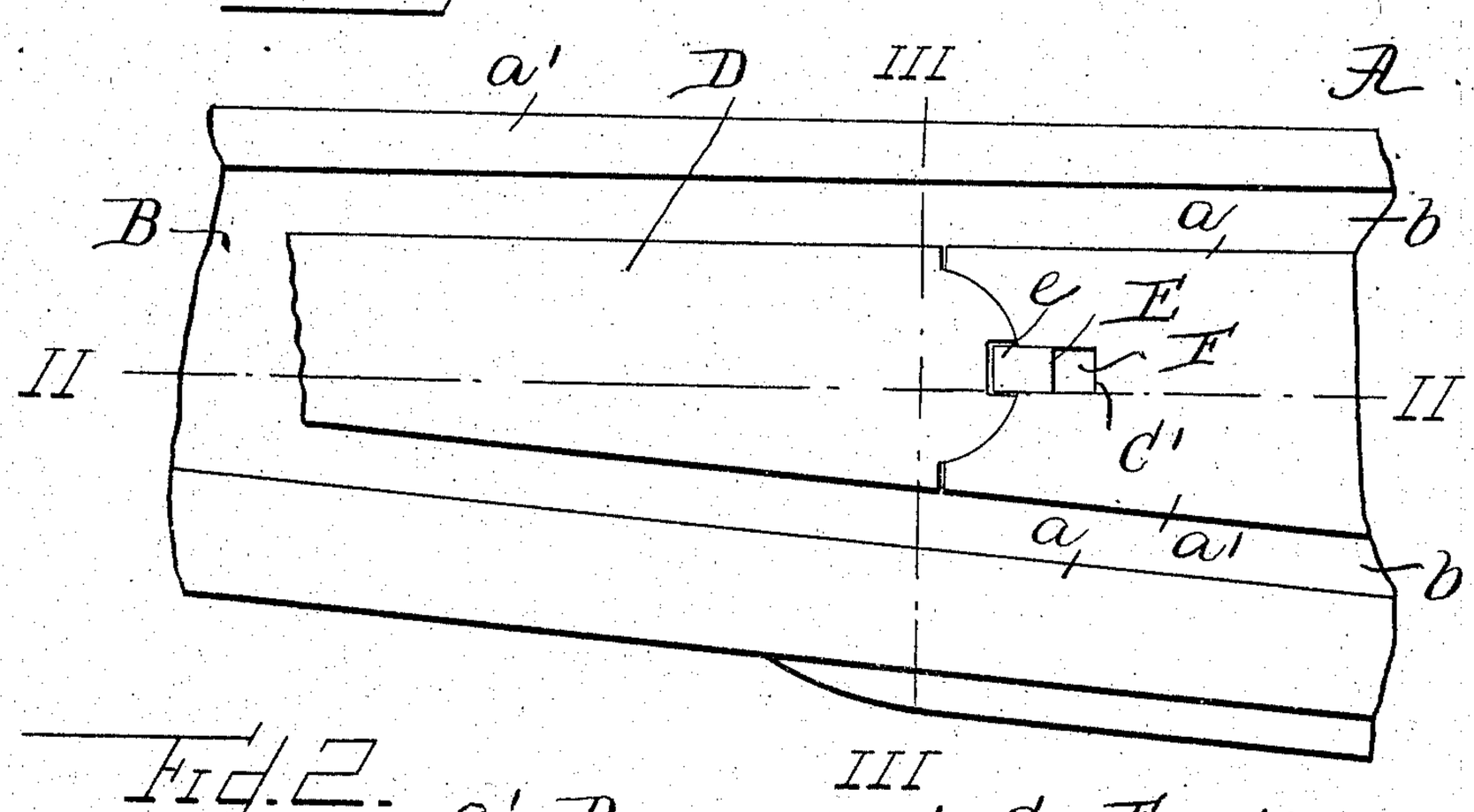



Fig. 2.

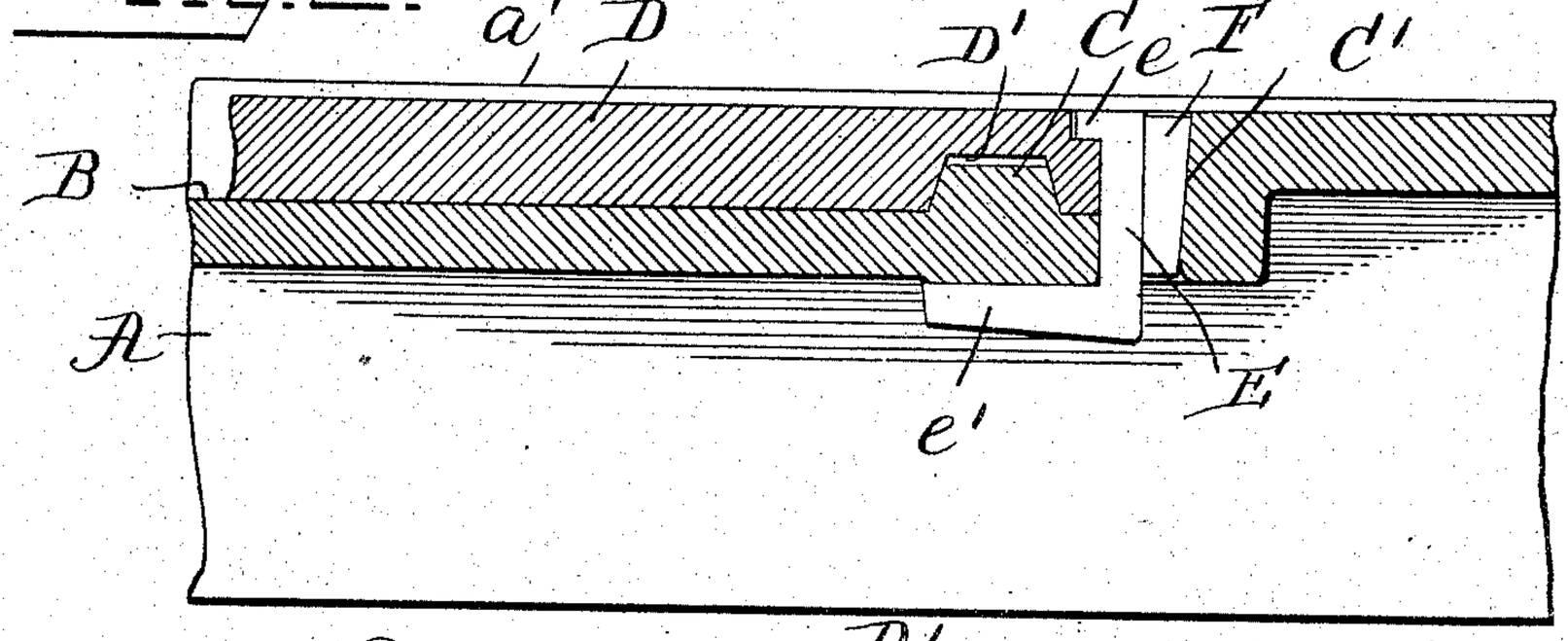
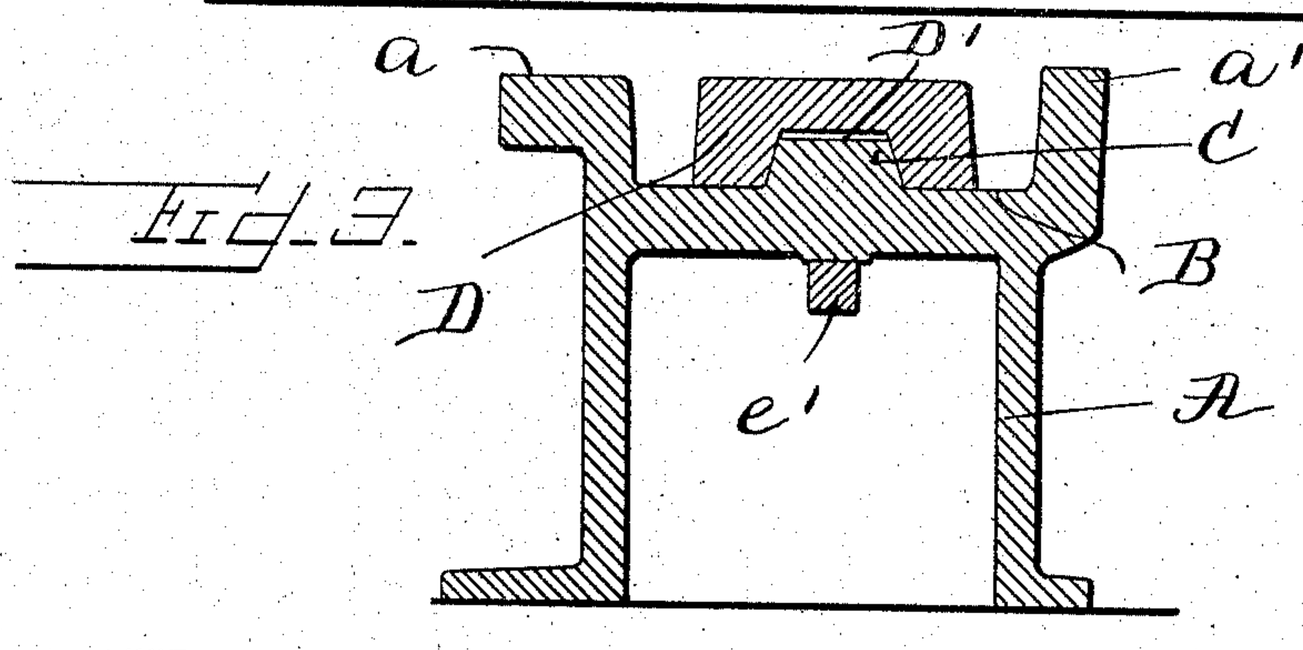



Fig. 3.

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# UNITED STATES PATENT OFFICE.

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## PINLESS SWITCH.

946,349. Specification of Letters Patent. Patented Jan. 11, 1910.

Application filed December 2, 1907. Serial No. 404,869.

*To all whom it may concern:*

Be it known that I, HEENAN S. GOUGHNOUR, of Johnstown, in the county of Cambria and State of Pennsylvania, have invented a new and useful Improvement in Pinless Switches, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

My invention has relation to certain new and useful improvements in switch structures, and is designed to provide simple and efficient means whereby a switch tongue is rotatably mounted in a switch structure without the use of a pin or pintle.

With these objects in view, my invention consists in the novel construction, arrangement, and combination of parts, as hereinafter described and pointed out in the appended claims, reference being had to the accompanying drawings, in which—

Figure 1, is a plan view of a portion of a switch structure embodying my invention: Figs. 2 and 3, are sectional views on the lines II—II and III—III of Fig. 1, respectively.

A, is the main switch structure, and is provided with the usual raised tread portions *a*, *a*, and the raised guard surfaces *a'*, *a'*.

B, is the floor of the switch, and *b*, *b*, are the usual grooves for the flanges of the wheels which lie between the tread and guard surfaces. Projecting from the floor B of the switch structure, is the conical projection C, and extending through the switch structure beyond the projection C, is an orifice C'. Mounted on the floor B of the switch structure, is the tongue D. This tongue is provided with a tapered depression D', which fits over the projection C. The heel of this tongue is cut concentric with the center of the depression D', and the projecting surfaces *a* and *a'* of the switch structure are cut concentric with the projection C. Projecting through the orifice C', is a clip E. The short arm *e* of this clip is seated in a recess in the heel of the tongue and the long arm *e'* bears against the bottom of the floor of the structure. This clip E is locked in place by means of the wedge F.

The switch is assembled in the following manner:—The tongue is placed into position; the clip E, is passed up through the orifice C', and pushed forward to engage the tongue, and the wedge F, is then inserted back of the clip and driven into position.

I have shown the clip as being provided with a long arm on its lower end, but this is not essential, as the arms can be of one length, so that the clip could be passed down from the top. It will also be obvious that various other changes could be made to the securing device without departing from the spirit of my invention.

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

1. In a switch structure, a movable tongue mounted thereon, a conical projection on the floor of the switch structure, and a conical depression in the bottom of the tongue to receive the projection, the said depressions being of greater depth than the height of the projection.

2. In a switch structure, a movable tongue mounted thereon, a conical projection on the floor of the switch structure, a conical depression in the bottom of the tongue to receive the projection, the said depressions being of greater depth than the height of the projection, and means to hold the tongue to its seat.

3. In a switch structure, a movable tongue mounted thereon, a conical projection on the floor of the switch structure, a conical depression in the bottom of the tongue to receive the projection, the said depressions being of greater depth than the height of the projection, and a clip to hold the tongue to its seat.

4. In a switch structure, a movable tongue mounted thereon, a conical projection on the floor of the switch structure, a conical depression in the bottom of the tongue to receive the projection, the said depressions being of greater depth than the height of the projection, a clip to hold the tongue to its seat, and means to secure the clip in position.

5. In a switch structure, a movable tongue mounted thereon a conical projection on the

floor of the switch structure, a conical depression in the bottom of the tongue to receive the projection, the said depressions being of greater depth than the height of the projection, a clip to hold the tongue to its seat, and a wedge to secure the clip in position.

In testimony whereof, I have affixed my signature in presence of two witnesses.

HEENAN SYLVESTER GOUGHNOUR.

Witnesses:
CHAS. W. GOOD,
H. W. SMITH.