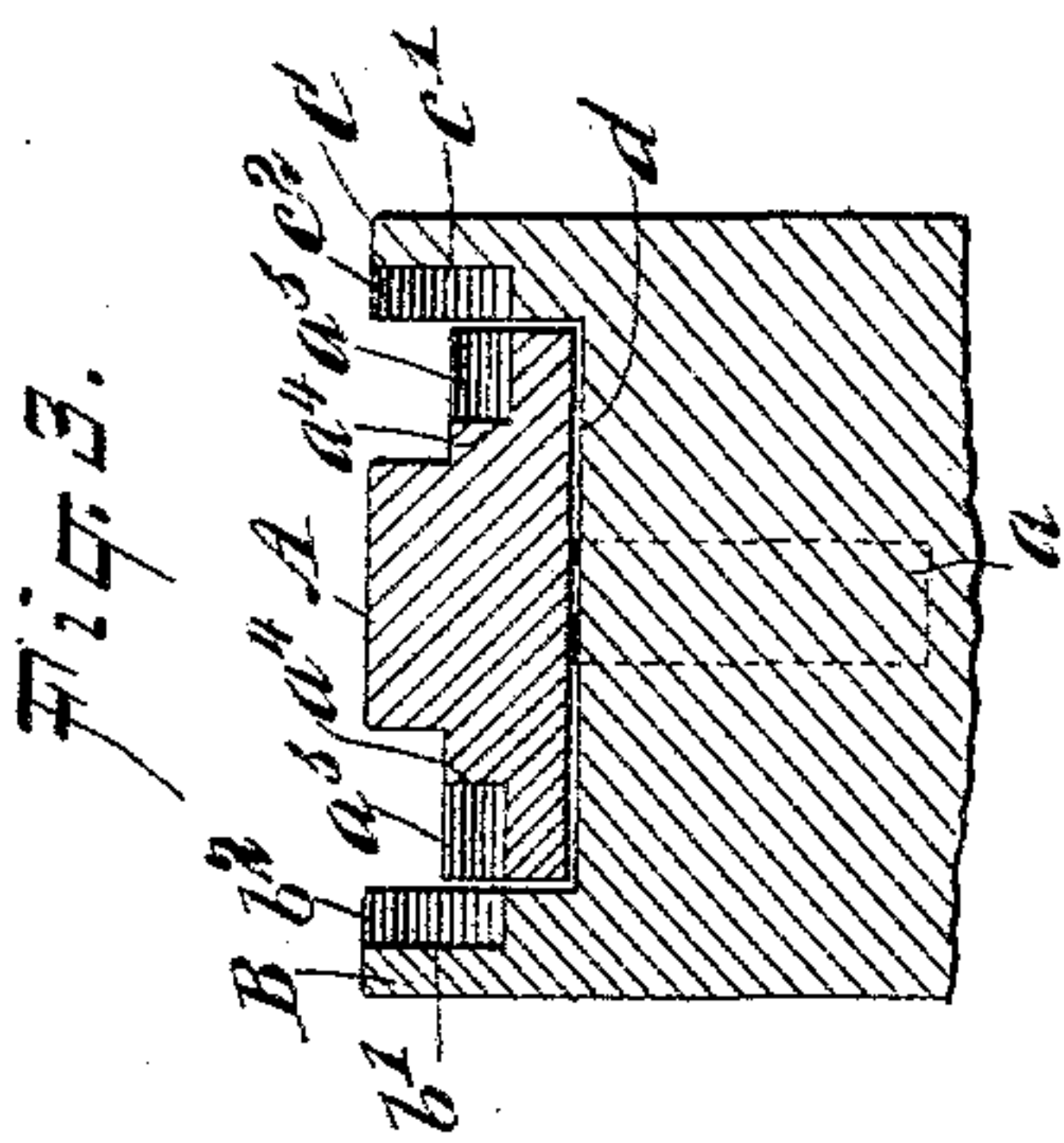
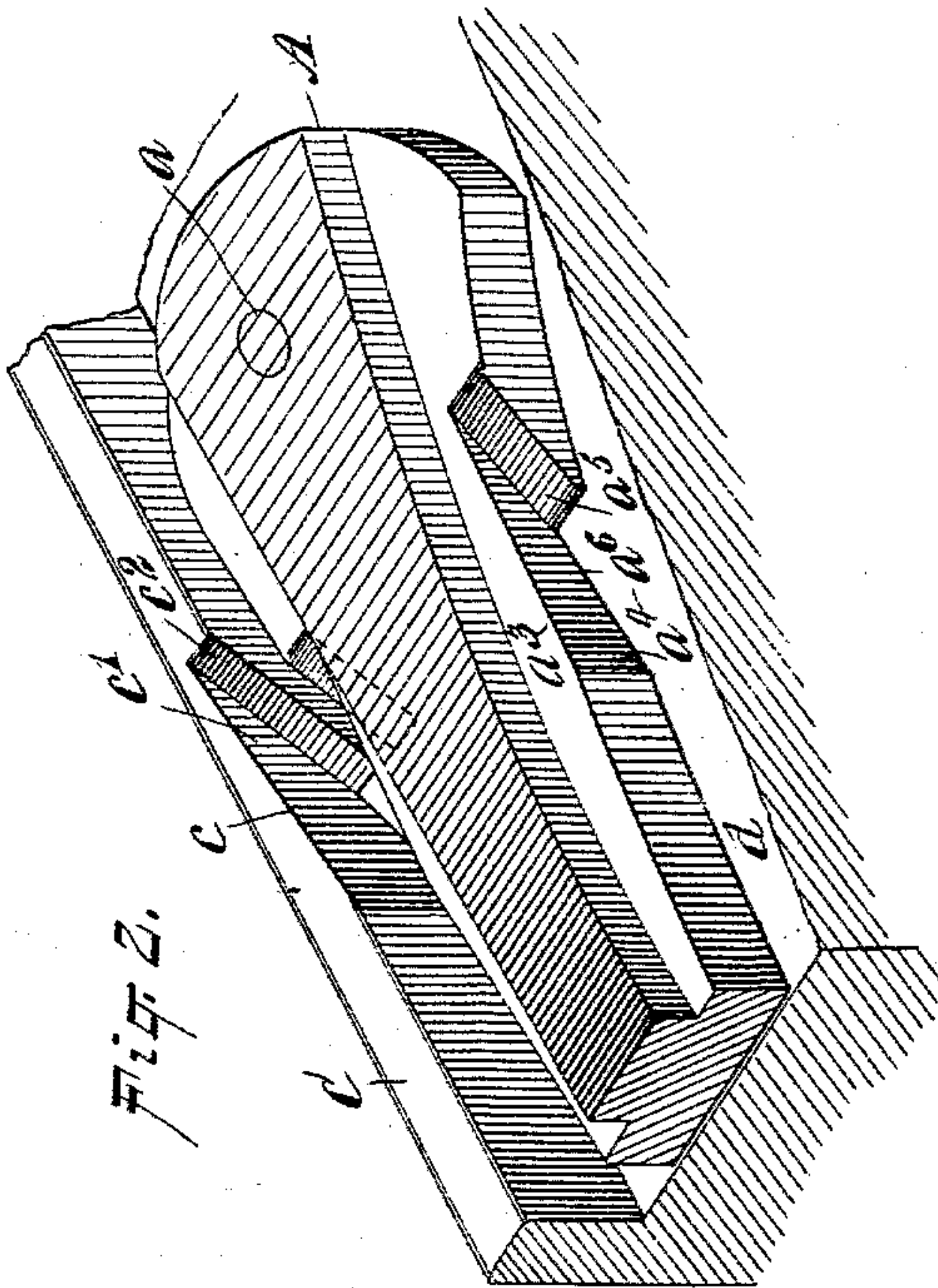
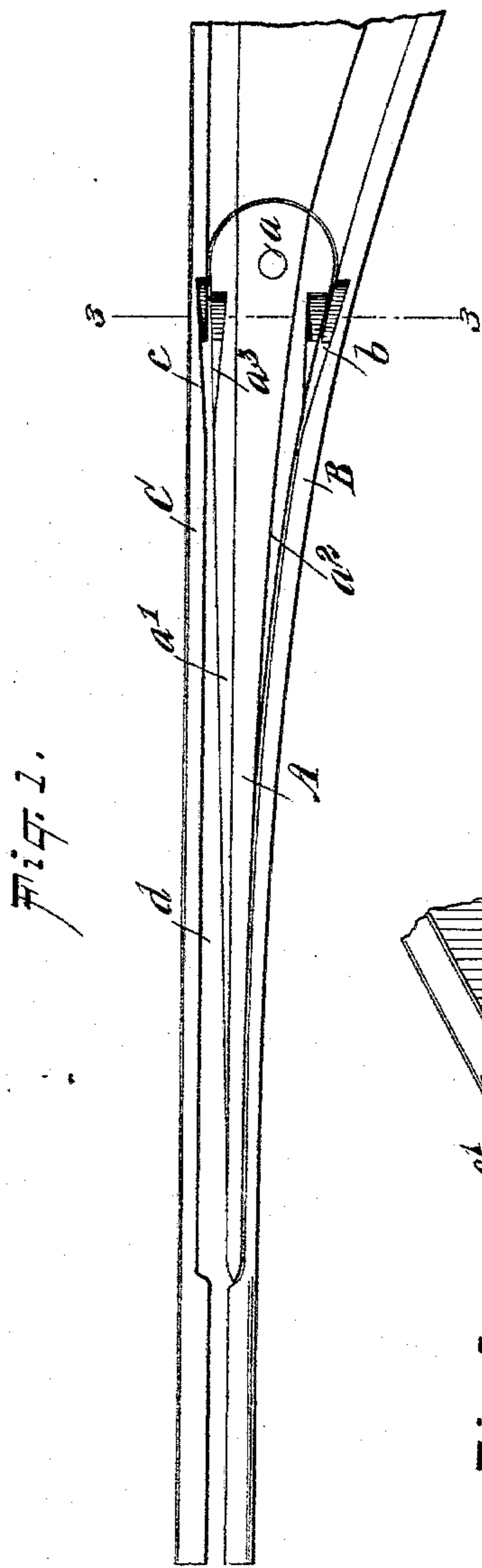


(No Model.)

D. F. CARVER.
SWITCH AND MATE.

No. 563,657.

Patented July 7, 1896.



WITNESSES:

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DAVID FREDERICK CARVER, OF BROOKLYN, NEW YORK, ASSIGNOR OF
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NEW YORK.

SWITCH AND MATE.

SPECIFICATION forming part of Letters Patent No. 563,657, dated July 7, 1896.

Application filed October 16, 1895. Serial No. 565,848. (No model.)

To all whom it may concern:

Be it known that I, DAVID FREDERICK CARVER, of Brooklyn, in the county of Kings and State of New York, have invented certain new
5 and useful Improvements in Switches and Mates, of which the following is a full, clear, and exact description.

The present invention is an improvement
10 on the invention forming the subject of United States Patent No. 538,098, granted April 23, 1895. In said patent there is a switch-tongue having a certain novel arrangement of flanges, which, to quote from the patent in question, preferably "are given such
15 a length and breadth as give the tongue a contact along its whole length with either the guard-rail or the running-rail" of a switch. I find it desirable to modify the switch having the above-mentioned characteristics, to
20 the end that proper provision may be made for the entrance of the ordinary switch-iron or any equivalent device, mainly with the object of permitting dirt to be removed from between the opposing side edges of the tongue
25 and rails adjacent to the pivoted end of the tongue.

The invention consists in the novel features hereinafter particularly described, and defined in the claims.

30 Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a broken plan view of a switch
35 embodying my improvements. Fig. 2 is a fragmentary perspective view on a larger scale, showing a portion of the tongue and guard-rail; and Fig. 3 is a cross-section on line 3 3, Fig. 1, but drawn to a somewhat
40 larger scale than the latter.

The tongue A is pivoted, as at a , between the running-rail B and guard-rail C, and it has side flanges a' a^2 at its base, running from the pivoted end of the tongue toward the
45 point, the tongue shown having the flange a' , which is adjacent to the guard-rail, extending almost to the point of the tongue, while the opposite flange a^2 terminates considerably short of the point.

50 In order that the switch-iron may be en-

tered between the flanged tongue and the side rails for removing dirt, I form adjacent to the pivot of the tongue openings of a width to readily receive such iron. These openings I preferably form as shown, that is, partly in
55 the tongue-flanges and partly in the adjacent rails. Thus the tongue-flanges are cut out, as at a^3 , in a manner that the side wall a^4 of such opening ranges outwardly from the rear end, and the bottom wall a^5 inclines down-
60 wardly from the top of the flange and extends only for part of the length of the opening, the flange being cut completely through vertically at its forward end, as at a^6 , whereby the switch-iron may pass downward through the open-
65 ing to the bed d of the switch-casting, as will be readily understood. Similar openings $b c$ are formed in the running-rail B and guard-rail C. Thus the side walls $b' c'$ range diagonally. The bottom walls $b^2 c^2$ are inclined
70 downwardly and terminate short of the front end of the respective openings $b c$, said openings at the front extending vertically completely through the rails, all as described with reference to the tongue, except that the side
75 walls $b' c'$ by this arrangement converge in directions toward the side walls a^4 of the tongue-openings. The bottom walls of all the openings have the same inclination. With
80 this construction the switch-iron or other tool or device may readily be entered between the adjacent sides of the tongue and rails and will be guided to the bed d , and the dirt will readily be forced out at the forward ends of
85 the openings to the wider spaces at the forward end of the tongue and readily removed.

It will be understood that the openings or recesses in the tongue and the rails extend laterally from the longitudinal passages between the rails and the tongue which are adapted to
90 receive the car-wheel flanges, so that said recesses or openings give access to the bed d , even at that side of the tongue which is in contact with the rail—for instance, the rail B in the position illustrated by Fig. 1. It will
95 be further observed that the said recesses are open at the top, so as to permit of the downward insertion of a switch-iron or the like, and they range longitudinally of the tongue, thereby forming guideways permitting the
100

switch-iron or other tool to be readily moved along the tongue and rail.

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

1. A switch or mate provided, adjacent to the pivot end of the tongue, with recesses open at the top and extending laterally from the longitudinal passage between the tongue
10 and rails, to permit entrance of a switch-iron or the like between the tongue and the rails adjacent to the pivot end of the tongue, substantially as described.

2. A switch or mate having its tongue pro-
15 vided with a flange at the base, and a recess open at the top and extending laterally from the longitudinal passage between the tongue, flange and rails, to permit entrance of a switch-iron or the like between the tongue,
20 flange and the rails adjacent to the pivot end of the tongue, substantially as described.

3. A switch or mate provided, adjacent to the pivot end of the tongue, with recesses open at the top and extending longitudinally
25 of the tongue at the sides of the longitudinal passages between the tongue and rails, to permit entrance and longitudinal movement of a switch-iron or the like between the tongue and the rails adjacent to the pivot end of the
30 tongue, substantially as described.

4. A tongue for switches and mates, having its side wall provided near the pivot end, with a longitudinally-extending lateral recess open at the top, substantially as described.

35 5. A tongue for switches and mates, having a side flange at the base and provided in the

side wall of said base and adjacent to the pivot end, with a longitudinally-extending lateral recess open at the top, substantially as described.

6. A switch having recesses open at the top, said recesses extending laterally from the space or passage between the tongue and rails and adjacent to the pivot end of the tongue, said recesses having diagonally-ranging side
45 walls, leading to the space between the tongue and rails, substantially as described.

7. A switch having recesses open at the top, said recesses extending laterally from the space or passage between the tongue and rails
50 and adjacent to the pivot of the tongue, said recesses having inclined bottom walls at their rear ends, said bottom walls terminating short of the forward ends of the recesses, substantially as described.

8. A switch having side openings in the tongue and in the side rails, at a point adjacent to the pivot end of the tongue, substantially as described.

9. A switch having side openings in the
55 tongue and the side rails, the side walls of adjacent openings ranging diagonally and converging toward each other at the front, substantially as described.

10. A switch having side openings in the
65 running-rail and guard-rail at the inner sides of the same, at a point adjacent to the pivot end of the tongue, substantially as described.

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Witnesses:

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JAMES M. HENLEY.