

No. 765,660.

PATENTED JULY 26, 1904.

E. B. ENTWISLE.
TONGUE SWITCH.

APPLICATION FILED MAY 28, 1903.

NO MODEL.

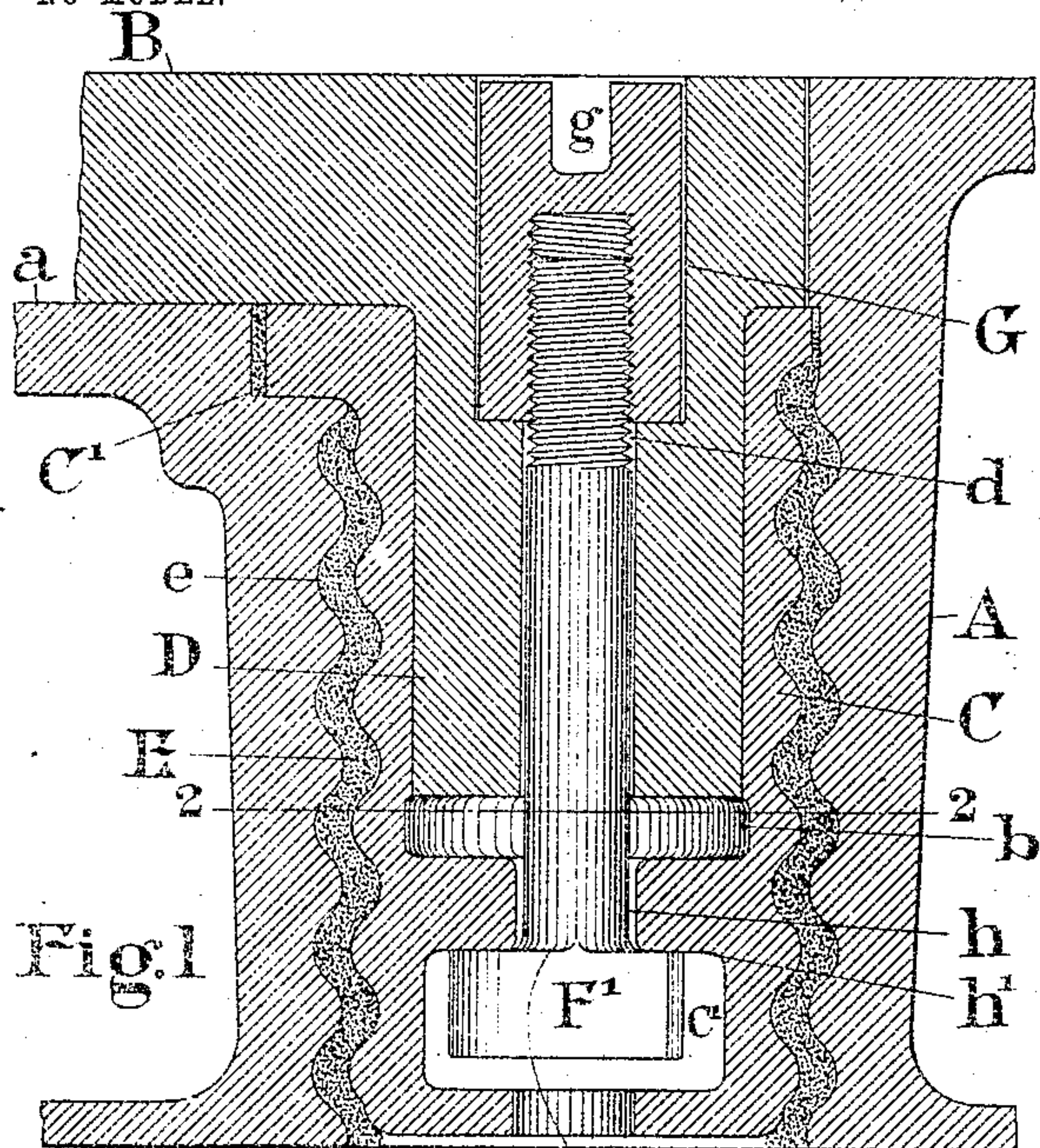


Fig. 1

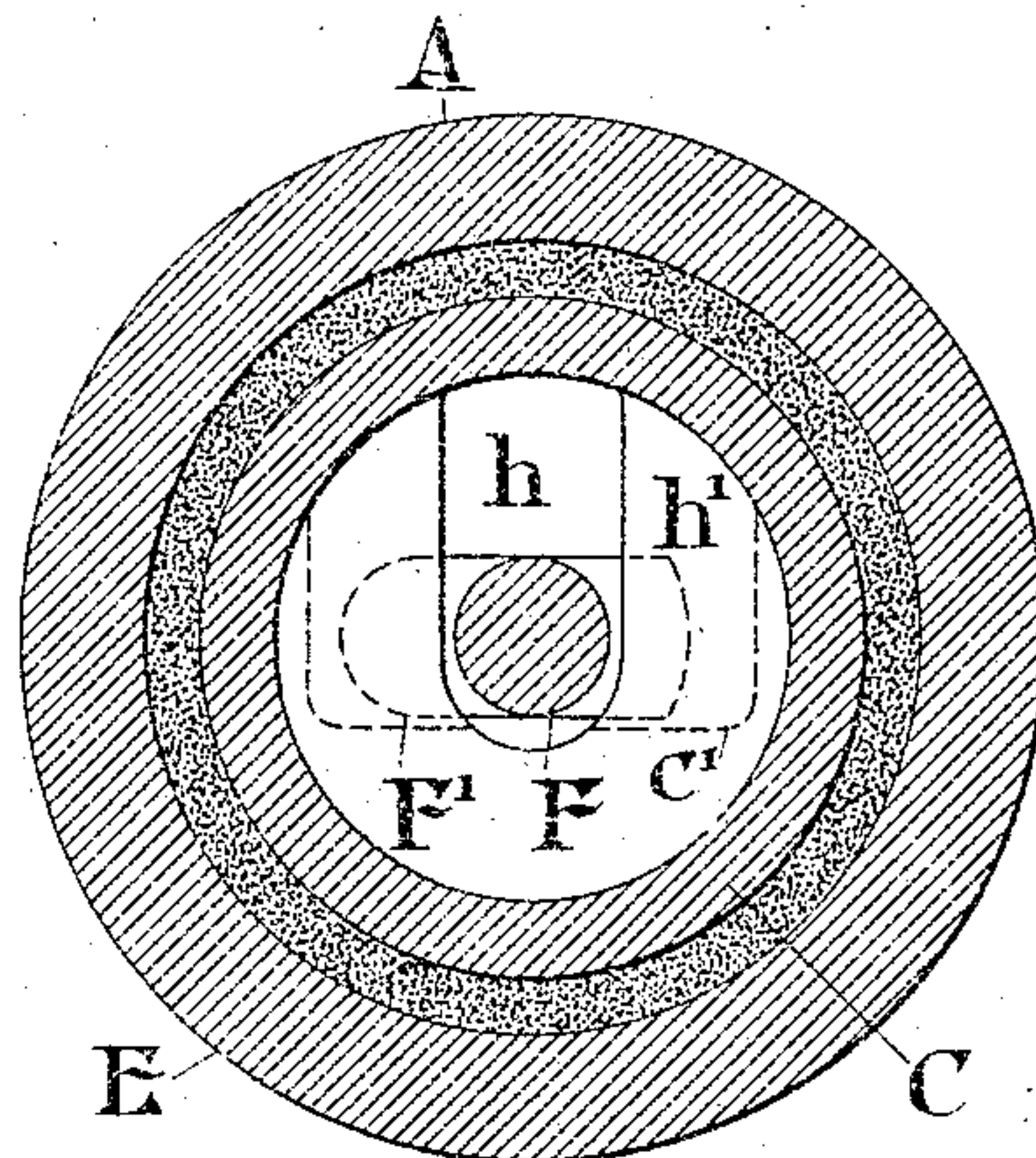


Fig. 2

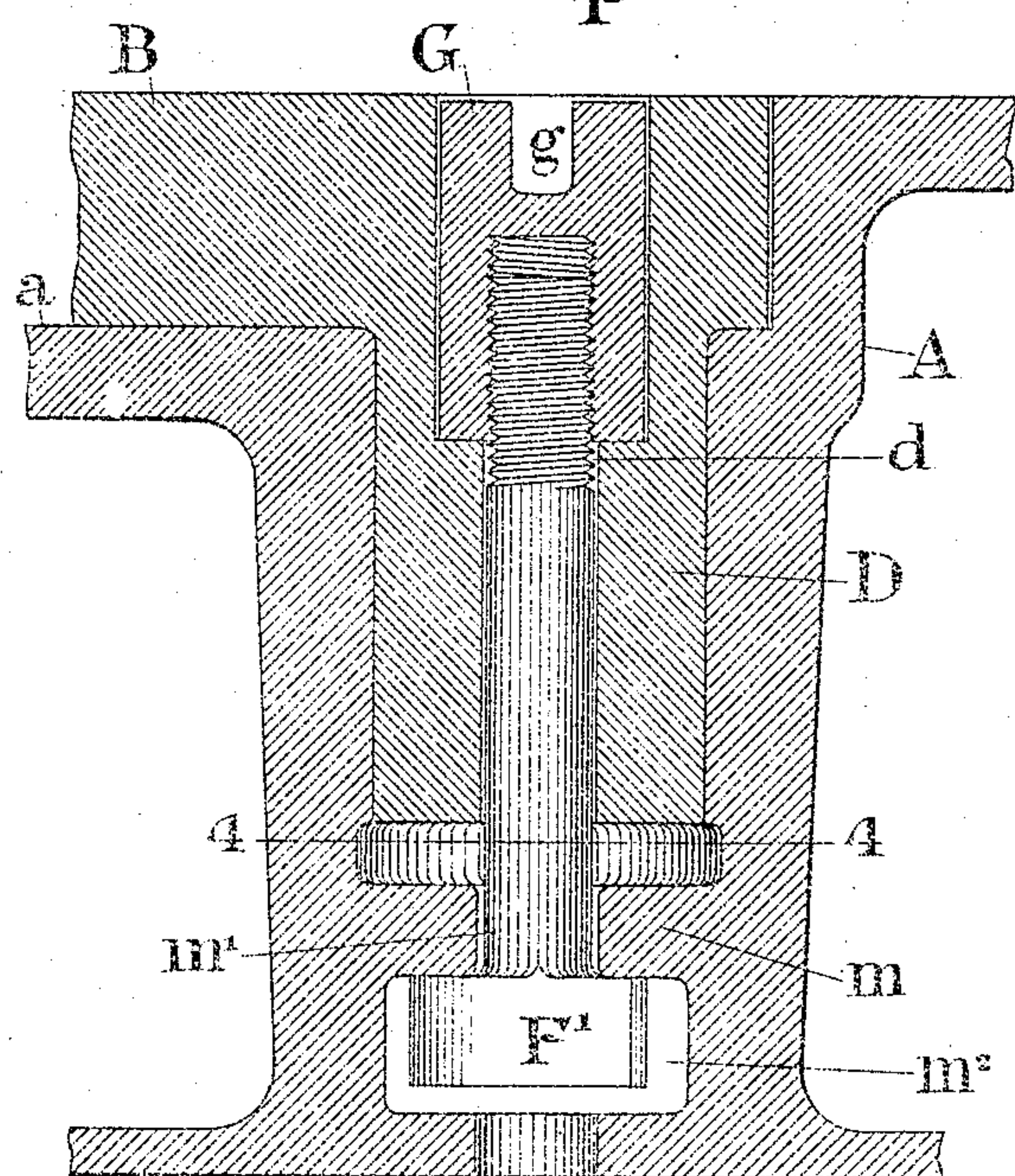


Fig. 3

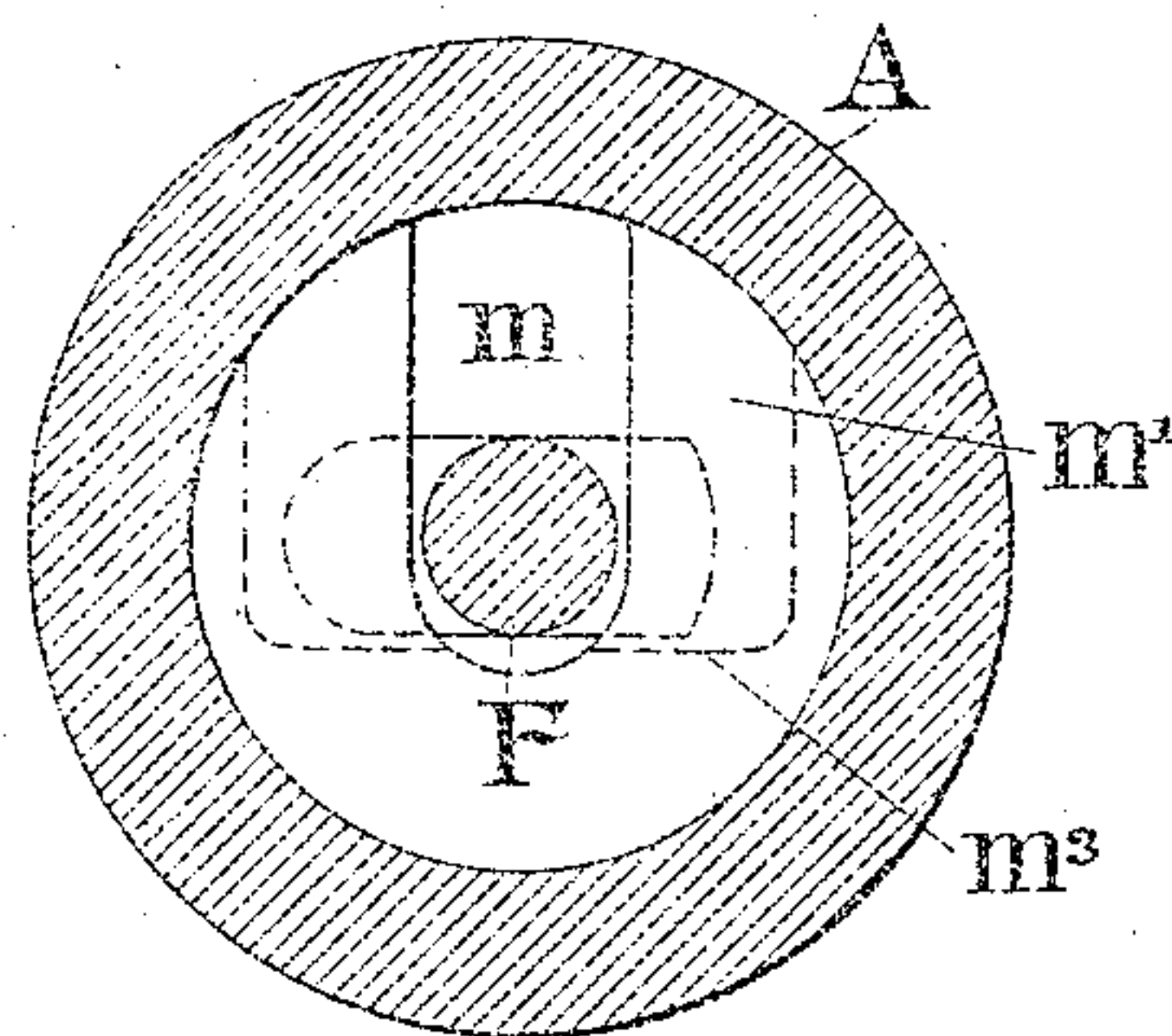


Fig. 4

WITNESSES:
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UNITED STATES PATENT OFFICE.

EDWARD B. ENTWISLE, OF JOHNSTOWN, PENNSYLVANIA, ASSIGNOR TO
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TONGUE-SWITCH.

SPECIFICATION forming part of Letters Patent No. 765,660, dated July 26, 1904.

Application filed May 28, 1903. Serial No. 159,223. (No model.)

To all whom it may concern:

Be it known that I, EDWARD B. ENTWISLE, of Johnstown, in the county of Cambria and State of Pennsylvania, have invented a new and useful Improvement in Tongue - 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 tongue-switches, and more particularly to means for holding down the movable point or tongue to its seat on the bed or body of the structure, it being the object of my invention to provide simple and practical means of this character and for this purpose.

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

Figure 1 is a central vertical section through the heel portion of a tongue-switch embodying my invention; Fig. 2, a section on the line 2 2 of Fig. 1; Fig. 3, a view similar to Fig. 1, but showing a modified construction; and Fig. 4, a section on the line 4 4 of Fig. 3.

The letter A designates the body portion of the structure, which is of the usual form, being provided with a seat *a* for the movable tongue or point B and with a seat *b* for the sleeve-bushing C, which forms the bearing for the tongue-pin D. The bushing is held in place by a filling E, of relatively soft material, engaging the corrugated surfaces *e* of the bushing and its seat. A suitable material for the purpose is sulfur, poured between the parts in a melted state.

The upper end of the bushing is formed with an eccentric flange C' of considerably larger diameter than the diameter of the bushing proper, which forms a bearing-surface for the under side of the bed portion of the tongue, the bushing being preferably made of some hard material, such as chilled cast-iron or hard steel, of greater wear-resisting prop-

erties than the material of the body of the structure.

Bored vertically through the pin D is a circular opening *d* for a fastening-pin F, the upper portion of said opening being counter-bored to seat a cylindrical nut G, which engages the upper end portion of the said pin. The lower end of the pin, which extends through a radial slot *h* in a horizontal wall or diaphragm *h'* of the bushing C, has a T-head F', which when the nut G is screwed to its seat is drawn upwardly against the underside of said wall or diaphragm, and thus acts to hold the tongue down to its seat, while at the same time it permits its limited pivotal movement. In assembling the switch the pin F is dropped through the radial slot *h* before the tongue is placed in the structure and is then turned ninety degrees and moved back until its head F, which is then transversely of the said slot, bears against the side bearing-wall *c'* of the bushing. The tongue is then placed, its pin D being slipped over the pin F. After the pin F has once become engaged with the pin D it cannot move in the slot *h*, and the engagement of its head F' with the wall *c'* effectually locks it from turning. The nut G has a slot *g* in its head with which almost any pointed tool, special or improvised, may be engaged for the purpose of turning it loose whenever it is desired to remove the tongue from the structure. This can be readily done without removing the entire structure.

The construction shown in Figs. 3 and 4 differs from that shown in Figs. 1 and 2 in that no bushing is employed; but the bearing *m* for the tongue-pin is formed directly in the bed or body A. The latter is formed with the wall *m*, (corresponding to the wall *h'* of the structure first described,) having the radial slot *m'* (corresponding to the slot *h*) and the space *m*², having the bearing-wall *m*³ for the T-head F' of the pin F.

It will be noted that in both constructions the machine-work necessary to the application of the holding-down pin is reduced to a minimum. I do not, however, wish to limit myself to the precise constructions and arrange-

ments herein shown and described, as the details thereof may be changed without departing from the spirit and scope of my invention.

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

1. In a tongue-switch, the combination with the body portion, and with the pivoted tongue, of the T-headed holding-down pin extending
10 vertically through the tongue-pin, and the nut countersunk in the tongue, said body portion having therein a slotted bearing-wall whose under surface is engaged by the head
15 of the pin, and also a side bearing-wall for said head.

2. In a tongue-switch, the combination with

the body portion, and the pivoted tongue, of the bushing seated in said body portion and forming a bearing for the tongue-pin, said bushing having the slotted wall below the
20 said pin, and the side bearing-wall below the slotted wall, a T-headed holding-down pin extending vertically through said pin and slotted wall, and a nut countersunk in the tongue and securing the said pin.

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

EDWARD B. ENTWISLE.

Witnesses:

LORETTO O'CONNELL,
H. W. SMITH.