

(No Model.)

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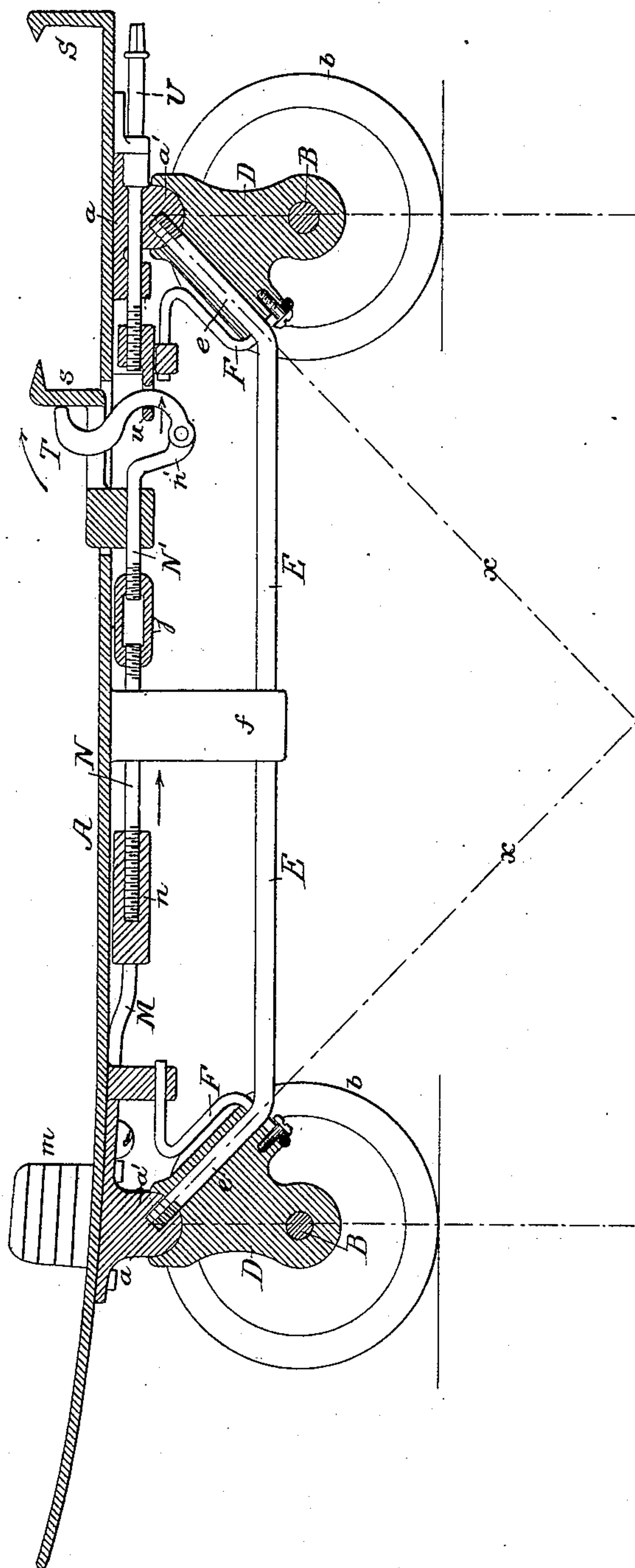
G. F. JOHNSON.

ROLLER SKATE.

No. 334,231.

Patented Jan. 12, 1886.

FIG. 1.



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Inventor:
G. F. Johnson
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(No Model.)

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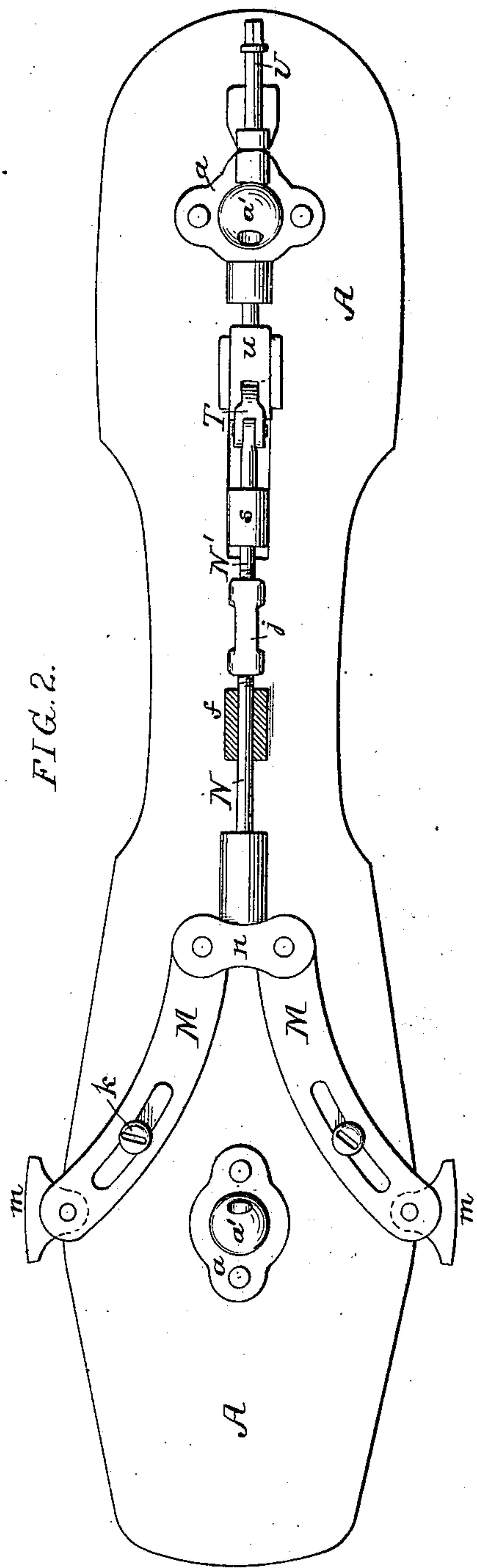
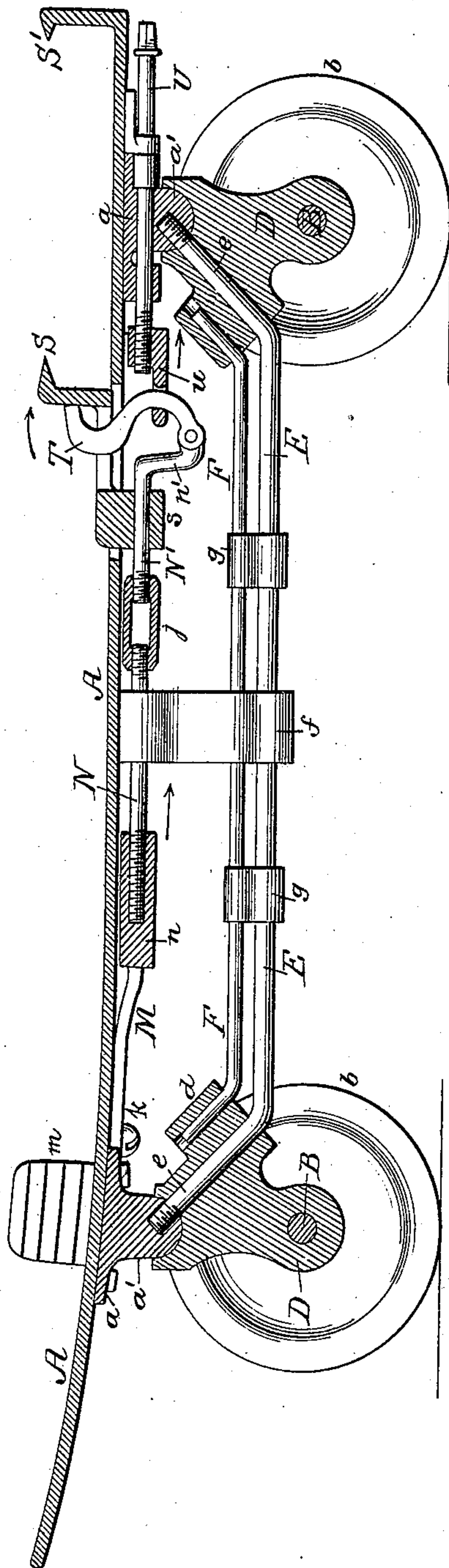


FIG. 6.



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(No Model.)

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FIG. 7.

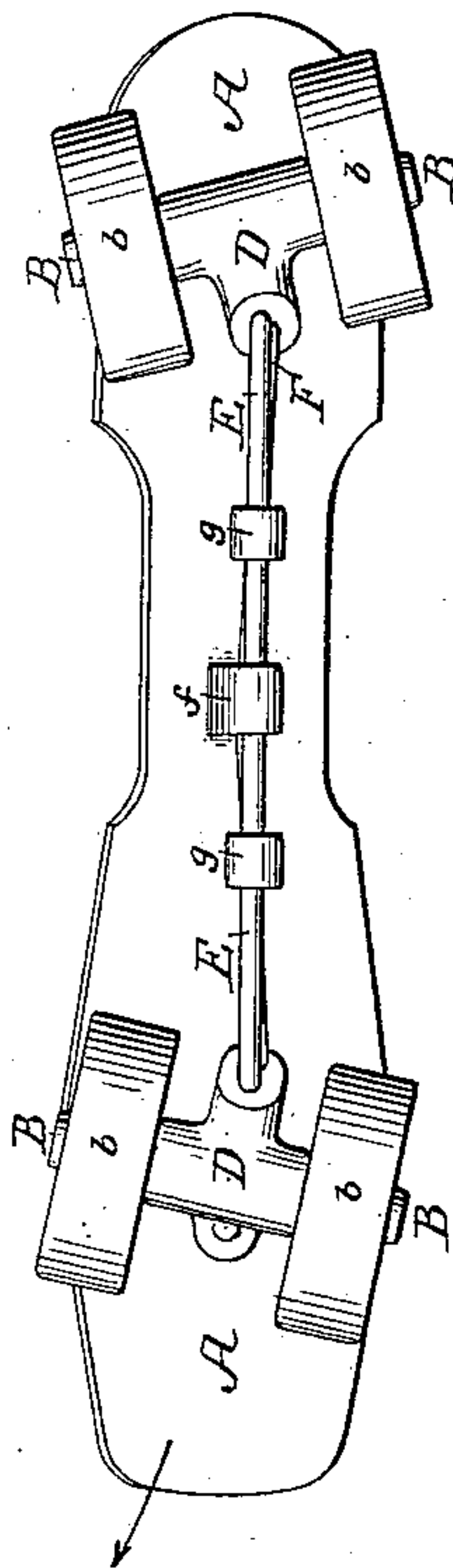


FIG. 8.

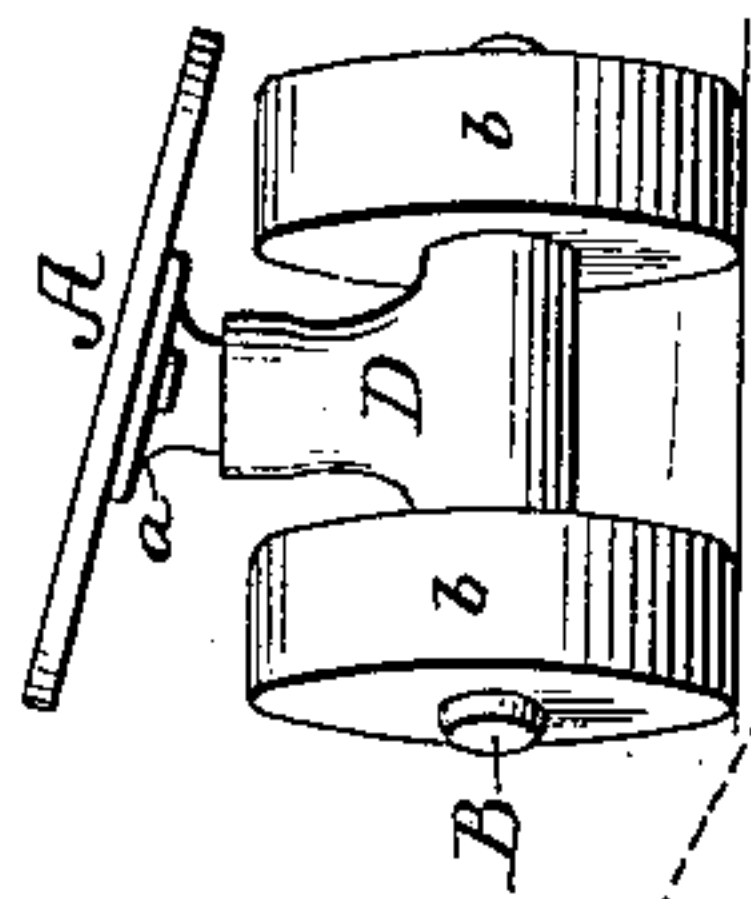


FIG. 3.

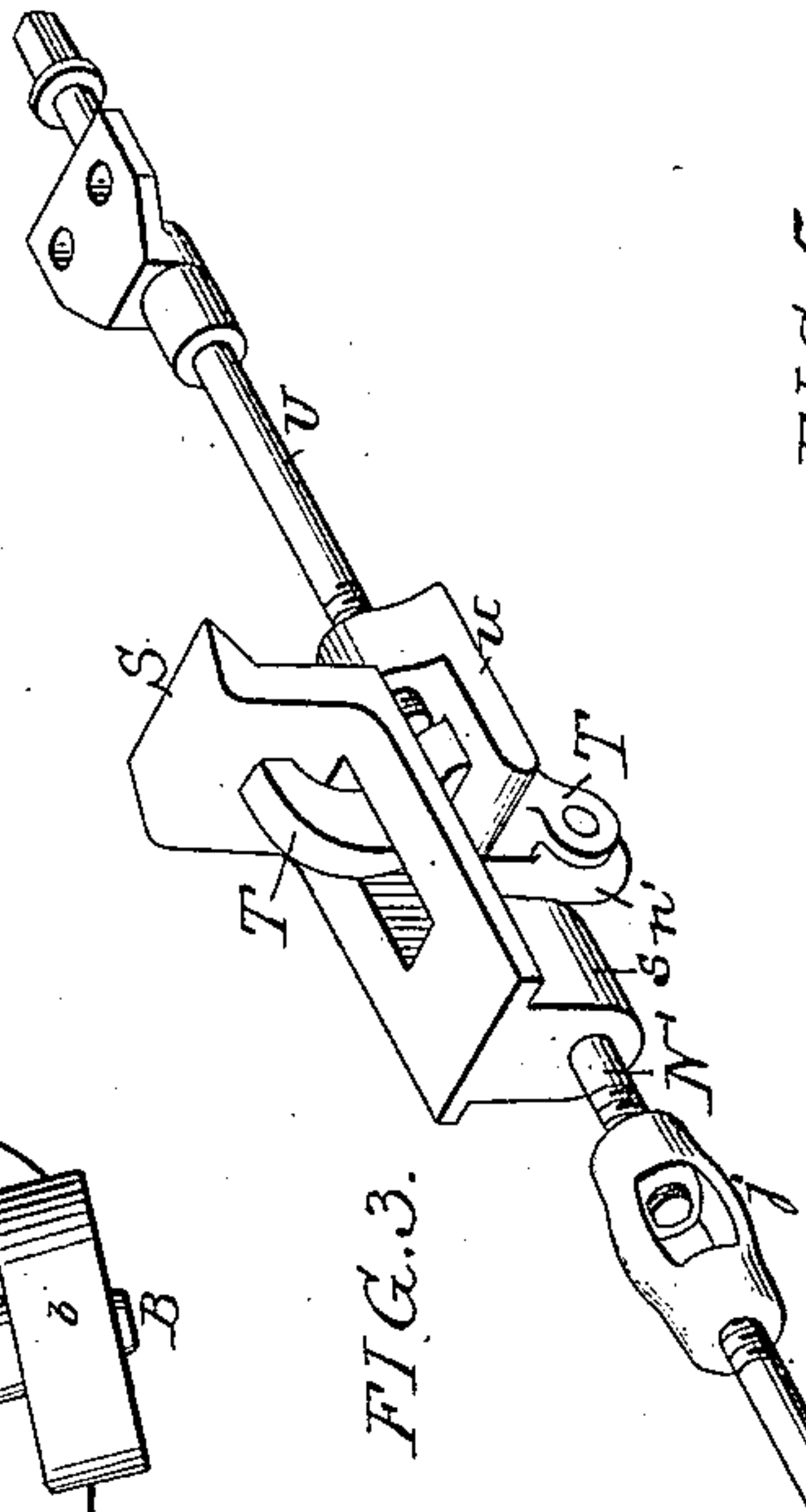


FIG. 5.

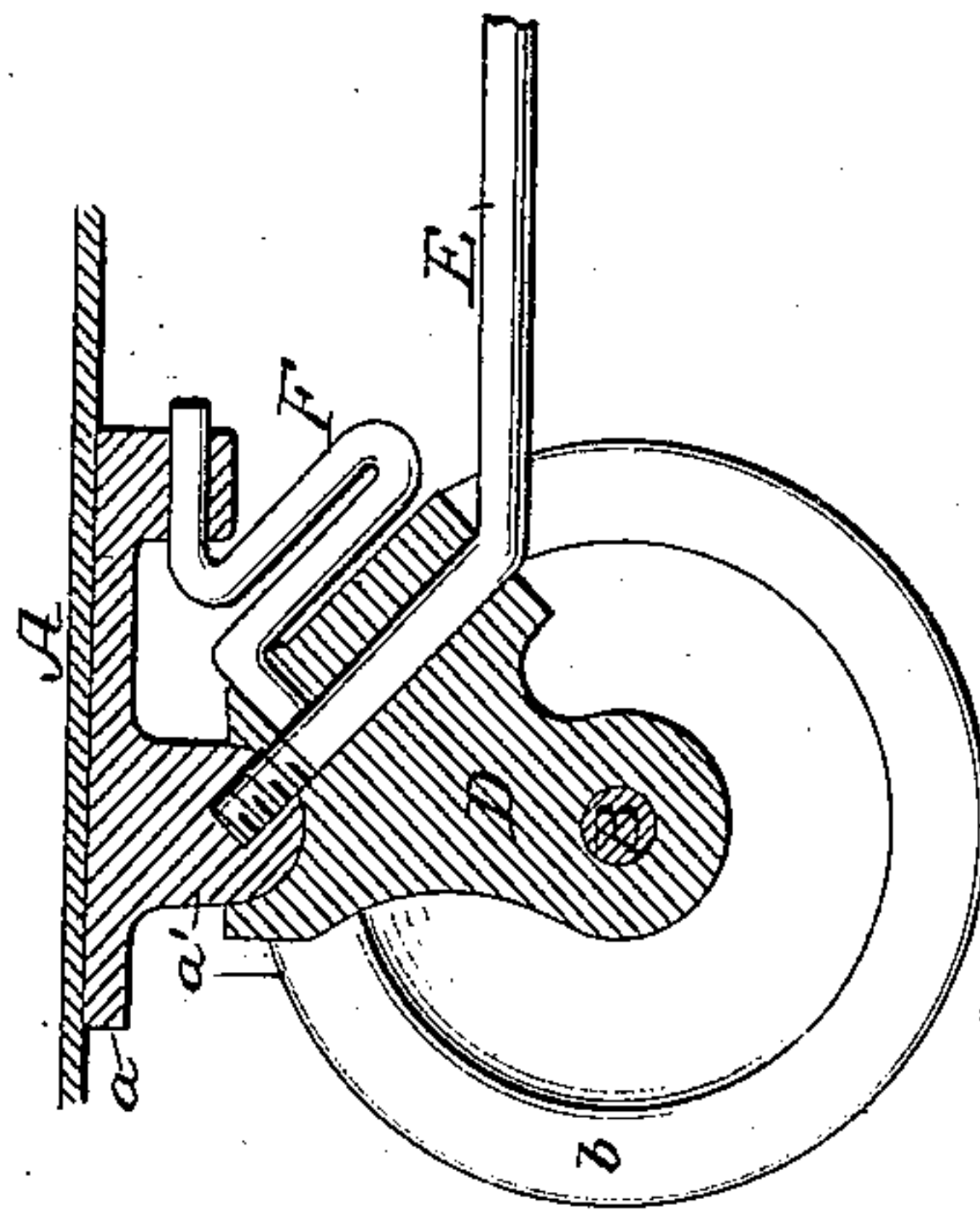
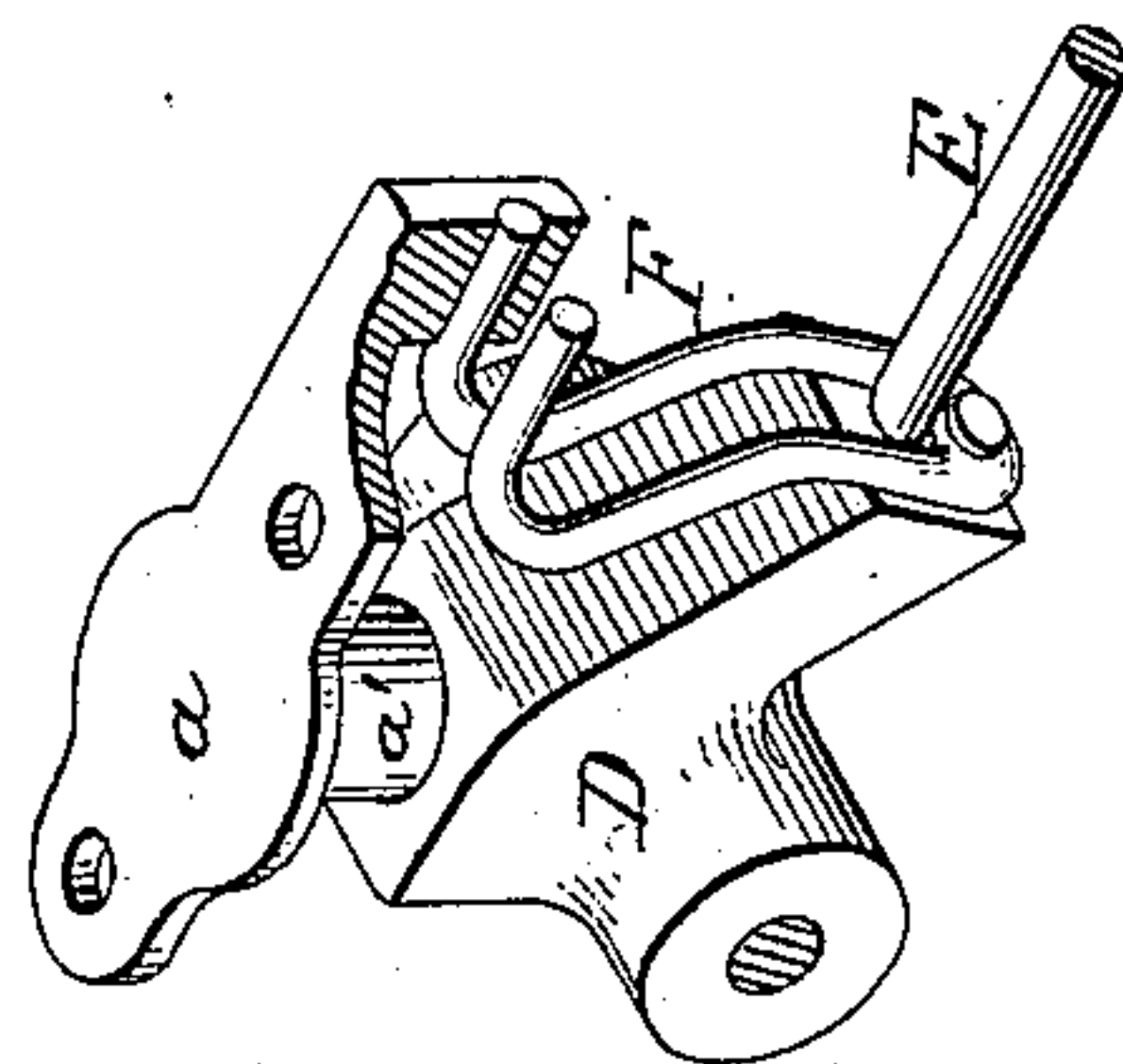


FIG. 4.



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UNITED STATES PATENT OFFICE.

GEORGE F. JOHNSON, OF PHILADELPHIA, PENNSYLVANIA.

ROLLER-SKATE.

SPECIFICATION forming part of Letters Patent No. 334,231, dated January 12, 1886.

Application filed September 17, 1885. Serial No. 177,346. (No model.)

To all whom it may concern:

Be it known that I, GEORGE F. JOHNSON, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain
5 Improvements in Roller-Skates, of which the following is a specification.

My invention relates to improvements in roller-skates, as fully described hereinafter.

In the accompanying drawings, Figure 1 is a
10 longitudinal section of a roller-skate illustrating my improvements. Fig. 2 is an inverted plan view of the skate with the rollers and bearings removed, and illustrating the clamping device. Fig. 3 is a detached perspective
15 view of the clamping device. Fig. 4 is a detached perspective view showing one of the springs more clearly. Figs. 5 and 6 are views of modifications; and Figs. 7 and 8, diagram views drawn to a smaller scale, and illustrating
20 the action of the skate.

To the under side of the foot-plate A of the skate are attached two castings, *a a*, on which are balls *a'*, directly above the axles B of the skate-rollers. The axles B have their bear-
25 ings in blocks D, connected together by a tie-rod, E, which is attached to a post, F, secured to the plate A.

In the upper face of each bearing-block D is a socket, in which fits the ball *a'*. The bent-
30 up ends *e e* of the rod E pass through the bearings and into the balls *a'* at about the angle indicated by dotted lines *x* in Fig. 1. The portions *e* of the rod E serve as pivots on which the bearing-blocks D turn, as described
35 hereinafter.

It will be noticed, on referring more particularly to Fig. 1, that the weight of the skater comes directly on the axles B of the wheels in a vertical line. The ball *a'* on the
40 plate, resting directly on the socket of the bearing-block D, takes all strain off of the pivot-pin *e*, which is for the sole purpose of causing the bearing D to turn to the center when the plate is tilted, and for steadying the
45 skate.

Secured to each bearing-block D is a spring, F, of the form best illustrated in Fig. 4, and secured to the castings *a a*. The springs tend to keep the bearings and rollers in line. For
50 instance, referring to Figs. 7 and 8, it will be noticed that as the plate A is depressed on

one side, as shown in Fig. 8, the bearings carrying the rollers will turn on their pivot-pins *e* on the line *x x*, Fig. 1. The skate will then turn in the direction of its arrow, Fig. 7. By
55 depressing the plate on the opposite side the bearing-rollers will be turned in the opposite direction. The springs F F will always bring the bearing-blocks into line with each other.
60

By making the spring of the form shown in Figs. 1 and 4 I get in a very small compass, and with a very light wire, a very stiff spring, as it is a torsion-spring, it being secured, as previously stated, at one end to the bearing-
65 block D and at its opposite end to the casting *a*.

In Fig. 5 I have shown as a modification a spring which is bent nearly double and fastened to a lug on the casting *a* and attached to the bearing-block D, the action being the same
70 as in the figures referred to—that is, the spring is of a character to counteract any tendency of the bearing-block D to turn from its normal position.

In the modification, Fig. 6, I have shown the
75 spring F situated directly above the tie-rod E and permanently secured to a post, *f*. The ends of this spring-rod are slightly bent into sockets in projections *d* of the bearing-block D, so that any movement either of the front
80 or back end out of parallelism will give a side twist to the end of the rod for a moment. The tension of this spring-rod F is governed by sliding sleeves *g g*, which connect the tie-rod E and spring F together on each side of the
85 post *f*. By sliding the sleeves nearer the bearings D the spring becomes stiffer, owing to the practical decrease in its length, while by sliding the sleeves toward the post the spring-rod becomes more yielding.
90

Referring to Figs. 1, 2, and 3 again, M M are the front clamping-levers, having serrated jaws *m m*. Each lever is slotted for the reception of a pin, *k*, which is secured to the plate A. These levers are pivoted to a head, *n*,
95 which is secured to a rod, N, the latter having its bearings in the post *f*. Secured to this rod N by a swivel-nut, *j*, is a rod, N', having a bent portion, *n'*, to which is pivoted the lever T. The outer end of this lever rests against
100 the jaw *s*, adapted to slide in a groove in the plate A, and having a downwardly-project-

ing portion, forming a bearing for the rod N'. This lever T passes through a projection formed on a nut, *u*, to which is adapted the threaded portion of a rod, U, having its bearings in the rear casting *a*. The outer end of this rod is square, for the reception of a suitable key. By turning the rod U in one direction the nut *u* is moved in the direction of its arrow, which action will force either the rod N' and its attachment in the direction of its arrow, first to close the front jaws, M M, or move the jaw *s*, which, together with the jaw S, forms the heel-clamp. If this jaw *s* engages first with the heel of the boot of the skater, the point of contact between the lever T and the jaw *s* will be the fulcrum of the lever for the movement of the rod N', while if the rod N' comes to the end of its movement first the point of connection of the lever T with *n'* will be the fulcrum, so that considerable leverage is obtained in a small compass.

The nut *j* is for the purpose of adjusting the jaws to about the position required before placing the skate on the foot.

I claim as my invention—

1. The combination, in a roller-skate, of the sole-plate A and rollers with a bearing-block, D, the pivot *e* at an angle, the plate A bearing directly on the bearing-block D, in vertical line with the axle B, substantially as set forth.

2. The combination of the plate A, with a bearing, D, attached thereto, a tie-rod, E, a spring, F, a post, *f*, and a sleeve, *g*, adjustable on the tie-rod, as and for the purpose set forth.

3. The combination of the levers M M, having jaws *m m* and jaws *s*, with rods N, N', and U, and a lever, T, acted on by the rod U, to clamp the jaw to the boot, as set forth.

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

GEORGE F. JOHNSON.

Witnesses:

HARRY SMITH,
HENRY HOWSON.