

W. E. TAIT & H. NICOLL.

SKATE.

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911,346.

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Fig. 1.

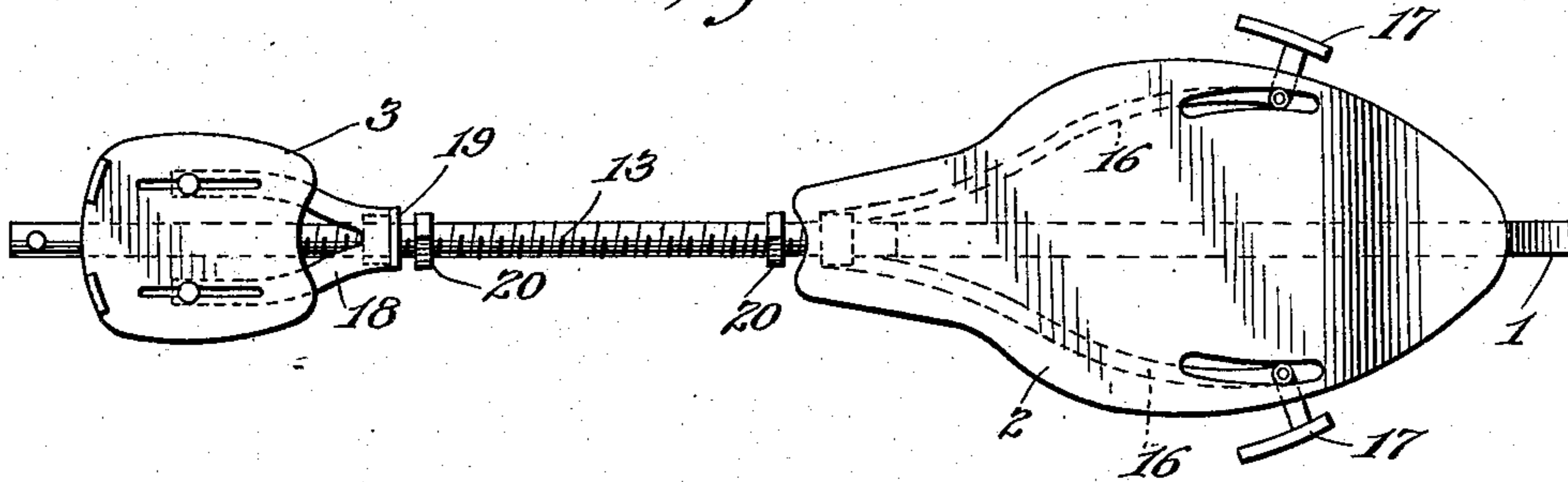


Fig. 2.

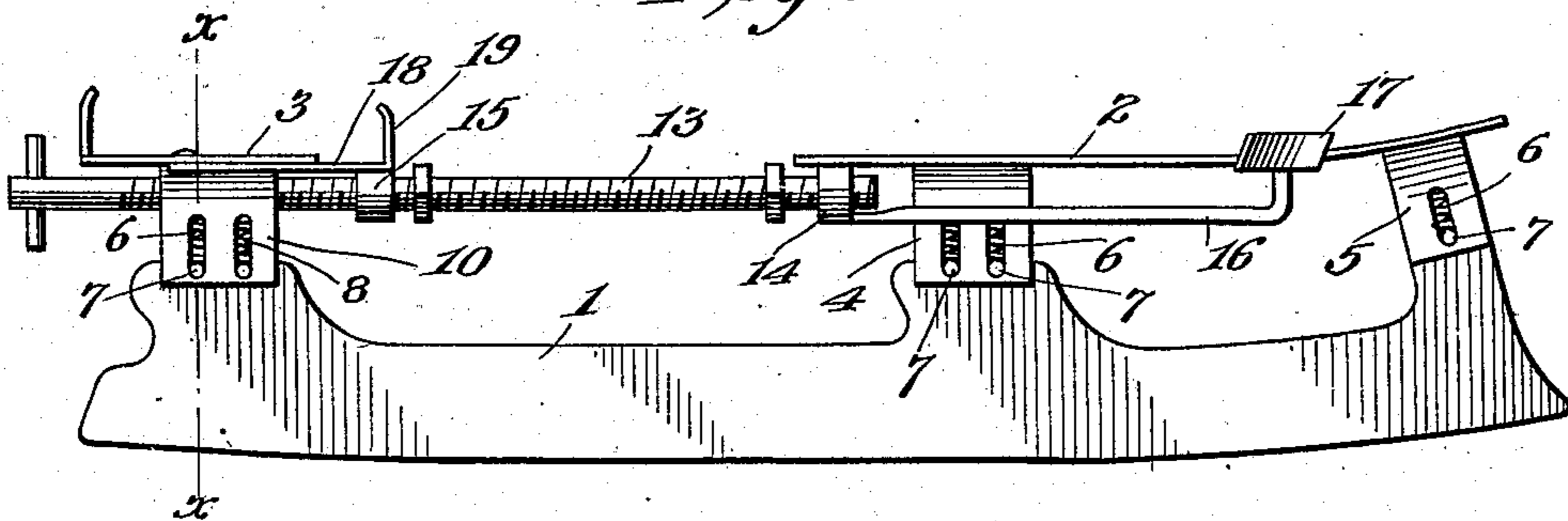


Fig. 4.

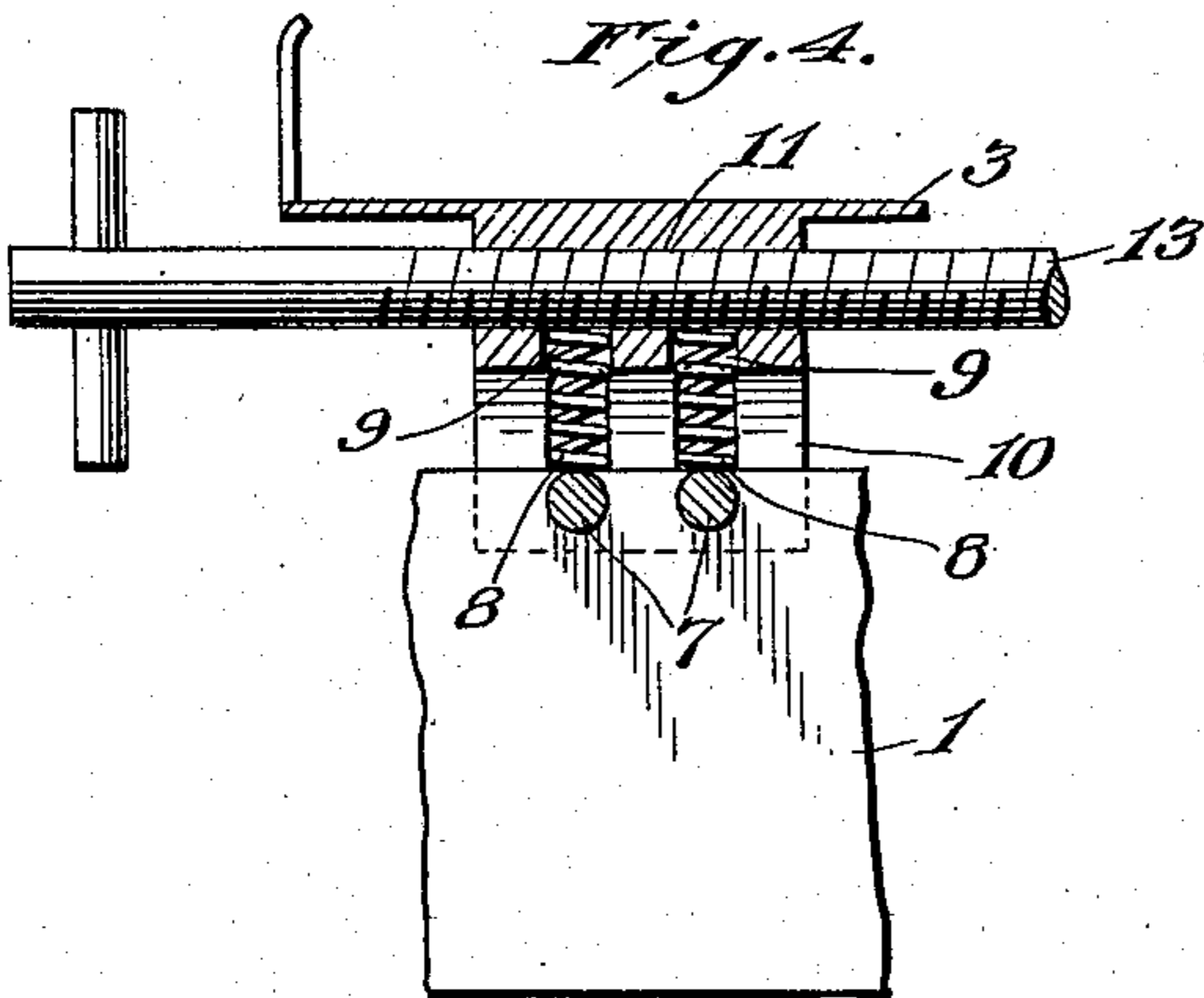
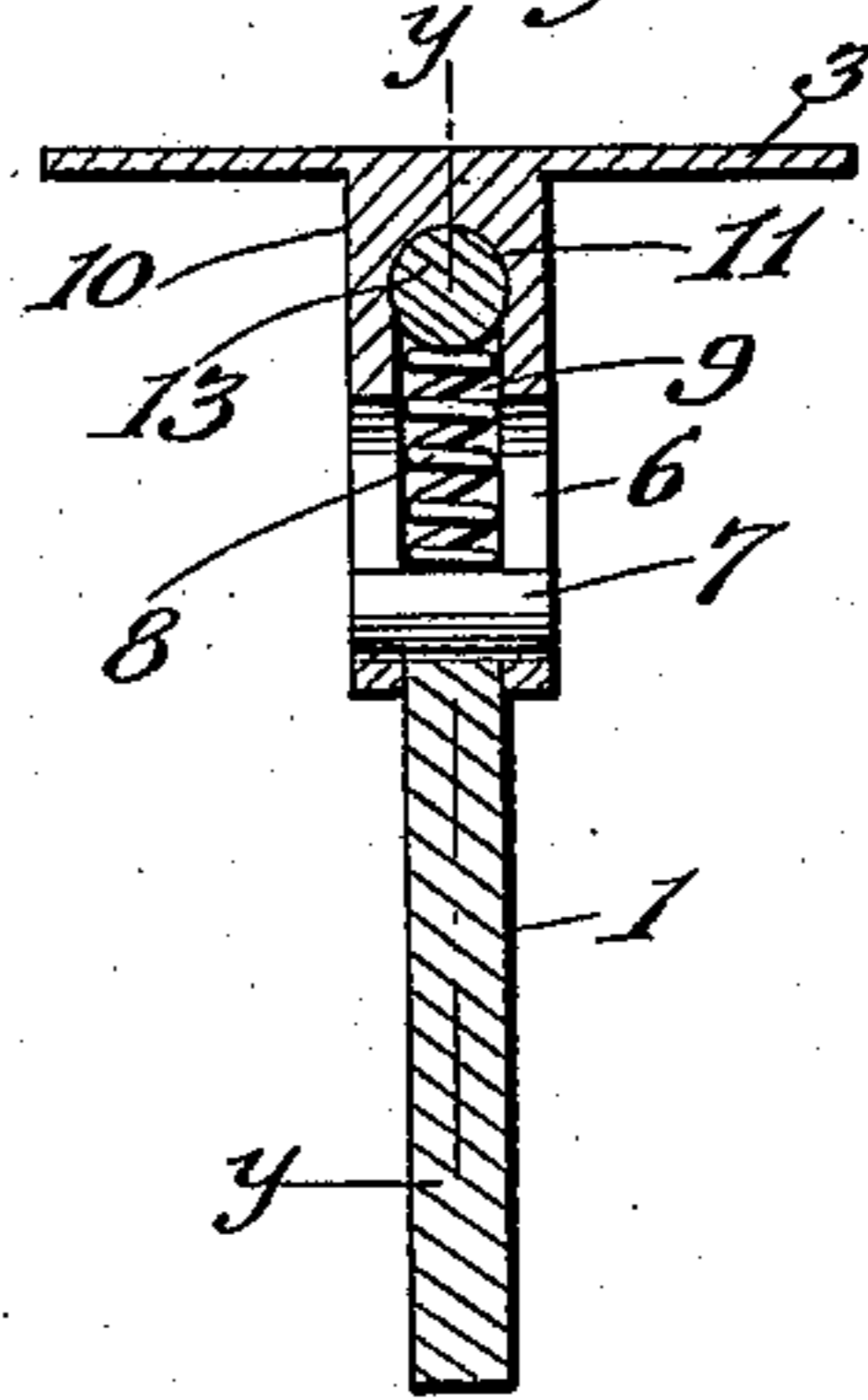


Fig. 3.



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UNITED STATES PATENT OFFICE.

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SKATE.

No. 911,346.

Specification of Letters Patent.

Patented Feb. 2, 1909.

Application filed October 22, 1908. Serial No. 458,984.

To all whom it may concern:

Be it known that we, WILFRED ELLIOTT TAIT and HARRY NICOLL, citizens of the United States, residing at Beverly, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Skates, of which the following is a specification.

Our invention relates to improvements in skates, and more particularly to ice skates, the object of the invention being to provide an improved elastic connection between the runner and the foot supporting plates, which will cushion the skate, and in which the elastic connection will serve, when weight is on the foot supporting plates, to securely lock the shoe clamps against possibility of working loose.

A further object is to provide improvements of this character, of simple inexpensive construction, neat and attractive in appearance, and strong and durable in use.

With these and other objects in view the invention consists in certain novel features of construction, combinations and arrangements of parts as will be more fully hereinafter described and pointed out in the claims.

In the accompanying drawings Figure 1, is a top plan view illustrating our improvements. Fig. 2, is a view in side elevation. Fig. 3, is a view in section on the line $x-x$ of Fig. 2, and Fig. 4, is a view in section on the line $y-y$ Fig. 3.

1 represents a skate blade or runner of any desired shape, and 2 and 3 are the sole and heel plates respectively. The sole or toe plate 2 is provided at its longitudinal center on its lower face with two depending standards 4 and 5 respectively, said standards being made with bifurcated or forked lower ends to straddle the runner 1. These standards are made at their lower bifurcated ends with slots 6 and studs 7 are fixed to the runner 1, and project at their ends, into said slots 6, to limit the movement of the standards and the runner, with relation to each other. Coiled springs 8 are disposed in the bifurcated ends of standards 4 and 5, and bear at their lower ends on runner 1, and the standards 4 and 5 are made with recesses or housings 9 to receive the upper ends of the springs 8 and prevent accidental displacement of the springs when the skate is in operation. The heel plate 3 is also pro-

vided with a standard 10 similar to standard 4, but having a screw threaded horizontal bore 11 longitudinally of the skate and near the upper end of the standard, and the vertical bores 9 in said standard, forming the housings for the coiled springs 8, communicate with the horizontal bore 11.

A screw threaded rod 13 is mounted in the bore 11 and blocks 14 and 15 respectively are made with threaded openings to receive the threaded rod 13. The block 14 is connected by links 16 with the toe clamps 17, and block 15 is connected by links 18 with the heel plate 3, and carries the movable member 19 of the heel clamp, so that when the rod 13 is turned the heel and toe clamps will be simultaneously operated to clamp or release the shoe as the case may be.

As a means for preventing the turning of the rod 13 after the skate is clamped on the shoe, we may provide jam nuts 20 on the rod 13, to be screwed against blocks 14 and 15 and securely lock the rod. These jam nuts may be dispensed with as we do not believe they are necessary, for the reason, that the springs 8 in the rear standard 10 bear, at their upper ends against the rod 13, hence when no pressure is on the heel plate, the rod 13 can be readily turned to adjust the clamps at will, but as soon as the wearer's weight comes upon the skate, the springs will jam against the rod and serve as locks, effectually preventing any accidental turning of the adjusting rod 13, and thereby preventing any loosening of the clamps.

With our improvements, the springs serve to elastically connect the runner and foot supports, and not only serve as cushions to render skating more enjoyable, as jars and jolts will be taken up by the springs, but the connection also permits the runner to move out of parallel with the foot, in moving over uneven surfaces on the ice. In other words, the runner can rock to a limited extent, and hence will run easily over uneven places in the ice, and not jar the skater.

While we have shown two standards, on the sole or toe plate the front standard having but a single pair of slots and studs, while the other standards are shown with two pairs of slots and studs and cooperating springs, we would have it understood that a great many changes might be made in these parts and in the other features of construction without departing from our invention,

and hence we do not restrict ourselves to the precise details set forth, but consider ourselves at liberty to make such changes and alterations as fairly fall within the spirit and scope of our invention.

Having thus described our invention what we claim as new and desire to secure by Letters Patent is:

1. In a skate, the combination with a runner, of a foot support, standards depending from the foot support and having bifurcated lower ends loosely straddling the runner, springs in said bifurcated ends between the runner and foot support, and studs on the runner located in slots in the standards limiting the movement of the support and runner relative to each other.

2. In a skate, the combination with a runner, of a foot support, standards depending from the foot support and having pairs of slots and bifurcated lower ends loosely straddling the runner, a pair of springs located in recesses or housings in the standards and bearing against the runner, and studs in the runner located in the slots in the respective standards and limiting the movement of the standards and the runner with relation to each other.

3. In a skate, the combination with a runner, of a foot support, standards depending from the foot support and having bifurcated lower ends loosely straddling the runner, means for limiting the upward movement of the standard with relation to the runner, a coiled spring between the standard and runner and located in a recess or housing in the standard, said standard having a horizontal screw threaded bore and a clamp

adjusting rod in said bore and against which rod said spring bears at its upper end.

4. In a skate, the combination with a runner, of heel and sole plates, standards on said plates having bifurcated lower ends loosely straddling the runner and made with aligned slots in said bifurcated ends, studs on the runner located in said slots, springs in the standards between the runner and the said plates, sole and heel clamps movable on said plates, a screw threaded adjusting rod supported in one of said standards, and mechanism connecting said rod with the heel and sole clamps to compel their simultaneous operation when the rod is turned.

5. In a skate, the combination with a runner, of heel and sole plates, standards on said plates having bifurcated lower ends loosely straddling the runner and made with aligned slots in said bifurcated ends, studs on the runner located in said slots, springs in the standards between the runner and the said plates, sole and heel clamps movable on said plates, a screw threaded adjusting rod supported in one of said standards, mechanism connecting said rod with the heel and sole clamps to compel their simultaneous operation when the rod is turned, and means for locking said rod against turning movement.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

WILFRED ELLIOTT TAIT.
HARRY NICOLL.

Witnesses:

JOHN H. WILLIAMS,
JAMES G. GREENE.