

No. 779,417.

PATENTED JAN. 10, 1905.

P. W. FINKLE.

SKATE.

APPLICATION FILED OCT. 27, 1903.

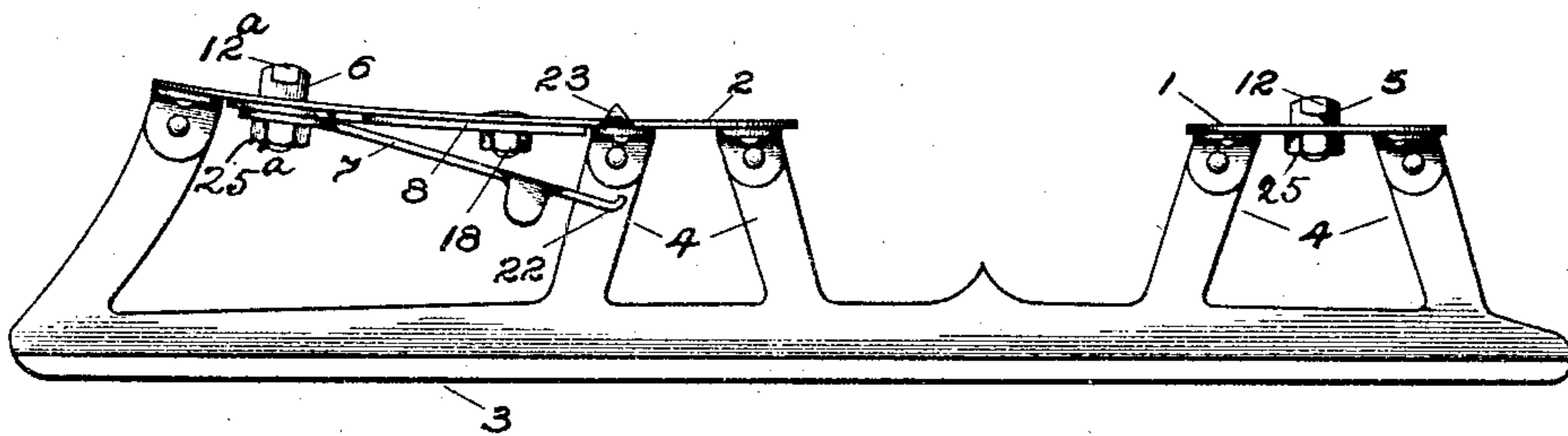


FIG. 1-

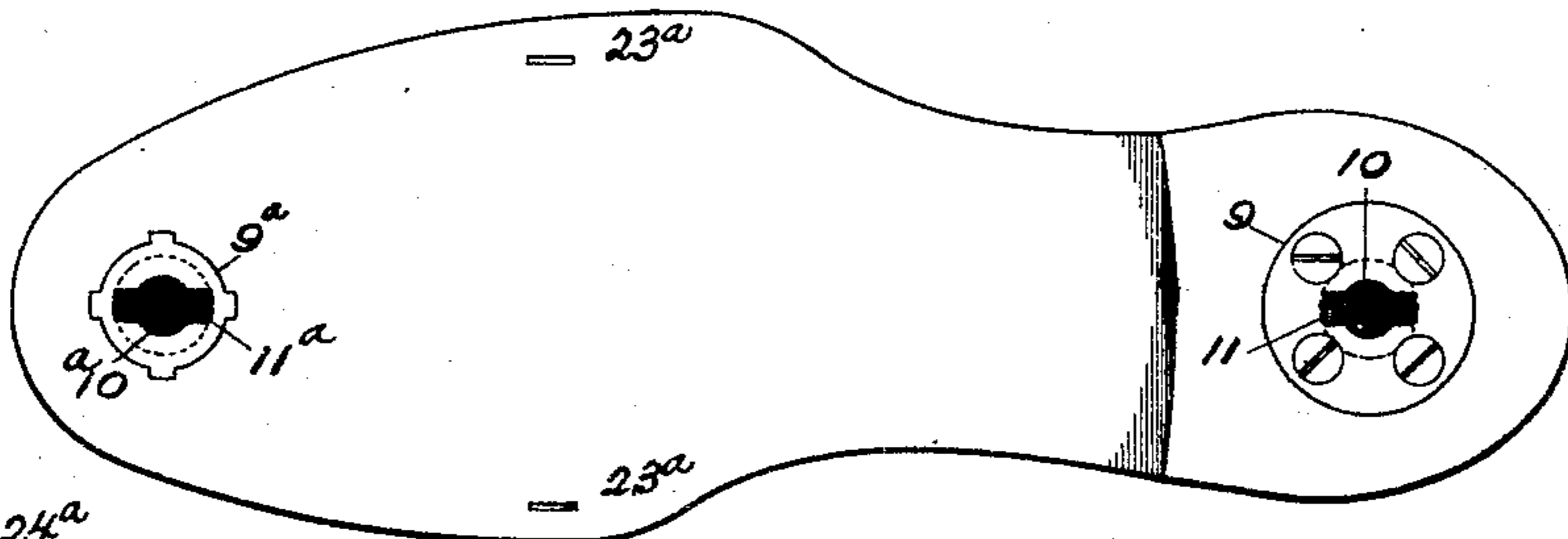


FIG. 2-

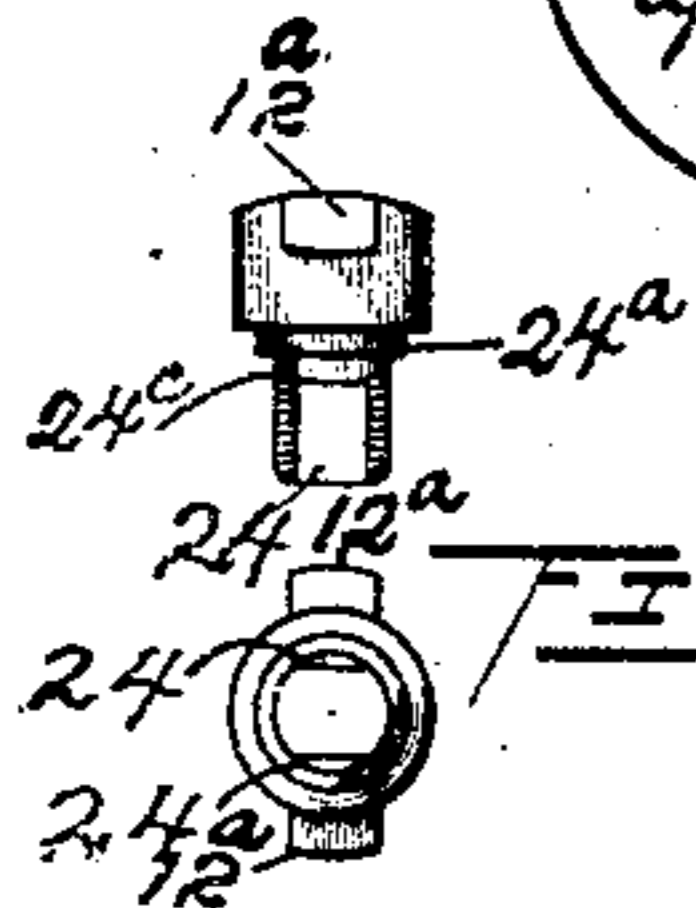


FIG. 10-



FIG. 5-

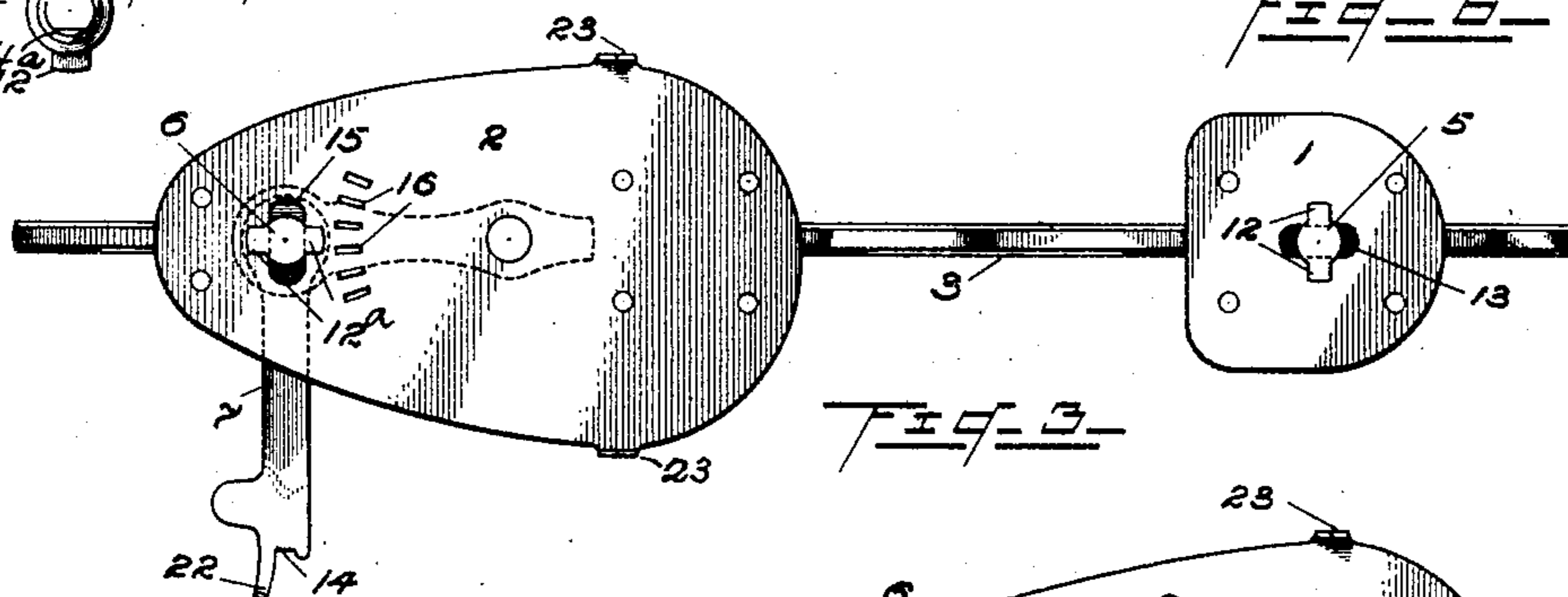


FIG. 3-

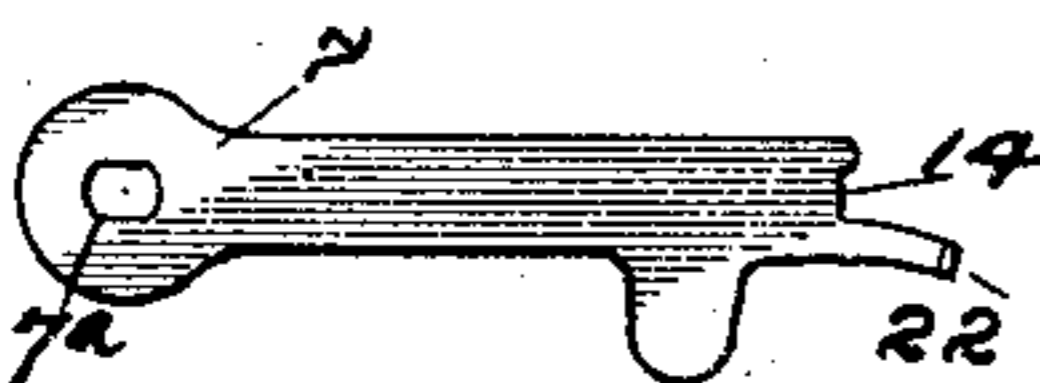


FIG. 5-



FIG. 7-

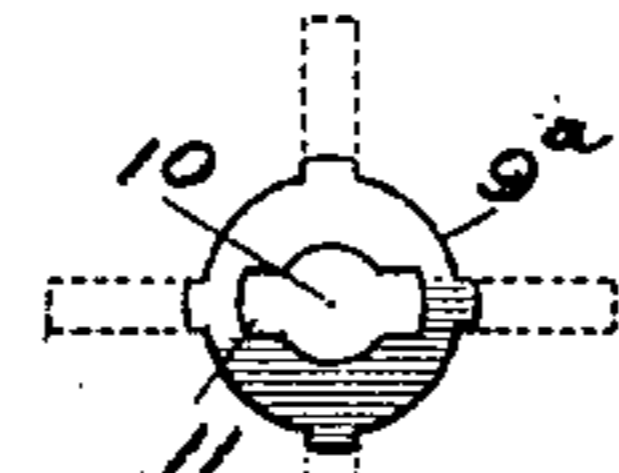


FIG. 9-

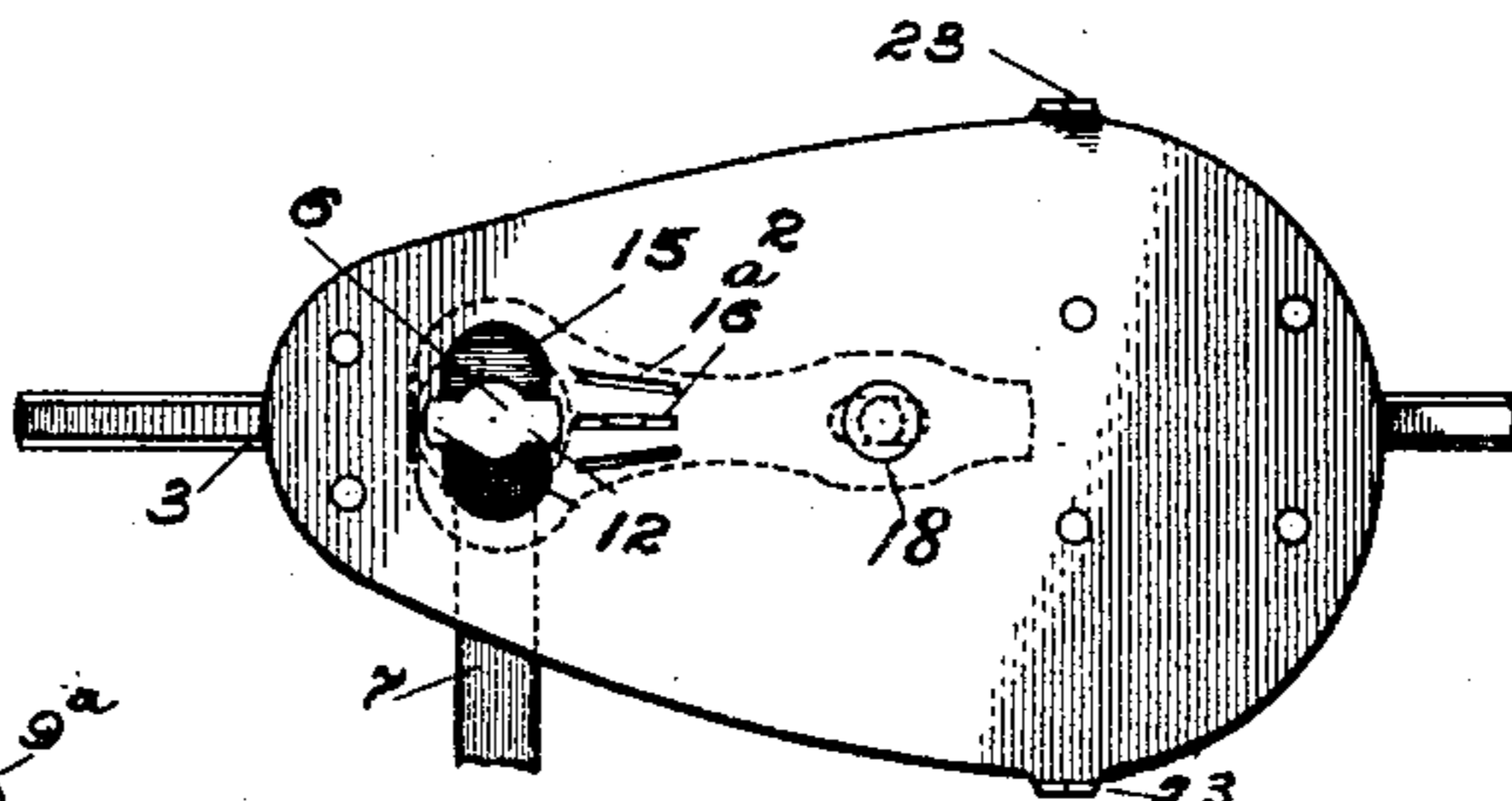


FIG. 4-

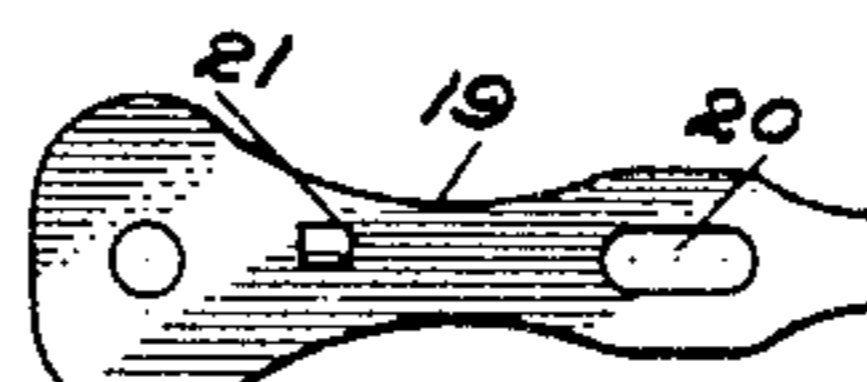


FIG. 6-

WITNESSES

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SKATE.

SPECIFICATION forming part of Letters Patent No. 779,417, dated January 10, 1905.

Application filed October 27, 1903. Serial No. 178,799.

To all whom it may concern:

Be it known that I, PERRY WILLIAM FINKLE, of the city of Toronto, in the county of York and Province of Ontario, Canada, have invented certain new and useful Improvements in Skates; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form part of this specification.

The present invention relates particularly to improvements in the manner and mechanism for securing the skate to the boot, a fastening preferably adaptable to skates of light weight and capable of ample adjustment, either longitudinally or transversely, for the purpose hereinafter described, and has for its object to provide an efficient and durable fastening simple in construction and readily operated, securing the skate rigidly to the boot and dispensing with the use of straps, &c.

To such ends the invention consists in the construction and combination of parts hereinafter particularly described and claimed, reference being had to the accompanying drawings, in which similar figures of reference refer to like parts throughout.

Figure 1 is a view in elevation of a light racing-skate with the improvements thereon. Fig. 2 is a plan view of the under side of the boot, showing the plates inserted in the heel and forward part of the sole. Fig. 3 is a plan view of Fig. 1, showing the mechanism for longitudinally and transversely adjusting the skate. Fig. 4 is a modification of the adjustment shown in Fig. 3, showing a compound adjustment located in the sole-plate. Fig. 5 is a detail view of the locking-lever. Fig. 6 is a detail view of the transversely-adjustable fulcrum-plate. Fig. 7 is a plan view in detail of Fig. 6. Fig. 8 is a detail view of the compound adjustable fulcrum-plate. Fig. 9 is a detail view of the boot-plate, showing the tangs for securing the same and used in place of screws; and Fig. 10 is a detail view of the front stud-key in plan and elevation.

1 designates the heel-plate, and 2 the sole-plate, of the skate, both being secured to the runner 3 by arms 4. Said heel-plate is provided with a longitudinal flat-sided slot 13, and

said sole-plate is provided with a transverse flat-sided slot 15.

The heel of the shoe to which the skate will be attached is provided with a plate 9, having in its center a longitudinal slot 11, enlarged at its middle part to form a circle 10. Also the sole of said shoe is provided near the toe with a similar sole-plate 9^a, having a slot 11^a, corresponding in form and arrangement to slot 9, and having a central enlargement 10^a, corresponding to 10. The slot 11 of shoe heel-plate 9 registers with slot 13 of skate heel-plate 1, and the slot 11^a of shoe sole-plate 9^a registers with the slot 15 of skate sole-plate 2.

A heel stud-key 5 has a short stem extending down through slot 13 and flattened at the sides to permit it to be moved longitudinally in slot 13 for purposes of adjustment. Said stem is screw-threaded to receive a nut 25 under plate 1. The enlarged upper part of said stud-key is provided with two diametrically opposite horizontal lugs 12, which may either lie in line with slot 11 or transversely to the same, according to the relative positions of the shoe and skate. In the former position it permits the shoe and skate to be readily separated. In the latter position the skate is locked to the shoe at the heel.

A sole stud-key 6 extends down through slot 15 and also through a circular hole 8^a of a fulcrum-plate 8 and a flat-sided slot 7^a of a locking-lever 7. The upper part of this stem is provided with a circular reduced part 24^a, which is adapted to slide laterally in the said slot 15 and turn therein. Another circular part, 24^c, of less diameter fits the hole 8^a of bearing-plate 8 and is free to turn in the same. The remainder of the said stem is provided with two opposite flat faces 24, adapting it to fit and fill the small slot 7^a of said locking-lever so as to turn therewith, but have no independent motion. Said stem is necessarily longer than that of stud 5, having to pass through two additional parts 7 and 8, and it is screw-threaded to receive a nut 25^a, which clamps it to said lever. The said bearing-plate is provided with upwardly-extending lugs 17, adapted to enter the holes 16 of a curved series arranged transversely in the under side of skate sole-plate 2. The ful-

crum-plate 8 is pivoted at 8^b near its rear end by a bolt 18 to the under side of said sole-plate. By turning it on this pivotal point so as to shift the lugs 17 from two of these holes 16 to another pair thereof the position of the stud 6 is correspondingly shifted to one side or the other and again locked at such points by the engagement of the lugs 17 with the walls of said holes 16. The stud 6 is, however, left free to turn in said fulcrum-plate, and the locking-lever 7 is then moved horizontally through part of a circle to turn said stud from the locking position (shown in Fig. 1) to the unlocking position. (Shown in Fig. 3.) This stud has lateral lugs 12^a, corresponding to the lugs 12 of stud 5 and operating in the same way, except that stud 6 turns independently of the skate and stud 5 does not.

The sole-plate 2 of the skate is provided at its side edges with teeth 23, adapted to enter openings 23^a in the shoe-sole (which may be made by said teeth) for greater security of attachment. The locking-lever 7 is provided with a terminal cleaning-hook 22 for removing snow and ice. It has also a recess 14 formed in its end for engaging resiliently the inclined edge of one of the arms 4 of the skate to hold said lever in position. The fulcrum-plate 8 is slightly bent, so as to bear by its resiliency against the under side of sole-plate 2, and thus be held in position.

It is exceedingly difficult in skate-fastenings of this kind to properly locate the shoe heel-plate 9 and sole-plate 9^a when the studs are not adjustable; but by reason of the longitudinal adjustment of the heel stud-key 5 and the transverse adjustment of the stud-key 6 I have made it easy to compensate for any slight inaccuracy of position.

To attach the skate to the boot or shoe, the skate is held at right angles to the boot while the stud-key 5 is inserted through slot 11 behind plate 9, and the skate or boot, or both, must then be turned to bring the lugs 12 of said stud across said slot, locking skate and boot together at the heel. This brings the stud-key 6 into register with the slot 11^a, which it enters, and in case of any misfit in this regard the bearing-plate 8 is adjusted on its pivot until the said stud-key is exactly opposite said slot for such entry. The said locking-lever 7 is then turned so as to turn the said stud behind the plate 9^a until the lugs 12^a are at right angles to said plate, locking the skate securely to the boot-sole. The said locking-lever is then parallel with the skate, which cannot be removed except by reversing the above procedure.

Sometimes I prefer to employ a compound fulcrum-plate 19, (shown in detail in Fig. 8,) which is capable of a longitudinal as well as a transverse adjustment. To permit the former, the said plate has an elongated slot 20 instead of the pivot-hole before described, either of these being adapted to receive the

small pivot-bolt 18, Fig. 1. In this instance I also substitute one centrally-arranged lug 21 for the two lugs 17, before referred to, and provide longer slots 16^a, permitting considerable longitudinal change of position on the part of said stud without disengagement or being moved out of position to engage.

The plates 9 and 9^a are referred to in this specification sometimes as "shoe-plates" and sometimes as "boot-plates," being obviously suited to use with either kind of footwear.

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

1. In a skate, the combination of an axially-turning stud-key 6 and a locking-lever operating the said key, with an adjustable fulcrum-plate supporting the said lever and a locking device for maintaining said fulcrum-plate in position after adjustment, the said stud-key being adapted to engage a boot-plate and lock the skate and boot together substantially as set forth.

2. In a skate, the combination of an axially-turning stud-key 6 with a locking-lever operating the same, an adjustable fulcrum-plate supporting the said lever and stud-key and pivoted to the said skate and a locking device for maintaining said fulcrum-plate in position after adjustment, the said stud-key being adapted to engage a boot-plate and lock the skate and boot together substantially as set forth.

3. In a skate provided with arms, the combination of an axially-turning stud-key adapted to engage a boot-plate, with a locking-lever operating the said key, a fulcrum-plate supporting the said lever, pivoted on the sole-plate and adjustable thereon, a locking device for maintaining said fulcrum-plate in juxtaposition with the under side of said sole-plate, the free end of the said locking-lever being recessed to engage one of the arms of the skate substantially as set forth.

4. In a skate having a sole-plate, the combination of an axially-turning stud-key adapted to engage a boot-plate, with a locking-lever operating the said key, a fulcrum-plate supporting the said lever, pivoted on the said sole-plate and adjustable thereon, and means for holding the said fulcrum-plate against the said sole-plate, the said sole-plate being provided with a series of perforations and the said fulcrum-plate being provided with one or more lugs adapted to enter the said perforations and to be shifted from some of the latter to others substantially as and for the purpose set forth.

In witness whereof I have hereunto set my hand in presence of two witnesses.

PERRY WILLIAM FINKLE.

Witnesses:

A. MARCY,
H. DIXON.