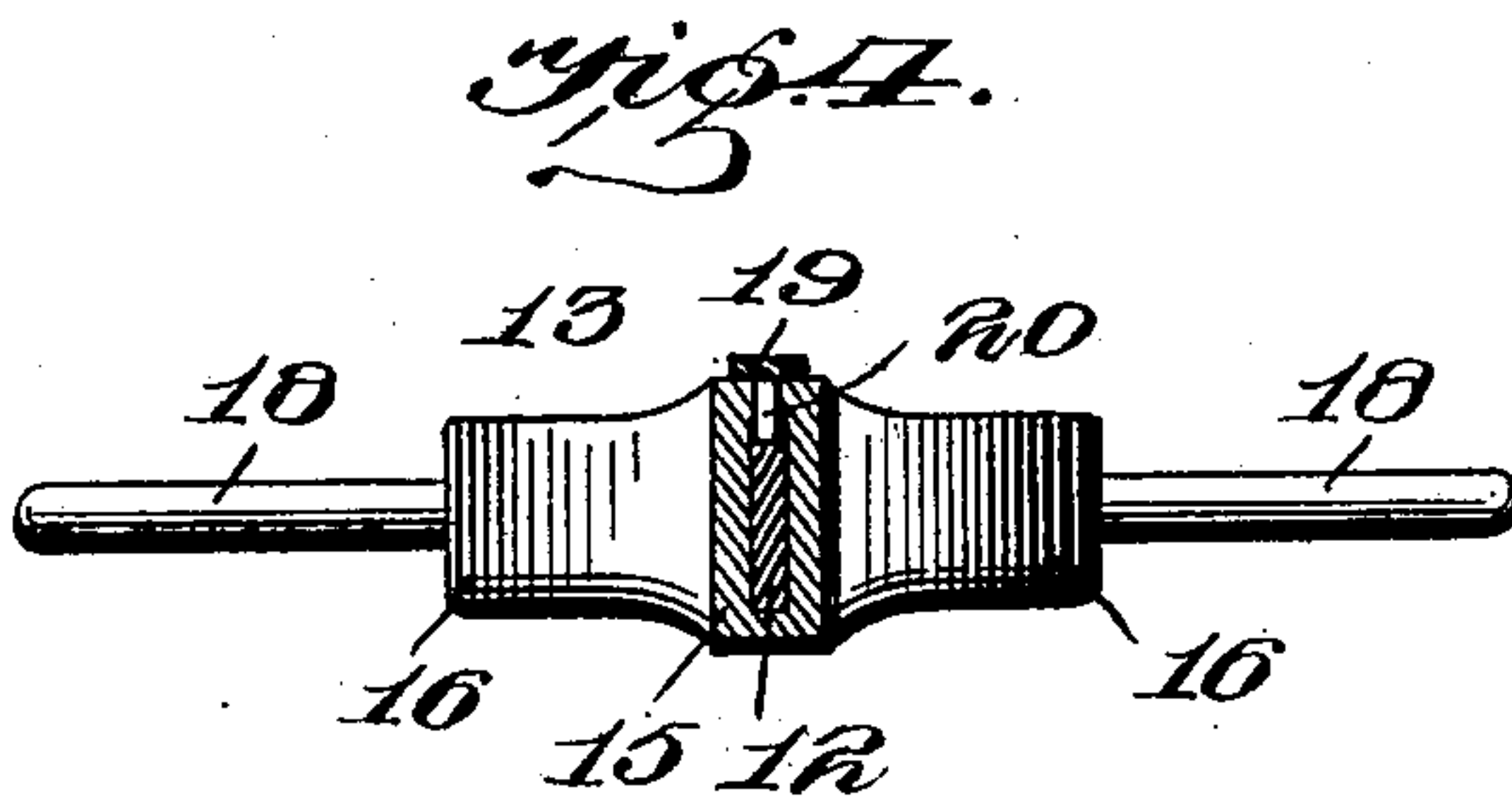
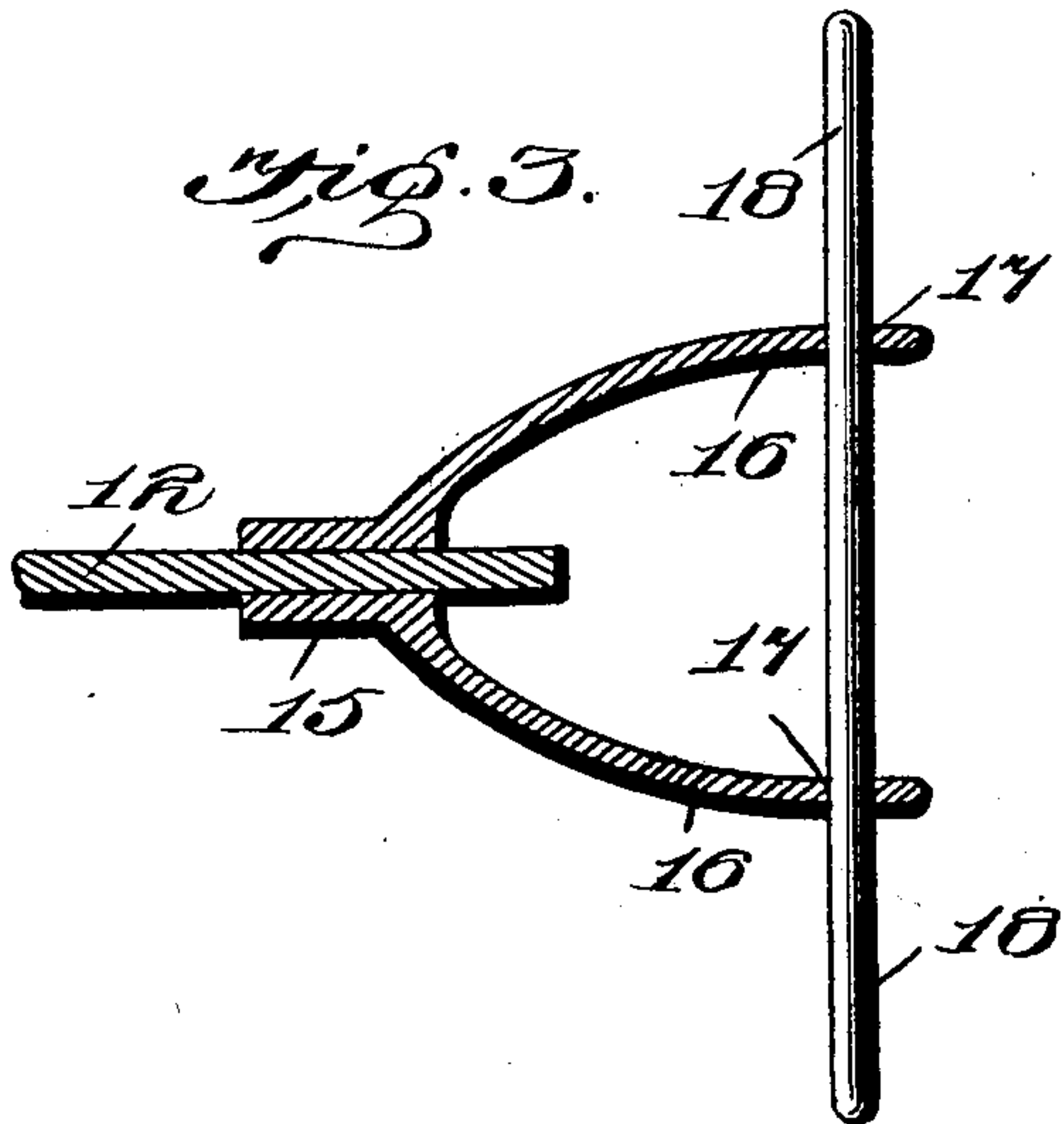
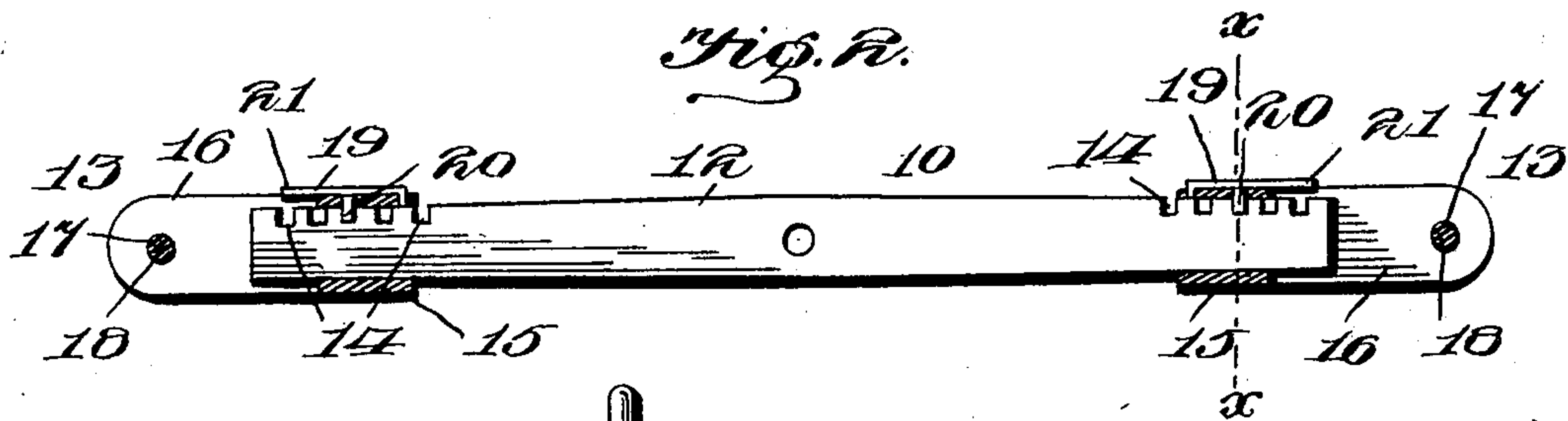
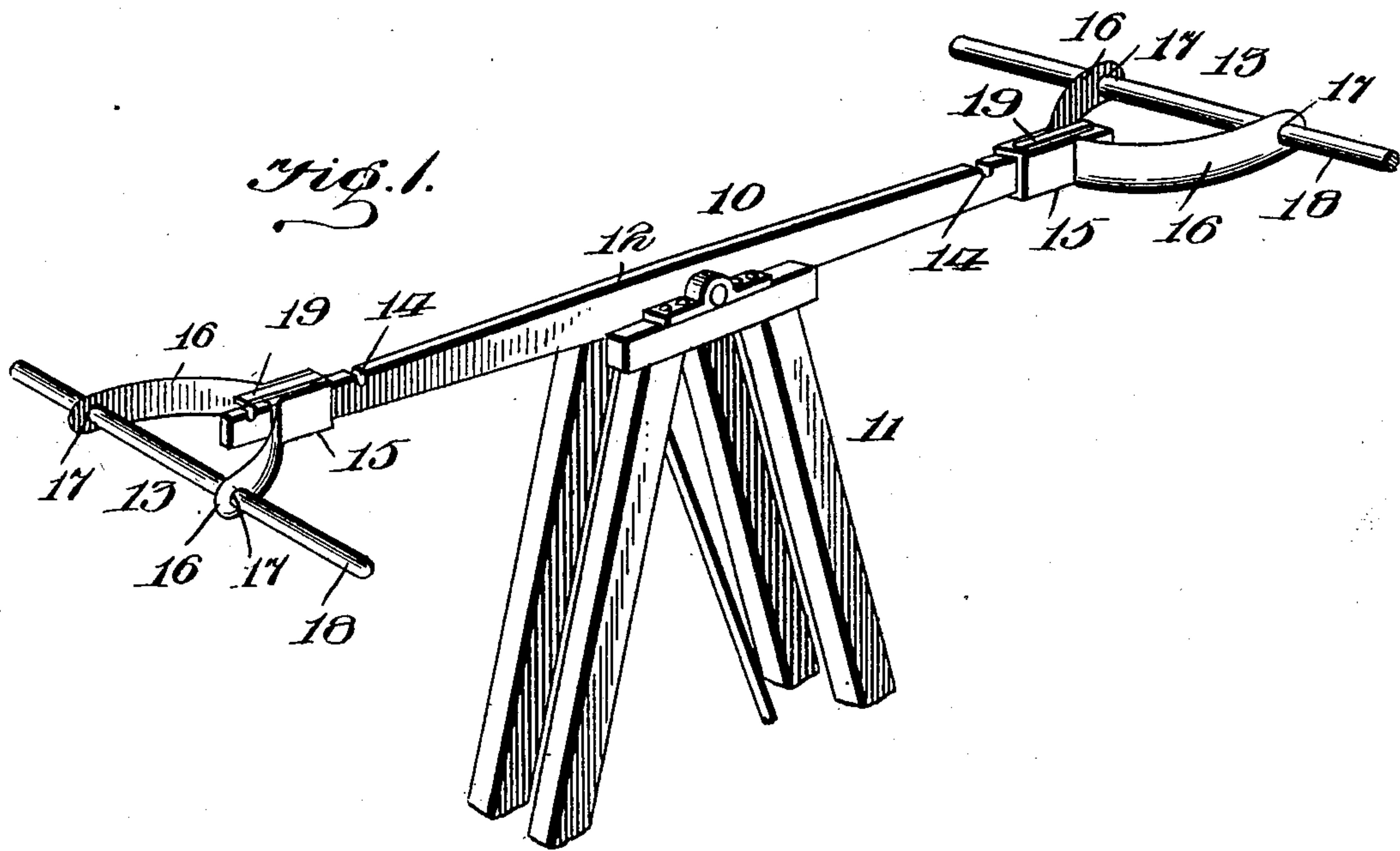


No. 679,095.

Patented July 23, 1901.

J. L. TWYMAN.
OPERATING LEVER FOR HAND CARS, &c.
(Application filed Dec. 5, 1900.)

(No Model.)



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Inventor

By

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UNITED STATES PATENT OFFICE.

JAMES LEWIS TWYMAN, OF FAIRFIELD, WASHINGTON.

OPERATING-LEVER FOR HAND-CARS, &c.

SPECIFICATION forming part of Letters Patent No. 679,095, dated July 23, 1901.

Application filed December 5, 1900. Serial No. 38,802. (No model.)

To all whom it may concern:

Be it known that I, JAMES LEWIS TWYMAN, a citizen of the United States, residing at Fairfield, in the county of Spokane and State of Washington, have invented a new and useful Operating-Lever for Hand-Cars and the Like, of which the following is a specification.

In the hand-cars now in general use on railways an oscillating operating-lever is employed which is of a fixed length. When a high-speed car is desired, the lever used is comparatively short, and a serious objection arises because of the difficulty of propelling the car up a grade or against a head wind. On the other hand, when the lever is long enough to overcome these difficulties speed must necessarily be sacrificed, even when the conditions are favorable for it.

The present invention relates to improvements in this class of levers for hand-cars and similar vehicles; and the object is to overcome the above objections by providing a lever that may be readily shortened or lengthened by the operators while the machine is in motion, and can thus be quickly adjusted to obtain the various degrees of power needed. To the accomplishment of this object, the construction illustrated in the accompanying drawings and described in the following specification is provided; but it will be understood that the construction thus shown and described is open to change and modification within the scope of the claims hereto appended.

In the drawings, Figure 1 is a perspective view of the upper portion of a hand-car, showing the improved lever in place thereon. Fig. 2 is a side elevation, on an enlarged scale, of the lever, the extensible handle-sections being shown in section. Fig. 3 is a horizontal sectional view of one end. Fig. 4 is a cross-section on the line X X of Fig. 2.

Similar numerals of reference designate corresponding parts in the several figures of the drawings.

In the drawings the reference-numeral 10 designates the improved operating-lever pivotally mounted at its central point upon the usual supporting-standard 11 of a hand-car and having an operative connection with the propelling mechanism thereof. This lever comprises a fulcrumed body-section 12 and

handle-sections 13, slidably mounted on the opposite ends of the fulcrum-sections. This is preferably accomplished in the following manner: The fulcrum-section is pivoted at its central point and has its opposite ends angular in cross-section and provided upon one side with a plurality of transverse notches 14. The handle-sections 13 are each in the form of a bracket which comprises a shank 15, having an angular longitudinal opening adapted to receive the angular end of the fulcrum-section, and a pair of spaced horizontally and longitudinally projecting arms 16. The outer ends of these arms are provided with transverse alined openings 17, through which passes a handle-bar 18. It will thus be seen that the handle-sections are adjustably mounted upon the fulcrum-sections, with the handles arranged beyond the end of the latter, and that by sliding them in one direction or the other these handles will be correspondingly moved toward or away from the ends of the fulcrum-sections, the lever will be correspondingly lengthened or shortened, and therefore the leverage increased or diminished.

In order, however, to hold the handle-sections in their fixed adjusted position and yet permit of their ready release when it is desired to change the leverage, each is provided with a locking device adapted to engage the fulcrum-section. These locking devices are preferably spring-catches comprising a flat leaf-spring 19, secured at one end to the shank 15 and carrying a locking-pin 20, that projects through an opening in said shank and engages the transverse notches 14 of the fulcrum-section. The free end of the spring 19 projects beyond the end of the bracket between the arms 16, and thus provides a readily-accessible handle 21.

The operation of the device will be readily apparent. When the track is level or upon a downgrade and high speed can be obtained, the operators at each end of the lever raise the latches and slide the handle-sections to their innermost position, thus shortening the lever, and consequently the "throw" of the handle portions. When, however, an upgrade, a head-wind, or other obstacle requiring more power is encountered, the handle portions are drawn outwardly to increase the

leverage. These several operations, it will be observed, can be accomplished without the necessity of stopping or even slowing down the car.

5 From the foregoing it is thought that the construction, operation, and many advantages of the herein-described invention will be apparent to those skilled in the art without further description, and it will be understood that various changes in the size, shape, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

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

1. In an operating-lever of the class described, a fulcrum-section pivotally supported intermediate its ends, and handle-sections arranged upon opposite portions of the fulcrum-sections, said handle-sections each comprising a bracket having one end slidably mounted upon the fulcrum-section, and the other end projecting beyond the end thereof and provided with a transverse handle.

2. In an operating-lever of the class described, a fulcrum-section pivotally supported intermediate its ends, and handle-sections arranged upon opposite portions of the fulcrum-sections, said handle-sections each comprising a bracket having one end slidably mounted upon the fulcrum-section, and the other end projecting beyond the end thereof and provided with a transverse handle, and a locking-catch carried by the bracket and adapted to engage the fulcrum-section to hold the handle-sections in fixed position.

3. In an operating-lever of the class described, a fulcrum-section pivotally supported intermediate its ends, and handle-sections slidably mounted upon the opposite ends of the fulcrum-section, each of said handle-sections comprising a bracket having a shank through which passes the end of the fulcrum-

section, and spaced arms projecting from one end of the bracket and beyond the end of the fulcrum-section, said arms being provided with a transverse handle, and means carried by the shank and adapted to engage the fulcrum-section to hold the handle-section in a fixed position. 50

4. In an operating-lever of the class described, a fulcrum-section pivotally supported intermediate its ends, and handle-sections slidably mounted upon the opposite ends of the fulcrum-section, each of said handle-sections comprising a bracket having a shank through which passes the end of the fulcrum-section, and spaced arms projecting from one end of the bracket and beyond the end of the fulcrum-section, said arms being provided with a transverse handle, and a spring-catch carried by the shank and arranged to engage the fulcrum-section. 65

5. In an operating-lever of the class described, a fulcrum-section pivotally mounted intermediate its ends and having a plurality of transverse notches, and handle-sections slidably mounted upon the opposite ends of the fulcrum-sections, said handle-sections comprising a bracket having a shank through which passes the end of the fulcrum-section, and spaced arms projecting from one end of the bracket end and beyond the end of the fulcrum-section, said arms being provided with a transverse handle, and a spring-catch comprising a flat leaf-spring secured at one end to the shank and having its other end projecting between the spaced arms, said spring carrying a locking-pin adapted to engage the transverse notches of the fulcrum-section. 70 75 80

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses. 85

JAMES LEWIS TWYMAN.

Witnesses:

L. M. MURPHY,
T. D. HENCH.