(No Model.) 2 Sheets—Sheet 1.

W. A. LLOYD & H. KEELING.

CYCLE PEDAL.

No. 604,251. Patented May 17, 1898.

Fig. 1.

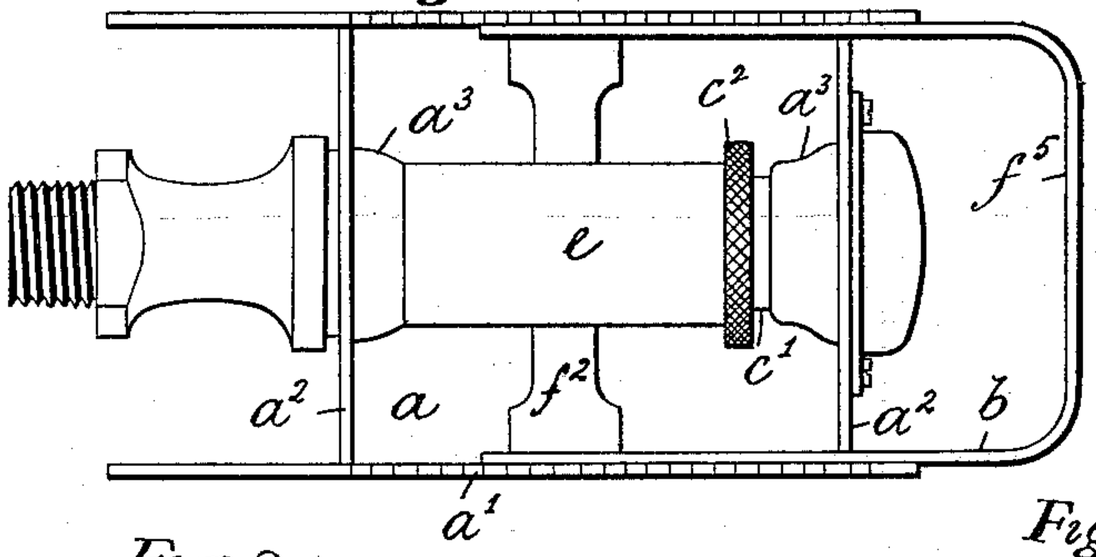


Fig. 2.

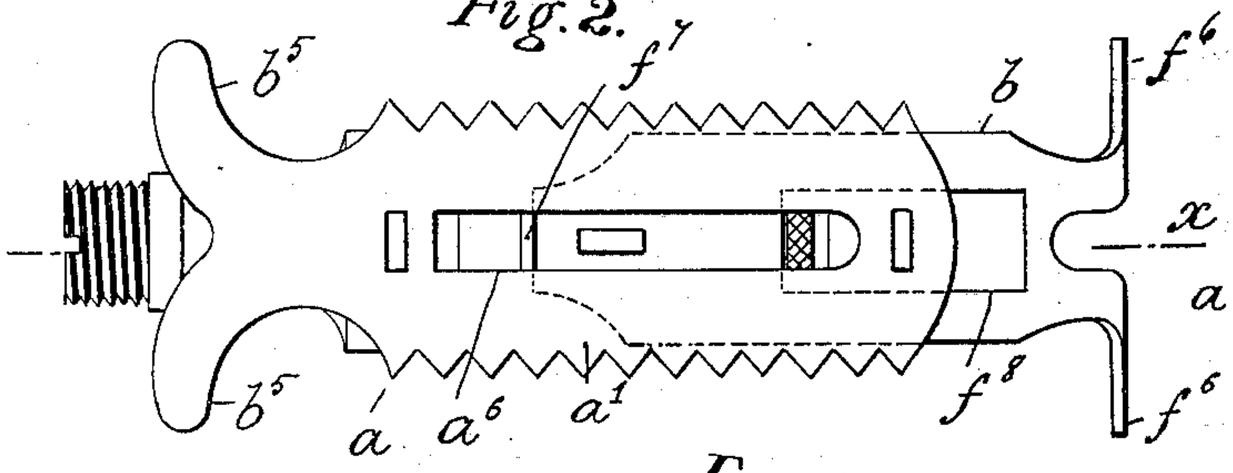


Fig. 3.

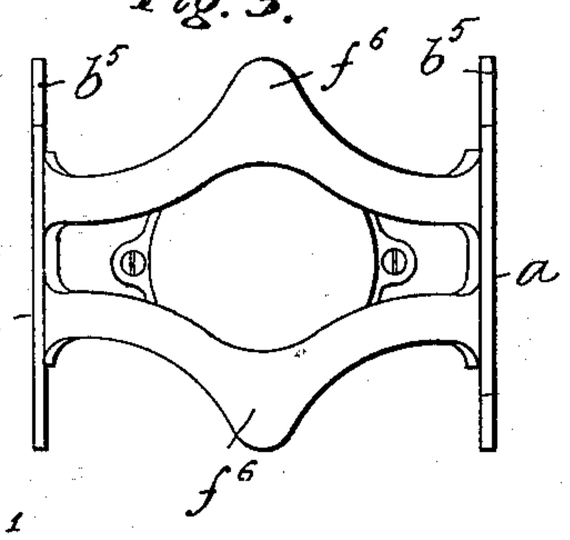


Fig. 4.

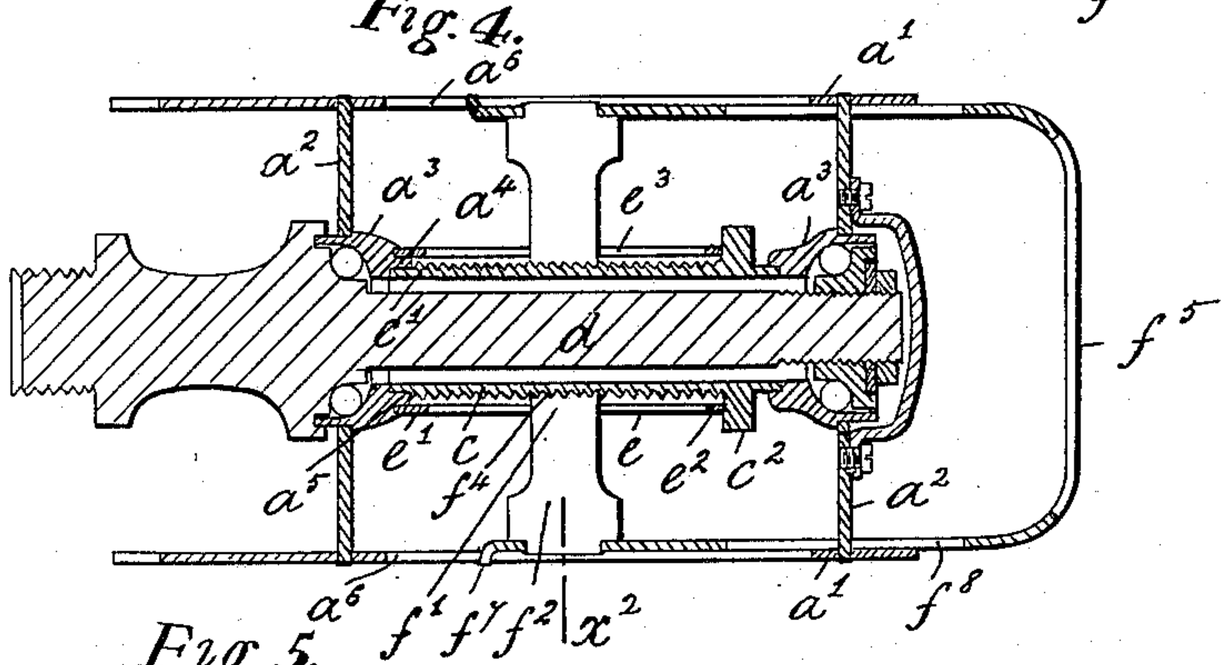


Fig. 5.

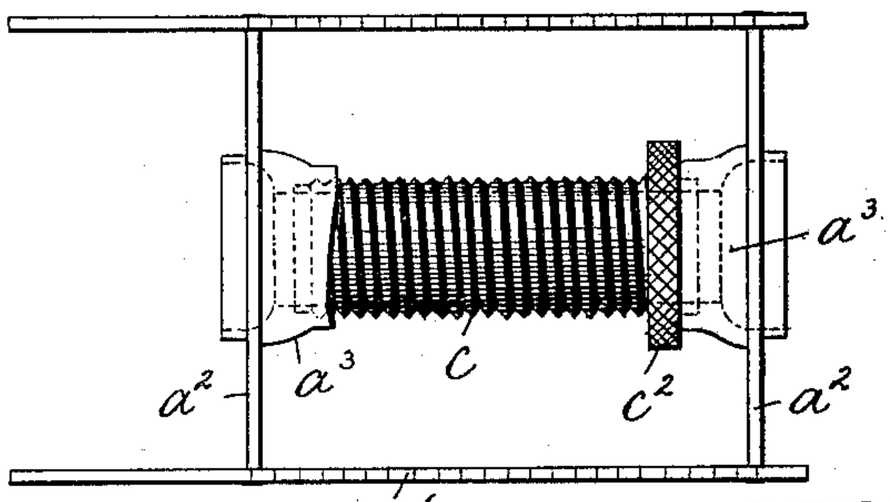
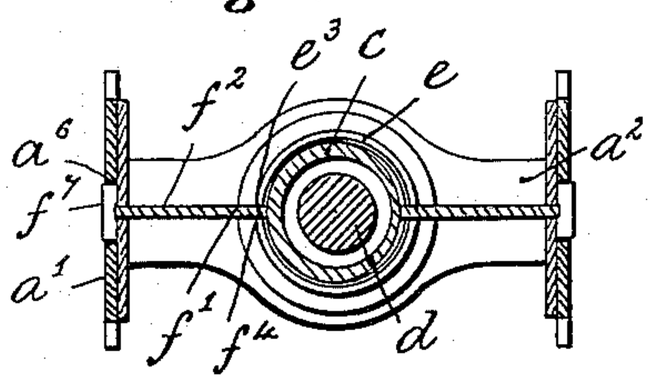


Fig. 6.



WITNESSES

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(No Model.) 2 Sheets—Sheet 2.

W. A. LLOYD & H. KEELING.

CYCLE PEDAL.

No. 604,251. Patented May 17, 1898.

Fig. 8.

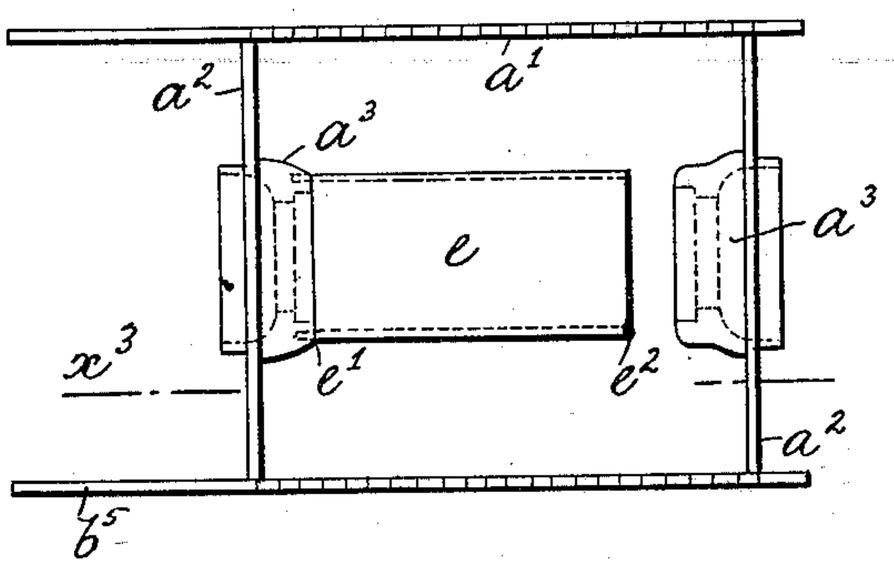


Fig. 10.

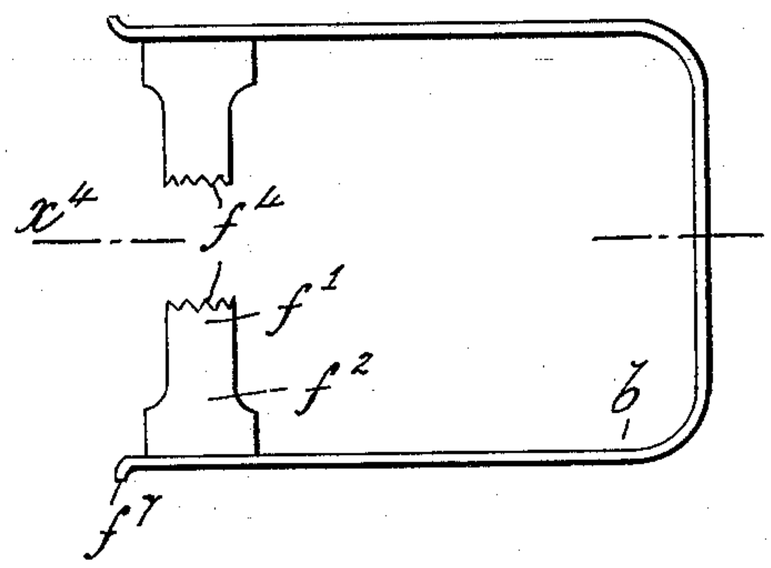


Fig. 9.

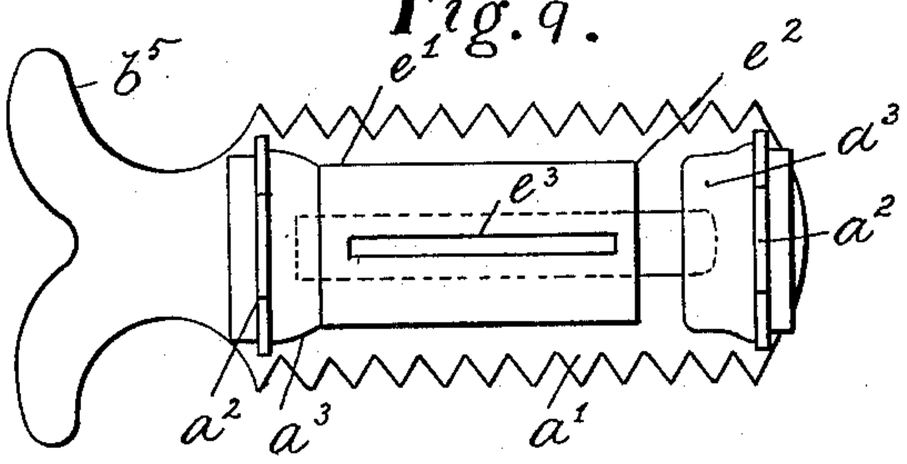


Fig. 11.

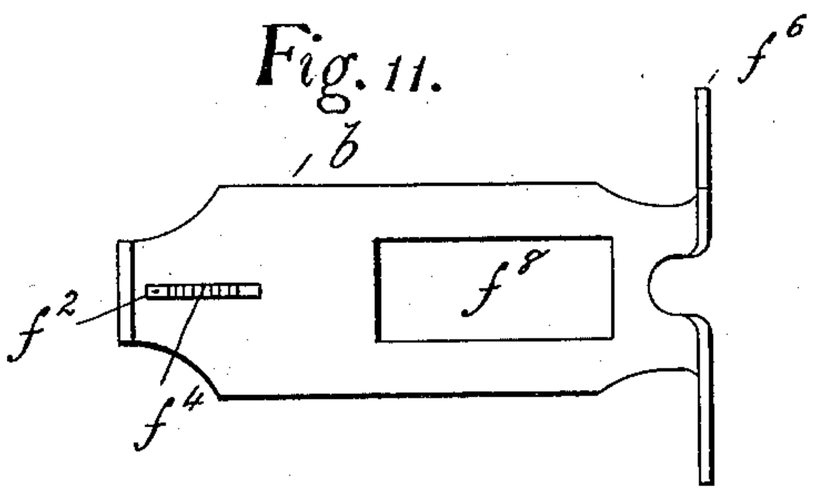


Fig. 7.

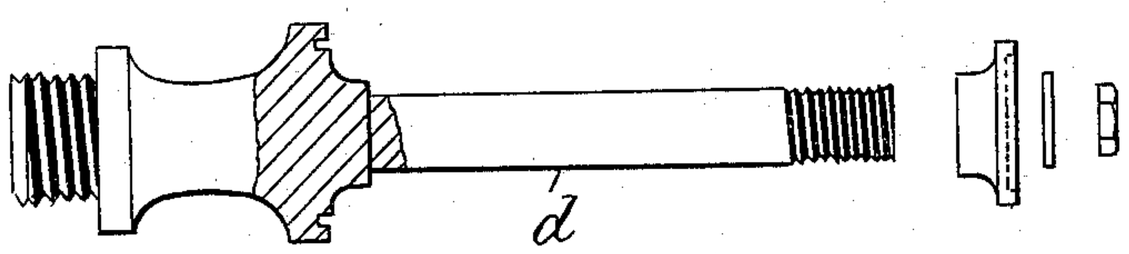


Fig. 12.

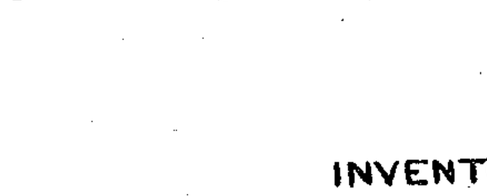
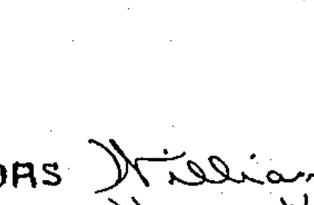


Fig. 13



WITNESSES

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UNITED STATES PATENT OFFICE.

WILLIAM ARTHUR LLOYD AND HENRY KEELING, OF BIRMINGHAM, ENGLAND.

CYCLE-PEDAL.

SPECIFICATION forming part of Letters Patent No. 604,251, dated May 17, 1898.

Application filed December 29, 1897. Serial No. 664,225. (No model.) Patented in England September 11, 1897, No. 20,891.

To all whom it may concern:

Be it known that we, WILLIAM ARTHUR LLOYD, managing director of W. A. Lloyd's Cycle Fittings, Limited, and HENRY KEELING, machinist, subjects of the Queen of Great Britain, residing at Park street, in the city of Birmingham, England, have invented certain new and useful Improvements in Cycle-Pedals, of which the following is a specification, and for which invention we have obtained Letters Patent of Great Britain, dated the 11th day of September, 1897, No. 20,891.

This invention relates to width-adjusting pedals for cycles, and has for its object to simplify the construction and arrangement of the parts of such pedals and to render the same more easily adjustable.

Figure 1 of the accompanying drawings represents a top side plan of an extending or width-adjusting cycle-pedal constructed according to our invention. Fig. 2 is a side elevation, and Fig. 3 an end view, of the same. Fig. 4 is a longitudinal section of the said pedal upon the dotted lines x, Fig. 2. Fig. 5 is a top side plan, but with a portion broken away, of the fixed part of the pedal, which is complete in itself, and has fixed side plates and end plates and spindle-bearings the same as an ordinary pedal. Fig. 6 is a cross-section of Fig. 4 upon the dotted line x^2. Fig. 7 represents the spindle of the pedal with its fixed and adjustable bearing-cones separately. Fig. 8 is a plan of the body of the pedal separately, and Fig. 9 is a section of Fig. 8 upon the dotted line x^3. Fig. 10 is a plan of the movable part, which is adjustable upon the fixed frame of the pedal for altering the width; and Fig. 11 is a section upon the dotted line x^4. Fig. 12 is a plan of the screw-threaded waist of the pedal, and Fig. 13 an end elevation of the same.

The improved adjusting-pedal consists of a primary fixed frame a and a secondary movable or adjustable one b, the former being complete in itself and having side plates a' and end plates a^2, carrying the bearing-cups a^3, in the stepped or shouldered inner or mouth ends a^4 of which the open ends c' of an axially-directed and outside screwed rotatable waist or barrel c, having a milled or nut-faceted collar c^2 thereon and wherethrough the spindle d of the pedal passes, takes, and is capable of being rotated when turned by the milled or faceted collar. Inclosing the screwed portion of this rotatable barrel, which is thus mounted on fixed end bearings carried by the primary frame, is a casing or sleeve-covering e, one end e' of which takes over the shouldered or stepped part a^5 of the ball-cup a^3, while the other end e^2 rests against the collar c^2 of the waist. Longitudinal guide-slots e^3 are formed along its two opposite sides, wherethrough the shanks f' of a pair of rack-edge plates f^2, carried on the sides f^3 of the supplementary movable frame b, inwardly pass, and their teeth or rack-edges f^4 engage with the screw-threads of the barrel, which when rotated slides the said plate f^2 longitudinally within their guide-slots e^3 and gives the movable frame a traversing, adjusting, or extending movement.

The supplementary frame b is preferably of the figure of a letter **U**, with the upper and lower edges of the returned end f^5 provided with stops or horns f^6. So, also, are the ends b^5 of the side plates of the fixed frame, the pedal being reversible, with both edges formed alike.

The inner ends of the sides of the movable frame have guide-studs f^7 or blocks or equivalents on their outside faces, which pass through and are guided by longitudinal slots a^6, formed along the opposite side plates of the fixed frame, while the opposite sides of the movable part also have adjustable slots or clearances f^8 to admit of the longitudinal traverse of the same over the outer end plate of the fixed part.

The invention is applicable to rubber pedals and combination rubber and rat-trap pedals, as well as to rat-trap pedals, as herein described.

Having fully described our invention, what we desire to claim and secure by Letters Patent is—

1. In a width-adjusting foot-pedal, the combination with a stationary frame, of an externally-threaded waist or barrel mounted to rotate in bearings in said frame, a movable frame sliding upon the stationary frame and having lateral projections which have a threaded connection with the waist or barrel, means for guiding the free ends of said projections and a nut on the waist or barrel for

rotating the latter to adjust the movable frame upon the stationary frame.

2. In a width-adjusting foot-pedal, the combination with a stationary frame carrying a pair of cup-bearings, of an externally-threaded waist or barrel mounted to rotate in said cup-bearings, a movable frame sliding upon the stationary frame and having threaded shanks which engage the threaded surface of the waist or barrel, and a milled nut fixed to the said waist or barrel for the purpose specified.

3. In a width-adjusting foot-pedal, the combination with a stationary frame carrying a pair of cup-bearings, of an externally-threaded waist or barrel mounted to rotate in said bearings, a slotted sleeve fixed to the frame and surrounding said waist or barrel, a movable frame sliding upon the stationary frame and having threaded shanks which pass through the slots in the sleeve and have their threaded portions in engagement with the threads of the waist or barrel, and a milled nut or head on the said waist or barrel, for the purpose specified.

4. In a width-adjusting foot-pedal, the combination with a stationary frame having guide-slots in the opposite sides thereof, and end plates a^2, connecting the sides of said frame of a cup-bearing a^3, fixed to each end plate, an externally-threaded waist or barrel c, mounted to rotate in said cup-bearings, a milled nut c^2, at one end of the waist or barrel, a slotted sleeve e, surrounding said waist or barrel and secured at one end to one of the cup-bearings, a movable U-shaped frame b, having guide-studs f^7, at its ends which move in the guide-slots of the stationary frame, and oppositely-disposed threaded shanks f^2 fixed to the said movable frame, said shanks passing freely through the slots in the sleeve and having their threaded portions in operative engagement with the threads on the waist or barrel as and for the purpose described.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

WILLIAM ARTHUR LLOYD.
HENRY KEELING.

Witnesses:
HENRY SKERRETT,
WILLIAM H. LONG.