

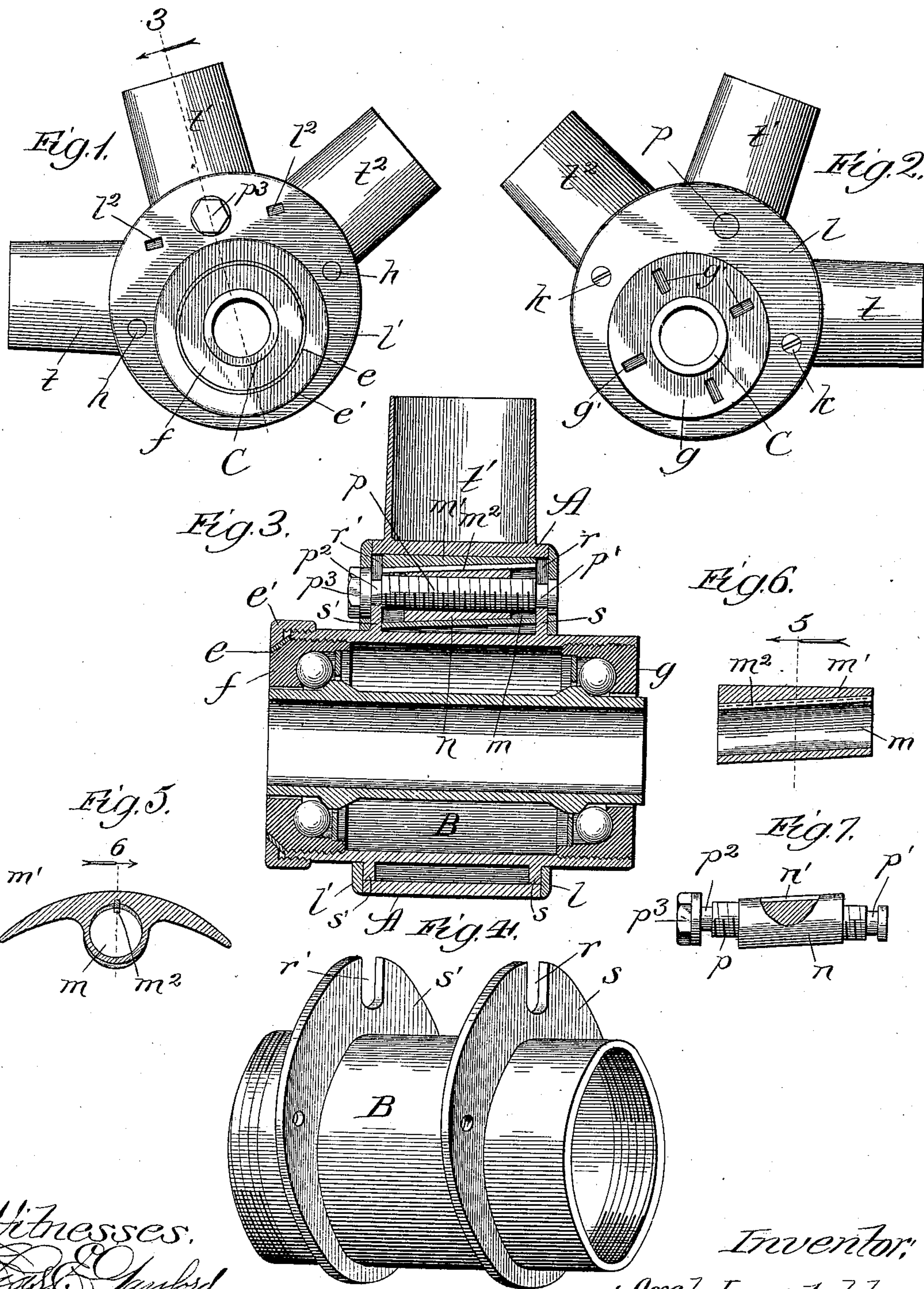
No. 620,241.

Patented Feb. 28, 1899.

A. LEVEDAHL.
ADJUSTABLE CRANK HANGER.

(Application filed Oct. 17, 1898.)

(No Model.)



Witnesses.
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UNITED STATES PATENT OFFICE.

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ADJUSTABLE CRANK-HANGER.

SPECIFICATION forming part of Letters Patent No. 620,241, dated February 28, 1899.

Application filed October 17, 1898. Serial No. 693,792. (No model.)

To all whom it may concern:

Be it known that I, AXEL LEVEDAHL, a citizen of the United States, residing at Aurora, in the county of Kane and State of Illinois, have invented a new and useful Improvement in Adjustable Crank-Hangers, of which the following is a specification.

My invention as embodied in the form shown in the accompanying drawings is in the nature of an improved crank-hanger capable of ready adjustment to regulate the chain tension or height of crank-shaft. The invention is not limited, however, to use in connection with a crank-hanger.

My object is to provide an adjustment which is mainly within the outer shell, or that portion of the hanger rigid with the frame, and which renders it unnecessary to split the same, thus greatly increasing the strength of the hanger and enhancing it in appearance.

I accomplish my purpose preferably by employing within the portion of the hanger rigid with the frame an inner eccentrically-supported hanger or tube and expansible or movable means connected therewith adapted to engage the interior surface of the outer hanger and clamp or lock the eccentric hanger in any desired position.

In the accompanying drawings, Figure 1 is a view in right side elevation of a hanger embodying my improvements; Fig. 2, a view in left side elevation of the same; Fig. 3, a section taken on line 3 of Fig. 1; Fig. 4, a view in perspective of the inner hanger; Figs. 5 and 6, sectional views of a clamp employed, each section being taken as indicated at the correspondingly-numbered line of the other; and Fig. 7, a view of an adjustment-bolt and a short sleeve thereon having inclined connection therewith.

A is the outer shell or sleeve of the hanger, supplied with tubular lugs t , t' , and t^2 for attachment to the frame.

B is the inner sleeve, supplied with rigidly-attached or integrally-formed eccentric flanges or collars s s' . The collars are of a diameter to fit snugly but not too tightly within the outer sleeve. They are supplied at their wide portions with slots r r' , which receive a horizontally-disposed threaded bolt p , provided with circumferential grooves p' p^2 and an an-

gular head p^3 . The grooved portions of the bolt engage the slots r r' , while the shoulders adjacent thereto provide for longitudinal thrust in both directions.

Upon the bolt p is a relatively short sleeve n , having a threaded inclined hole through which the bolt is screwed, thus inclining the axis of the sleeve (considered with reference to its cylindrical surface) at an angle to the axis of the bolt. The sleeve n is somewhat shorter than the distance between the collars s s' and moves within the inclined hole m of a crescent-shaped clamp or friction-segment m' . The clamp is of sufficient width to fit and move freely in a radial direction between the flanges or collars s s' . The sleeve n is supplied with a longitudinal groove n' , within which moves a feather m^2 , extending longitudinally of the perforation m in the clamp m' . The parts are so positioned that the axis of the sleeve n , as above defined, and the axis of the perforation m coincide, while the bolt p is in a horizontal position. The ends of the sleeve n are preferably in planes at right angles to the axis of the bolt.

It will be observed that with the construction and arrangement shown and described when the bolt p is turned to the right (by applying a wrench to the bolt-head) the sleeve n is advanced to the left and with a wedge-like action raises the clamp m' to cause it to bear against the inner surface of the outer hanger. In the reverse movement the wedge is withdrawn, as it were, (or acts on the lower side,) and loosens the clamp. Disks l and l' , secured to the collars s s' , the former by screws k and the latter by rivets h , serve to prevent longitudinal movement of the inner hanger, and also to give a finished appearance to this portion of the hanger. These plates or disks are perforated to receive the ends of the bolt p .

The construction of ball-bearing may be any suitable one. I have shown the inner or eccentric hanger supplied with cones g and f , having screw connection with the interior of the end margins of the sleeve B. The cone g may be permanently fixed in position. A washer e , having means for preventing its rotation, and a lock-nut e' serve to complete the adjustment. The inner cones of the bearing may be upon a sleeve C, as here shown, which

receives the crank-shaft in rigid connection, or these cones may be on the crank-shaft itself.

The disk l' and the outer cones of the bearings are provided with wrench-engaging depressions l^2 g' , respectively, by means of the former of which the eccentric may be turned to the desired position when loosened, and by means of the latter of which the cone-bearings may be adjusted.

The eccentric may be set to bring the inner sleeve or hanger B to its highest or lowest position, according to the nature of the road over which the machine is to be propelled. In the cities it is usually desirable to have as low-frame machine as possible to facilitate getting about in crowded places without dismounting. The nature of country roads often is such as to require the cranks to be raised to prevent striking, and herein lies one advantage of an eccentric-hanger. The eccentric may be rocked slightly in a backward or forward direction from either its highest or lowest position to loosen or tighten the chain, as the case may be.

The construction may be varied in matter of details without departure from my invention.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a crank-hanger, the combination of a suitably-supported outer shell, an eccentrically-supported sleeve within said shell, and wedge-actuated separate and movable means between shell and sleeve for fixing the latter rigidly with relation to the former at any desired position, substantially as and for the purpose set forth.

2. In a crank-hanger, the combination of a suitably-supported outer shell, an eccentrically-supported sleeve within said shell, a radially-movable member between sleeve and

shell, and means for moving said member to cause it to fix said sleeve and shell rigidly together, substantially as and for the purpose set forth.

3. In a crank-hanger, the combination of a suitably-supported outer shell, an eccentrically-supported sleeve within said shell, a radially-movable clamping member within the shell, a horizontally-disposed bolt, and a wedge member having screw connection with the bolt and sliding inclined wedge-like connection with the clamp, substantially as and for the purpose set forth.

4. In a crank-hanger, the combination of a suitably-supported outer shell, an eccentrically-supported sleeve within said shell, a radially-movable clamping member within said shell provided with an inclined hole, a horizontally-disposed threaded bolt connected rotatably with said sleeve and incapable of longitudinal movement, a sleeve having inclined threaded connection with the bolt and movable within the inclined hole of said clamping member, substantially as and for the purpose set forth.

5. In a crank-hanger, the combination of a suitably-supported outer shell, a sleeve within said shell provided with eccentric-collars slotted at their wide parts, a bolt provided with circumferential grooves engaging said collars, a relatively short sleeve having threaded inclined connection with the bolt, a clamp having inclined connection with said short sleeve and provided with means for preventing rotation of said short sleeve, and disks attached to said collars and engaging the ends of said outer shell, substantially as and for the purpose set forth.

AXEL LEVEDAHL.

In presence of—

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