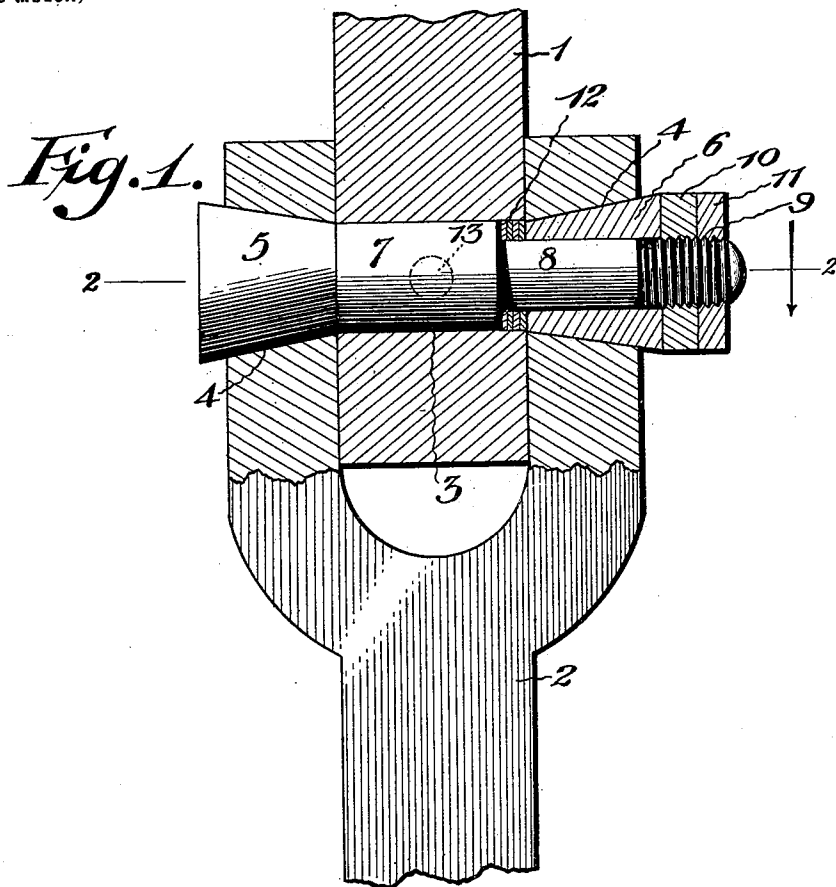
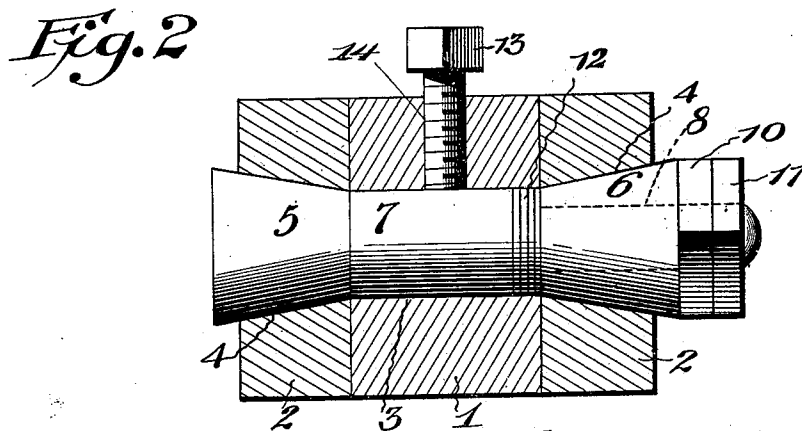


No. 626,707.

Patented June 13, 1899.

L. H. LIVINGSTON.
ADJUSTABLE PIVOT PIN.
(Application filed June 28, 1898.)

(No Model.)



Witnesses

A. Roy Appleman
J. F. H. Roy

By his Attorneys,

Louis H. Livingston, Inventor.

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

LOUIS H. LIVINGSTON, OF HENNESEY, OKLAHOMA TERRITORY, ASSIGNOR
OF ONE-HALF TO HENRY ZUBER, OF SAME PLACE.

ADJUSTABLE PIVOT-PIN.

SPECIFICATION forming part of Letters Patent No. 626,707, dated June 13, 1899.

Application filed June 28, 1898. Serial No. 684,675. (No model.)

To all whom it may concern:

Be it known that I, LOUIS H. LIVINGSTON, a citizen of the United States, residing at Hennesey, in the county of Kingfisher and Territory of Oklahoma, have invented a new and useful Adjustable Pivot-Pin, of which the following is a specification.

The invention relates to improvements in adjustable pivot-pins.

10 The object of the present invention is to improve the construction of pivot-pins for pitmen and analogous constructions and to provide a simple, inexpensive, and efficient device capable of readily taking up the wear between two pivoted parts.

15 A further object of the invention is to fix the wear on one of the parts of two pivotally-connected members and prevent the other part from becoming worn, so that the wear need be taken up on one part only.

20 The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

25 In the drawings, Figure 1 is a longitudinal sectional view showing two members pivotally connected by my improved device. Fig. 2 is a sectional view on line 2 2 of Fig. 1.

30 Like numerals of reference designate corresponding parts in both figures of the drawings.

1 and 2 designate two pivotally-connected members, the member 2 having its pivoted end forked or bifurcated, as shown, and receiving the other member 1 between the sides of the fork or bifurcation. The bar or member 1 is provided with a cylindrical opening 3, which registers with the inner reduced ends of tapering openings 4 of the forked member 2, the openings 4 being outwardly flared, as shown, and receiving a tapered head 5 of a pivot-pin and a conical sleeve 6, arranged on the other end of the latter.

45 The tapering portion or head 5, which is arranged at one end of the pivot-pin, forms a conical bearing, and the central portion 7 of the pivot-pin is cylindrical to fit the opening 3 of the member 1. The central cylindrical portion 7 of the pivot-pin terminates short of one side of the fork or bifurcation, and the

portion 8 of the pin is reduced beyond the central portion 7 and receives the conical sleeve 6, which forms a cone-bearing for the adjacent side of the connection.

The end of the reduced portion 8 of the pin 55 is threaded at 9 and receives nuts 10 and 11, which engage each other and form a lock, and a series of removable washers 12 are arranged on the inner end of the reduced portion 8 of the bolt and are interposed between the shoulder formed by the reduction of the bolt and the inner end of the conical thimble or sleeve 6. These washers, which may be constructed of metal or any other suitable material, are removable, and when the conical bearing-openings and the tapering head 5 and the sleeve or thimble 6 become worn the washers are adapted to be removed successively to enable the conical sleeve or thimble and the tapering head to be drawn into the bearing-openings for taking up the wear. By this arrangement the wear of the parts may be quickly taken up.

In order to fix the wear on the conical bearings and prevent the cylindrical opening of the member 1 from becoming worn, a set-screw 13 is provided for holding the pivot-pin rigid with the said member 1. The set-screw 13, which is disposed transversely of and at right angles to the pivot-pin, is mounted in a threaded perforation 14, extending inward from one edge of the bar or member 1 to the opening 3 thereof. The inner end of the set-screw engages the central portion 7 of the pivot-pin, and when it is desired to adjust the parts to take up the wear the set-screw is loosened sufficiently to enable the pivot-pin to slide longitudinally. After the pivot-pin and the conical sleeve or thimble have been adjusted the set-screw is tightened to clamp the pin to the bar or member 1, the set-screw being adapted to engage the pivot-pin at any point on the central cylindrical portion 7.

The invention has the following advantages: The device, which is simple and comparatively inexpensive in construction, is applicable to pitman-rods and analogous constructions of locomotives, engines, and various other machinery employing two pivotally-connected bars or members. It enables the

wear to be readily taken up, and it fixes the wear on one of the bars or members and prevents the other from being worn.

Changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

What I claim is—

1. In a device of the class described, the combination with a bar or member 1, having a cylindrical opening, and a forked bar or member 2 provided in the sides of its fork with outwardly-flared bearing-openings, of a pivot-pin passing through the said openings and having a central cylindrical portion to fit the bar or member 1 and provided at one end with a tapering head fitting in one of the sides of the fork, said pin having its other end reduced, a conical sleeve or thimble arranged on the reduced end of the pin and fitting in the opening of the other side of the fork, a series of washers interposed between the sleeve or thimble and the shoulder formed by the reduction of the pin, and means for adjust-

ing the sleeve or thimble, substantially as described. 25

2. In a device of the class described, the combination with a bar or member 1 having a cylindrical opening, and the bar or member 2 having a fork or bifurcation with flared openings, of a pivot-pin having a tapered portion fitting in one of the flared openings, said pivot-pin being provided with a cylindrical portion arranged in the opening of the bar 1, a tapered sleeve or thimble adjustably mounted on the pin and fitting in the other tapered opening, and a set-screw mounted on the bar or member 1 and engaging the pin and holding the latter rigid with the bar 1, substantially as and for the purpose described. 30 35 40

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

LOUIS H. LIVINGSTON.

Witnesses:

W. P. GRIFFIN,
GEO. W. BEAR.