

No. 611,704.

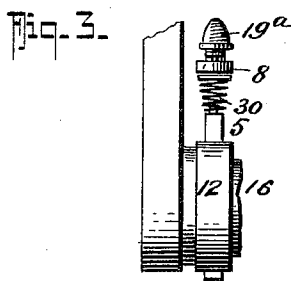
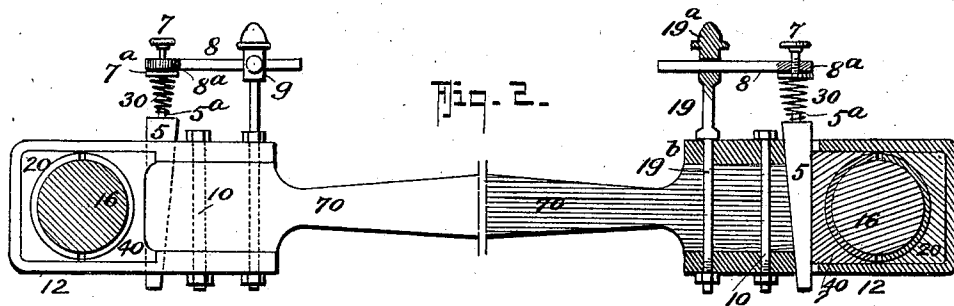
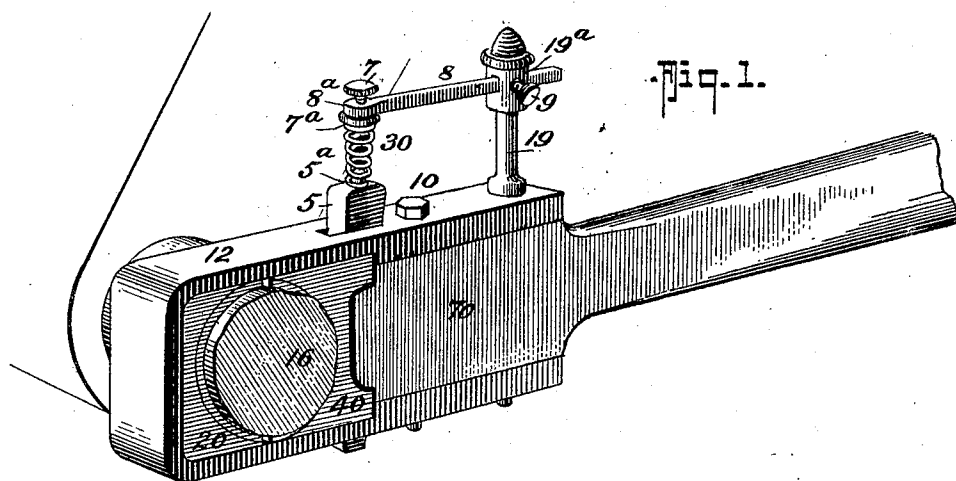
Patented Oct. 4, 1898.

J. T. NORRIS.

AUTOMATIC KEY ADJUSTMENT FOR PITMAN CONNECTIONS.

(Application filed Jan. 17, 1898.)

(No Model.)



WITNESSES:

Edwin L. Bradford  
E. McCormac

INVENTOR

John T. Norris

BY

Fred G. Deterich & Co.  
ATTORNEYS

# UNITED STATES PATENT OFFICE.

JOHN T. NORRIS, OF CHULA, MISSOURI.

## AUTOMATIC KEY ADJUSTMENT FOR PITMAN CONNECTIONS.

SPECIFICATION forming part of Letters Patent No. 611,704, dated October 4, 1898.

Application filed January 17, 1898. Serial No. 666,947. (No model.)

### *To all whom it may concern:*

Be it known that I, JOHN T. NORRIS, residing at Chula, State of Missouri, have invented a new Automatic Key Adjustment for Pitman Connections, of which the following is a specification.

This invention relates to automatic means for adjusting the key in a pitman connection to take up lost motion that occurs on crank pins or wrists of cross-heads on engines or other drive-power members produced by an improper adjustment of the pin or wear on the bearing-boxes, such means forming a substitute for clamp or set-screw device commonly employed for holding the key to its set position.

My invention comprehends the novel features of construction and peculiar combination of parts, such as will be first described in detail and then be specifically pointed out in the appended claims, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of my improved key-adjusting devices. Fig. 2 is a side elevation, partly in section, of the same. Fig. 3 is an end view of the same.

Referring to the accompanying drawings, in which like numerals indicate like parts in all the figures, 70 indicates the stub end of the pitman, 16 the crank or wrist pin, 20 and 40 the two brass crank or wrist pin bearing-boxes, 10 the stay-bolts, 12 the strap connection, and 5 the draw-key, all of which may be of any approved construction, as the specific arrangement of these parts forms no part of this invention.

Instead of holding the key or wedge 5 fixedly to any of its set or adjusted positions by means of a set-screw, as is usually done, such key in my form of devices is held to move freely in its seat and is forced to its draw position automatically.

In the practical arrangement of my invention any suitable means may be provided for automatically forcing the key down in its seat as the crank-pin bearings wear, so as to force them to a close bearing position, and thus take up gradually and uniformly any lost motion.

I prefer on account of simplicity of construction and ease of manipulation to provide a pressure-spring 30, which may be in the nature of an elastic block or a spiral spring, as

shown, the lower end of the spring resting on a seat 5<sup>a</sup> on the upper end of the key 5, while its upper end presses against a seat 8<sup>a</sup> on the under side of the front end of an extension-bar 8, one end of which passes through the slotted upper end 19<sup>a</sup> of a standard 19. The shank 19<sup>b</sup> also forms a stay-bolt for securing the strap and pitman stub end, such bar 8 being held to any of its adjusted positions by the set-screw 9.

The object in providing a bar extensibly held is to provide for seating the spring 30, so it will come in a direct vertical line over the key 5.

So far as described it will be readily seen that the pressure of the spring 5 will normally force the key 5 down in its seat, and in consequence such key will automatically force the box 40 close about the pin 16, and thereby avoid the possibility of lost motion, as such is taken up by the spring, thereby holding the journal or pin 16 to run noiseless.

By providing an automatic means for taking up the wear of the journal-boxes it is manifest that it will not allow the boxes to become distorted by slack or lost motion, which does occur with the use of the common set-screw for holding key. Furthermore, as the journal-boxes are always held up close to the journal or pin 16, pounding, which affects the quarter-boxes on main shaft or pillow-blocks, and thereby creates an elongation of the journal-bearings, is entirely overcome.

To provide for holding the spring 30 at a desired tension and take up its wear, a set-screw 7 is fitted in the end of the bar 8, which has a pressure-block 7<sup>a</sup>, which forms the seat for the upper end of the spring when such tension-screw is employed.

It will be readily understood that as the strength of the spring is diminished by the automatic seating of the key 5 its tensile force can be quickly restricted by means of the screw 7. Furthermore, by using my improved key-adjusting means should the draft of the boxes 20 and 40 be used up liners can be inserted between the key and the rear box to restore the spring to its former elasticity, if desired.

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

1. The combination in a pitman connection, with the wedge-key 5, and the post 19, of the extensible bar 8, the spring 30, and set-screw 7, substantially as shown and described.
- 5 2. In a pitman connection; in combination with the head and the wedge-key; a bracket detachably and adjustably secured to the head; a presser-spring seating against the key and the bracket, and devices carried by the bracket for regulating the tension of the 10 spring, substantially as shown and described.

JOHN T. NORRIS.

Witnesses:

W. H. LONG,  
W. W. MOORE.