A. R. BATEMAN.

ALIGNING INSTRUMENT FOR CROSSHEAD GUIDE BARS.

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1,421,895. Patented July 4, 1922.

FIG. 1.

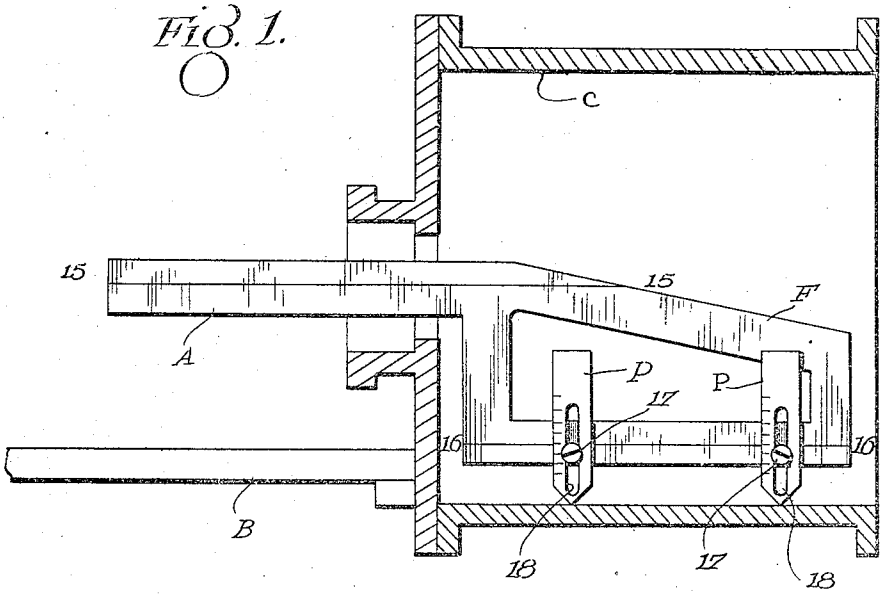
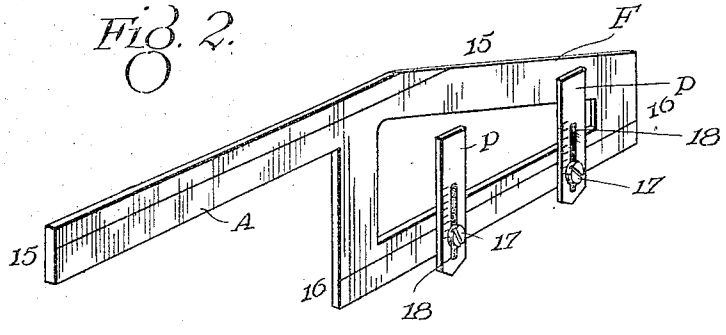


FIG. 2.



WITNESSES

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ALIGNING INSTRUMENT FOR CROSSHEAD GUIDE BARS.

1,421,895. Specification of Letters Patent. Patented July 4, 1922.

Application filed June 4, 1921. Serial No. 474,880.

To all whom it may concern:

Be it known that I, ARTHUR RUSSELL BATEMAN, a citizen of the United States, and a resident of Lynchburg, in the county of Campbell and State of Virginia, have invented certain new and useful Improvements in Aligning Instruments for Crosshead Guide Bars, of which the following is a specification.

My invention relates to locomotives or other forms of steam engines having detachable cross head guide bars associated with the cylinders, and a purpose of my invention is the provision of an instrument adapted to be applied to the engine cylinder for aligning the cross head guide bar with respect to the axis of the cylinder, my invention being of extremely simple and inexpensive construction and easy of application and operation.

I will describe one form of instrument embodying my invention and will then point out the novel features thereof in claims.

In the accompanying drawings:

Figure 1 is a view showing in section an engine cylinder and cross head guide bar, with one form of aligning instrument embodying my invention in applied position with respect to the two.

Figure 2 is a detailed perspective view of the instrument shown in Figure 1.

Referring specifically to the drawings, in which similar reference characters refer to similar parts, the instrument in its present embodiment comprises a metallic frame designated generally at F and which is tapered in width from one end to the other as clearly shown. Extending from the wide end of the frame is an arm A provided with a line 15—15 coextensive in length thereof and traversing a portion of the frame F. This line 15—15 is in parallelism with a line 16—16 which is coextensive in length with the flat side of the frame F. The frame F carries a pair of sliding pointers designated at P, such pointers being provided with graduations as shown, and adjustable upon the frame by means of screws 17 which are mounted in the frame and work in slots 18 formed in the pointers.

In Figure 1 I have shown an engine cylinder in section with the front head thereof removed. Extending from the front head is a cross head guide bar designated at B. As will be understood by those skilled in the art it is necessary that the guide bar B be disposed in parallelism with the axis of the engine cylinder, and for so positioning the guide bar the instrument just described is used in the following manner: The frame F of the instrument is inserted into the cylinder in the manner shown with the arm A projecting from the front head. The line 16—16 constitutes an index line which is located at a known distance from the line 15—15. The diameter of the cylinder being known, the pointers P are adjusted with such corresponding graduations thereof in horizontal alignment with the index line 16—16 as will position the points of the pointers at a distance from the line 15—15 equal to half the diameter of the cylinder. The line 15—15 will then coincide with the longitudinal axis of the cylinder when the frame F is disposed in the cylinder in the manner described and illustrated in Figure 1 so that by positioning the guide bar B in parallelism with this line it will occupy the position desired.

Although I have herein shown and described one form of aligning instrument embodying my invention, it is to be understood that various changes and modifications may be made herein without departing from the spirit of the invention or the spirit and scope of the appended claims.

What I claim is:

1. An instrument of the character described comprising a frame adapted to be inserted within an engine cylinder, an arm formed on the frame and adapted to extend exteriorly of the cylinder, said arm having a line formed thereon to extend longitudinally thereof, and sliding pointers supported on the frame to extend at right angles to said line and adapted to contact with the inner wall of the cylinder for the purpose described, the said frame and the said pointers being provided with cooperating means for indicating the right angular position of the pointer with respect to the said line.

2. An instrument of the character described comprising an elongated frame having an arm extending from its upper part

beyond the end thereof, said arm having a line thereon extending longitudinally thereof and terminating on the frame, said frame having an index line extending on its lower part in parallel relation to the first line and at a spaced distance therefrom, graduated pointers provided with longitudinally extending slots therein, and screws carried by the frame and extending through the slots, whereby the pointers are slidably supported on the frame and extend across the second named line and at right angles to the direction of the first line.

ARTHUR RUSSELL BATEMAN.