June 9, 1925. 1,541,758

W. E. BAKER

CRANK SHAFT AND CONNECTING ROD MECHANISM

Filed March 3, 1924

Fig. 4.

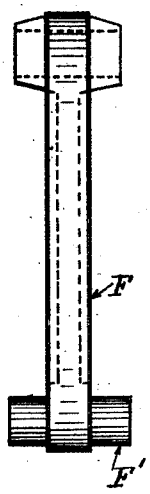


Fig. 5.

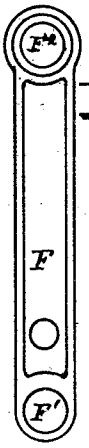


Fig. 1.

Fig. 2.

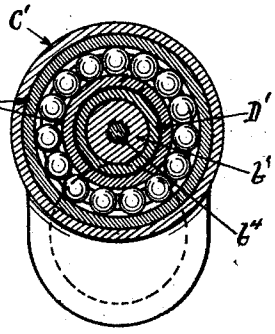


Fig. 6.

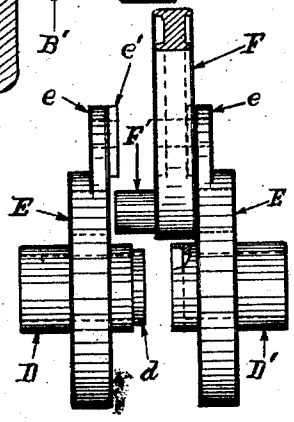
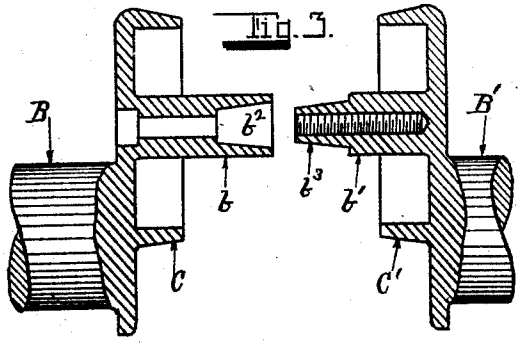


Fig. 3.



Inventor.
William E. Baker
By H. M. Sturgeon atty.

Patented June 9, 1925. 1,541,758

UNITED STATES PATENT OFFICE.

WILLIAM E. BAKER, OF ERIE, PENNSYLVANIA.

CRANK-SHAFT AND CONNECTING-ROD MECHANISM.

Application filed March 3, 1924. Serial No. 696,543.

To all whom it may concern:

Be it known that I, WILLIAM E. BAKER, a citizen of the United States, residing at Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Crank-Shaft and Connecting-Rod Mechanism; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains, to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, forming part of this specification.

This invention relates to crank-shafts and connecting-rods, and the objects thereof are to provide means by which suitable anti-friction mechanism may be used in the bearings of the connecting-rod and wrist-pin of a crank-shaft.

The features of this invention will be hereinafter fully explained and pointed out, and are illustrated in the accompanying drawings in which:

Figure 1 is a central vertical section of an engine frame and my improved crank-shaft and connecting-rod.

Figure 2 is a transverse section thereof on the line 2—2 in Fig. 1, looking in the direction of the arrow.

Figure 3 is a vertical section of a portion of the crank-shaft, separated.

Figure 4 is an edgewise view of my improved connecting-rod.

Figure 5 is a side view of the same.

Figure 6 is an edgewise view of the separable mechanism for connecting the connecting-rod and wrist pin, separated.

In these drawings A indicates an engine frame, in which is mounted a separable crank-shaft B—B′. The two parts of this crank-shaft are each provided with eccentric posts, b, b', the post b having a conical recess b^2 to receive a conical end b^3 on the post b', and the two eccentric posts b and b' are secured together by means of a screw b^4, or other suitable means, placed longitudinally through said posts, so that the posts B and B′ of the crank shaft will be, thereby firmly secured together.

Integral with the parts B and B′ of the crank-shaft, and concentric with the wrist-pin posts b and b' are annular flanges C and C′ which form cups, which face each other, for the purpose hereafter described.

Upon the wrist-pin posts b and b' I place sleeves D and D′ see Figs. 1 and 6, the sleeve D being provided with a reduced portion d, and the sleeve D′ with an enlarged internal diameter d' to receive the reduced portion d so that when in place the sleeves D and D′ overlap the joint of the posts b and b' of the wrist-pin.

The sleeves D and D′ are provided with integral radial flanges, or discs E and E′, which are spaced apart, as shown in Fig. 1. These discs E and E′ are provided with ears or lugs e, e, and with holes, parallel with the wrist-pin posts b, b, as shown by broken lines in Fig. 6.

F indicates a connecting-rod, having a transverse pivot pin F′ in one end, and an opening F^2 in the opposite end thereof to receive a pivot pin F^3, see Fig. 1, by means of which the connecting-rod F may be secured to the engine piston F^4 or other object to be reciprocated. The transverse pin F′ on the connecting-rod F is inserted in the holes in discs E, E′ when it is put in position with the body of the connecting rod extending between the ears e.

The body of the connecting-rod F is preferably provided with marginal flanges, as shown, and the ears e, e on the discs E, E′, are provided with shoulders e' which enter between said marginal flanges, and a bolt passes through said ears and connecting-rod, thereby securely fastening the parts together.

Between the projecting ends of the sleeves D, D′ and the annular flanges C, C′, I place anti-friction bearings H and H′, which sustain the thrust of the connecting-rod F on the sleeves D, D′.

Having thus fully shown and described my invention so that its construction, advantages and operation are apparent, and the same can be utilized by others, I do not desire to be limited to the exact construction shown and described, as many modifications can be made therein without departing from the scope of my invention, therefore, what I claim as new and desire to secure by Letters Patent is:

1. In a connecting rod mechanism, a sleeve adapted to be placed on a wrist-pin, a radial disc on said sleeve, an opening through said disc, a connecting rod, a stud-post on said connecting-rod adapted to pro-

ject into said opening, and means to clamp said connecting rod against the face of said disc.

2. In a connecting rod mechanism, a pair of sleeves adapted to be placed on a wrist-pin, a radial disc having an opening therethrough, on each of said sleeves, connecting rod, stud posts on said connecting rod adapted to extend into said openings, and means to clamp said discs against opposite sides of said connecting rod.

3. In a connecting rod mechanism, a sleeve adapted to be placed on a wrist-pin, a radial disc on said sleeve, having an opening therethrough, a radial ear on said disc, a connecting rod, a stud-post on said connecting rod, and a bolt passing through said rod and said ear whereby said rod is clamped to said disc.

4. In a connecting rod mechanism, a sleeve adapted to be placed on a wrist-pin, a radial disc having an opening therethrough, on said sleeve, a connecting rod, a stud-post on said rod adapted to enter said opening, marginal flanges on said rod, a radial ear on said disc, a radial shoulder on said ear adapted to enter between said flanges on said connecting rod, and a bolt passing through said ear and connecting rod whereby said connecting rod is clamped to said disc in a radial position.

5. In a connecting rod mechanism, a sleeve adapted to be placed on a wrist-pin, a pair of spaced radial flanges on said sleeve having openings therethrough, ears on said flanges, a connecting rod between said discs and ears, oppositely disposed stud-posts on said connecting rod and entering said openings, and a bolt passing through said ears and connecting rod whereby said rod is secured in a radial position with relation to the axis of said discs.

In testimony whereof I affix my signature.

WILLIAM E. BAKER.