No. 831,608. PATENTED SEPT. 25, 1906.

# W. R. EVERETT.

## GAS ENGINE CRANK.

APPLICATION FILED FEB. 23, 1905.

2 SHEETS—SHEET 1.

Fig. 1.

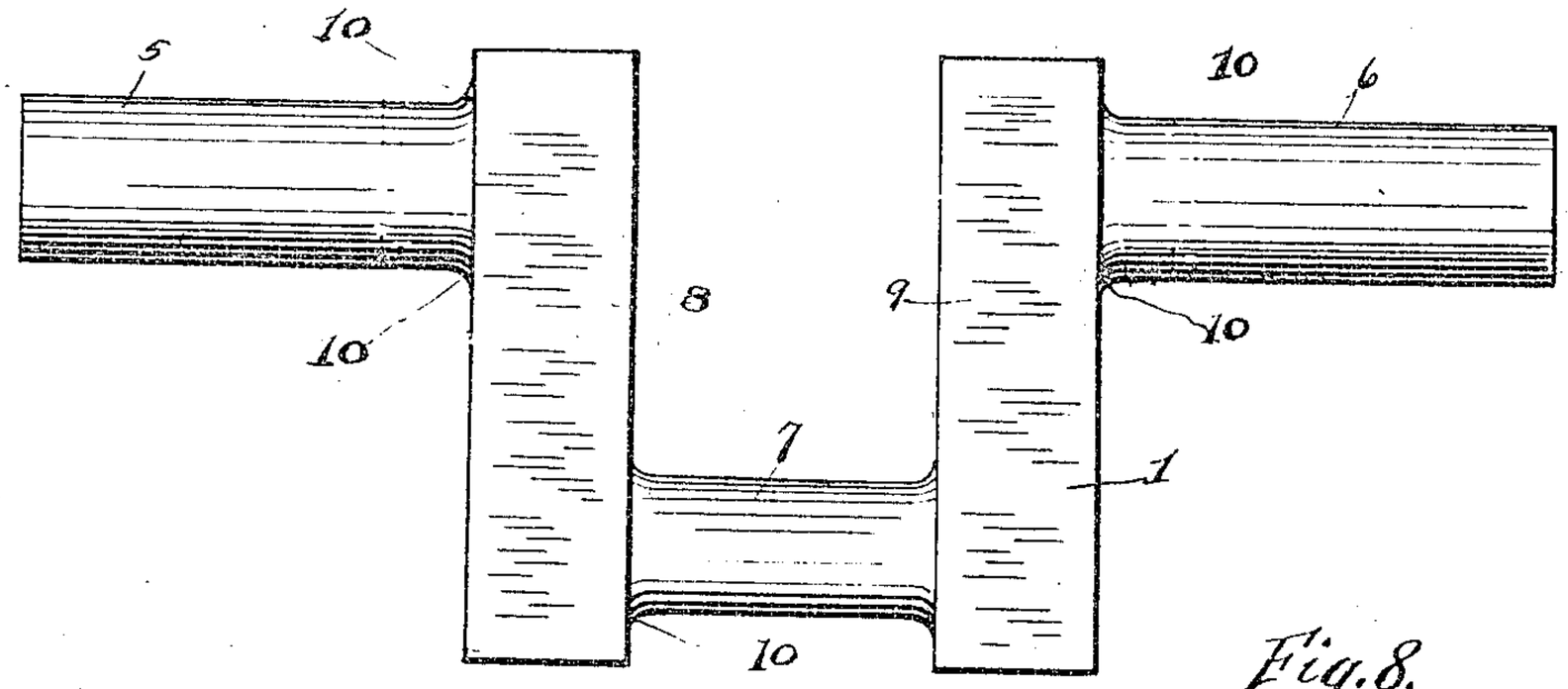



Fig. 2.

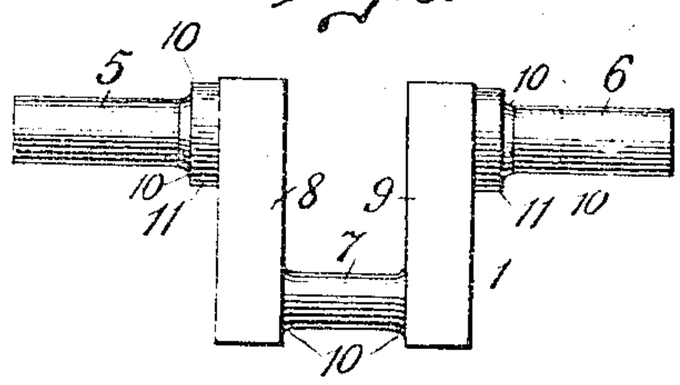



Fig. 8.

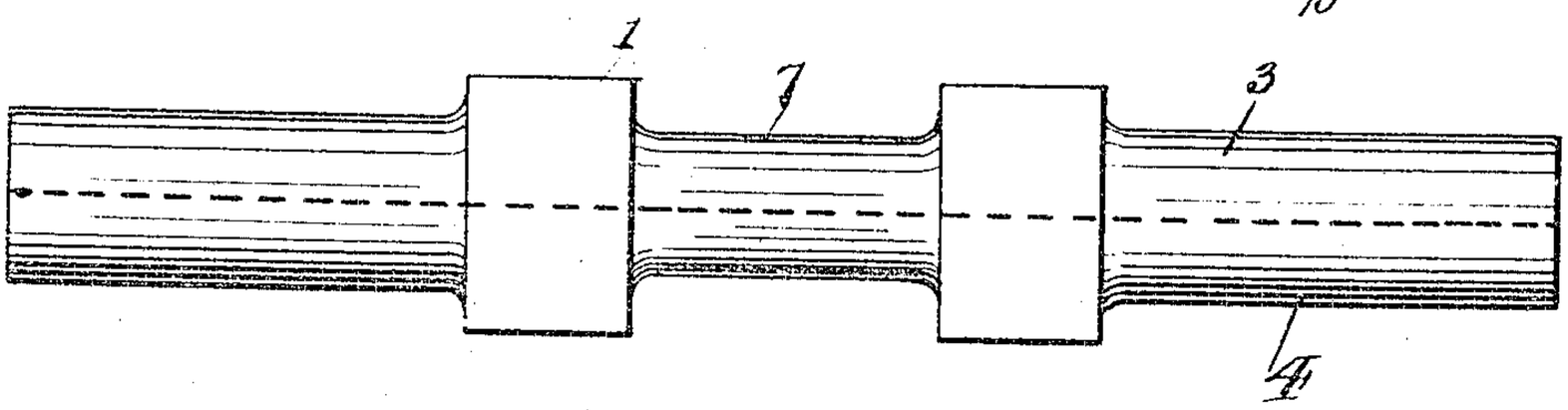
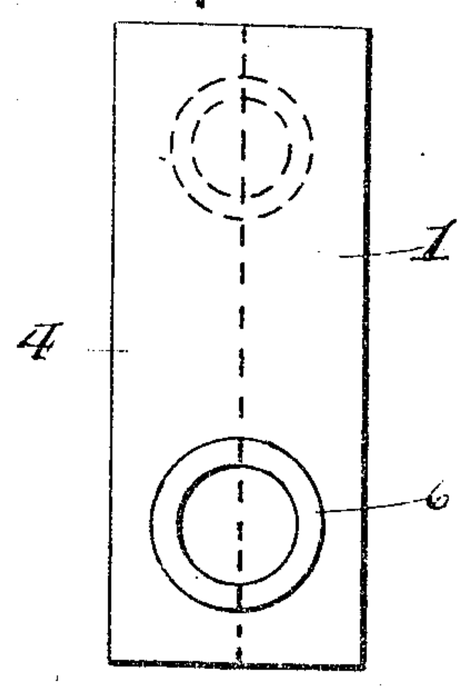



Fig. 3.

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2 SHEETS—SHEET 2.

Fig. 4.

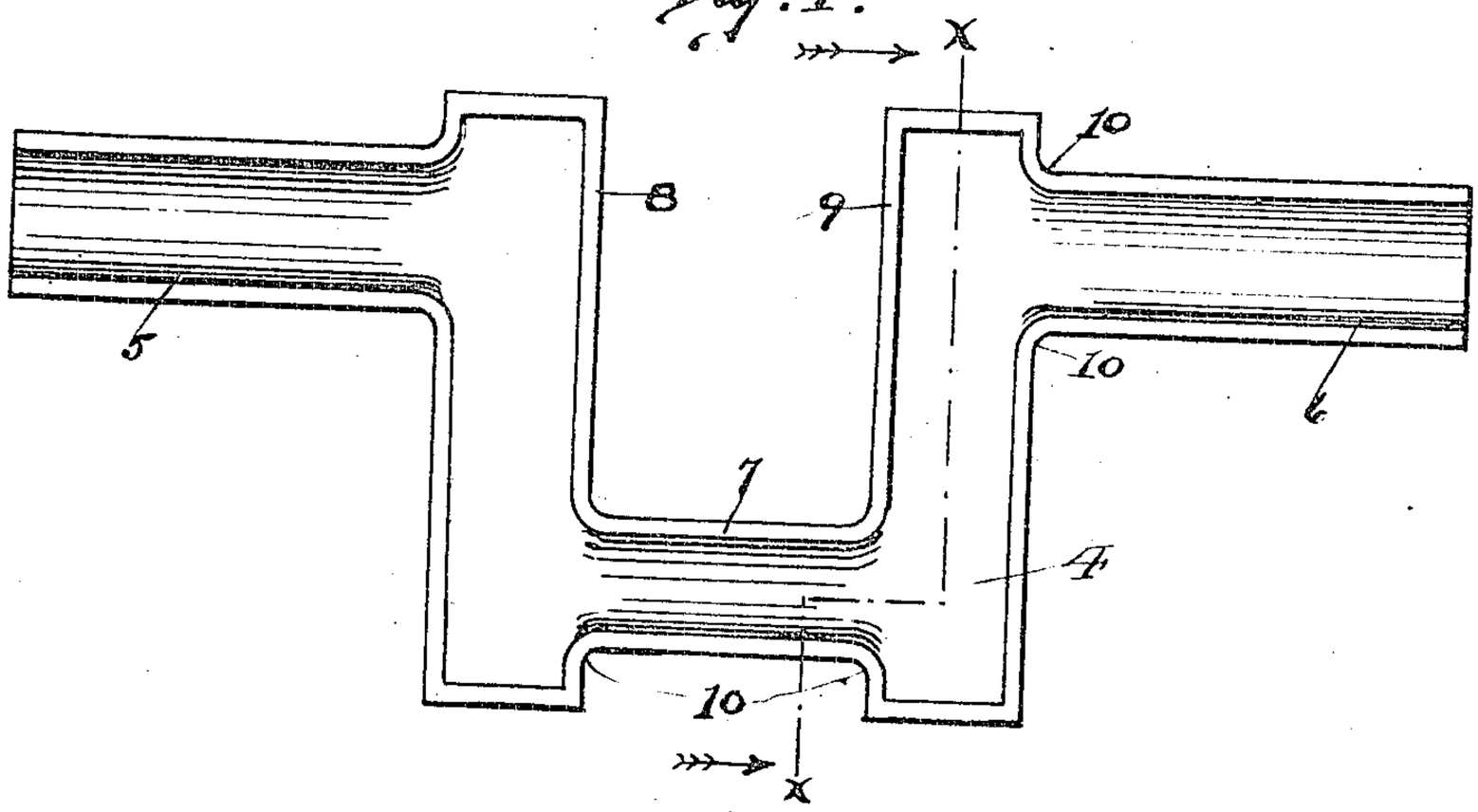



Fig. 5.

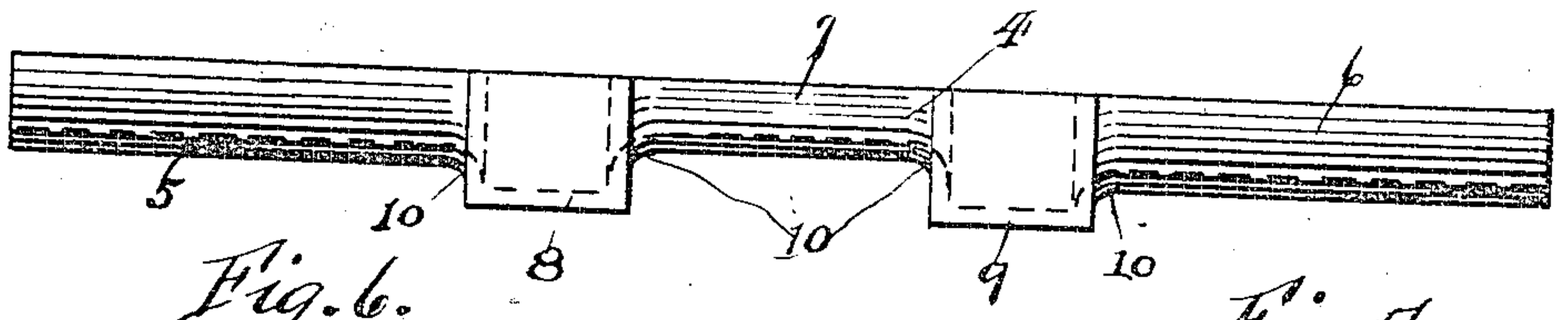



Fig. 6.

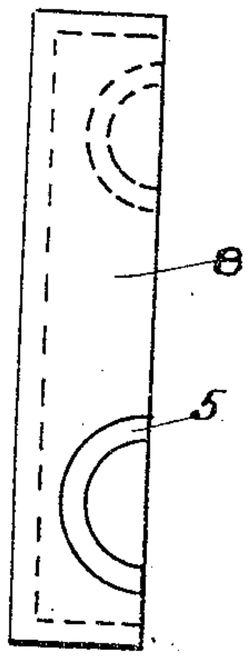
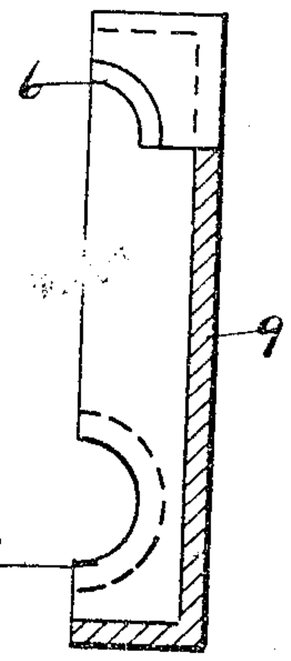



Fig. 7.

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# UNITED STATES PATENT OFFICE.

WILLIAM R. EVERETT, OF CHICAGO, ILLINOIS.

## GAS-ENGINE CRANK.

No. 831,698. Specification of Letters Patent. Patented Sept. 25, 1906.

Application filed February 23, 1905. Serial No. 246,907.

*To all whom it may concern:*

Be it known that I, WILLIAM R. EVERETT, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Gas-Engine Cranks, of which the following is a specification.

The object of my invention is to improve the construction of cranks for engines.

To this end my invention consists of the parts and combination of parts hereinafter described and claimed:

My improvement may be more readily understood by having reference to the accompanying drawings, which are a part of this specification and are hereunto annexed, in which—

Figure 1 is a side elevation of a crank constructed according to my invention. Fig. 2 is a top or plan view of the same. Fig. 3 is an end view of the same. Fig. 4 is a view of one of the longitudinal sections which may be used to form the crank. Fig. 5 is a top or plan view of the same. Fig. 6 is an end view of the same. Fig. 7 is an end view of the same having part of the metal broken away to show the interior construction. Fig. 8 is a side elevation of a crank constructed according to my invention where reinforcing-collars are used on the journal-bearings.

In the drawings, 1 indicates a sheet-metal body portion which is made up or formed from the two similar longitudinal sheet-metal sections 3 and 4, as more clearly shown in Figs. 4, 5, and 6. The ends 5 and 6 are stamped in a cylindrical form to coincide with the journal-bearing, the center 7 being formed to furnish the bearing for the connecting-rod, the arms 8 and 9 of the crank being formed in rectangular shape, fillets 10 being stamped at the corners not only for the benefit of the bearing, but to avoid any possibility of a fracture of the metal on account of a sharp corner.

It may be found desirable in cranks designed for extremely heavy work to fit collars 11 over the crank-journals, as shown in Fig. 8, these collars being shrunk or brazed upon the two end sections, thus firmly securing or clamping the parts together. These sections are stamped from sheet-steel, and thus constructed are brazed or welded together. It is to be noted that a crank thus constructed will have the requisite degree of strength to resist the strain placed upon it, while at the same time it will be very much lighter than the ordinary flange-crank and will reduce the construction expense materially.

In the construction of engine-cranks they are made of large diameter principally to secure the required bearing-surface, and it is a recognized fact that in practice the metal near the center of a bar is of little or no assistance in withstanding a torque and that the strain is principally taken up by the metal at or near the surface of the bar. For this reason a tube will furnish almost as great ability for resisting a torque as a rod. It will therefore be seen that by my construction it becomes possible to design a crank which will have ample bearing-sufrace without the enormous weight required to secure this result in the present method.

I am aware that changes may be made in the construction of my improved crank by those skilled in the art. For example, the two sections may be formed from one piece, so that there will only be one seam or joint.

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

1. A crank for engines, comprising two longitudinal sections formed from two similar longitudinal sheet-metal sections, the ends thereof being cylindrical in form to coincide with the journal-bearing, the center being similarly shaped for furnishing the bearing for the connecting-rod, the center and ends being joined by members of rectangular shape, the corners at the junction of the cylindrical and rectangular portions being curved, said sections being secured together, for the purpose set forth substantially as described.

2. A crank for engines, comprising two longitudinal sections formed from two similar longitudinal sheet-metal sections, the ends thereof being cylindrical in form to coincide with the journal-bearing, the center being similarly shaped for furnishing the bearing for the connecting-rod, the center

and ends being joined by members of rectangular shape, the corners at the junction of the cylindrical and rectangular portions being curved, said sections being secured together, reinforcing-collars fitting upon and coinciding with the end portions of the body, said collars being located at the points of union of the ends with the rectangular portions, for the purpose set forth substantially as described.

WILLIAM R. EVERETT.

Witnesses:
C. M. BURNAM,
J. H. CARROLL.