(No Model.)

G. R. PARKER.

LUBRICATING CRANK PINS.

No. 382,896. Patented May 15, 1888.

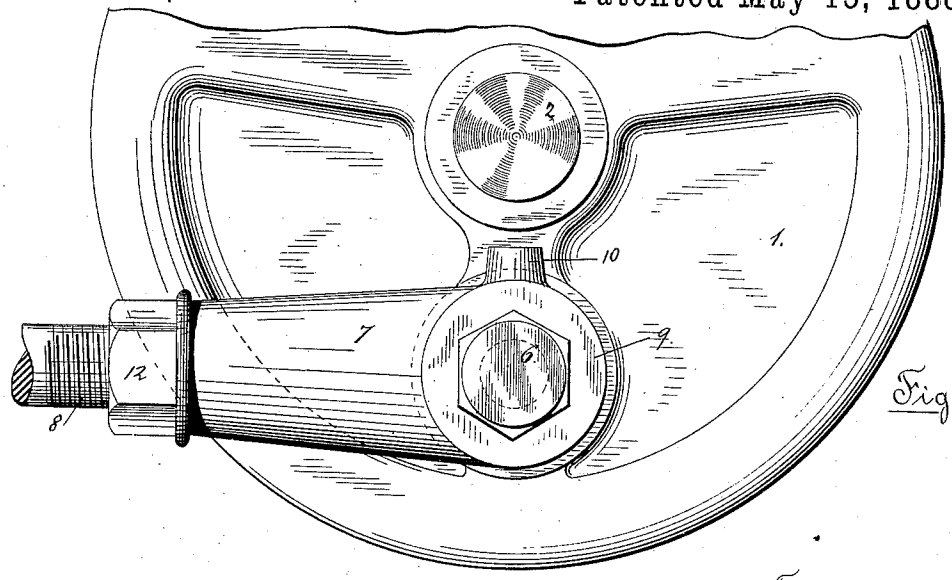


Fig. 1.

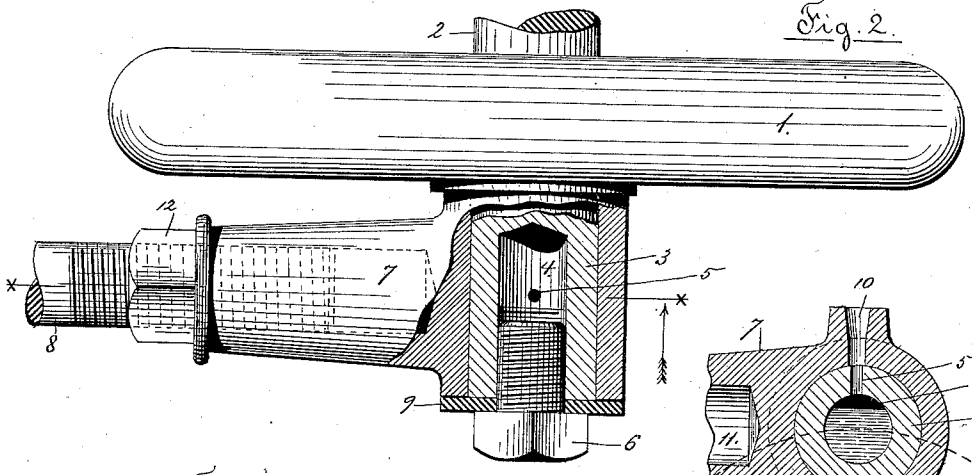
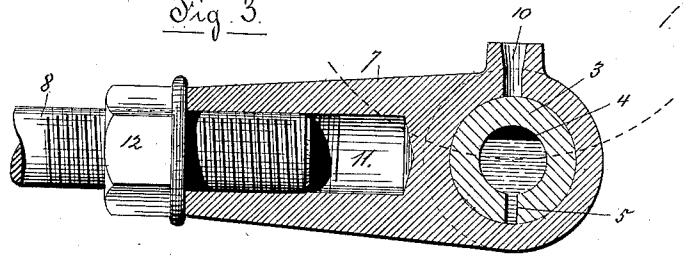


Fig. 2.

Fig. 4.

Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

GARDNER R. PARKER, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO THE RICHARDSON MANUFACTURING COMPANY, OF SAME PLACE.

LUBRICATING CRANK-PIN.

SPECIFICATION forming part of Letters Patent No. 382,896, dated May 15, 1888.

Application filed December 19, 1887. Serial No. 258,290. (No model.)

To all whom it may concern:

Be it known that I, GARDNER R. PARKER, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Self-Lubricating Crank-Pins; and I do hereby declare that the following is a full, clear, and exact description thereof, which, in connection with the drawings making a part of this specification, will enable others skilled in the art to which my invention belongs to make and use the same.

My invention relates to crank-pins, and more particularly to self-lubricating crank-pins; and it consists in certain novel features of construction thereof, as will be hereinafter fully described, and the nature thereof indicated by the claim.

It is well known that crank-pins require constant oiling, and especially is this so in certain machines—for instance, in a mowing-machine, where the crank-pin on the crank-disk which operates the cutters or knives to move them back and forth is always getting dry and requiring constant oiling by the operator of the machine to cause the knives to operate smoothly, and it was especially in this connection that I invented my improved self-lubricating crank-pin; but it will be understood that my invention may be employed in connection with any of the ordinary uses of a crank-pin on a crank-disk or crank-arm.

The object of my invention is to make a crank-pin in such a manner that it will automatically lubricate itself at regular intervals as it is operated; and I carry out my invention by providing the crank-pin with a central interior chamber for holding the oil or lubricant, which is communicated to the exterior surface of the crank-pin through a hole extending from said chamber, all as will be hereinafter more fully described and set forth.

Referring to the drawings, Figure 1 is a side view of a portion of a crank-disk mounted on a shaft and provided with my improved crank-pin, to which is secured one end of a connecting-rod. Fig. 2 is a top view of the parts shown in Fig. 1, a portion of the end of the connecting-rod and of the crank-pin being broken away to show the interior construction of said crank-pin. Fig. 3 represents a section on line x x, Fig. 2, looking in the direction of the arrow, same figure, the crank-disk being left off; and Fig 4 represents a detached portion of the parts shown in Fig. 3, with the position of the crank-pin reversed.

In the accompanying drawings, 1 is a crank-disk, of any ordinary construction, mounted on a shaft, 2, and to which in this instance my improved self-lubricating crank-pin 3 is applied and secured in any ordinary manner.

The crank-pin 3 is bored or chambered out in its central part from its outer end, thus furnishing a chamber or reservoir, 4. A small hole, 5, extends from the chamber 4 to the exterior surface of the crank-pin, thus furnishing a means of communication from the chamber 4 to the exterior surface of the crank-pin 3.

The object of the chamber 4 is to hold the oil or lubricant with which the exterior surface of the crank-pin 3 is lubricated at regular intervals by means of the feed-hole 5 as the disk 1, carrying the crank-pin 3, revolves.

The outer end of the lubricant-chamber 4 in the crank-pin 3 is preferably provided with a thread, into which screws a bolt, 6. The bolt 6 serves to close up the end of the lubricant-chamber 4 and prevent the escape of any lubricant therefrom, except through the hole 5 before described, and also serves to hold the end 7 of the connecting-rod 8 in place upon the crank-pin 3. A washer, 9, is interposed between the end of the crank-pin 3 and the head of the bolt 6.

The end 7 of the connecting-rod 8 may be of any ordinary and well-known construction. It is preferably provided with an oil-tube, 10, as is customary, and by means of which, when the crank-pin 3 is in the position shown in Fig. 4, the oil or lubricant may be introduced into the lubricant-chamber 4. In this instance the end 7 is shown bored out, as at 11, and provided with a thread, into which screws the end of the connecting-rod 8, provided with a check-nut, 12.

The operation of my improved self-lubricating crank-pin will be readily understood from the above description, in connection with the drawings. The chamber 4 within said crank-pin

is first partially filled with oil or other lubricating material, and the several parts combined, as shown in Figs. 1 and 2. At each revolution of the crank-disk 1 the crank-pin 3 will be brought into the position shown in Fig. 3, with the feed-hole 5 in its lowest position, and the lubricant material will escape from said hole to the interior of the end 7 of the connecting-rod, from which it will be communicated to the exterior surface of the crank-pin 3, thus lubricating the same automatically. It will thus be seen that my improved crank-pin automatically lubricates itself, and will continue so to do as long as it is operated and there is any lubricant material in the chamber in said crank-pin.

The advantage of my invention is that it can be applied to and used in connection with any ordinary crank-pin by simply boring out the interior thereof to form a lubricant-chamber and providing a feed-hole leading therefrom, and also a bolt or equivalent means to stop or plug up the open end of said chamber.

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

The combination, with a crank disk or arm and a connecting-rod, 8, having the end 7, provided with an oil-tube, 10, of the crank-pin 3, of the same external diameter and having a central chamber, 4, and an oil-feed hole, 5, therein, the position of said feed-hole corresponding to the position of said oil-tube for the introduction of oil into said chamber 4, and a bolt, 6, for closing the outer end of the chamber 4, and a washer for holding the end of the connecting-rod upon the crank-pin 3, substantially as shown and described.

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Witnesses:

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