

No. 664,445.

Patented Dec. 25, 1900.

F. SÜRTH.

CLOSING-UP DEVICE FOR AXLE BEARINGS.

(Application filed May 25, 1900.)

(No Model.)

Fig. 1.

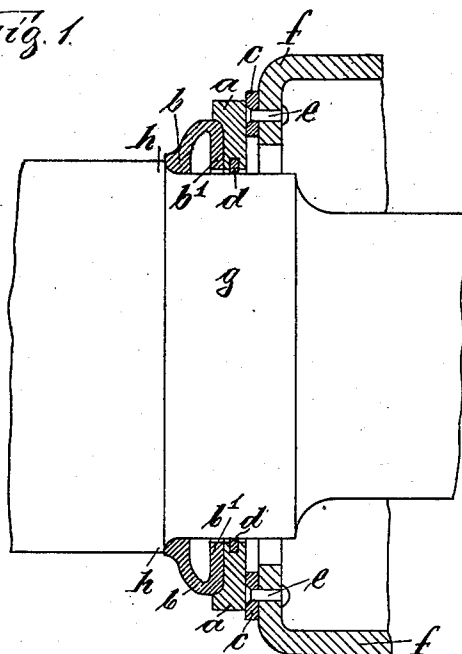
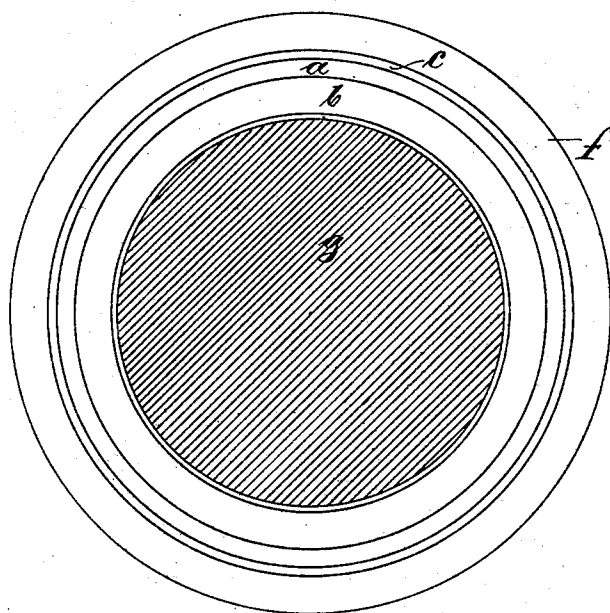


Fig. 2.



Witnesses:
Emil Kayser.
Arthur Scholke

Inventor.
Francis Sürth.
by *Arthur Scholke*
Attorney.

UNITED STATES PATENT OFFICE.

FRANCIS SÜRTH, OF DORTMUND, GERMANY.

CLOSING-UP DEVICE FOR AXLE-BEARINGS.

SPECIFICATION forming part of Letters Patent No. 664,445, dated December 25, 1900.

Application filed May 25, 1900. Serial No. 17,956. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS SÜRTH, a subject of the German Emperor, and a resident of Dortmund, in the Province of Westphalia, German Empire, have invented a new and useful Closing-Up Device for Axle-Bearings, of which the following is an exact specification.

By my present invention the running out of the oil from the bearing-box and especially the penetrating of dirt into it will be prevented. For this purpose it is necessary that a device should be arranged which closes tightly, on the one hand, against the bearing-box and, on the other hand, against the axle.

In order to make my invention more clear, I refer to the accompanying drawings, in which similar letters denote similar parts throughout both views, and in which—

Figure 1 is a longitudinal section of this arrangement. Fig. 2 is a side view of the same.

With reference to the drawings, *b* is a soft-india-rubber ring with an annular space between the rear and front portions, the latter of greater internal diameter than the former, the rear portion bearing against the swell *h* of the axle. *a* is a cast-iron ring, and *c* a leather or lead ring. The latter is, by means of rivets *e*, fastened to the walls of the box *f*. The india-rubber ring *b* is only on its back side tightly set on the axle, while its front *b'*, which does not touch the axle, can be freely elongated in the horizontal direction. The ring *a* is connected to the india-rubber ring *b* and is freely surrounding the axle. It can be moved in horizontal direction and be pressed by means of the india-rubber ring *b* against

the leather or lead ring *c*. By this kind of arrangement neither is the axle worn out by the device nor is the latter worn out by the axle.

The ring *b* has to fulfil three tasks: first, to prevent the oil from running out in the horizontal direction; second, to press the ring *a* against the leather or lead ring *c*, so as to prevent the oil from running out in the vertical direction, and, third, to effect the rotation of the device with the axle.

The ring *a* is provided with a metal spring *d* for the purpose of preventing the ring *b* from getting injured by the oil; but the latter arrangement is not absolutely necessary.

Having thus fully described the nature of this invention, what I desire to secure by Letters Patent of the United States is—

In a closing-up device, the combination of an integral rubber ring having an annular space between its front and rear portions, the latter of greater internal diameter than the former, and the rear portion bearing tightly and the front loosely on the axle, a cast-iron ring connected to the rubber ring and arranged to be freely moved horizontally, another ring attached to the bearing-box, and a spring inserted within the cast-iron ring, substantially as set forth.

In witness whereof I have hereunto set my hand in presence of two witnesses.

FRANCIS SÜRTH.

Witnesses:

WM. ESSENWEIN,
ALBERT LIEBER.