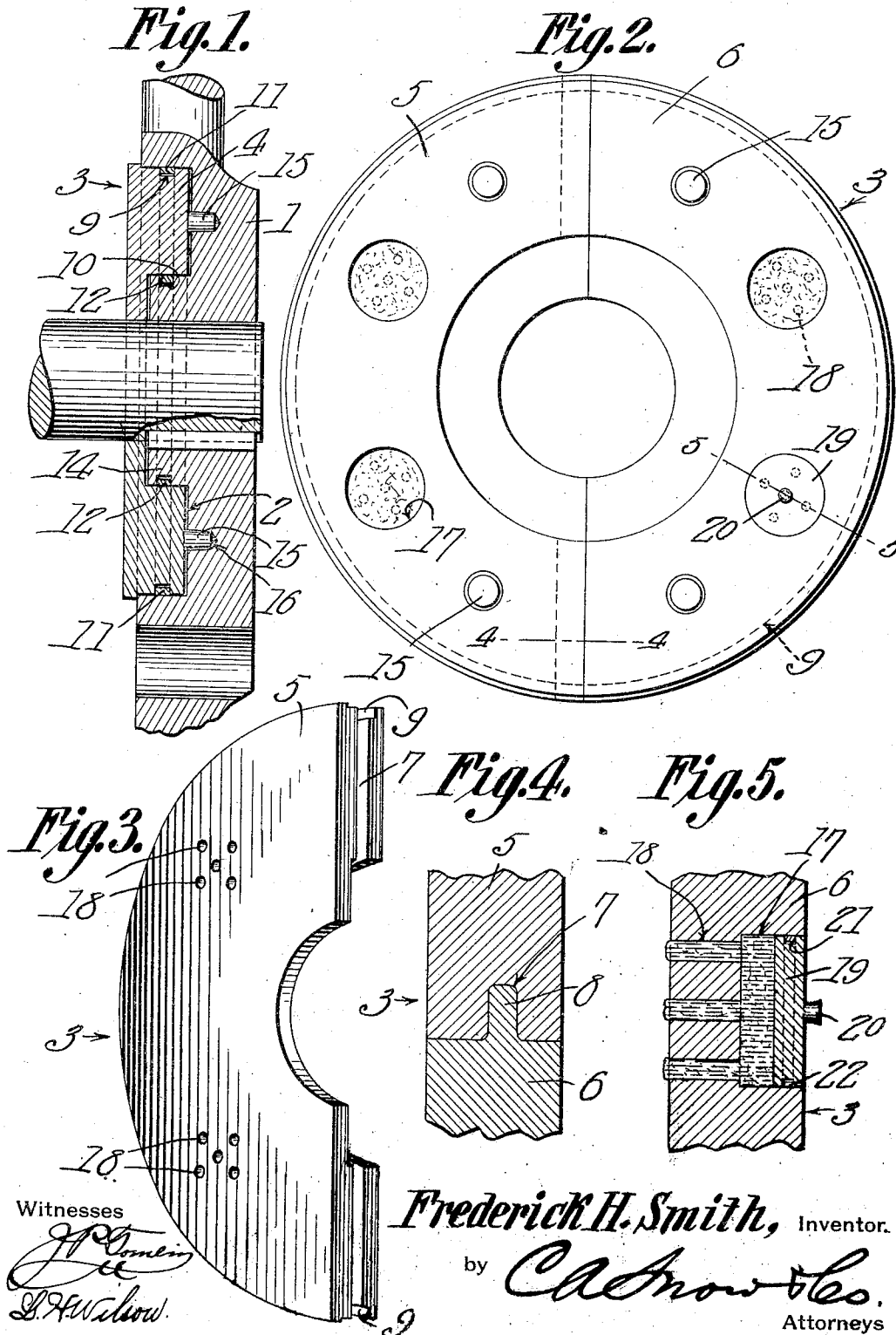


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2 SHEETS—SHEET 1.



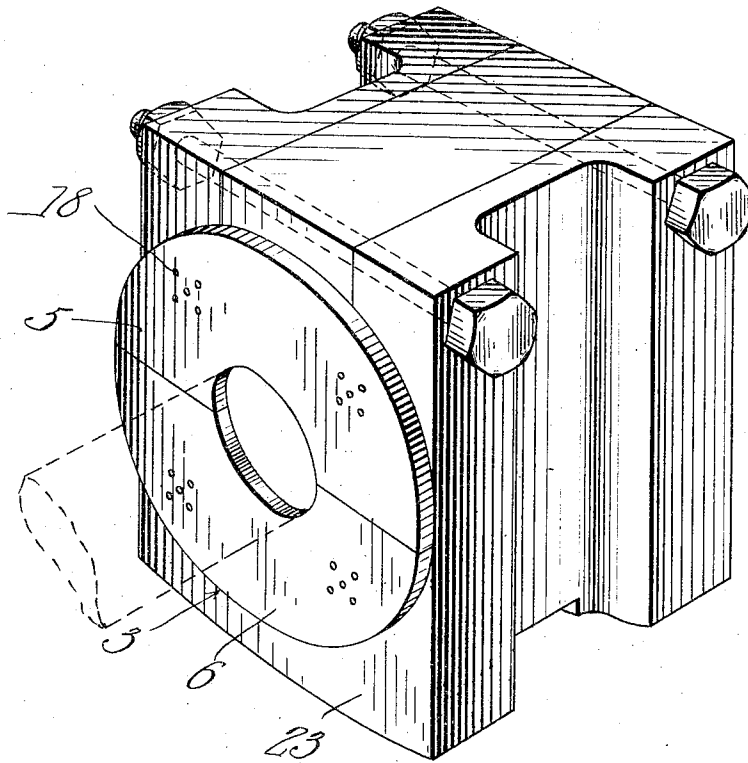
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*Fig. 6.*



Witnesses

*J. R. Gormein*  
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*Frederick H. Smith*, Inventor.

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# UNITED STATES PATENT OFFICE.

FREDRICK H. SMITH, OF PITTSBURG, KANSAS.

## LUBRICATED HUB-PLATE.

1,058,478.

Specification of Letters Patent.

Patented Apr. 8, 1913.

Application filed August 7, 1912. Serial No. 713,852.

*To all whom it may concern:*

Be it known that I, FREDRICK H. SMITH, a citizen of the United States, residing at Pittsburg, in the county of Crawford and State of Kansas, have invented a new and useful Lubricated Hub-Plate, of which the following is a specification.

One object of the present invention is to provide novel means for securing a hub plate in the wheel of a locomotive engine, in a boxing or like structure, to prevent lateral play.

Another object of the invention is to provide novel means for feeding a lubricant through the hub plate.

With the foregoing and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of invention here disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings:—Figure 1 shows the invention in transverse section; Fig. 2 is an elevation of the hub plate; Fig. 3 is a perspective of one of the constituent members of the hub plate; Fig. 4 is a fragmental section on the line 4—4 of Fig. 2; Fig. 5 is a fragmental section on the line 5—5 of Fig. 2; and Fig. 6 is a perspective showing the plate assembled with a boxing.

In the drawings, the numeral 1 indicates the wheel of a locomotive engine, although at this point it may be stated that the invention may be applied to vehicles other than a locomotive. The wheel 1 is provided in its inner face with an annular recess 2, receiving an annular hub plate which is denoted generally by the numeral 3, the hub plate being engageable by the bearing (not shown), as is common and well understood in the art. The hub plate 3 is provided with a reduced inner end 4 which fits in the annular recess 2. The hub plate may be variously fashioned, but in the present instance it is shown as comprising a pair of sections denoted by the numerals 5 and 6. The sections 5 and 6 are provided along their meeting edges with interengaging elements which prevent relative transverse movement between the sections. In the present instance, the interengaging elements above referred to comprise a groove 7 formed in the

section 5 and a tongue 8 formed in the section 6 and adapted to enter the groove 7. The tongue 8 and the groove 7 are located slightly to one side of the vertical central plane of the hub plate.

Resilient means is provided for holding the sections 5 and 6 of the hub plate 3 together, and for holding the sections assembled with the hub of the wheel 1. To this end, the reduced portion 4 of the hub plate 3 is provided with a circumscribing groove 9 upon its exterior, there being a similar groove 10 in the hub 14 of the wheel 1. A liner ring 11 fits in the groove 9 and bears against one wall of the recess 2 in the wheel 1, there being a ring 12 in the groove 10, the last specified ring bearing against the inner periphery of the portion 4 of the hub plate 3. The rings 12 and 11 are preferably resilient.

In order to prevent rotatory movement between the hub plate 3 and the wheel 1, the hub plate is provided with a plurality of projecting dowel pins 15 which are received in recesses 16 in the wheel. The hub plate 3 is maintained in engagement with the bearing, to prevent lateral play of the driving wheel, by the action of a lubricant which is initially contained in a plurality of chambers 17 formed in the hub plate 3. A plurality of ducts 18 lead from each of the chambers 17 through the hub plate, and of these ducts 18 there may be any number. In each of the chambers 17 a cap 19 fits closely, each cap being provided with a projecting boss 20, adapted to engage the base of the recess 2 in the wheel 1. Each cap is provided in its periphery with an annular groove 21, in which a ring 22 fits closely, the ring being resilient, so as to bear against the side wall of the chamber 17.

The interlocking engagement between the tongues 8 and the grooves 7 serves to prevent the sections 5 and 6 of the hub plate 3 from having relative transverse movement. The sections 5 and 6 are held together, further, by the ring 11, which also bears against one wall of the recess 2 in the wheel 1, the ring 12 exercising a similar function with respect to the hub 14 of the wheel. As will be understood readily, the rings 11 and 12 serve to prevent a leakage of the lubricant, and the same observation holds true with respect to the ring 22 which is assembled with the cap 19. The bosses 20 of the caps 19 are engageable by the face of the re-

cess 2 in the wheel 1, thereby to advance the caps 19 in the chamber 17, and to force the lubricant through the ducts 18.

It is obvious, as shown in Fig. 6, that the plate 3 may be assembled with a boxing 23 to maintain a lateral support for the wheel, it being within the scope of the invention that the plate 3 shall work against the hub of the wheel or against the face of the boxing. The plate 3 may be of one piece construction, instead of the sectional construction which is shown.

Having thus described the invention, what is claimed is:—

1. In a device of the class described, a hub plate having a lubricant-receiving opening therethrough; a cap mounted to slide in the opening; and a ring surrounding the cap and bearing against the wall of the opening.

2. In a device of the class described, a supporting member having an annular recess; a plate fitting in the recess; means for retaining the plate against rotation in the

recess; the plate having a lubricant receiving opening extending through the plate transversely, the opening being independent of said means; and a cap slidable in the opening and adapted to engage the base of the recess.

3. In a device of the class described, a supporting member having an annular recess; a plate fitting in the recess; means for retaining the plate against rotation in the recess; the plate having a lubricant receiving chamber and there being a reduced duct communicating with the chamber and extended through the plate transversely, the chamber and the duct being independent of said means; and a cap slidable in the chamber and engaging the base of the recess.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

FREDRICK H. SMITH.

Witnesses:

F. M. WILLIAMS,  
FAYETTE A. CARLIN.