

No. 697,068.

Patented Apr. 8, 1902.

M. BRUNER.  
SELF LUBRICATING AXLE.

(Application filed Oct. 15, 1901.)

(No Model.)

Fig. 1.

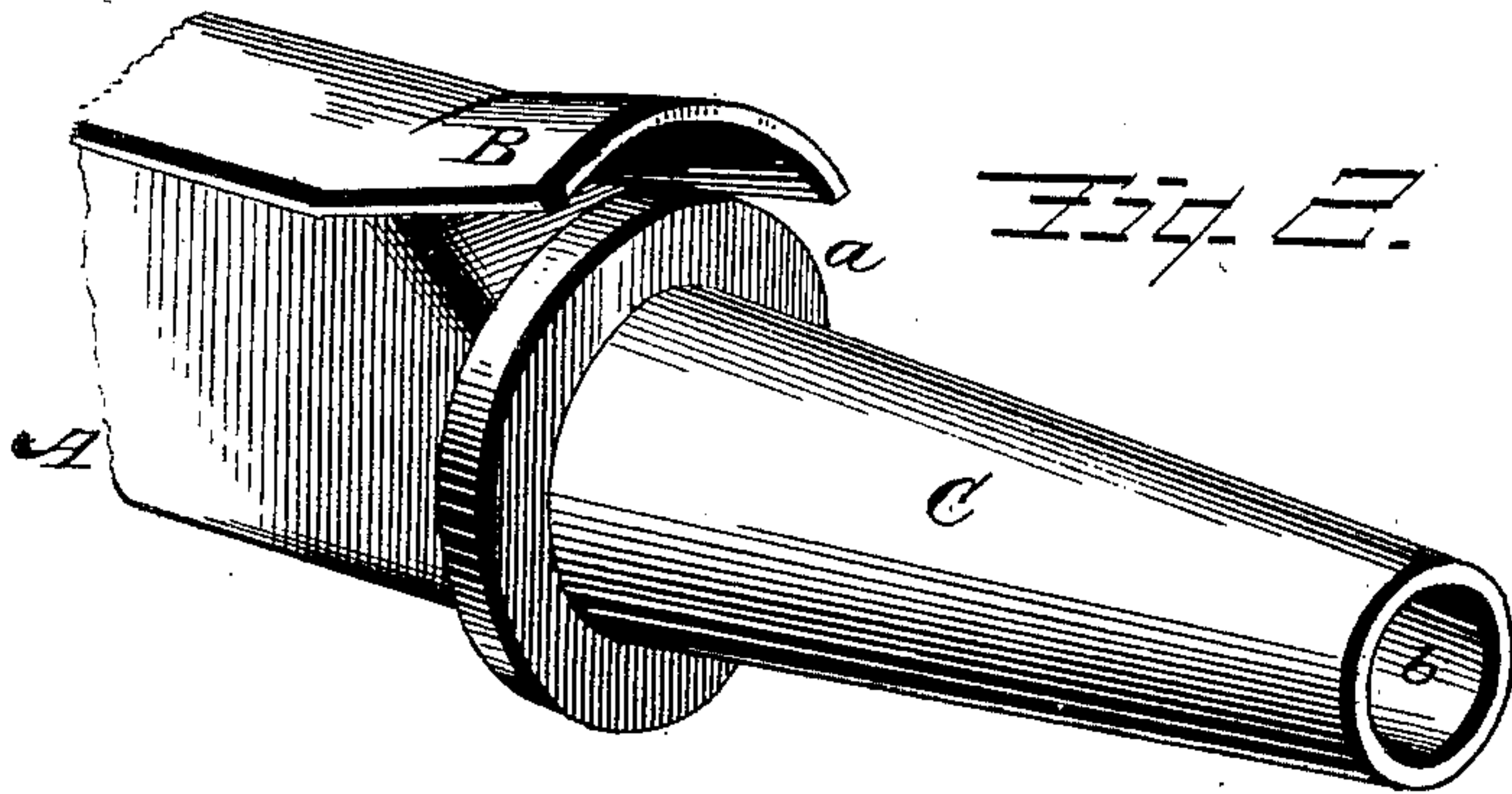
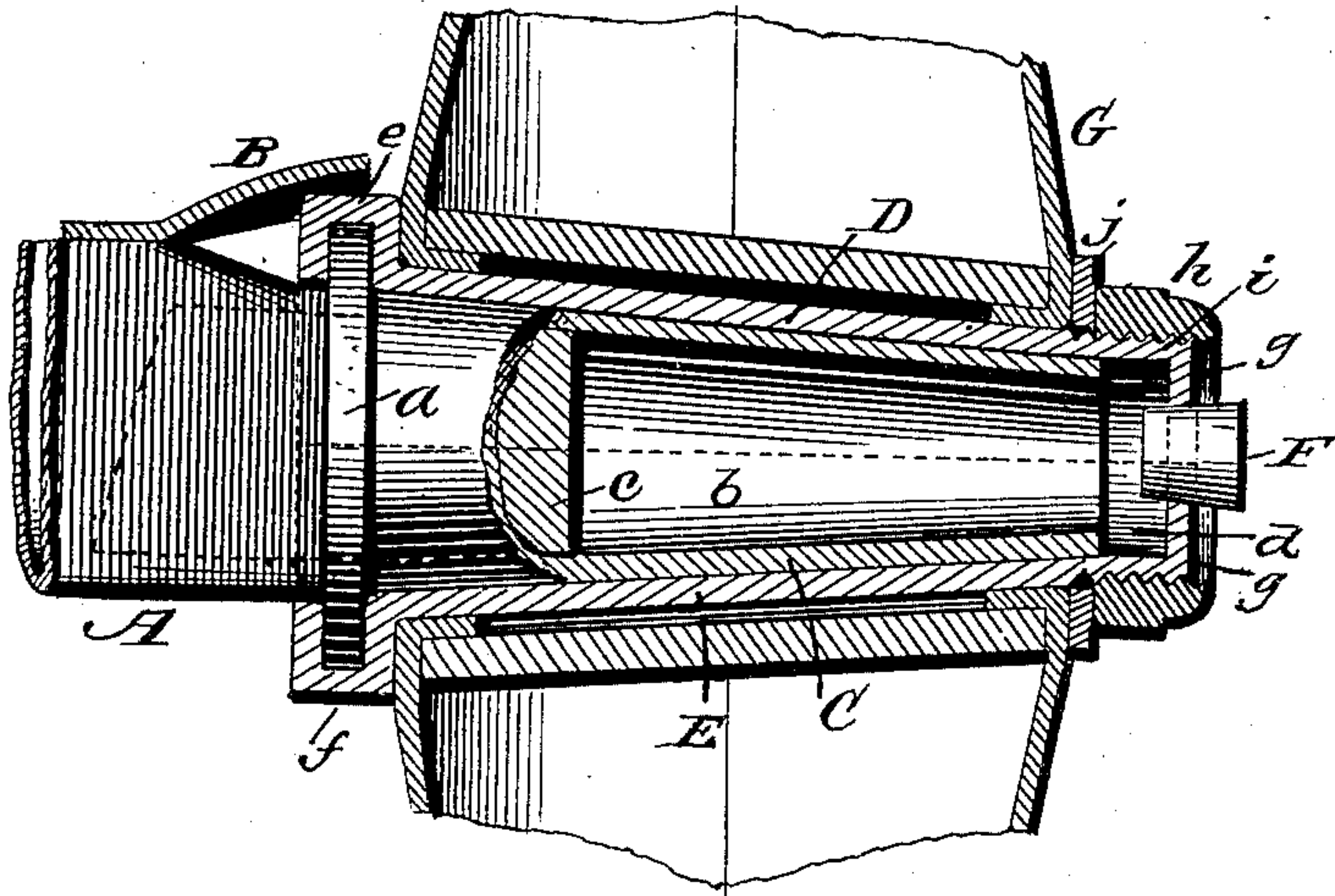
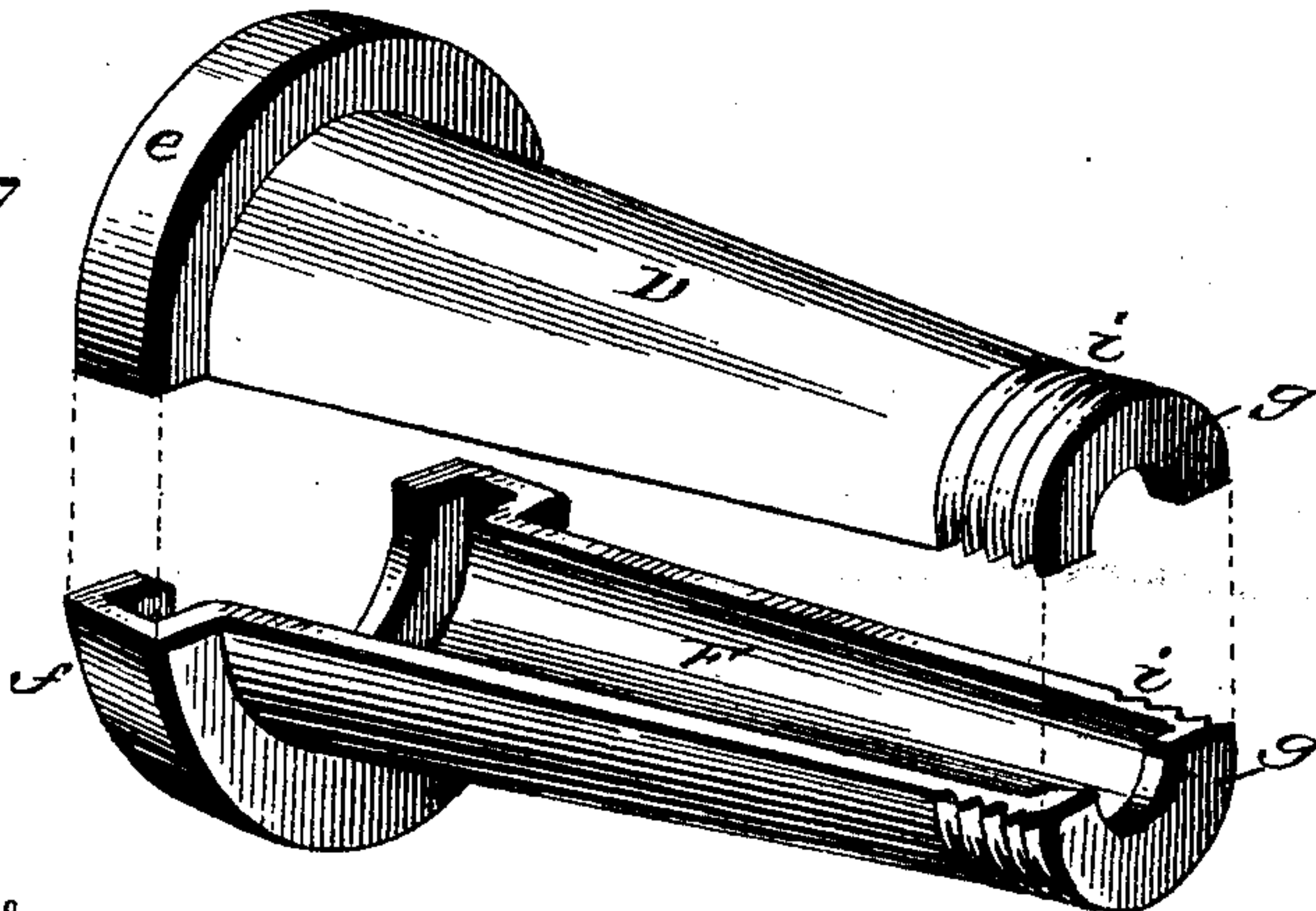


Fig. 3.



Witnesses  
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# UNITED STATES PATENT OFFICE.

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## SELF-LUBRICATING AXLE.

SPECIFICATION forming part of Letters Patent No. 697,068, dated April 8, 1902.

Application filed October 15, 1901. Serial No. 78,734. (No model.)

*To all whom it may concern:*

Be it known that I, MARTIN BRUNER, a citizen of the United States, residing at Buckland, in the county of Auglaize and State of Ohio, have invented certain new and useful Improvements in Self-Lubricating Axles; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon.

The object of the present invention is to provide a self-lubricating vehicle-axle that will possess strength and durability and will be simple in construction and perfectly dust-proof and render the lubricating of the skein perfect at all times, which objects I attain by the construction substantially shown in the drawings and hereinafter described and claimed.

Figure 1 of the drawings is a sectional elevation of a vehicle-axle, showing the application of my invention thereto; Fig. 2, a perspective view of a portion of the axle with skein upon the end thereof; Fig. 3, a perspective view of the sectional boxing.

In the accompanying drawings, A represents a portion of the ordinary vehicle-axle provided with the dust-guard B and the metal skein C, which has the usual taper or inclination. At the base of the skein C or at its juncture with the axle A said skein is provided with a circumferential collar *a* and is also formed hollow to provide a chamber *b*.

As the axle A is formed hollow, as is usual in metal axles, it is necessary to close the communication between the axle and skein, which is accomplished by a plug *c*, of wood or other suitable material, thereby forming a closed end to the chamber *b*, the plug being driven into the chamber through the opening at the inner side of the axle, which opening in the present instance is covered by the dust-guard B, said metal axle being of the usual construction—that is, formed hollow, with its inner portion opened.

The boxing is longitudinally split, which forms the two longitudinal sections D E, so as to enable the sections to be put together over the skein C and collar *a* thereof, the inner ends of the sections having grooved flanges *e f*, respectively, which flanges fit

over the collar of the skein. The two sections D E of the boxing are of greater length than the length of the skein C, so that when the two sections are in place, as shown in Fig. 1 of the drawings, the ends of the sections will project beyond the end of the skein to provide an oil-chamber *d*. The outer extremities of the boxing-section D E have inwardly-extending flanges *g*, so that when the two sections are together a decreased opening is provided, which may be closed by a suitable stopper F.

The wheel, as indicated at G, may be of any suitable construction, and after being placed upon the boxing is held tightly thereon by means of a suitable screw-nut *h* engaging screw-threads *i* on the ends of the sections D E, a suitable washer *j* being interposed between the wheel and nut, as shown in Fig. 1 of the drawings, or any other suitable means may be employed to hold the wheel in place upon the boxing as found most desirable, this being one of many means that may be successfully used.

The chamber *b* is for some solid lubricant, such as tallow or a lubricant that will melt easily by the action of heat, said chamber being filled with such lubricant, and the chamber *d* is supplied with lubricating-oil by first removing the stopper F. The chamber *b* is filled with tallow or like solid lubricant and chamber *d* is kept supplied with oil, the tallow not being brought into use as a lubricant when there is sufficient oil to serve the purpose, the oil working in between the exterior of the skein and the inner surface of the boxing-sections. It frequently happens through forgetfulness or for other reasons that chamber *d* is not properly kept supplied with oil, and in such event the lubricant in the chamber *b* will take its place, and as the skein becomes warm by the frictional contact therewith of the boxing the tallow or other like lubricant will become softened sufficient to feed itself between the skein and boxing, and thereby take the place of the oil that should be in the chamber *d*. It will therefore be seen that provision is made for a perfect lubrication of the axle or skein thereof whether there is any oil in the chamber *d* or not, thus providing what may be termed a "self-lubricating axle" that will insure a perfect run-

ning of the wheel thereon without undue friction and bringing the wear upon the skein and boxing to a minimum.

Having now fully described my invention, 5 what I claim as new, and desire to secure by Letters Patent, is—

10 In a self-lubricating axle, a tubular skein having circumferential collar and a plug to close the rear end of the skein to retain the lubricant therein, a split boxing comprising two longitudinal sections having grooved flanges at their inner ends to fit over the collar of the skein and at their outer ends terminating in inwardly-extending arched

flanges to form an opening to receive the lu- 15  
bricant when the flanges are together, and a suitable stopper to close said opening, the box-sections extending beyond the end of the skein to form a chamber for the lubricant, substantially as and for the purpose set forth. 20

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

MARTIN BRUNER.

Witnesses:

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GEO. M. COPENHAVER.