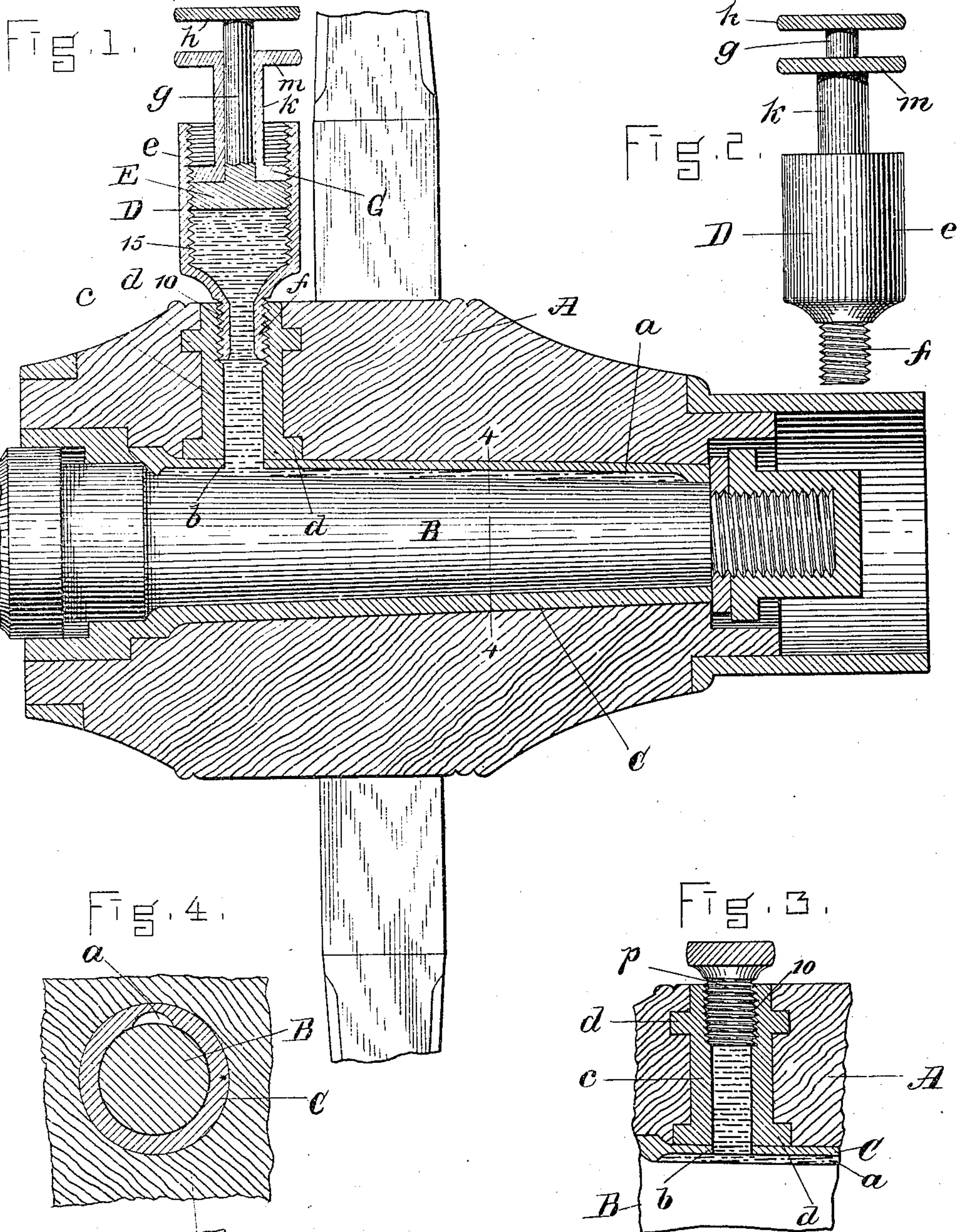


(No Model.)

L. E. ATKINSON.
AXLE LUBRICATOR.

No. 491,671.

Patented Feb. 14, 1893.



WITNESSES
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UNITED STATES PATENT OFFICE.

LEWIS E. ATKINSON, OF BOSTON, MASSACHUSETTS, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE STANDARD LUBRICANT COMPANY, OF SAME PLACE.

AXLE-LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 491,671, dated February 14, 1893.

Application filed July 1, 1892. Serial No. 433,672. (No model.)

To all whom it may concern:

Be it known that I, LEWIS E. ATKINSON, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Axle-Lubricators, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a central longitudinal section of the hub of a vehicle-wheel having my improved axle-lubricator applied thereto. Fig. 2 is a side elevation of my lubricator. Fig. 3 is a sectional detail of the hub, the lubricator being removed therefrom and the orifice leading to the axle-box and axle being closed by a screw-plug. Fig. 4 is a section on the line *x x* of Fig. 1.

My invention relates to certain improvements in axle-lubricators, in which a lubricating compound is forced by pressure into contact with the axle without removing the wheel therefrom, and my invention consists in certain novel features and combinations of parts as hereinafter described and specifically pointed out in the claims.

In the said drawings, A represents the hub of a vehicle-wheel, B the axle, and C the axle-box, which latter is provided on its interior surface with a longitudinal groove or channel *a* which extends from nearly one end to the other, as shown in Fig. 1, and is open on the side next to the axle, said channel forming a chamber for holding the lubricating compound which is forced therein through an aperture *b* in the axle-box which communicates with a short tube *c* extending to the outside of the hub, preferably close to and in the rear of the spokes, and forming an inlet passage as shown. The tube *c* is preferably formed by boring out the hub in line with the aperture *b* in the axle-box, and then filling the hole thus made with molten Babbitt-metal which is held in place by flanges *d* fitting corresponding grooves in the hub, the central passage being subsequently bored out and provided at its upper end with an internal screw-thread 10.

The lubricating compound which I prefer to use will not melt or become liquid under a tem-

perature of less than 300° Fahrenheit, hence it must be forced into the groove or channel *a* of the axle-box, which is accomplished by means of a lubricator D consisting of a cylindrical shell or body *e* adapted to contain the lubricating compound, and provided at its bottom with a nipple or nozzle *f* forming a discharge outlet, said nipple being threaded on the outside and adapted to be screwed into the inlet tube *c* as shown in Fig. 1.

Within the body *e*, which is provided with an internal screw-thread 15 extending from top to bottom, is fitted a screw-threaded presser E, which fits the thread 15 and is provided with a stem or spindle *g* having at its outer end a milled head *h*, which forms a handle by which said presser may be screwed down within the shell *e* to force the lubricating compound down through the nipple *f* and tube *c* into the chamber *a* of the axle-box. Above the presser E is a check-nut G which also fits the interior thread 15 of the body *e*, and is provided with a central upwardly extending tubular portion or sleeve *k* which encircles the stem *g* and is free to move longitudinally thereon, said sleeve *k* being provided at its outer end with a milled head *m*, which forms a handle by means of which the nut G may be turned and jammed down onto the presser E to lock the latter in place and prevent it from being moved after it has been screwed down sufficiently to force the proper quantity of lubricating compound into the chamber *a* of the axle-box. The parts are then allowed to remain in this position until a new supply of lubricating compound is required, when the check-nut G is slightly loosened and the presser E again screwed down by taking hold of its head *h* until the latter is brought into contact with the head *m* of the check-nut, which head thus serves as a stop or gage to limit the descent of the presser E within the shell *e*, and thus regulate the quantity of lubricating compound forced into the axle-box at a single operation; the distance between the two heads *h* and *m*, as shown in Figs. 1 and 2, being such that when the check-nut G is slightly loosened and the head *h* screwed down into contact with the head *m*, the proper quantity of lubricating compound will have been forced from the shell *e* into

the chamber *a* of the axle-box, the axle being thus easily and conveniently lubricated without removing the wheel therefrom.

The lubricator *D* may be allowed to remain permanently on the hub *A* if desired, but is preferably removed therefrom after the compound has been forced into the axle-box, and after such removal the top of the inlet tube *c* is tightly closed by a screw-plug *p* inserted therein as seen in Fig. 3, said plug being removed and the lubricator *D* again applied to the hub, when a fresh supply of the lubricating compound is required.

I do not confine myself to the employment of my improved lubricator in connection with the hub of a vehicle wheel, as it is obvious that it may be applied equally as well to the hubs of loose pulleys and other wheels revolving on fixed journals.

What I claim as my invention and desire to secure by Letters Patent is:—

1. In an axle-lubricating device, the cylindrical shell or body *e*, screw-threaded on its interior and adapted to contain a lubricating compound, and having a suitable discharge outlet, combined with a screw-threaded presser *E* fitting the internal thread of said shell and provided with a central stem *g* having a handle *h* at its outer end, and a check-nut *G* also fitting said internal thread and provided with a tubular portion or sleeve *k* encircling the stem *g* of the presser and having a handle *m* at its outer end located beneath the handle *h* of said presser, said handle *m* forming a stop or gage to limit the descent of the presser

and, thereby regulate the quantity of lubricating compound forced forward at a single operation, substantially as described.

2. In an axle-lubricating device, the combination, with the hub and axle-box, the latter provided on its interior surface with a longitudinal groove *a* open to the axle space and adapted to contain a lubricating compound and connected with a tube or passage leading to the exterior of the hub, of a lubricator consisting of a cylindrical shell or body *e* having a nipple or nozzle adapted to be screwed into the inlet opening in the hub, said shell *e* having an internal screw-thread, a screw-threaded presser *E* fitting said thread, and provided with a stem having a handle at its outer end, and a check-nut *G* also fitting the internal thread of the cylindrical shell and provided with a sleeve encircling the stem of the presser and having a handle located beneath the handle of the stem of the said presser, said check-nut serving to lock the presser in place when forced downward, and its handle forming a stop or gage to limit the descent of the presser and thereby regulate the quantity of lubricating compound forced into the axle-box at a single operation, all constructed and operating substantially as set forth.

Witness my hand this 24th day of June, A. D. 1892.

LEWIS E. ATKINSON.

In presence of—

P. E. TESCHEMACHER,
HARRY W. AIKEN.