

No. 684,808.

Patented Oct. 22, 1901.

S. A. FLOWER.  
CAR AXLE LUBRICATOR.

(Application filed Sept. 25, 1900.)

(No Model.)

Fig. 1.

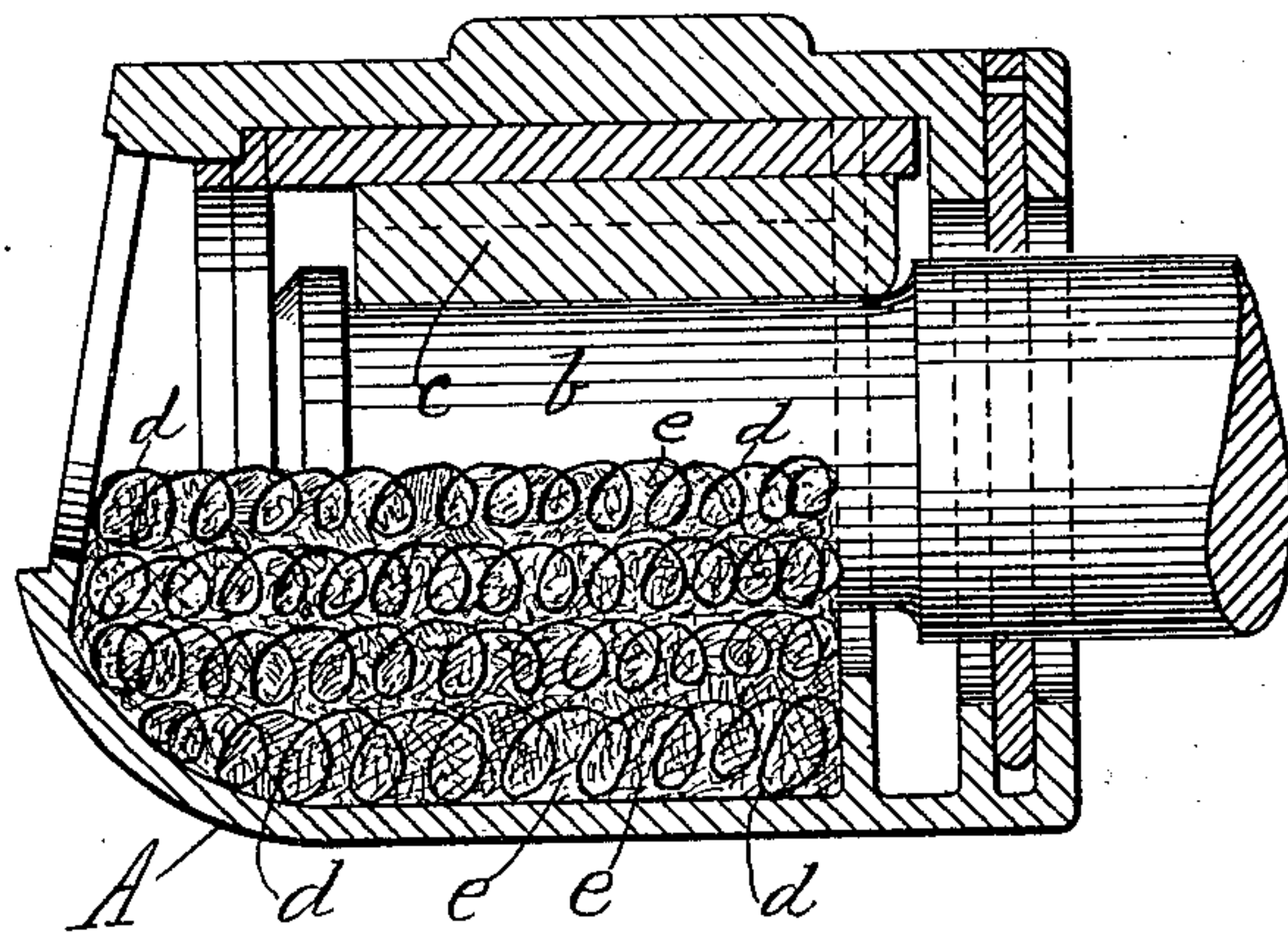


Fig. 2.

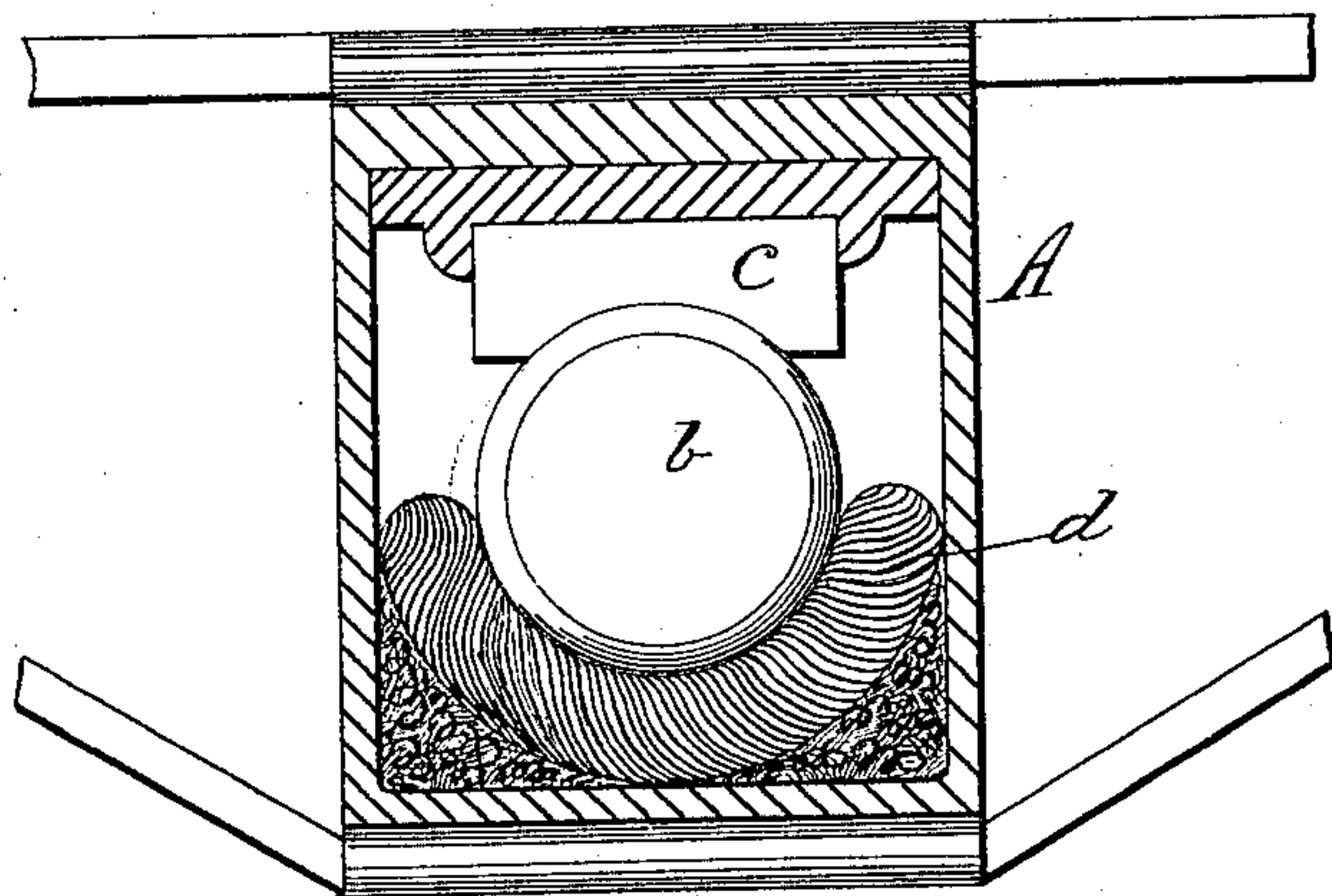
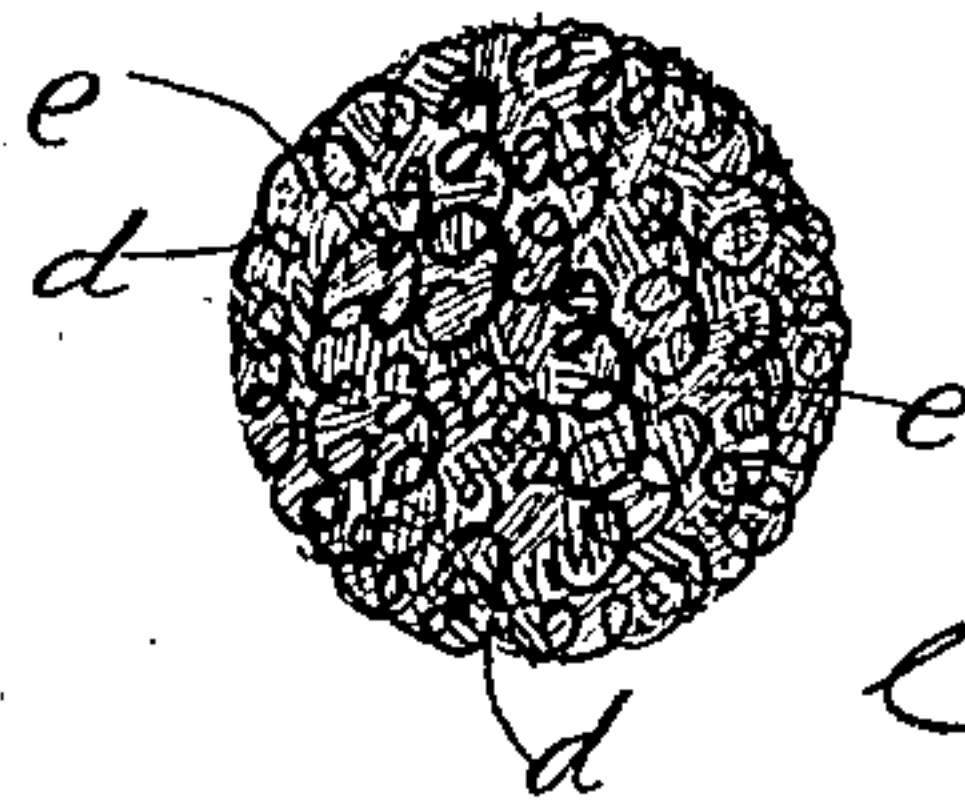


Fig. 3.



WITNESSES.

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*by T. O. Thayer* ATTY



# UNITED STATES PATENT OFFICE.

SAMUEL A. FLOWER, OF NEWARK, NEW JERSEY.

## CAR-AXLE LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 684,808, dated October 22, 1901.

Application filed September 25, 1900. Serial No. 31,015. (No model.)

*To all whom it may concern:*

Be it known that I, SAMUEL A. FLOWER, a citizen of the United States of America, and a resident of Newark, county of Essex, and State of New Jersey, have invented certain new and useful Improvements in Car-Axle Lubricators, of which the following is a specification.

My invention relates to car-axle lubricators which consists of fibrous packing for the axle-boxes, comprising strong resilient fibers, combined with absorbent or other oil carrying or conducting fibers, whereby contact of the oil carrying or conducting fibers with the journal is maintained by the resilient fibers, as in the patent to Flower and Ross, No. 300,587. In very extensive use of the invention set forth in that patent it has proven itself through adoption on many important railroads of the country to be a very efficient fibrous packing; but it has not been entirely free from objection, owing to a tendency of the resilient fibers, especially of the larger, stiffer, and harsher ones, such as coir or cocoanut fibers, to climb or be drawn endwise between the surface of the journal and the bearing-piece by which the load is carried on the journal, which sometimes causes excessive friction and overheating of the journal and bearing. This comes of the fibers being comparatively straight, especially the stiffer ones, whereof such as may happen to point in the right direction for being caught are sometimes pulled in between the bearing-surfaces, and thus make more or less trouble. In my experience with the aforesaid patented lubricator I have recently discovered that this trouble is mainly, if not altogether, due to the use of the fibers in the commercial state or condition, it having been the custom in the preparation of the packing to mix commercial coir or cocoanut fibers and wool waste with the aid of a picker for incorporating them one with the other. The wool waste naturally curls and assumes the desired fluffy condition; but the intermixed resilient fibers present projecting ends liable to be caught in between the bearing-surfaces, as above explained.

My present invention consists in the employment of resilient coir or cocoanut fibers previously roped and curled in short stiff

coils, in combination with the wool or other conducting fibers, which I have found by practical tests not only prevents the ends from reaching to and being caught between the bearing-surfaces, but they hold up the conducting fibers so much better that the lubrication is better, with considerable economy of oil, owing to the lesser quantity necessary in the box, and consequent less waste by slopping over.

In the accompanying drawings, representing my invention, Figure 1 is a vertical sectional elevation of a car-axle box packed with my improved lubricator applied in a mass of the combined fibers. Fig. 2 is a transverse section of the box, in which the fibers are represented in short rolls or rovings of the mixed fibers placed under the journal transversely of it and backed up with fillings of the angles of the box in mass. Fig. 3 is an end view of a rope or roving of the character indicated in Fig. 2 on a larger scale.

A represents the axle-box, *b* the journal to be lubricated, and *c* the bearing by which the box and its load rest on the axle.

*d* represents the coir or cocoanut resilient fibers, and *e* the conducting fibers, of the same character as heretofore used. The coir or cocoanut fibers are first roped or otherwise curled or coiled in stiff and well-set curls or coils and then picked apart and mixed with the conducting fibers and either used in mass, as in Fig. 1, or formed in short ropes or rovings, as in Figs. 2 and 3. In the latter form the absorbent fibers are more effectually held and kept in contact with the journal and the charges are more reliable and lasting and do not require as frequent renewal.

The cocoanut fibers are especially advantageous as compared with curled hair, which I am aware has been used in such packing, for the reason that their cellular structure absorbs the oil considerably, which adds materially to the strength and resiliency, whereby they are more efficient and lasting.

What I claim as my invention is—

1. A fibrous packing for car-axle boxes consisting of coiled or curled resilient coir or cocoanut fibers in combination with absorbent or conducting fibers, said resilient fibers being mechanically coiled or curled preparatory to mixing with the conducting fibers.

2. A fibrous packing for car-axle boxes consisting of coiled or curled resilient coir or co-  
coanut fibers in combination with absorbent  
or conducting fibers and formed in short  
5 ropes or rovings, said resilient fibers being  
mechanically curled or coiled preparatory to  
mixing with the conducting fibers and being  
thus roped are more effectually prevented

from catching in the gaps between the axle  
and the bearing.

Signed this 28th day of July, 1900.

SAMUEL A. FLOWER.

Witnesses:

CHARLES M. AXFORD,  
GEO. W. FRAZER.