

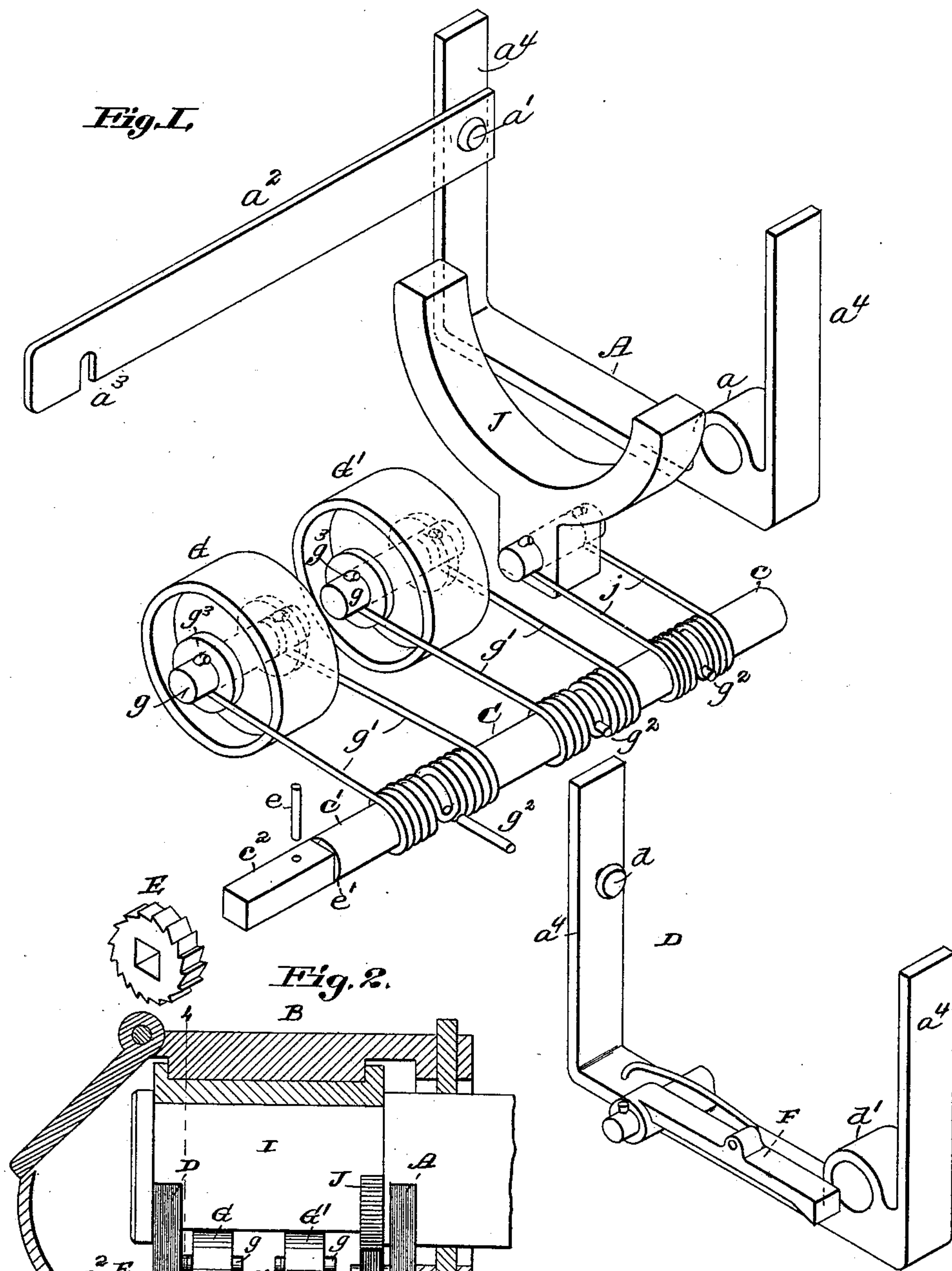
(No Model.)

2 Sheets—Sheet 1.

W. H. DANIELS & E. COSTLEY.
CAR AXLE LUBRICATOR.

No. 403,876.

Patented May 21 1889.



Attest:
G. N. Hinchman Jr.
J. M. Sanford

Inventor:
William H. Daniels
Emma Costley
by C. Moody atty

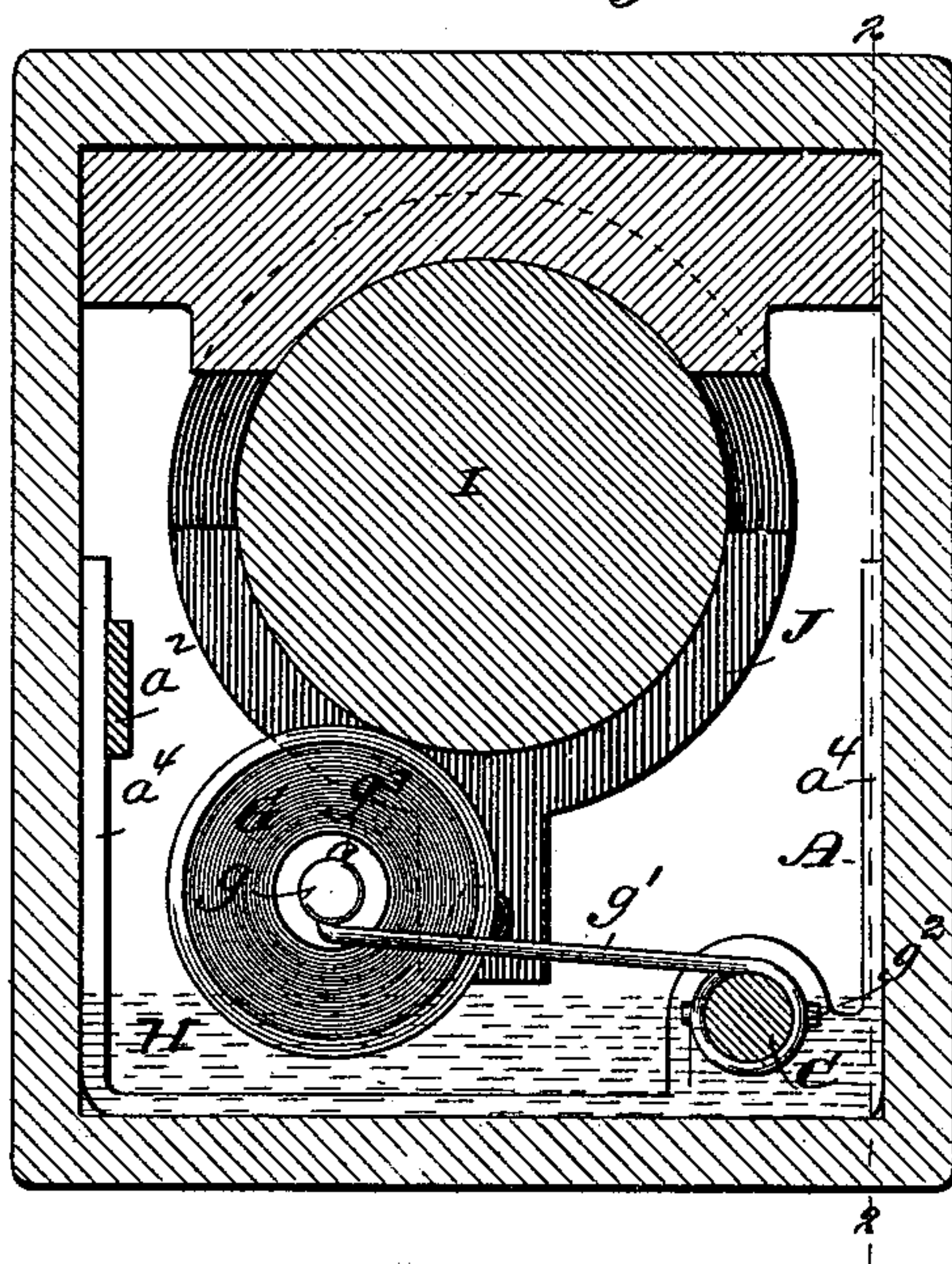
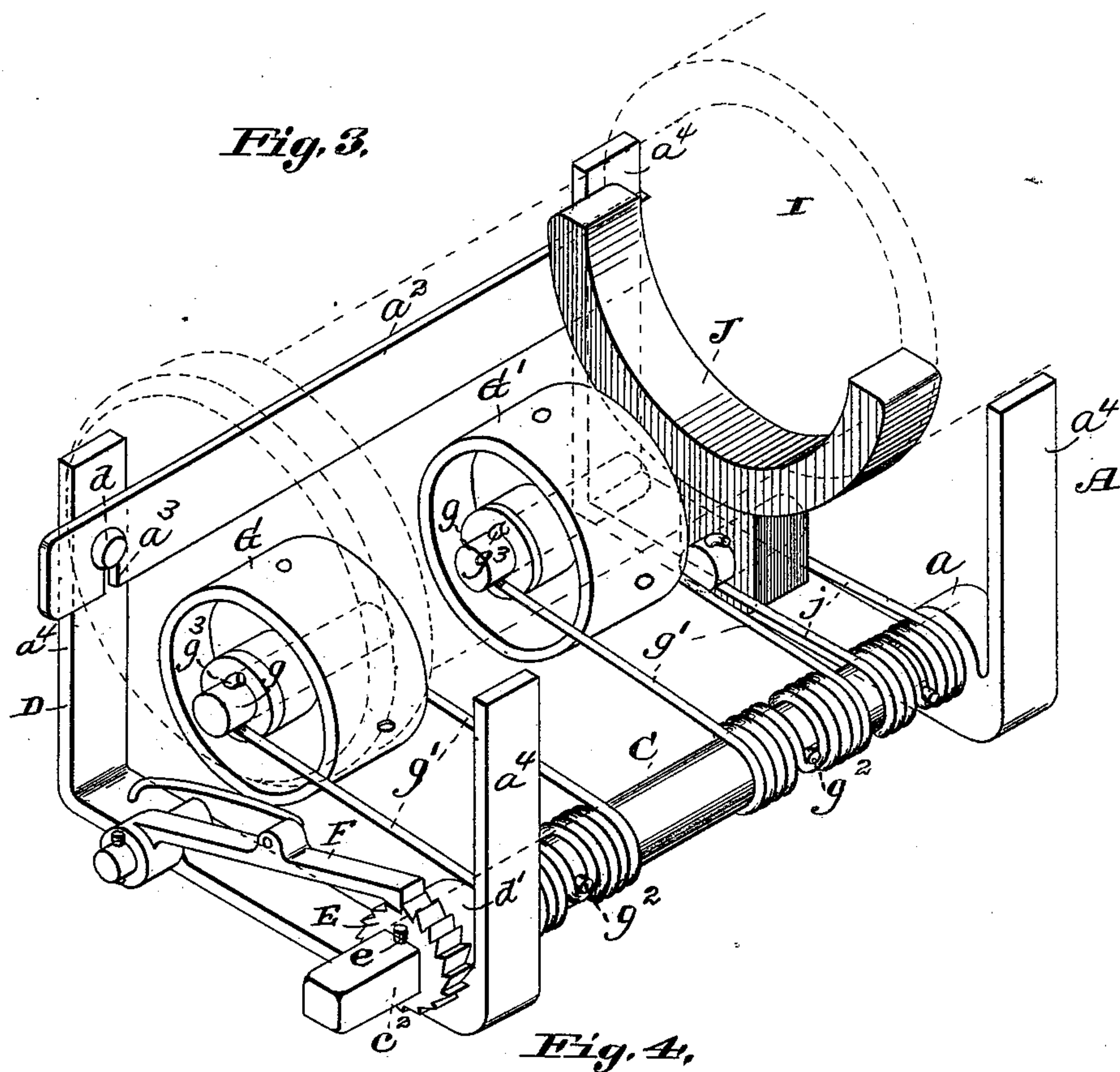
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2 Sheets—Sheet 2.

W. H. DANIELS & E. COSTLEY.
CAR AXLE LUBRICATOR.

No. 403,876.

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Shelburne

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UNITED STATES PATENT OFFICE.

WILLIAM H. DANIELS AND EMMA COSTLEY, OF ST. LOUIS, ASSIGNORS TO
CHARLES D. MOODY, OF WEBSTER GROVE, MISSOURI.

CAR-AXLE LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 403,876, dated May 21, 1889.

Application filed February 25, 1889. Serial No. 301,028. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM H. DANIELS and EMMA COSTLEY, of St. Louis, Missouri, have jointly made a new and useful Improvement in Car-Axle Lubricators, of which the following is a full, clear, and exact description.

The improvement relates to that class of lubricators in which the lubricant in the journal-box is taken up by a revolving or movable part or parts and applied to the axle-journal, the motion of the part or parts being derived from the motion of the car-axle. As hitherto constructed, the revolving parts referred to are sustained within the journal-box by means of a support which cannot be inserted within the journal-box without first displacing the axle-journal—that is, owing to the shape of the journal-box and the size and position of the axle-journal, it is impracticable to introduce the lubricating device into the journal-box as long as the axle-journal is in its regular position, and the practice is first to elevate the axle-journal sufficiently, then to place the lubricating device as an entirety in the journal-box, and then to lower the axle-journal into position again. This adjustment of the axle-journal is a tedious, expensive operation, and is a serious obstacle to the use of lubricators of the kind under consideration. We substantially overcome the difficulty and at the same time provide an improved car-axle-journal-lubricating device by means of the present improvement. In the place of a lubricating device which requires to be handled as an entirety, we employ a dissectible device, by which means and without displacing the axle-journal first one portion of the device can be introduced into position in the journal-box, then another and another portion thereof, and so on until the device is erected and adjusted in position. To this end the preferable construction and procedure are as follows: The leading feature of the construction may be said to be the combination of the movable part, which is the vehicle for transmitting the lubricant to the axle-journal and its support, said movable part after it and its support are inserted within the journal-box being vertically adjustable with

reference to said support to bring the movable part into contact with or toward the axle-journal; or, stated, perhaps, in a broader way, it is making the said movable part vertically adjustable in the journal-box, so that it can be lowered away from or raised toward or into contact with the axle-journal.

The most desirable mode of carrying out the improvement is exhibited in the annexed drawings, making part of this specification, in which—

Figure 1 is a view in perspective showing the parts of the device detached from each other; Fig. 2, a vertical longitudinal section on the line 2 2 of Fig. 4 of a journal-box, showing the axle-journal and improved lubricator in side elevation and as in use; Fig. 3, a view in perspective of the improved lubricator, the axle-journal being indicated by the broken lines; Fig. 4, a vertical cross-section on the line 4 4 of Fig. 2.

The figures are upon various scales and the same letters of reference denote the same parts.

A represents a U-shaped upright, designed to rest upon the bottom *b* of the journal-box B, at and across the inner end thereof, substantially as shown. Its main function is to provide a bearing, *a*, for the inner end, *c*, of a shaft, C. To facilitate the placing of the upright A, that part—say at *a'*, Fig. 1—has an arm, *a*², jointed to it, which extends toward the outer end of the journal-box and capable of being turned upward and downward. The arm serves as a handle to the upright, and it is also of use as a brace and tie to connect the upright A with another and quite similar upright, D, Figs. 1, 2, and 3, arranged at and across the forward end of the journal-box. The arm *a*² is notched at *a*³ to enable it to be latched to a catch, *d*, upon the upright D. The shaft C, at its inner end, *c*, is journaled in the bearing *a*, as stated, and toward its outer end, at *c'*, it is journaled in a bearing, *d'*, in the upright, D. The shaft extends outward beyond the bearing *d'*, and is squared at *c*³ to receive a ratchet, E, and also provide for an application of a wrench for the purpose of rotating the shaft in its bearings, as presently described. The upright D

is provided with a spring-pawl, F, which co-acts with the ratchet E. G G' represent wheels, which we consider the preferable form of movable part, for transmitting the lubricant H, Fig. 4, and applying it to the axle-journal I, Figs. 2, 3, and 4. Each wheel is journaled upon a shaft, *g*, which in turn is supported by means of a spring-arm, *g'*, from the shaft C.

The arm *g'* may be variously constructed, and connected with the shaft and wheel. We prefer the form shown—a wire doubled and wrapped around the shaft and secured thereto by means of a pin, *g²*, and the end *g³ g³* of the wire being carried through and secured in the end, respectively, of the shaft *g*, and a washer to prevent the wear upon the wire being interposed between the wire end and wheel, all as shown. One or more of the wheels G may be used. A drip-collar, J, Figs. 1, 2, 3, and 4, may also be used to prevent the escape of the lubricant at the inner end of the axle-journal. It also, and by means of a spring-arm, *j*, similar in construction and operation to the spring-arms *g'*, is elastically supported from the shaft C.

The device is introduced and adjusted in the box as follows: The upright A is first placed in the farther end of the box, in doing which the arm *a²* can be advantageously used. Then the shaft C, having the drip-collar and wheels attached, as described, is introduced into the journal-box and its end *c* inserted in its bearing *a*. Then the upright D is placed in the box, and in so doing it is slipped onto the shaft C, whose outer end passes through the bearing *d'*. The ratchet E is then applied to the outer end of the shaft and brought into the plane of the pawl F, and there secured by means of a pin, *e*. The shoulder *e'* upon the shaft confines the ratchet in that direction. The arm *a²* is connected with the upright D.

The parts of the device now being assembled, the adjustment of the wheels is effected. A wrench is applied to the outer end of the shaft C, and that shaft is then rotated in its bearings, so as to raise the outer end of the spring-arms *g' j'*, and thereby bring the wheels and drip-collars into contact with the axle-

journals, substantially as shown in Figs. 2, 3, and 4. As the shaft is thus rotated, the pawl rides upon and engages in the ratchet, and, after the wheels and drip-collars have been adjusted as described, holds the shaft from turning backward.

To remove the device from the journal-box, the pawl is disengaged from the ratchet, allowing the shaft to turn backward and the wheels and drip-collars to fall, whereupon the device can be dissected and then be withdrawn in separate parts from the journal-box.

The vertical portions *a⁴* of the uprights A D are mainly of use in holding the uprights down in place when the wrench is applied to the shaft and when the lubricator is in use.

We desire not to be restricted to a pawl and ratchet for holding the shaft at any desired point of its rotation.

We claim—

1. A car-axle lubricator consisting of a frame and a shaft provided with arms on which the lubricating-wheel is mounted, said shaft being adjustable to raise the said wheel to different heights, substantially as described.

2. The combination of the uprights, the shaft, ratchet, and pawl, the wheels, and the spring-arms, substantially as described.

3. The combination of the uprights, the shaft, ratchet, and pawl, and the drip-collar, said drip-collar being supported from said shaft, substantially as described.

4. The combination of the uprights, the arm connecting the uprights, the shaft, and the wheels, said wheels being supported from said shaft, substantially as described.

5. The combination of the uprights, arm connecting said uprights, the shaft, ratchet, and pawl, wheels, drip-collar, and the spring-arms supporting said wheels and drip-collar, substantially as described.

Witness our hands this 18th day of February, 1889.

WILLIAM H. DANIELS.
EMMA COSTLEY.

Witnesses:

C. D. MOODY,
D. W. A. SANFORD.