

(No Model.)

2 Sheets—Sheet 1.

H. F. WEST.
CAR AXLE LUBRICATOR.

No. 413,771.

Patented Oct. 29, 1889.

Fig. 2.

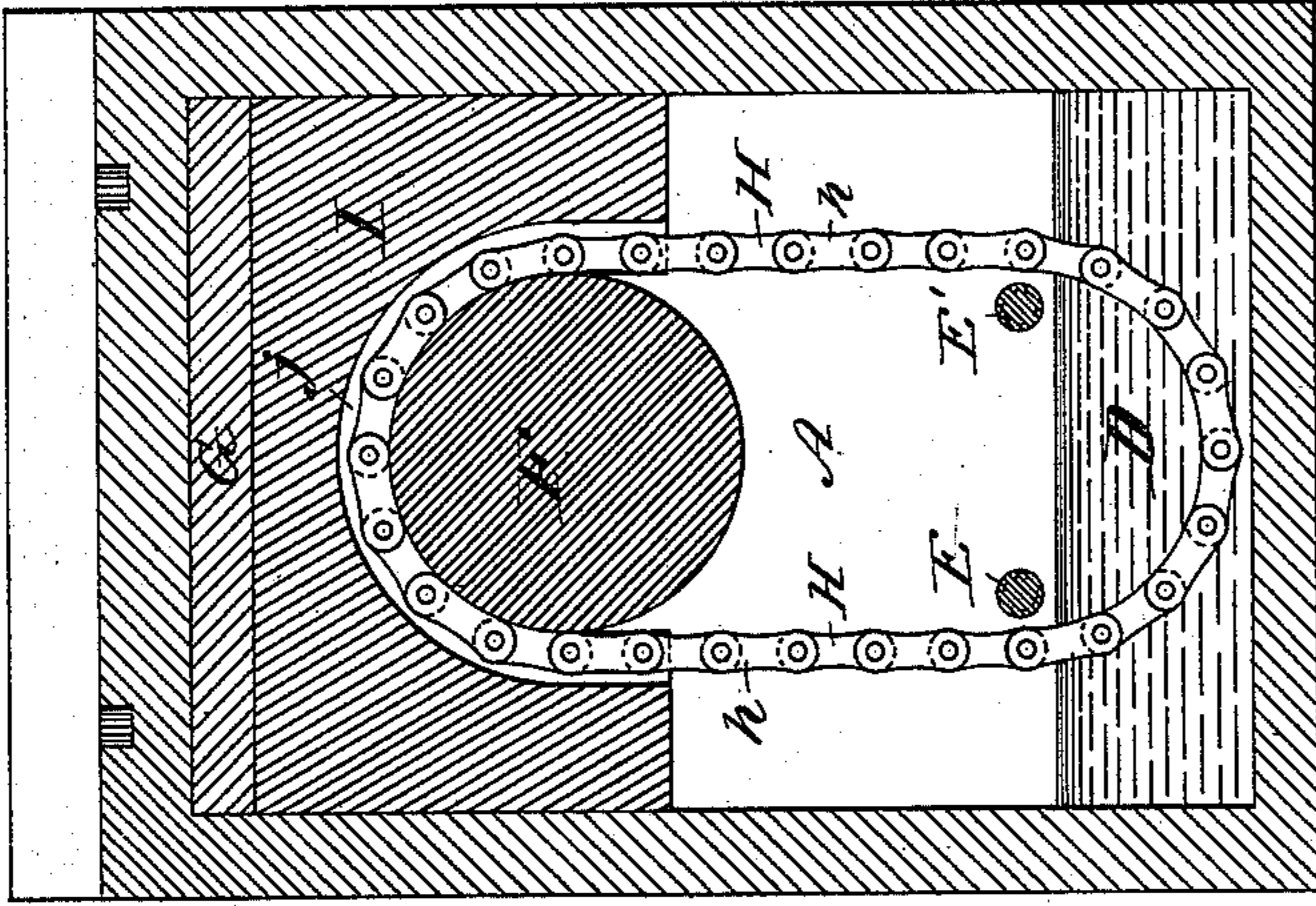
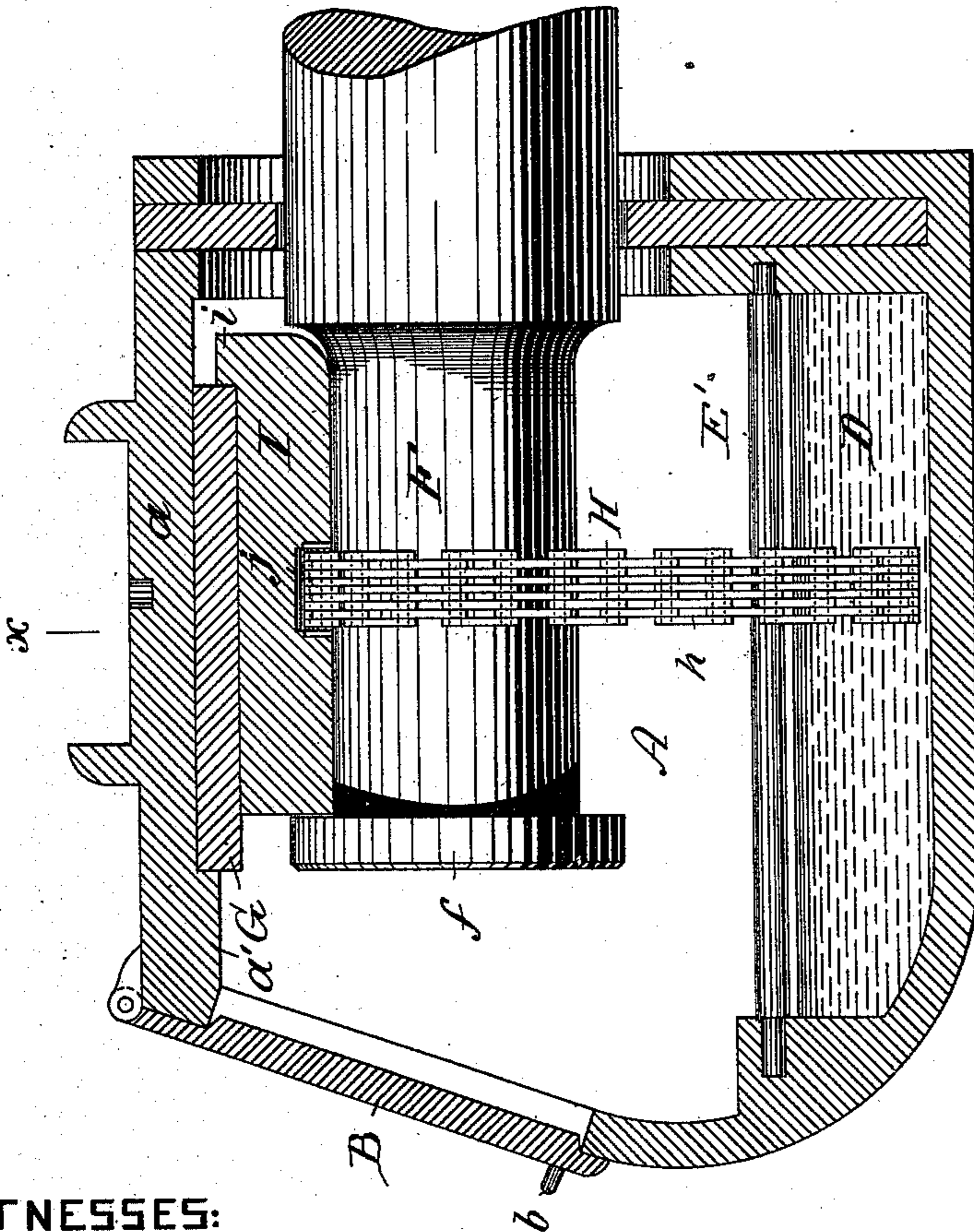


Fig. 1.



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INVENTOR:

Henry F. West,
By J. Walter Douglas,
Atty.

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Fig. 4.

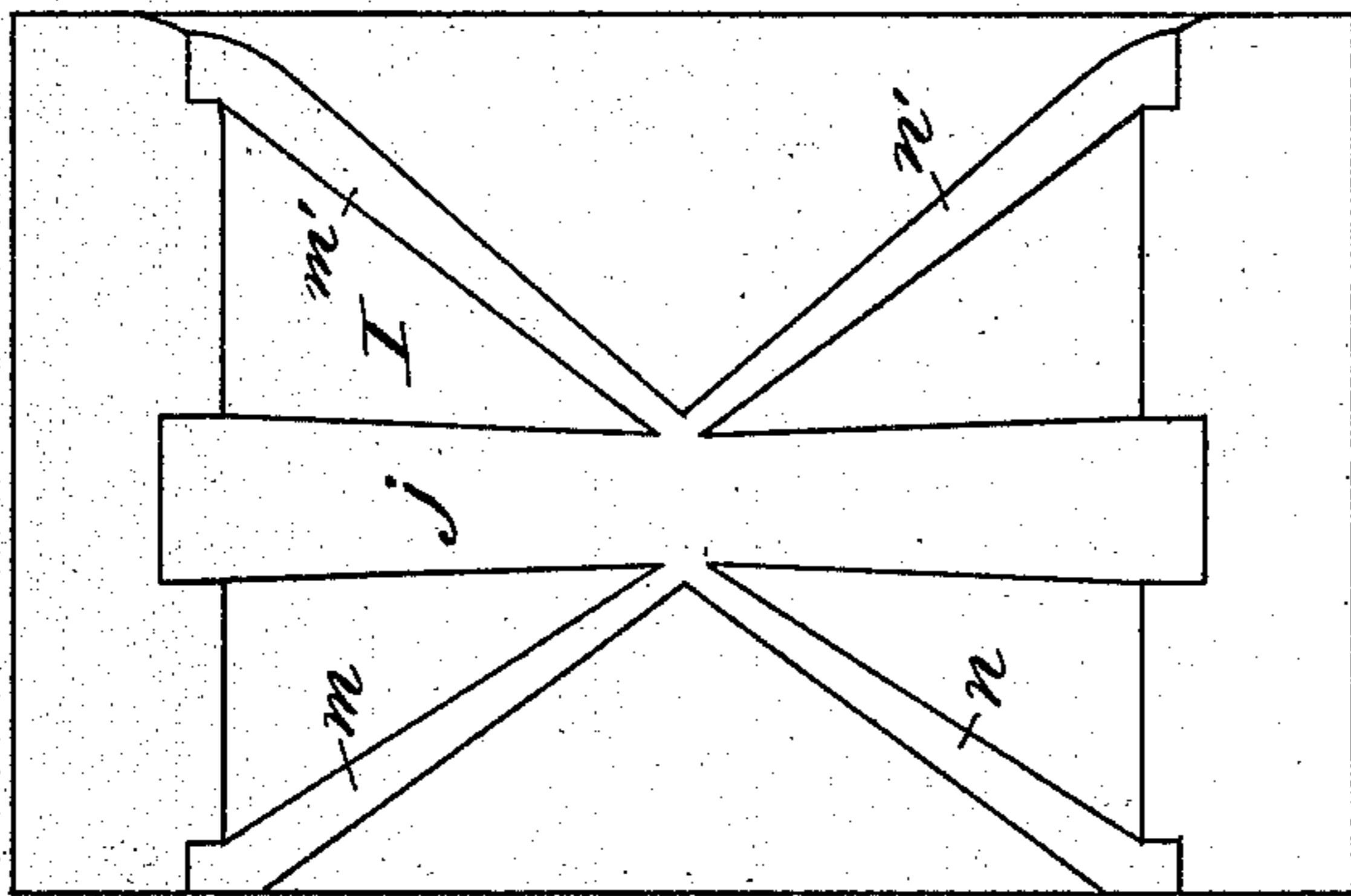
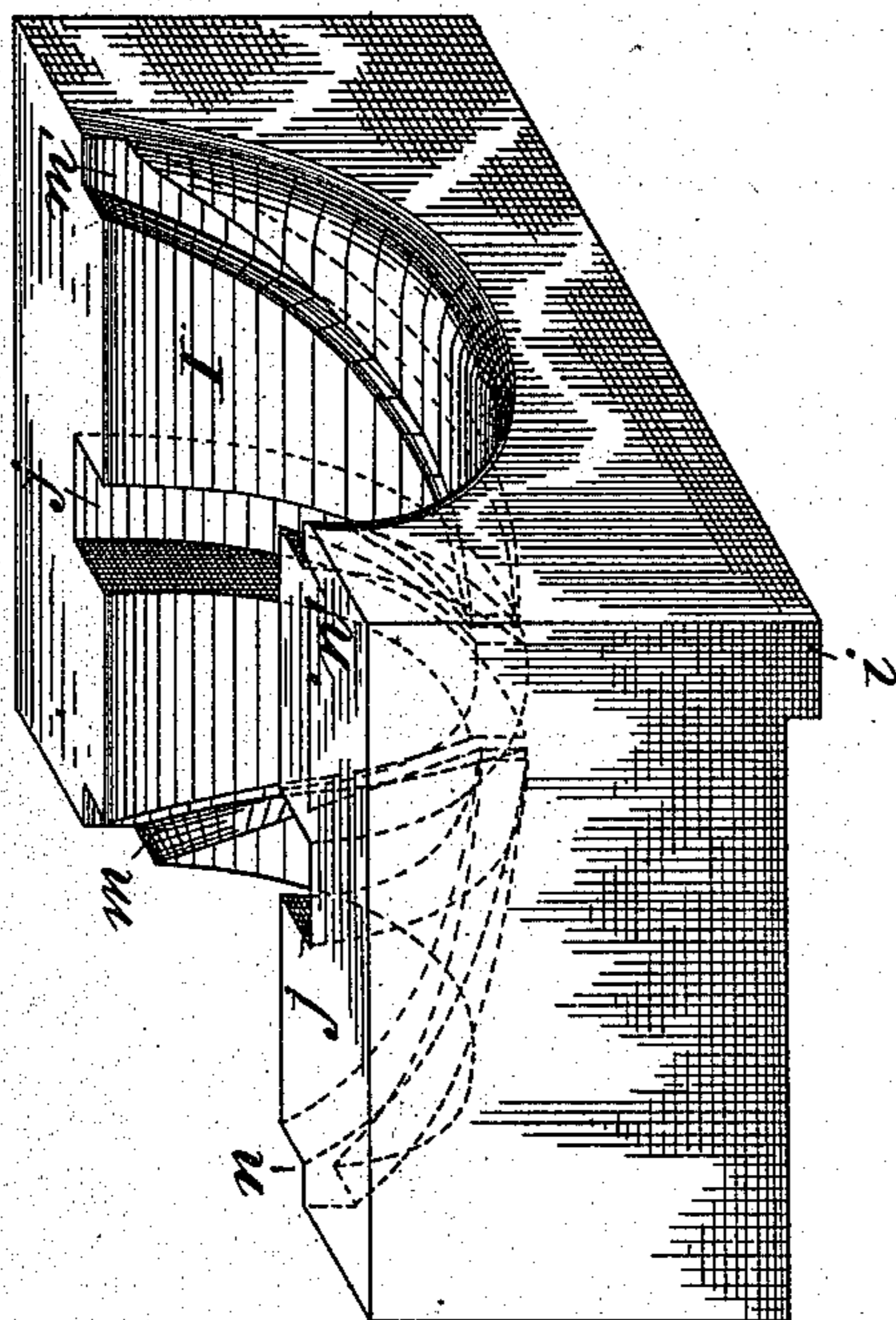


Fig. 3.



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UNITED STATES PATENT OFFICE.

HENRY F. WEST, OF GLOUCESTER CITY, NEW JERSEY.

CAR-AXLE LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 413,771, dated October 29, 1889.

Application filed March 16, 1888. Renewed March 29, 1889. Serial No. 305,336. (No model.)

To all whom it may concern:

Be it known that I, HENRY F. WEST, a citizen of the United States, residing at Gloucester City, in the county of Camden and State of New Jersey, have invented certain new and useful Improvements in Car-Axle Lubricators, of which the following is a specification.

The principal object of my invention is to provide simple and effective means for thoroughly lubricating the journals of car-axles and dispensing entirely with waste, wicking, or other analogous material in axle-boxes in which lubrication of the journals was effected by capillary attraction.

My invention consists in mounting upon the journal of the axle and in frictional contact therewith an endless chain of sufficient length to extend into a lubricant or oil reservoir in the box, whereby in the rotation of the axle the chain will be revolved, elevating the lubricant or oil and distributing the same uniformly over the surface of the journal.

My invention further consists in mounting upon the journal of the axle a saddle or journal-block the bottom of which is concave in form, with a central channel therein, and with narrow channels diverging in opposite directions from the middle thereof, and the respective channels tapering slightly in width from the bottom of said block to the apex of the concavity of the same, whereby the lubricant or oil elevated by the endless chain will be uniformly distributed through said channels over the entire surface of the journal, thereby keeping the same thoroughly lubricated.

The nature and characteristic features of my invention will be more fully understood by reference to the accompanying drawings, forming part hereof, in which—

Figure 1 is a longitudinal section through a car-axle box with a lubricant-reservoir in the bottom thereof, and showing my improved lubricating device and saddle in application. Fig. 2 is a transverse section thereof on the line *x x* of Fig. 1. Fig. 3 is a perspective view of my improved shouldered saddle or journal-block, with the bottom of concave form having channels provided therein; and Fig. 4 is a view of the bearing-surface of said saddle or journal-block developed, and showing the respective channels therein through which the

endless chain passes and the lubricant or oil is distributed over the surface of the journal.

Referring to the drawings for a further description of the invention, A is a car-axle box of any suitable construction.

B is a lid or cover hinged to the top plate of the box A, and this lid B being provided with a catch *b* or other suitable device cast with the lid or cover for raising the same to admit the oil into the reservoir D in the bottom of the box.

E and E' are two horizontal bars suitably secured into the front and back walls of the box A for the purpose of maintaining the endless chain in a proper operative position, and also preventing any undue lateral movement of the endless chain while in operation, elevating the oil onto the journal.

F is the journal of the axle, having a shouldered front extremity *f*, which abuts against the side wall of the saddle, to be presently described.

H is an endless chain, preferably constructed in sections pivoted together, and each section composed of a series of oblong solid links *h*, pivoted together and to the links of each successive section, as shown, for instance, in Fig. 1; or this chain may be constructed in any other preferred manner for the accomplishment of the purpose in a satisfactory manner of elevating the oil or lubricant from the reservoir D and uniformly distributing the same over the surface of the journal of the axle.

I is a saddle or journal-block, made of brass or other suitable metal, with a shoulder or projection *i* formed integral with the rear portion of the top surface thereof. The bottom portion of the block I is hollowed out or constructed with a concavity, and in the body of the block is formed a central channel *j*, preferably tapering slightly from the bottom on each side of the concavity of the block to the middle or highest point thereof. From the middle or highest point of the concavity of the block I are formed channels *m*, *m'*, *n*, and *n'*, increasing slightly in width from the middle channel *j* to the respective bottom or lower corners of the block.

The important feature of my invention is the saddle I, formed with the centrally-located longitudinal channel *j* and with the diverging

channels m , m' , n , and n' in communication therewith. The use of such a saddle has this special advantage, that the oil or lubricant from the well beneath, elevated by means of the endless chain H, is not only deposited onto the journal at a central point, but it is also uniformly distributed through both the longitudinal channel and those in communication therewith and diverging therefrom, and the entire surface of the journal thereby copiously supplied with oil, and as a consequence the avoidance of heating up of the journal due to frictional contact of the saddle therewith is insured. In the use of the heretofore construction of saddles, mounted on journals, for instance, with oblique grooves simply in the body thereof, it has only been possible to partially lubricate the journal, and, as the solid portions of the saddle were in frictional contact with the journal, the heating up of the same has been a natural consequence, simply because of the fact that the lubricant was not uniformly distributed over the entire surface thereof, as is the case in the use of my improved saddle, hereinbefore described.

The saddle or block I is mounted on the journal F, so that the endless chain H will have a freedom of movement through the central tapering channel j , and in the rotation of the axle, thereby actuating the chain and elevating the lubricant, so that when it reaches the middle of the channel j more or less thereof will be distributed through the diverging channels m , m' , n , and n' , thereby uniformly lubricating the entire surface of the journal F. - This saddle I, mounted upon the journal F, is held in position by means of a bearing-plate G, engaging with the shoulder or projection i of the saddle and with a shoulder or projection a' , formed with the top plate a of the box A, thereby preventing any wobbling of the saddle mounted on the journal F of the axle.

Having thus described the nature and objects of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with a car-axle box having an oil-well, a journal, and self-feeding lubricant-conveyer consisting of an endless

chain mounted on said journal and depending therefrom into said oil-well, of a saddle provided with a shoulder and with a longitudinal channel tapering in both directions to the middle thereof and diverging channels communicating therewith, whereby the lubricant lifted onto said journal may be uniformly distributed over the entire surface thereof, and a block interposed between the top plate of the box and saddle and engaging with a projection formed with said plate and the shoulder of said saddle, as described.

2. The combination, with a car-axle box having an oil-well, a journal, an endless chain mounted thereon, and one or more horizontal bars secured into the front and rear walls of said box for maintaining said chain in operative position and preventing undue lateral movement thereof, of a saddle with a rear shoulder, and a longitudinal channel in the body thereof tapering in both directions to the middle, and narrow channels diverging therefrom to the lower corners, whereby the lubricant lifted onto said journal may be uniformly distributed over the entire surface thereof, and a block engaging with a projection formed with the top plate of the box and with the shoulder of said saddle, all arranged as shown and described, and for the purposes set forth.

3. In a car-axle box, the combination, with the journal of the axle, of a block with a shoulder or projection, and the body of said block being hollowed out with a channel formed therein tapering slightly in both directions to the middle, channels diverging in opposite directions from the central channel to the lower corners of said block, a plate for holding said block in position upon said journal, and an endless chain mounted on said journal and passing downward through a lubricant contained in a reservoir in said box, substantially as and for the purposes described.

In witness whereof I have hereunto set my hand in the presence of two subscribing witnesses.

HENRY F. WEST.

Witnesses:

GEO. W. REED,

THOMAS M. SMITH.