(No Model.)

W. H. BRODIE.

TROLLEY.

No. 500,375. Patented June 27, 1893.

Fig: 1.

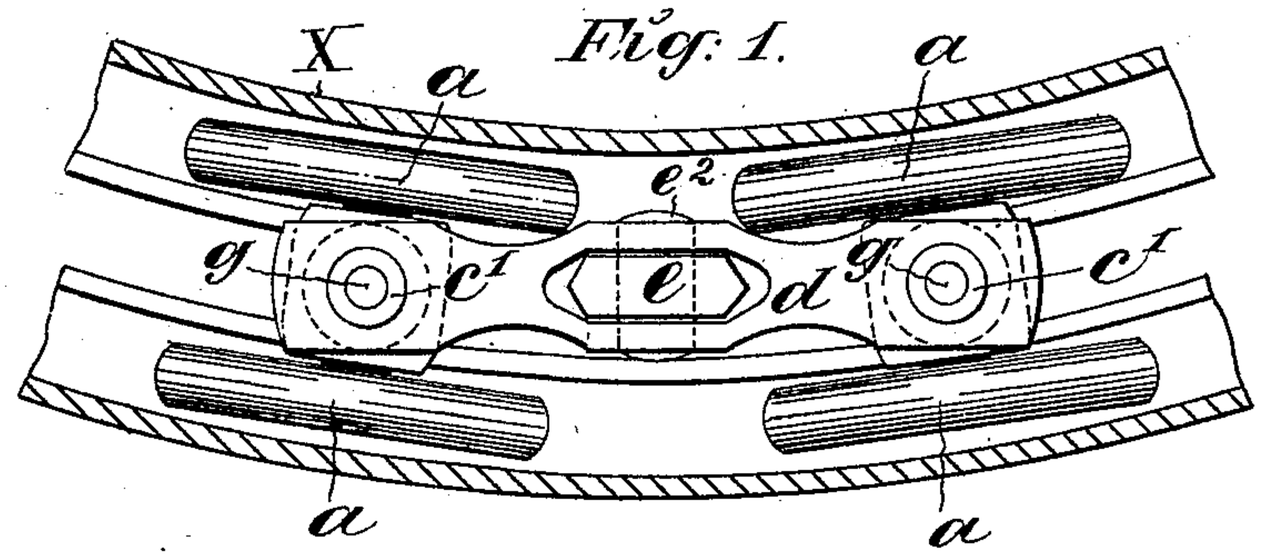


Fig: 2.

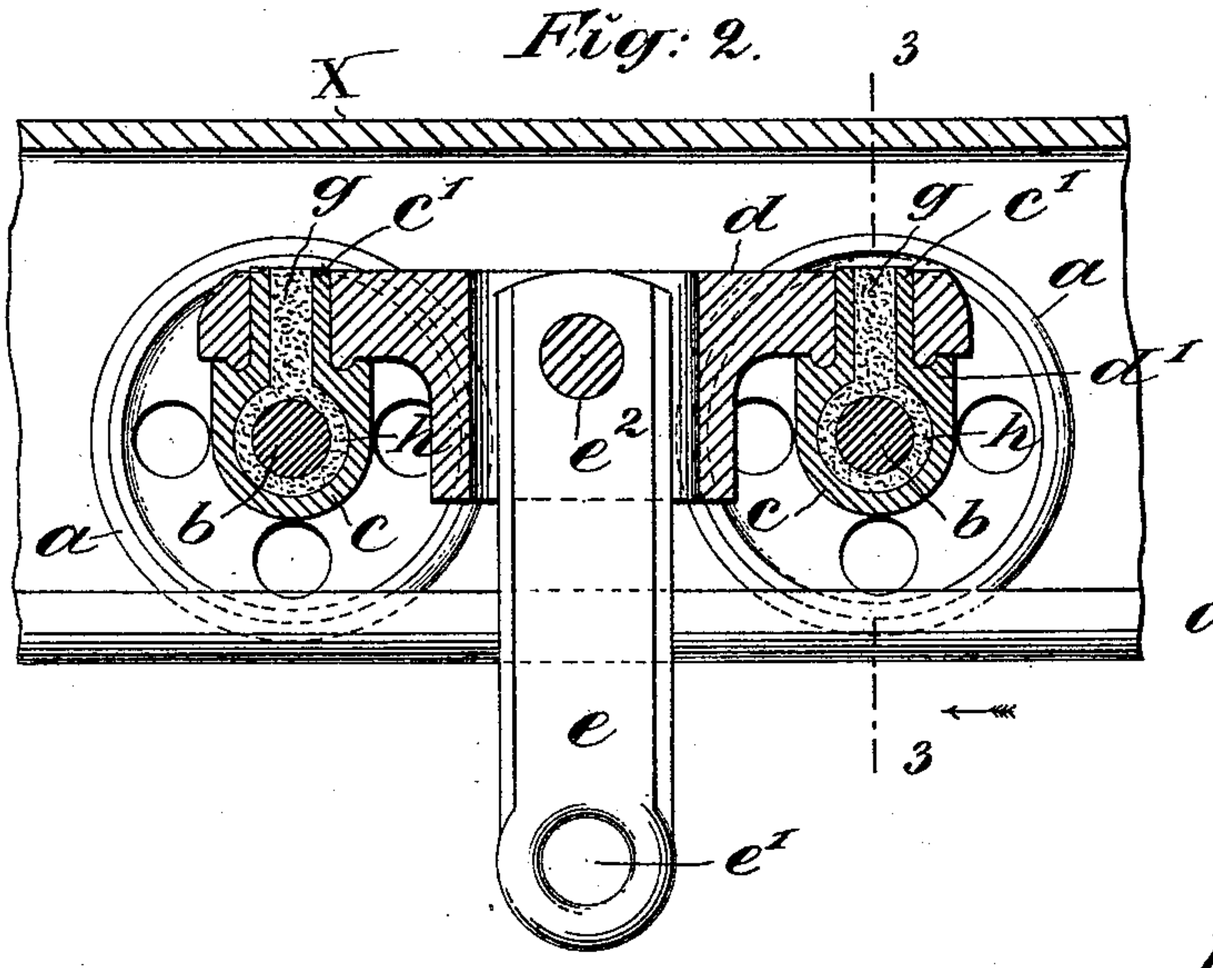


Fig: 3.

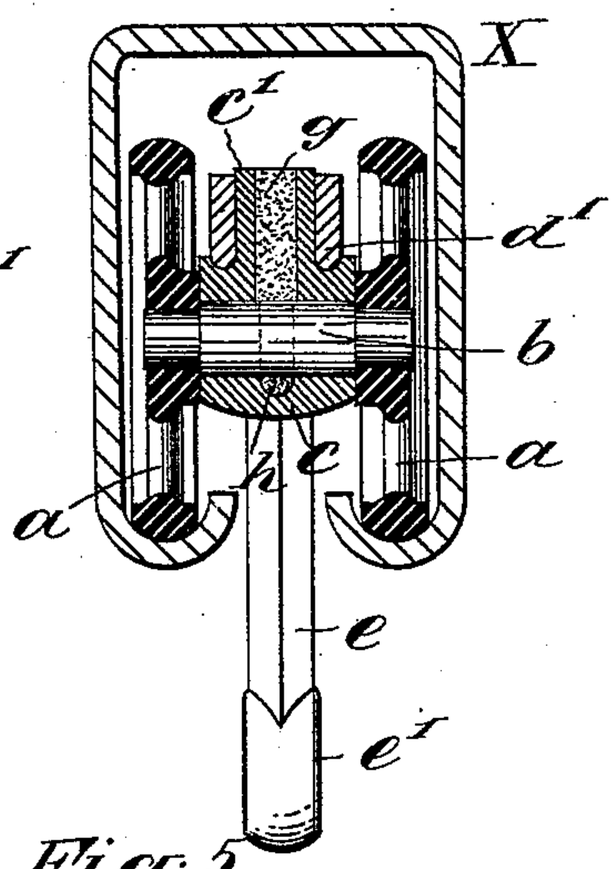


Fig: 4.

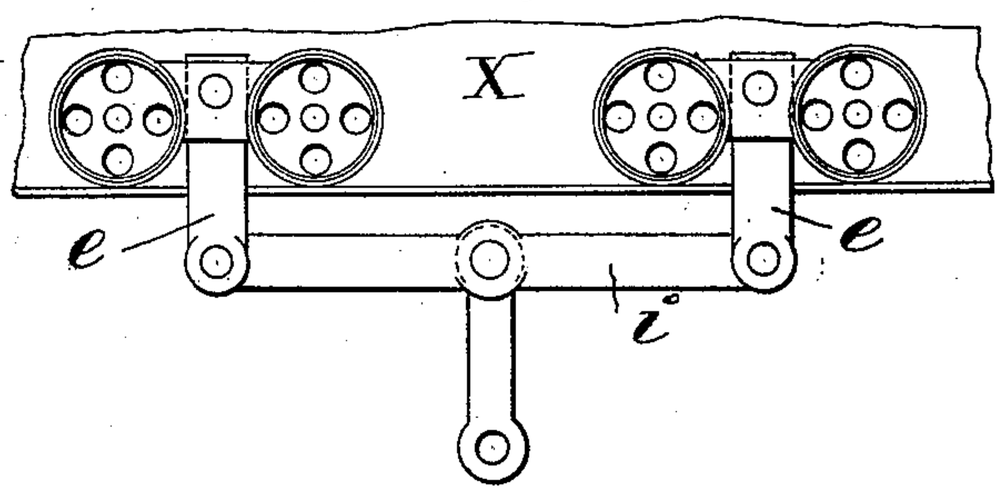
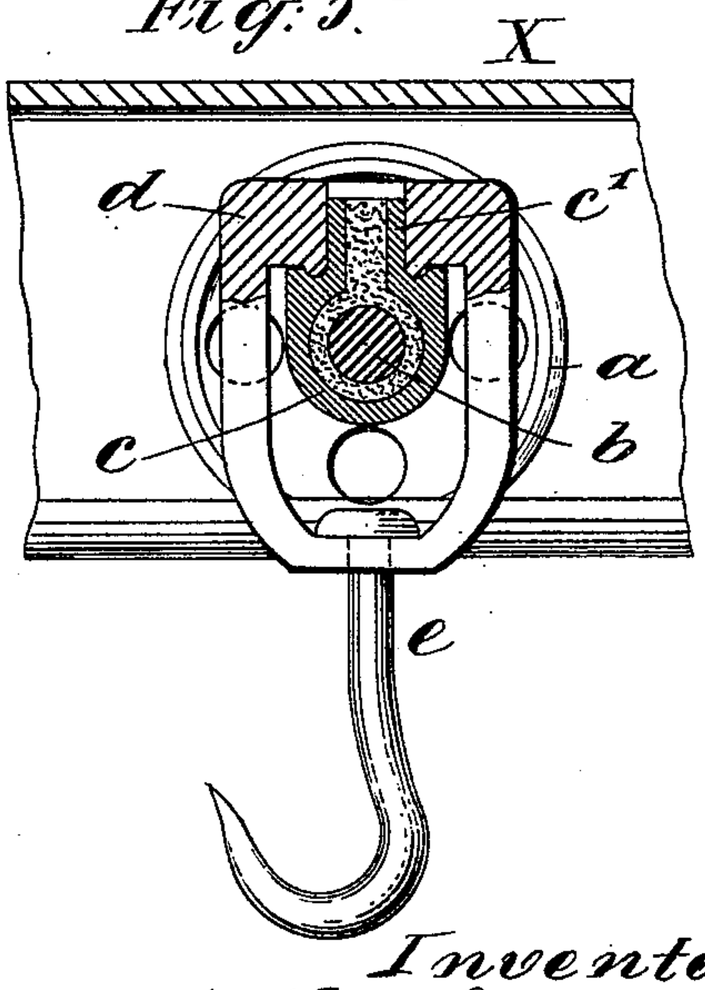


Fig: 5.



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UNITED STATES PATENT OFFICE.

WILLIAM H. BRODIE, OF BROOKLYN, NEW YORK.

TROLLEY.

SPECIFICATION forming part of Letters Patent No. 500,375, dated June 27, 1893.

Application filed March 15, 1893. Serial No. 466,038. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. BRODIE, a citizen of the United States, residing in Brooklyn, Kings county, New York, have invented certain new and useful Improvements in Trolleys, of which the following is a specification.

My invention relates to the class of trolleys commonly employed on overhead tracks for supporting and carrying heavy articles suspended from them; and the object of the invention is, in part to provide for the convenient lubrication of the journals of the trolley and in part to provide a construction whereby the trolley is enabled to pass the more readily about curves in the track having a comparatively short radius.

In the accompanying drawings, illustrating an embodiment of the invention—Figure 1 is a plan of the trolley, mounted on a curved track. Fig. 2 is a vertical, longitudinal section of the trolley. Fig. 3 is a vertical transverse section of the trolley in the plane indicated by the line 3, 3, in Fig. 2. Fig. 4 is a side elevation, on a small scale, of two of the trolleys coupled together tandem. Fig. 5 is a sectional view, similar to Fig. 2, of a trolley with but two wheels, provided with my improved lubricating device.

Referring most particularly to the first three figures, X represents part of a track, of the kind known as the "Coburn" track, which is well suited to this form of trolley; the track forms no part of my present invention, however, and is merely shown to illustrate the application of the trolley thereto.

In the trolley shown in the principal figures, there are two pairs of wheels connected by a stout frame, the pendant for the load being suspended between the pairs of wheels.

a, are the wheels, fixed in pairs on the axles *b*, and each axle is rotatively mounted in a bearing in a swivel-block, *c*, the upright pintle, *c'*, of said block having a bearing in one extremity of the frame, *d*. In a mortise in the frame *d*, is suspended the pendant, *e*, which carries the load. This pendant may have a hook or eye at its lower end; as here shown it is provided with an eye, *e'*, and is pivotally connected to the frame by a pin e^2. The wheels are fixed non-rotatively on the axle after the latter is in place in its bearing, and the block *c* fills the space between them, substantially. The pintle *c'* is rotatively mounted in the frame and the weight of the load is taken by an annulus *d'*, on the lower face of the frame about the hole which receives the pintle, said bearing matching an annular groove in the crown of the block *c*, about the base of the pintle thereon.

As ordinarily constructed it is inconvenient and expensive to provide the proper lubrication for the wheel or axle bearings for this general style of trolleys, partly for the reason that liquid lubricants cannot be safely used as they drip on the meat and other loads carried and besides, require frequent renewal; and partly, also, because the track usually employed incloses and houses in the trolley so completely that it is not readily accessible for lubrication.

My improved construction provides for the proper lubrication of the axle *b*, in its bearing in the block *c*, whereby it will not require attention for many months. In the axis of the pintle is formed a lubricant reservoir, *g*, which extends down to the bearing of the axle, where it connects with an annular, circumferential channel, *h*, in the said bearing. The reservoir *g* will be, for convenience of construction, formed by drilling or boring. As represented in Figs. 2, 3 and 5, the reservoir *g* and channel *h* are filled with a plastic lubricant of rather high melting point, which will gradually work its way out onto the surface of the axle and keep it properly lubricated. Such a lubricant is known in the trade, and when applied as herein described, it will last for more than a year without renewal or attention.

The swiveling of the trolley-axles in the manner shown and described will permit a four-wheeled trolley to move easily about a curve of short radius; a feature which is very desirable in the case of tracks with many switches and branches confined to a limited space.

In some cases, where steadiness and ability to distribute the weight over the track, is desired, two trolleys may be arranged tandem, as in Fig. 4, in which case the pendants *e* will be coupled together by a bar, *i*, to which another pendant is provided.

Fig. 5 illustrates the application of my improvements to a light trolley having but a

single pair of wheels. In this construction the frame *d* is in the form of a stirrup which embraces the block *c*.

Having thus described my invention, I claim—

1. In a trolley, the combination with the frame, of a swivel-block, provided with an upright pintle having a bearing in the frame, and with a cross-bearing to receive the axle, the said cross-bearing and pintle being so arranged that a prolongation of the pintle axis will intersect the axis of the cross-bearing, of the axle rotatively mounted in said bearing, and the wheels, substantially as set forth.

2. In a trolley, the combination with the frame, of the block having in it a bearing for the axle, a reservoir for the lubricant extending down into said bearing and connecting with a circumferential channel therein, the axle mounted rotatively in the bearing in the block, and the wheels on said axle.

3. In a trolley, the combination with the frame, having a bearing in it to receive the pintle on a swivel-block and an annulus on its lower face about said bearing, of a swivel-block provided with a pintle and having an annular groove to match the annulus on the frame, the axle rotatively mounted in said block, and the wheels fixed on said axle, substantially as set forth.

4. In a trolley, the combination with the axle and the wheels thereon, of the block *c*, having a pintle *c'*, a cross-bearing for said axle, a lubricant reservoir *g*, in the pintle opening into the axle bearing, and a channel *h*, connecting therewith, and the frame having in it a bearing for said pintle.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

WILLIAM H. BRODIE.

Witnesses:

HENRY CONNETT,

JAMES K. DUFFY.