

No. 810,482.

PATENTED JAN. 23, 1906.

G. H. GILMAN.
LIFTING JACK.

APPLICATION FILED JULY 14, 1905.

Fig. 1.

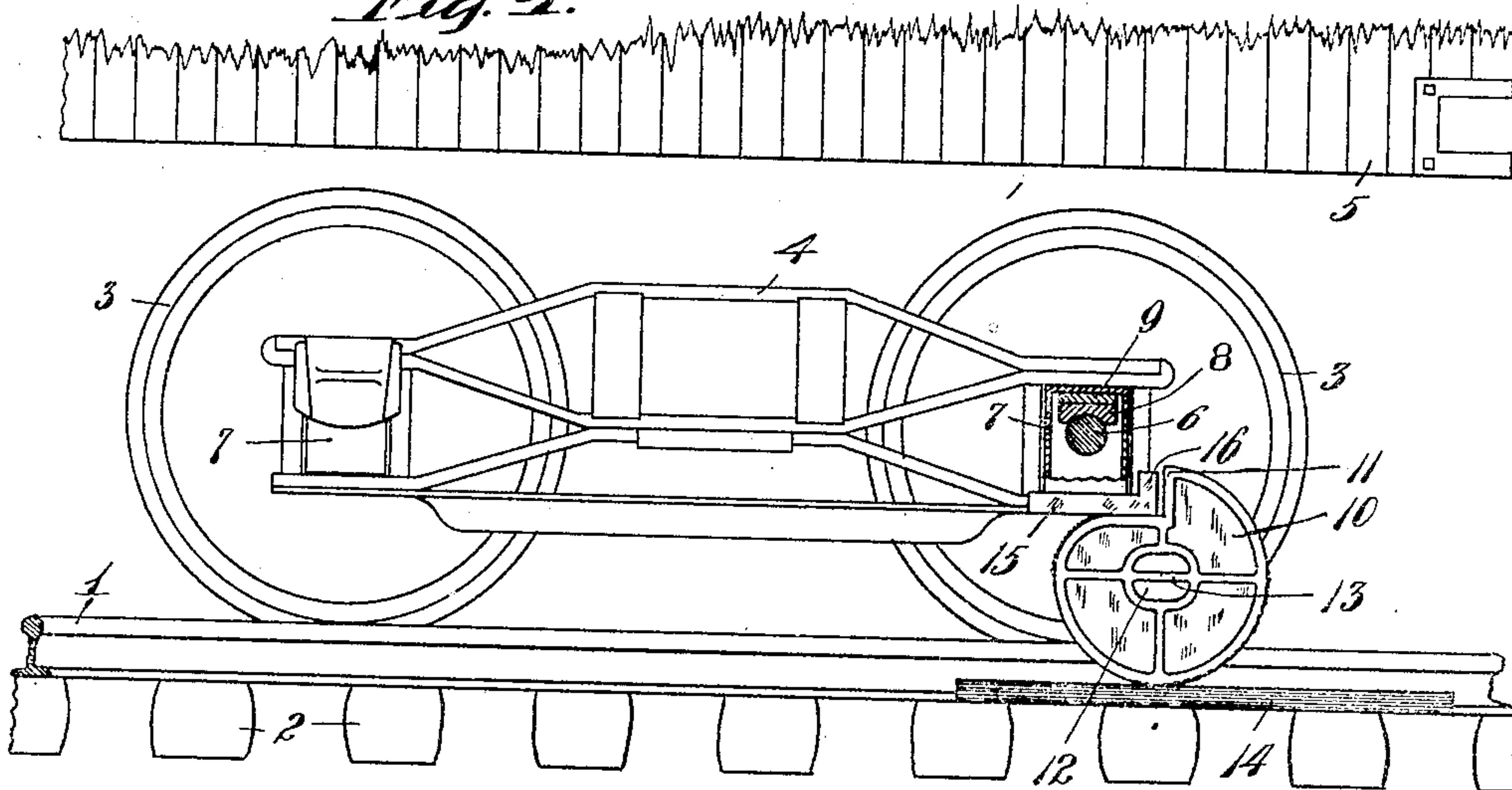


Fig. 2.

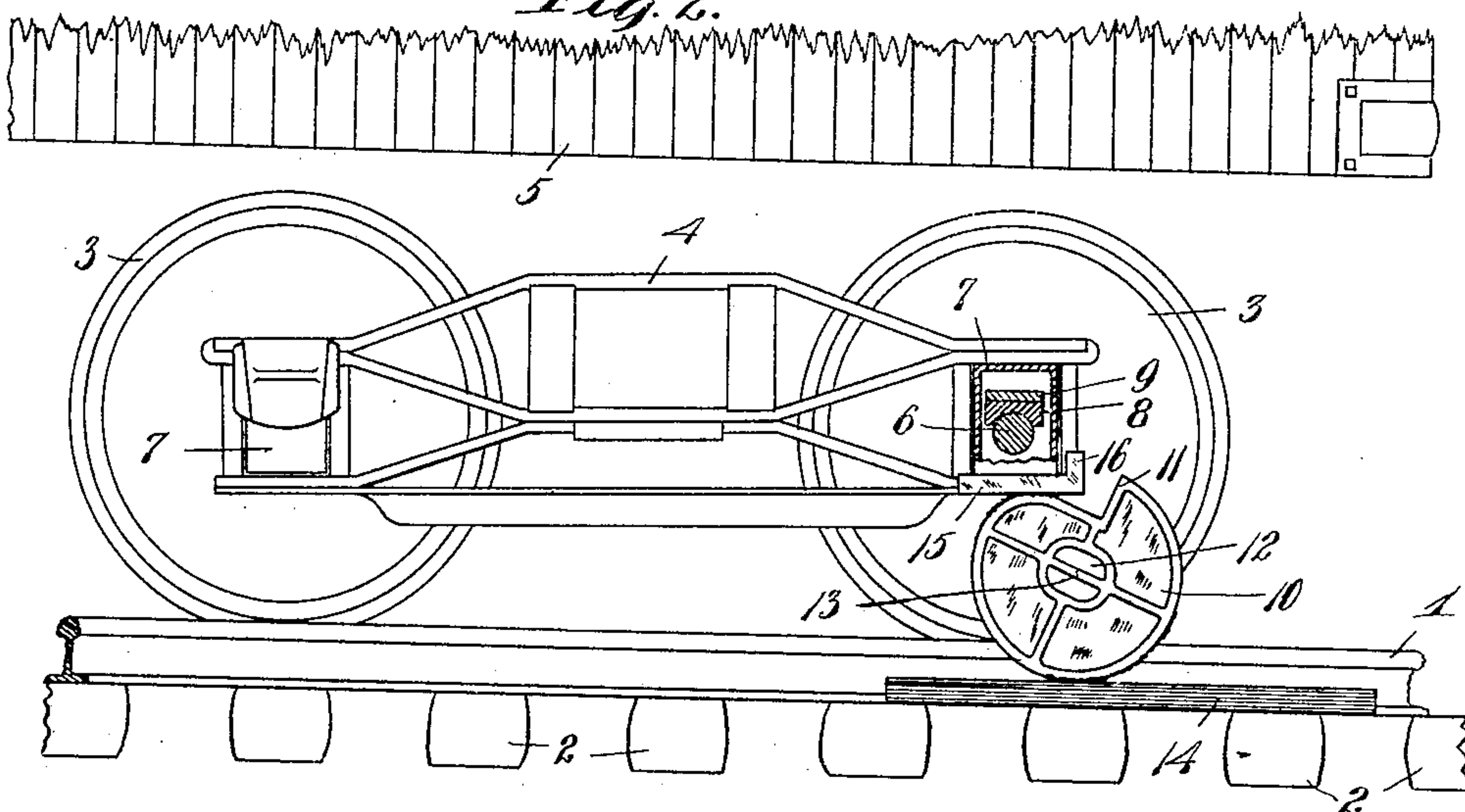
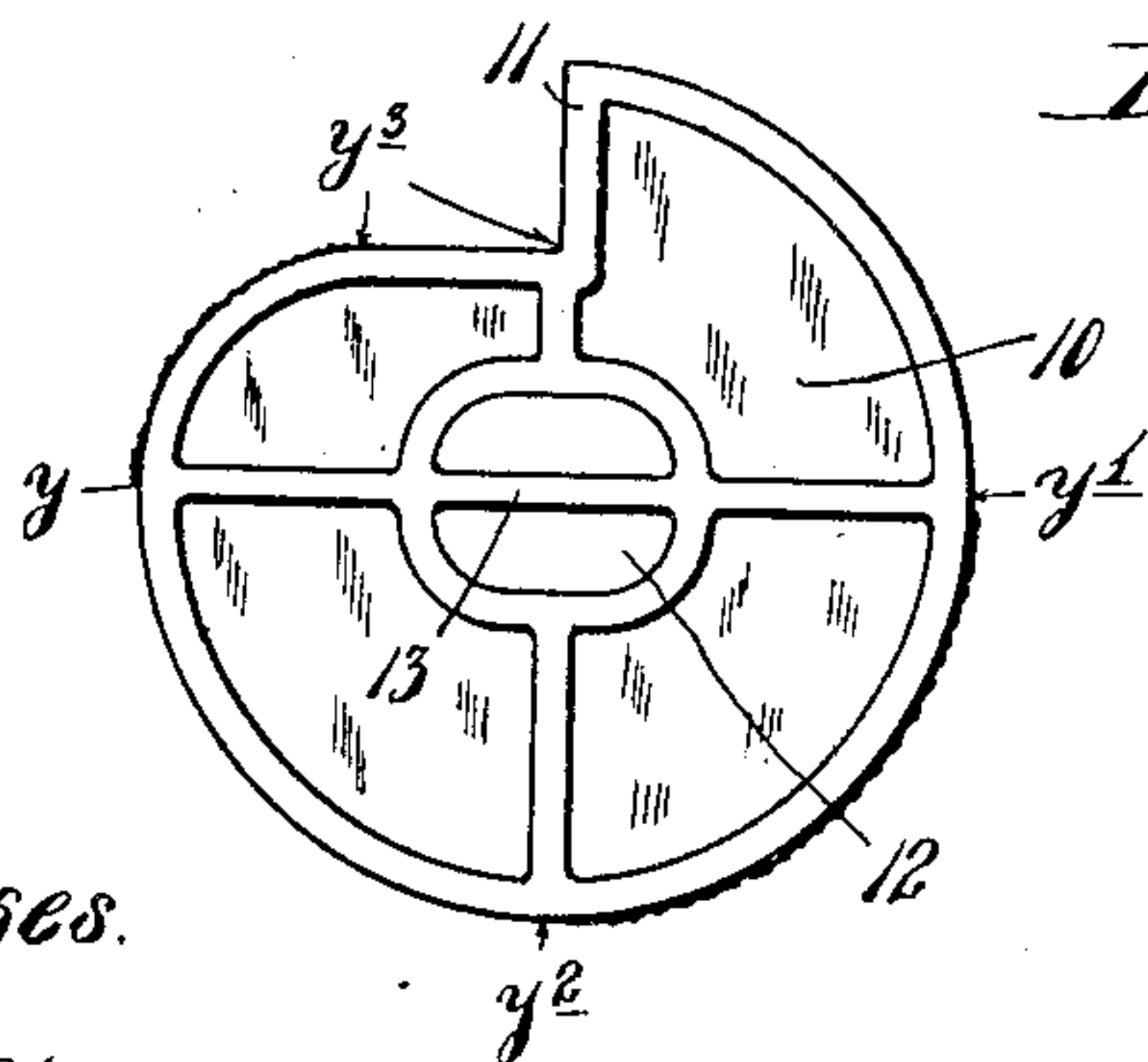


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

GEORGE H. GILMAN, OF ST. PAUL, MINNESOTA.

LIFTING-JACK.

No. 810,482.

Specification of Letters Patent.

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Application filed July 14, 1905. Serial No. 269,726.

To all whom it may concern:

Be it known that I, GEORGE H. GILMAN, a citizen of the United States, residing at St. Paul, in the county of Ramsey and State of Minnesota, have invented certain new and useful Improvements in Lifting-Jacks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to provide an improved lifting-jack especially adapted for use to lift the journal-boxes of cars so that the bearing-brasses may be removed through the mouths of the boxes.

The invention is illustrated in the accompanying drawings, wherein like characters indicate like parts throughout the several views.

Referring to the drawings, Figure 1 is a view in side elevation with some parts sectioned, showing diagrammatically one of the trucks and a portion of the body of a car and showing my improved eccentric-acting lifting-jack applied in working position. Fig. 2 is a similar view to Fig. 1, but illustrates different positions of the parts; and Fig. 3 is a view in side elevation, showing the improved eccentric-acting lifting-jack removed from working position.

The numeral 1 indicates the rails, and the numeral 2 the ties, of the railway-track. The numeral 3 indicates the wheels, the numeral 4 one of the truck-frames, and the numeral 5 the body, of an ordinary car.

Referring more in detail to the parts of the truck, the numeral 6 indicates the axles, to which the wheels are rigidly secured. The numeral 7 indicates the journal-boxes, and the numerals 8 and 9 indicate, respectively, the bearing-brasses and the cooperating keys, which parts are, as is customary, interposed between the journals of the axles 6 and the tops of the cooperating journal-boxes 7.

The eccentric-acting lifting-jack in its most approved form is in the nature of an oval or eccentric wheel 10, the greatest diagrammatical dimension of which is between the points marked y and y' , and the shortest diagrammatical dimension of which is between the points marked y^2 and y^3 . Otherwise stated, the major axis of the said eccentric wheel is between the points y and y' , and the minor axis of said wheel is between the

points y^2 and y^3 . At the point y^3 the wheel is provided with a projecting push lug or stop 11, that forms a radially-extended shoulder. In this preferred form the eccentric wheel is provided at its center with a hand-hole 12 and with a diametrically-extended bar 13, which latter affords a handpiece by means of which the device may be readily picked up and carried about.

The eccentric wheel described may be directly applied to the bottom of the journal-box and the road-bed; but it is preferably rested upon a plank 14, laid upon the road-bed or upon the ties, and also a bearing-plate 15 is preferably interposed between the bottom of the box and the upper portion of the said wheel. This bearing-plate 15 distributes the strain over the entire bottom of the box and prevents the bottom of the box from being broken through by strains applied at one point only. This plate 15 is preferably provided at one end with an upturned flange 16, which should be placed between the side of the box and the push-lug 11 of the eccentric wheel 10.

In Fig. 1 the improved eccentric-acting lifting-jack is shown as loosely applied in working position. This is done by placing the so-called "push-lug" 11 against the flange 16 of the plate 15 and then rocking the same under the box until its lower portion is thrown into contact with the plank 14. When this is done and the cars move slightly toward the right with respect to Figs. 1 and 2, it is evident that the eccentric wheel 10 will be caused to roll on the plank 14, and thereby lift the journal-box to which it is applied, as shown in Fig. 2, in which position the "brass" may be removed from the box. Those peripheral portions of the said wheel 10 that engage with the plank 14 and with the bearing-plate 15 are preferably serrated or roughened to prevent slipping of the parts one upon the other and to thereby insure the rolling action of the lifting-wheel. The greatest tendency to slip is under the initial movement of the said disk or wheel 10; but a rolling movement of the said disk is at this time positively caused to take place by the engagement of the flange 16 of the plate 15 with the so-called "push-lug" 11 of the said wheel. Hence this push-lug performs two functions already indicated—to wit, that of a stop for assisting in properly locating the lifting-wheel in working position and to insure the

initial rotation of the rolling action of the wheel when the car is moved in the proper direction.

Cars generally, and especially freight-cars now in general use, have become so heavy that it is impossible or extremely difficult and a slow process to lift the journal-boxes under a car by the use of an ordinary screw-jack, such as hitherto used under lighter cars. Hence it has become highly important to provide a lifting-jack which does not require to be operated by man power, but which can be quickly operated by some mechanical power.

In accordance with my invention I provide a lifting-jack which may be operated and caused to lift the journal-box to which it is applied under a movement of the car. From this it follows of course that the power of the locomotive or other car-propelling means may be utilized and rendered available to lift the journal-box. It is also evident that journal-boxes may be very quickly raised by the use of the so-called "eccentric-acting lifting-jack." I believe I am the first to provide a jack or lifting device of any kind which is adapted to be applied under a journal-box of a car of any character and which will operate to lift or raise the journal-box under a movement of the car. I therefore desire to claim this device as a pioneer invention. The im-

proved lifting-jack is preferably constructed of cast-iron or cast-steel, but may be made of any suitable material.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. A lifting-jack adapted to be applied between a journal-box of a car and the road-bed and constructed to frictionally engage with both thereof and arranged to lift the journal-box under a movement of the car, with a leverage action, and without slippage of any of the parts with respect to each other, substantially as described.

2. A lifting-jack of the character described, in the form of an eccentric wheel or disk adapted to be applied between the journal-box of a car and the road-bed, and arranged to roll and lift said journal-box, under a movement of the car, substantially as described.

3. A lifting-jack in the form of an eccentric disk or wheel, having in line with its minor axis, a projecting push-lug, as, and for the purposes specified.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE H. GILMAN.

Witnesses:

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FRANK D. MERCHANT.