

No. 624,084.

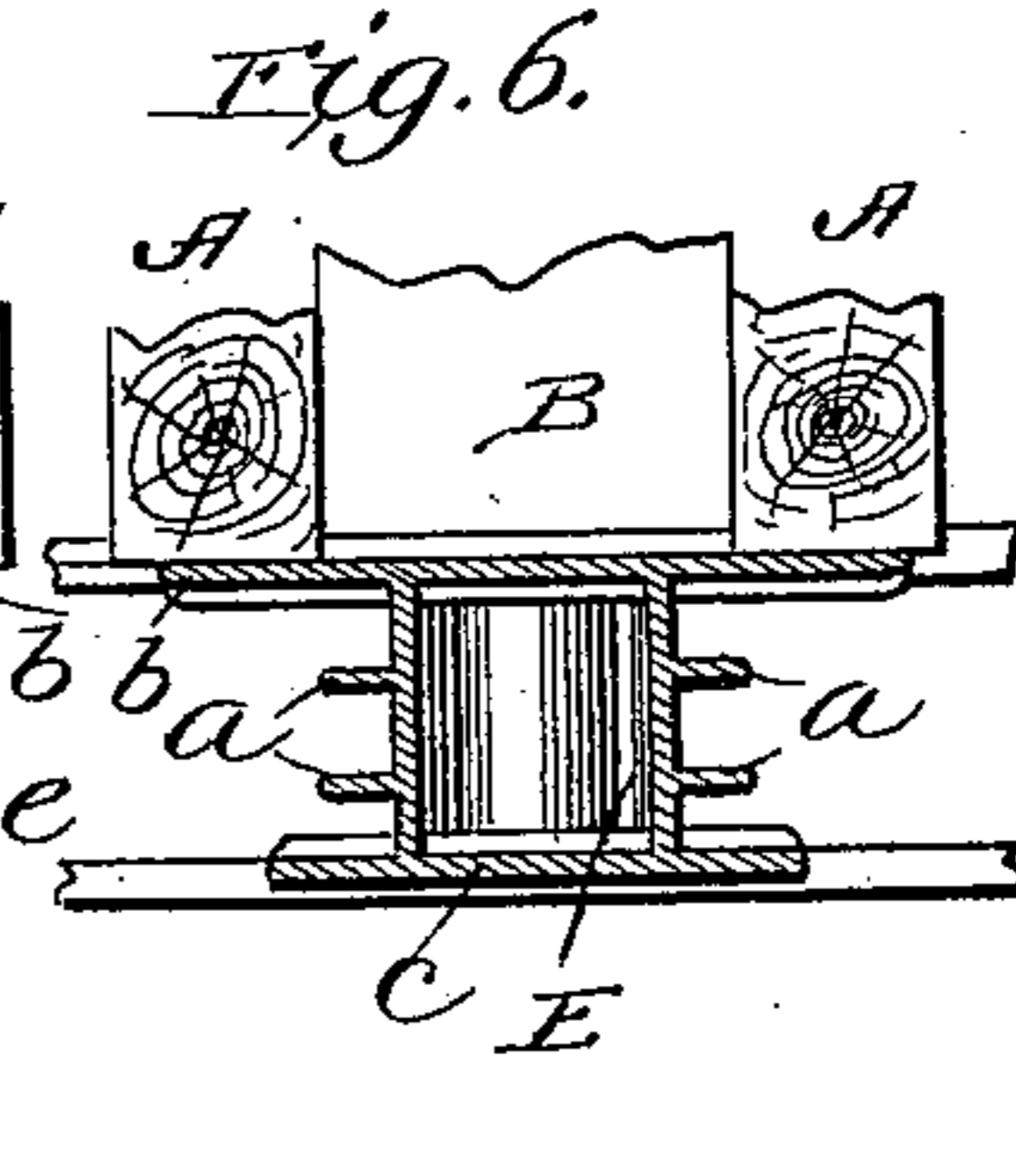
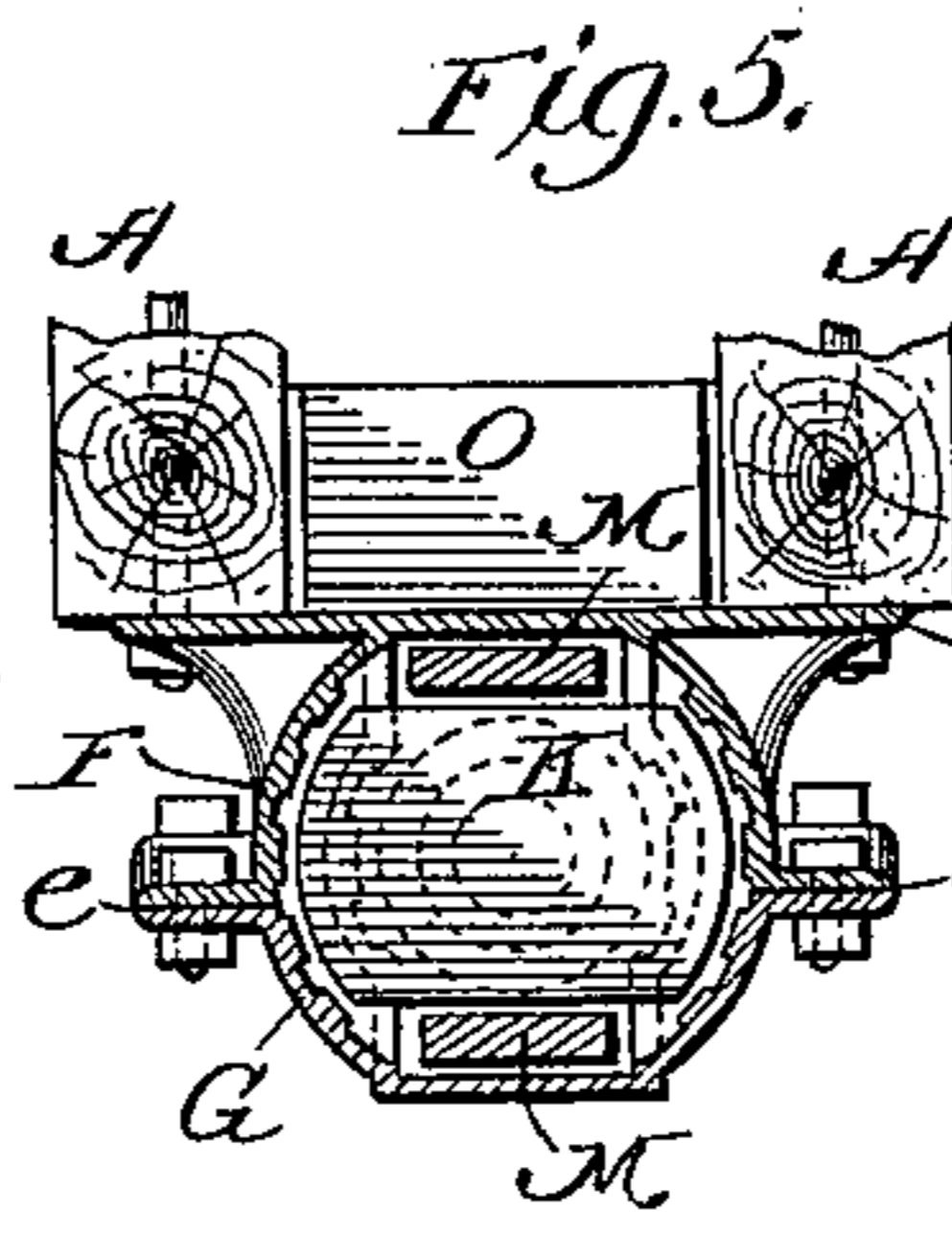
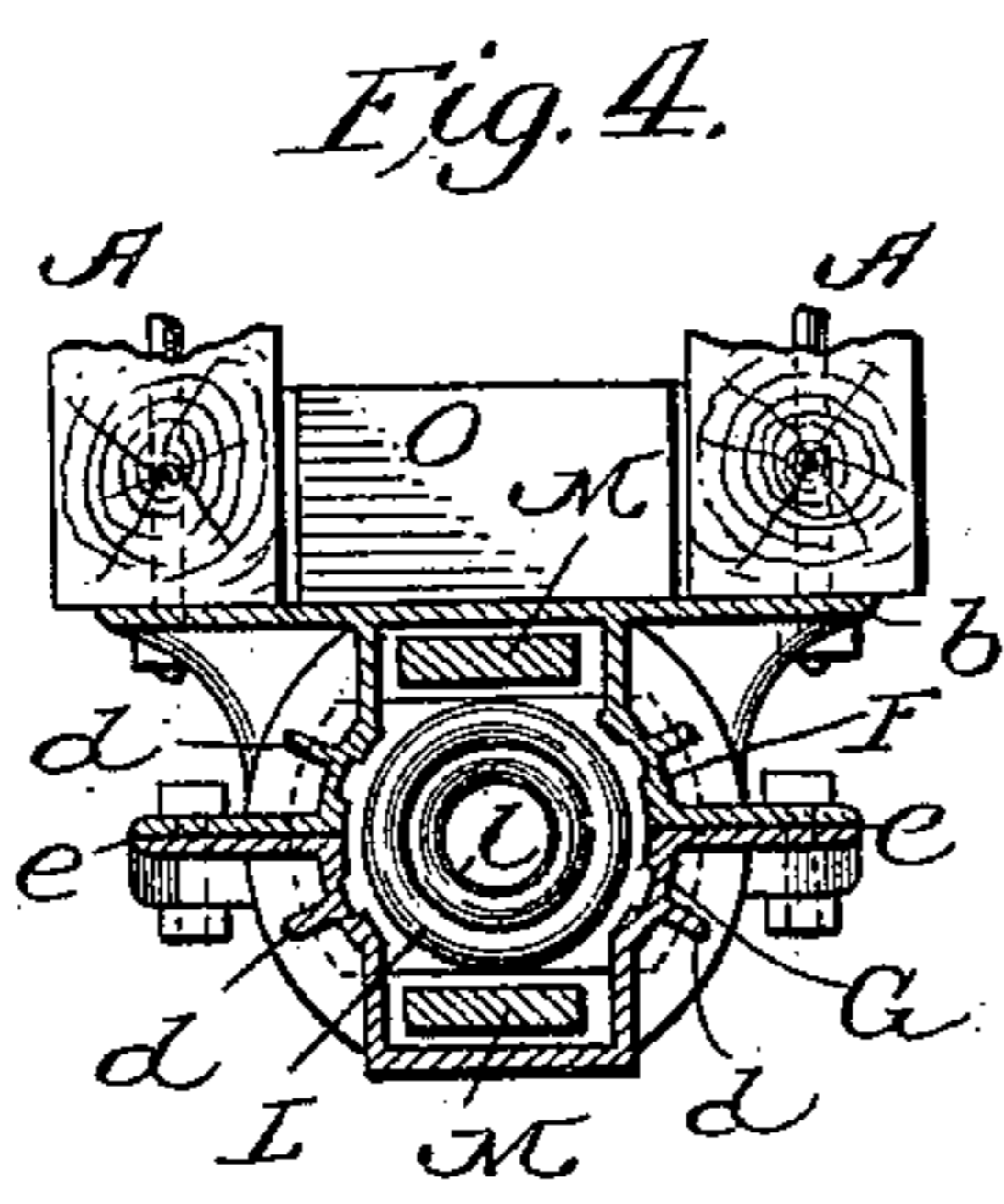
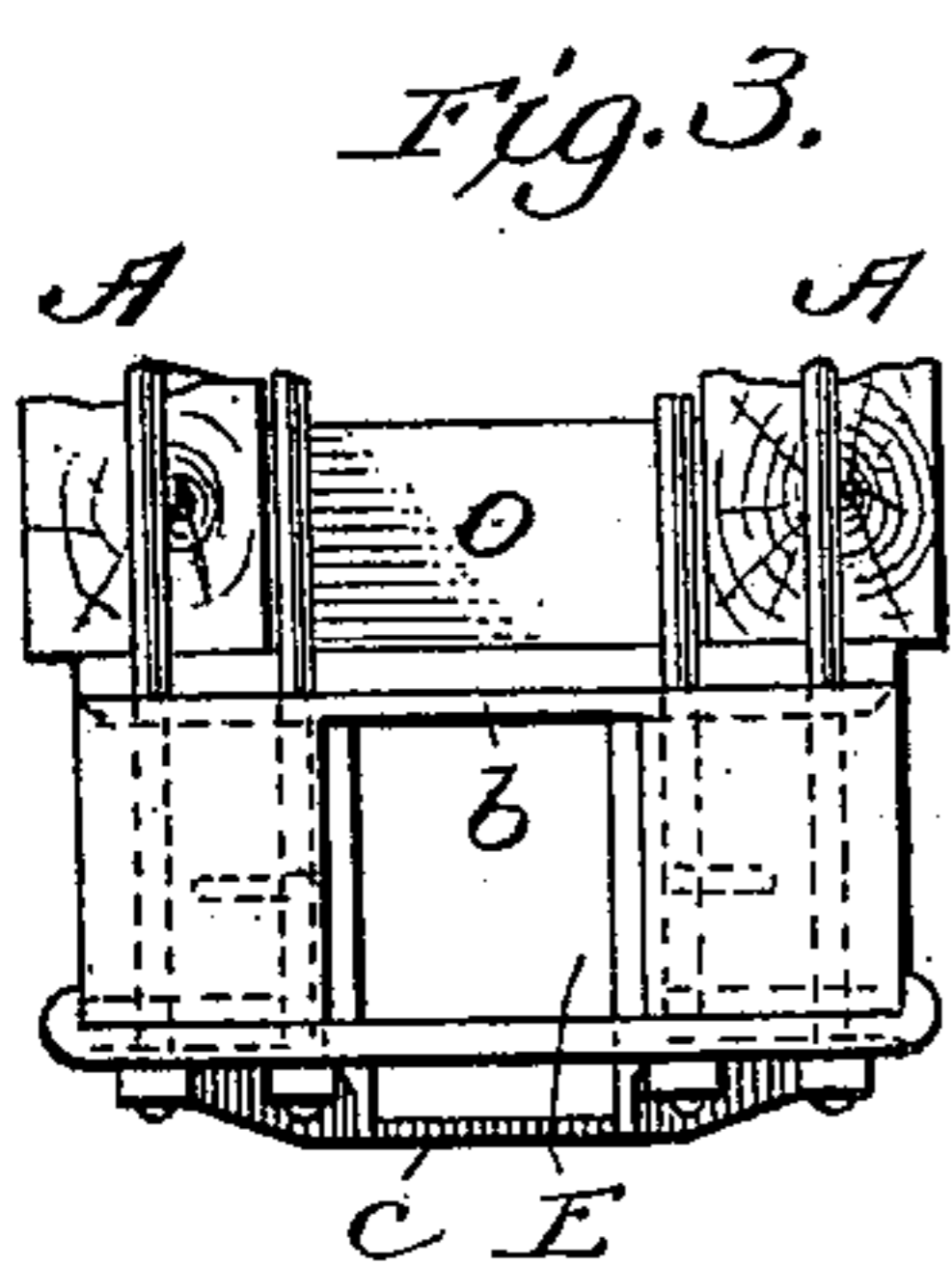
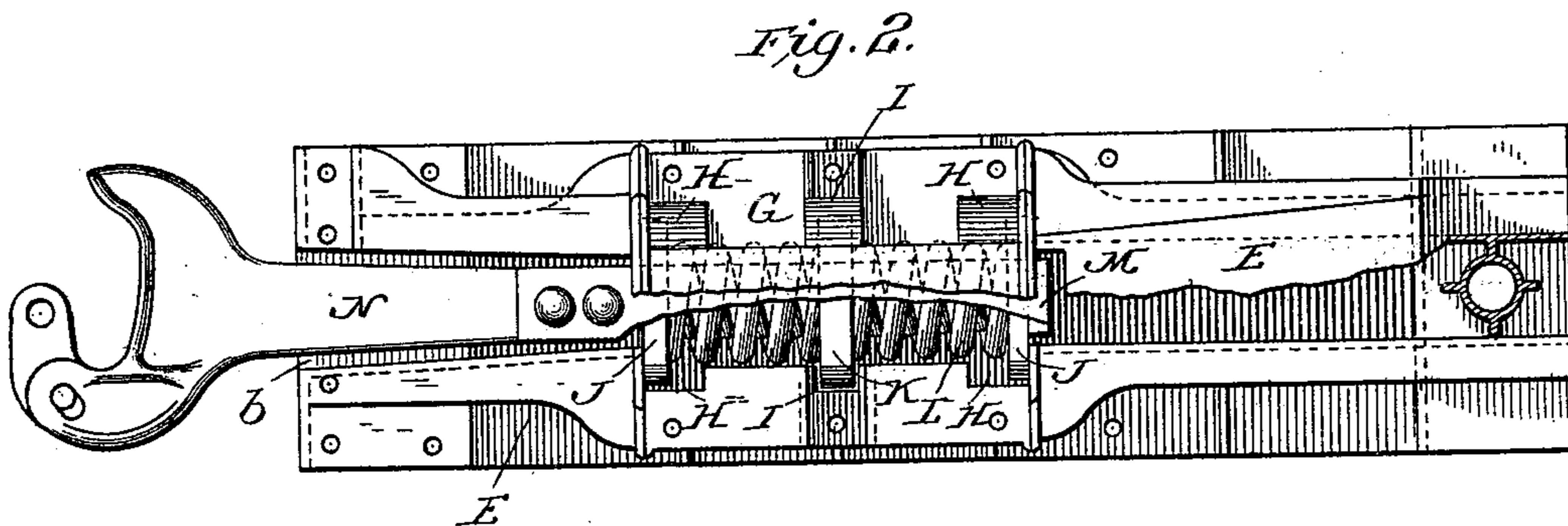
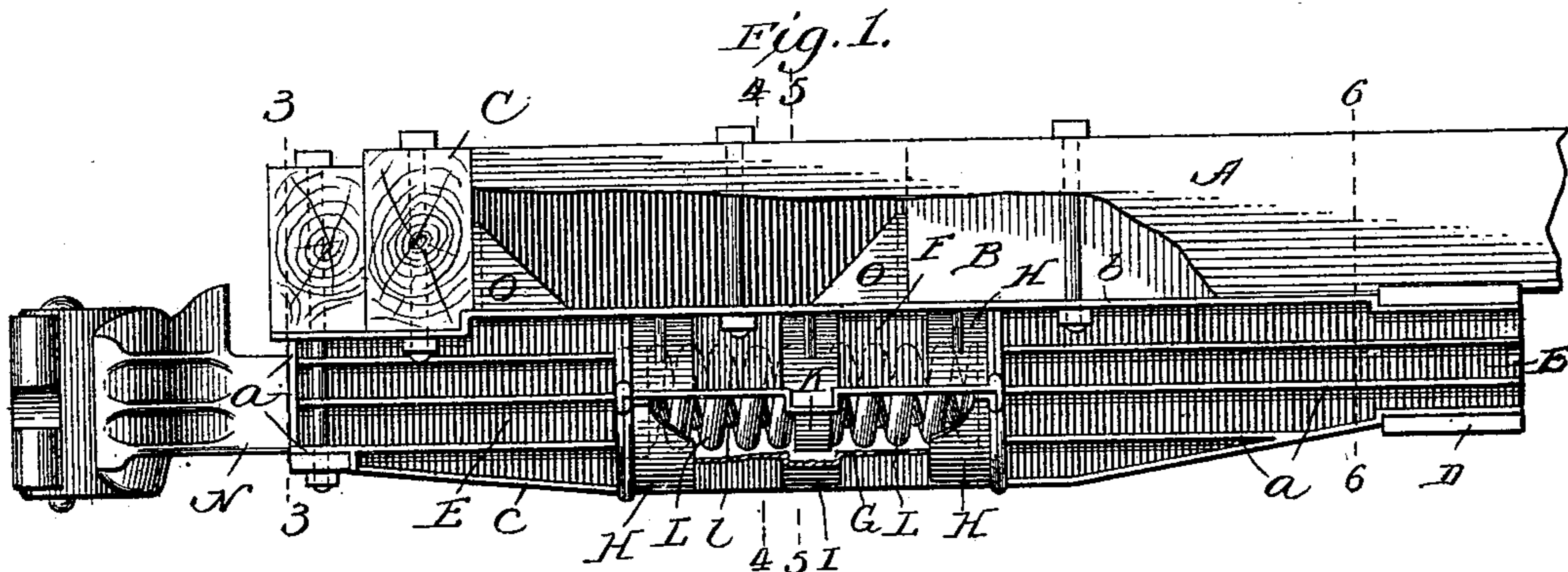
Patented May 2, 1899.

H. M. PERRY.
DRAFT GEAR FOR RAILWAY CARS.

(Application filed Oct. 14, 1898.)

(No Model.)

3 Sheets—Sheet 1.



Witnesses:
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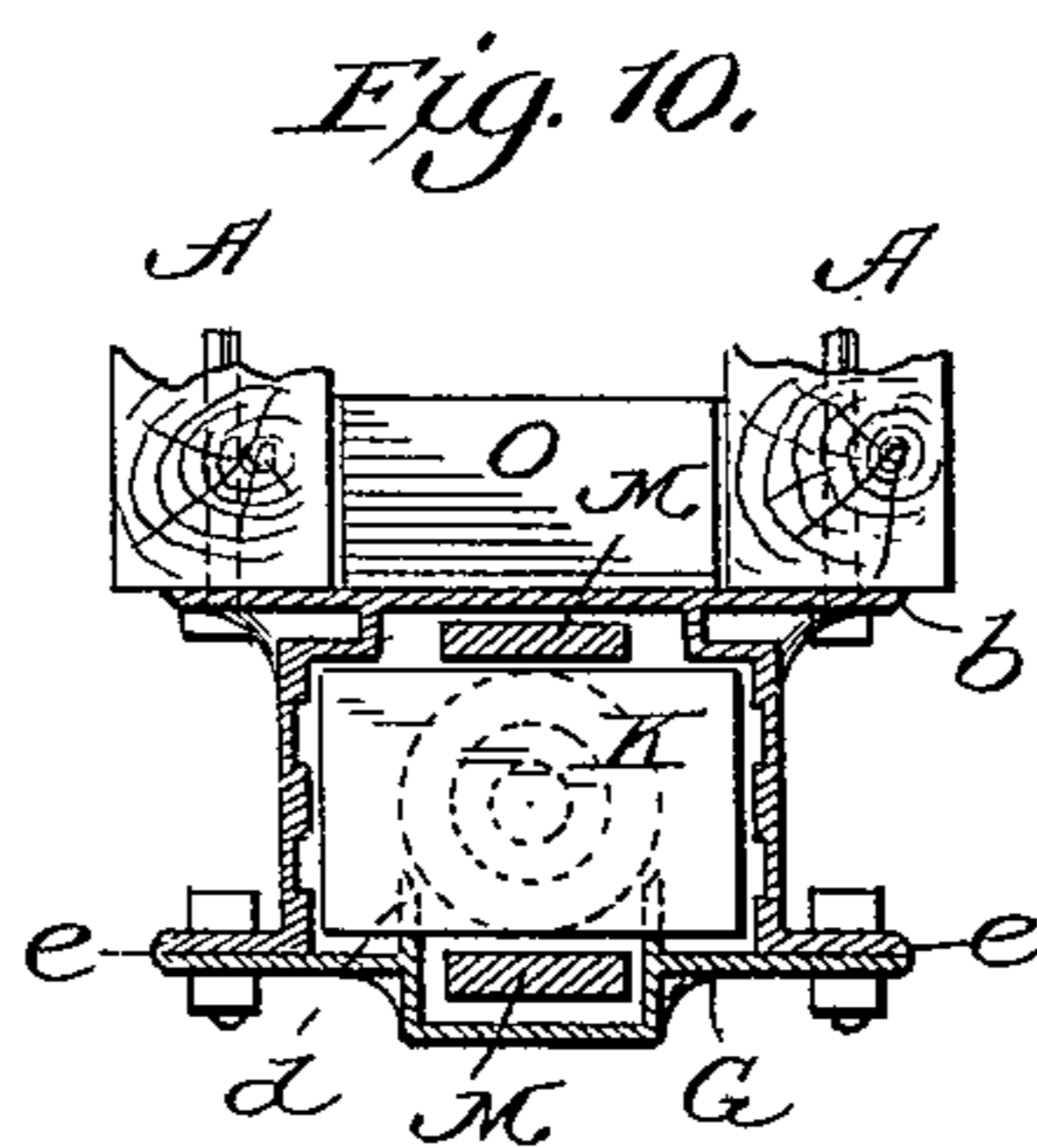
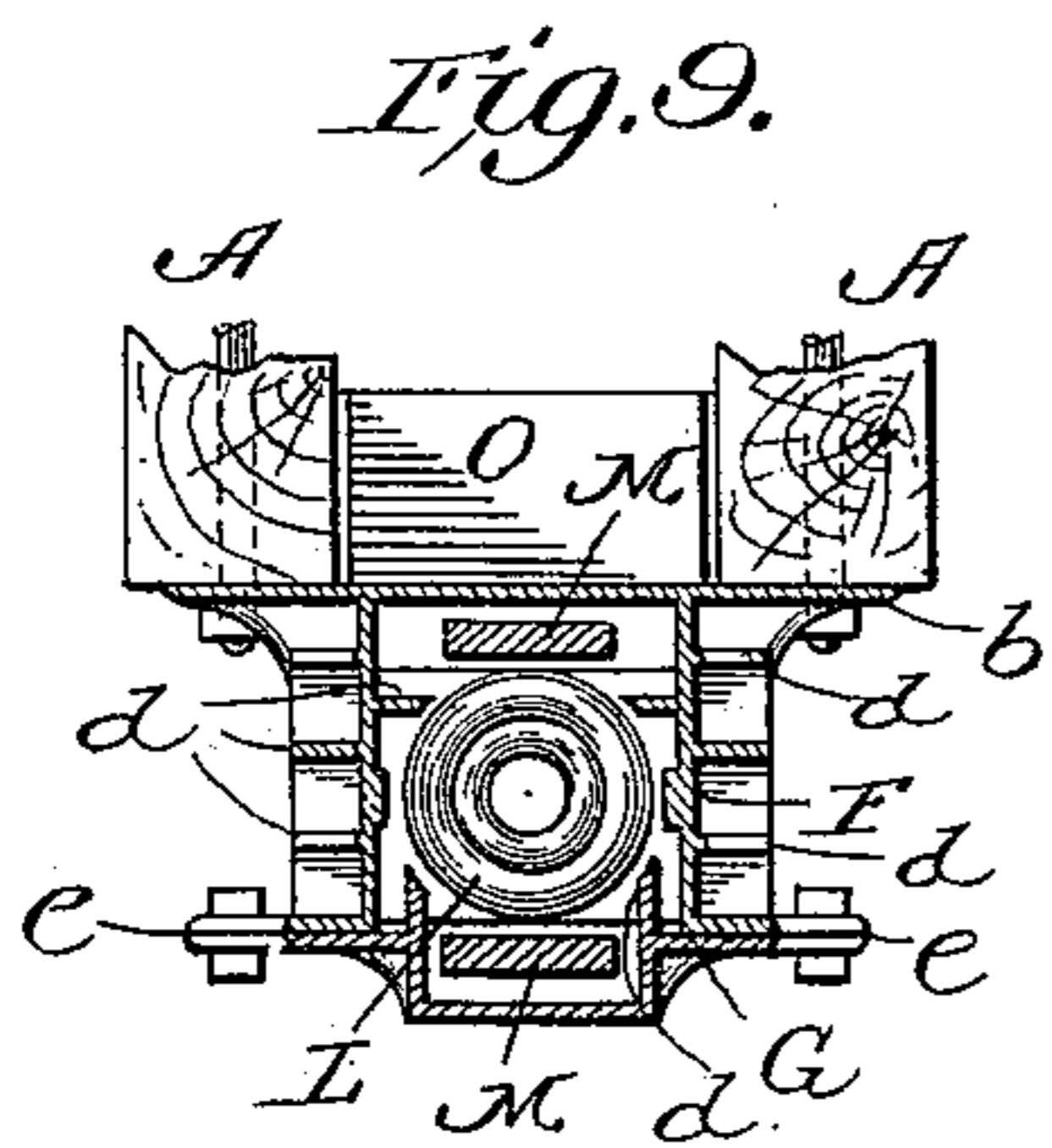
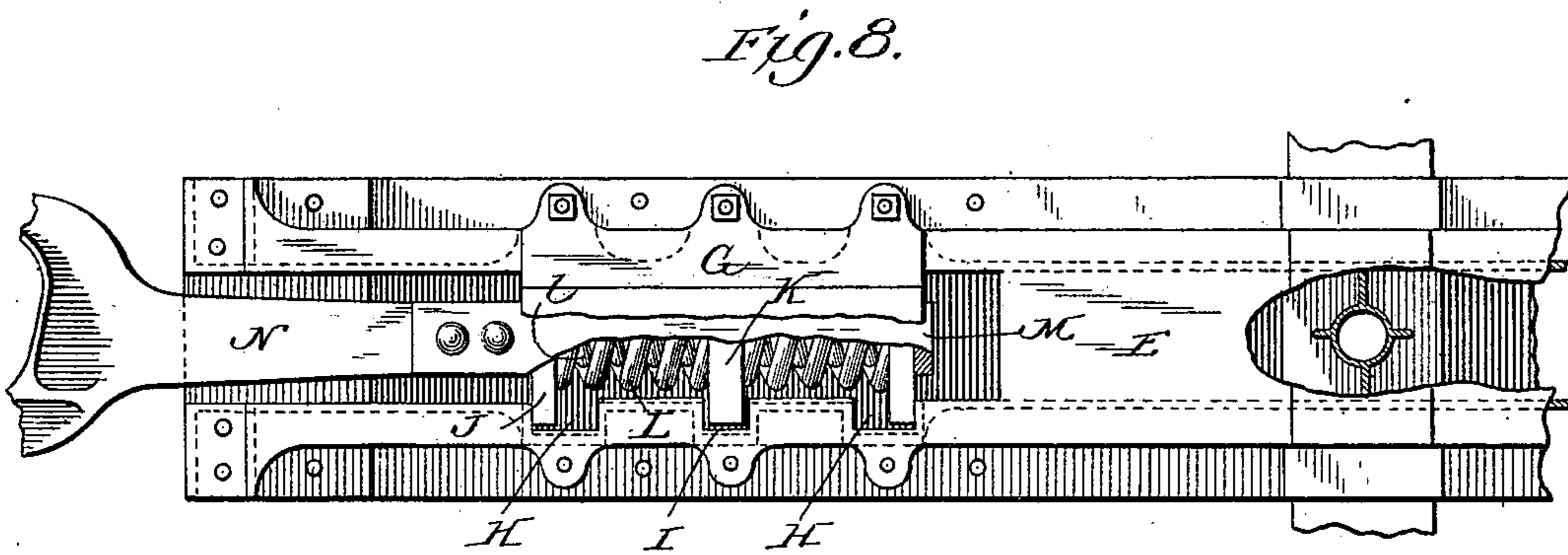
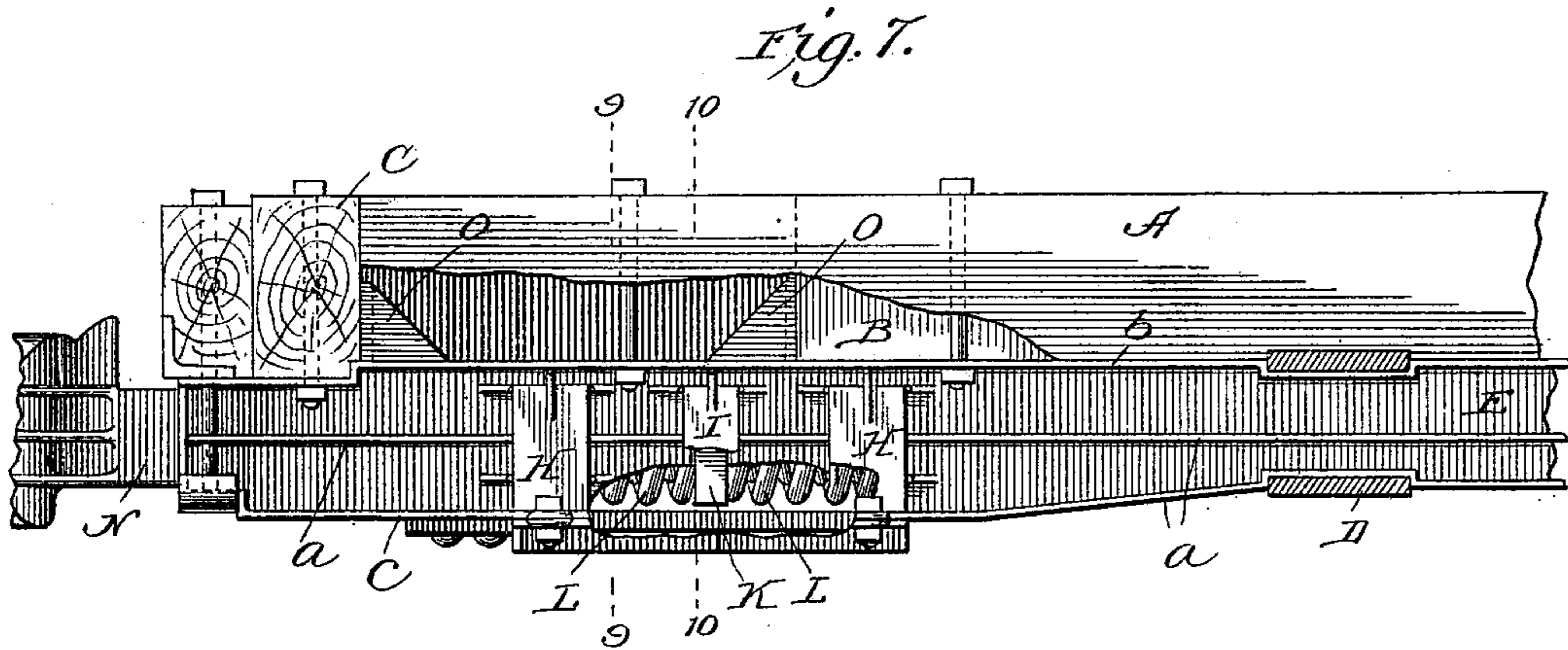
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(No Model.)

3 Sheets—Sheet 2.



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No. 624,084.

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3 Sheets—Sheet 3.

Fig. 11.

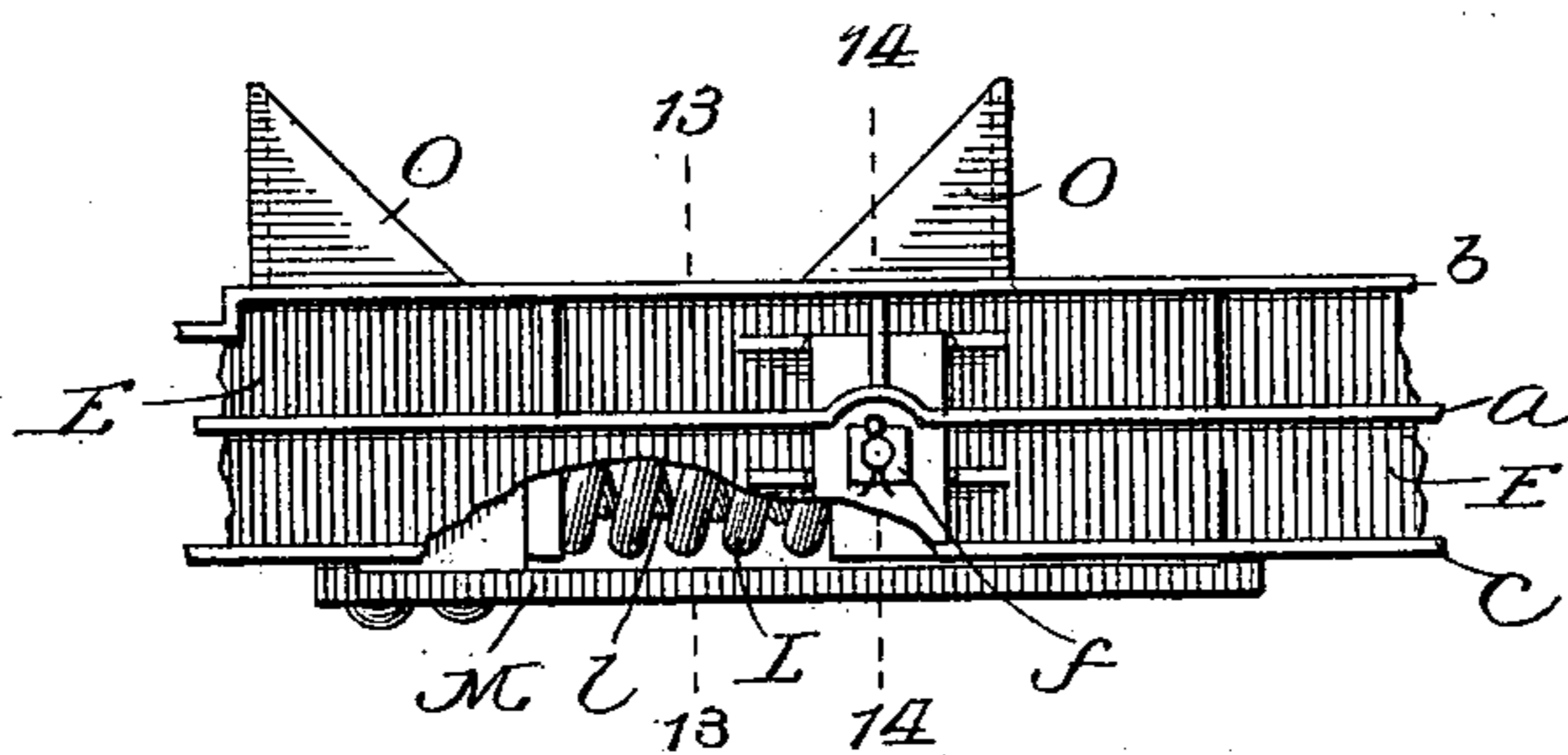


Fig. 12.

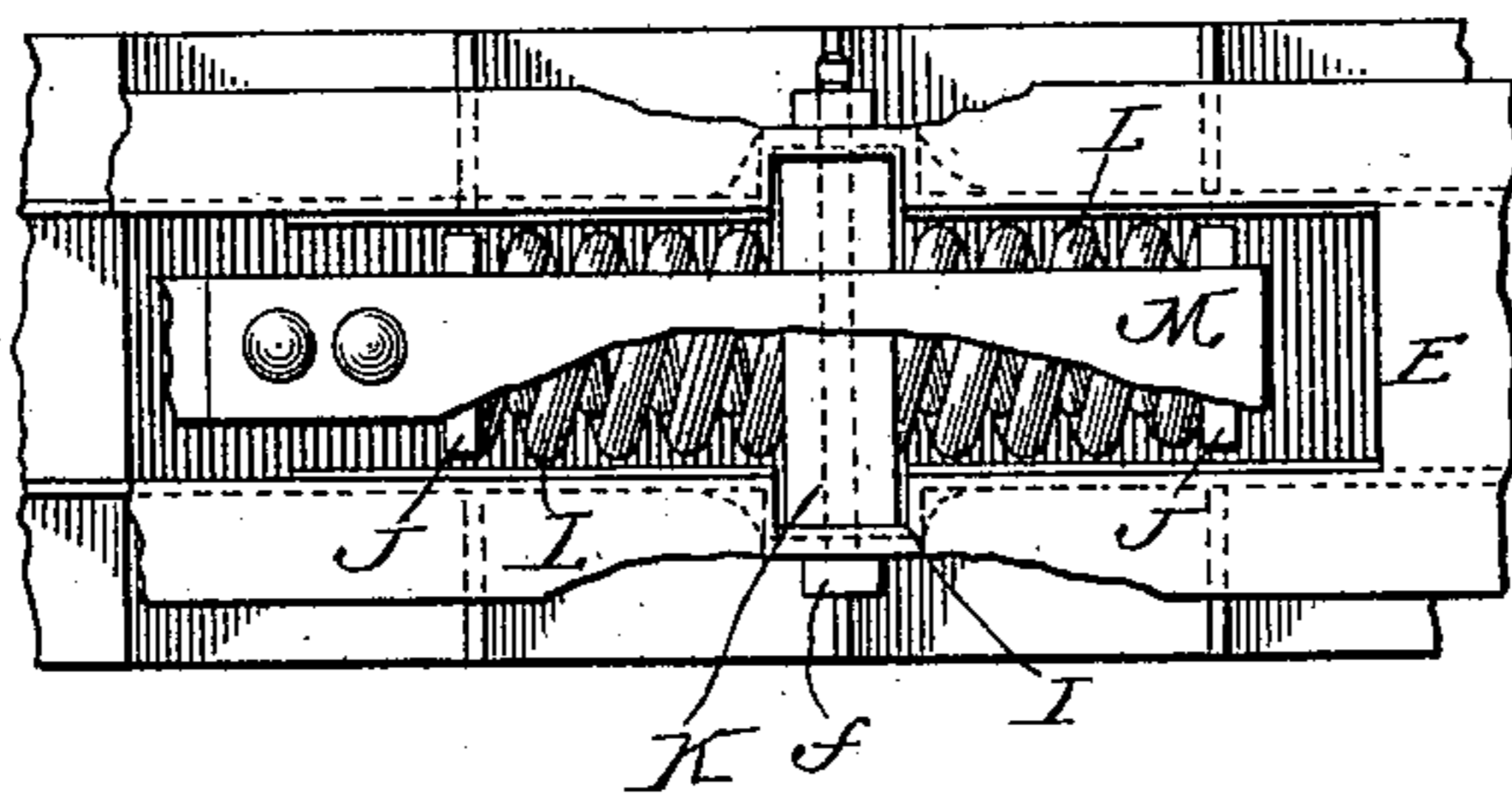


Fig. 13.

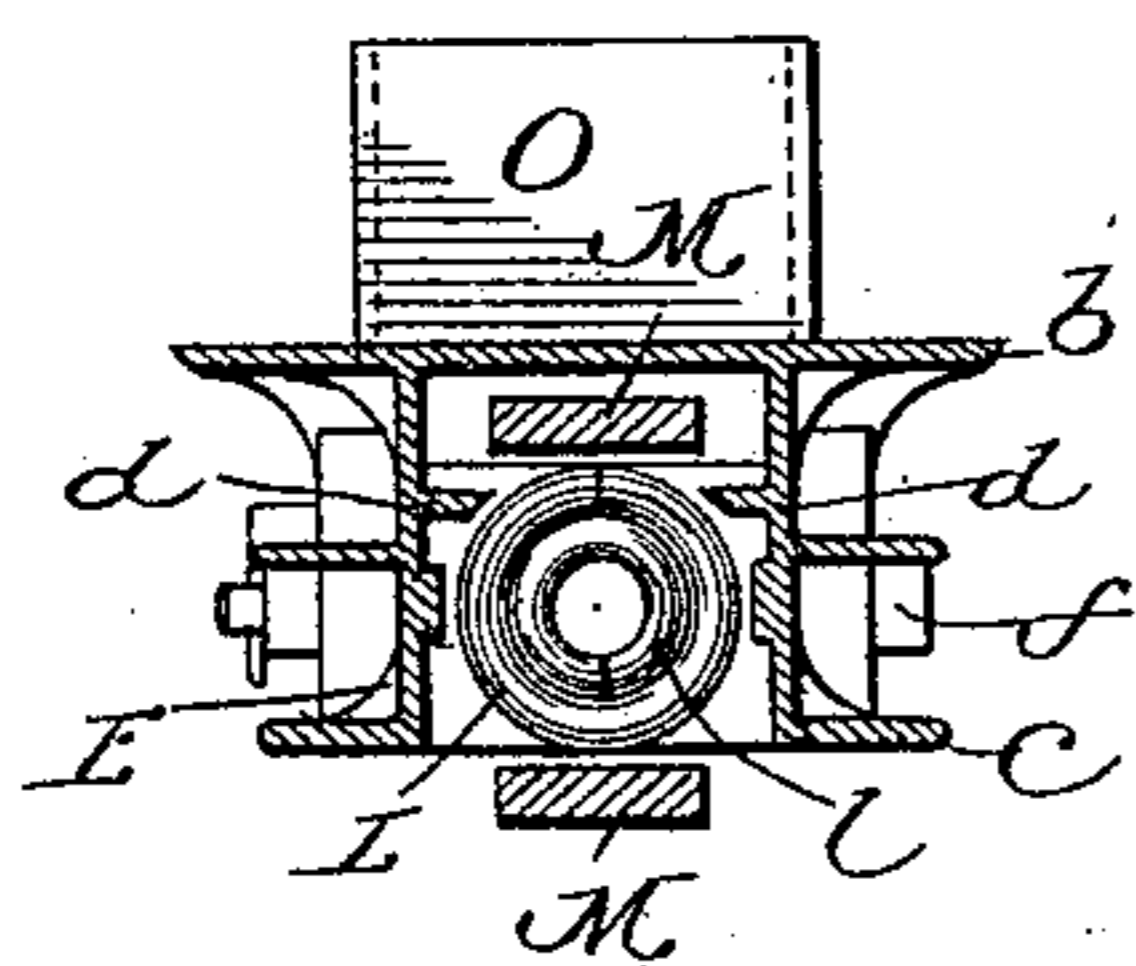
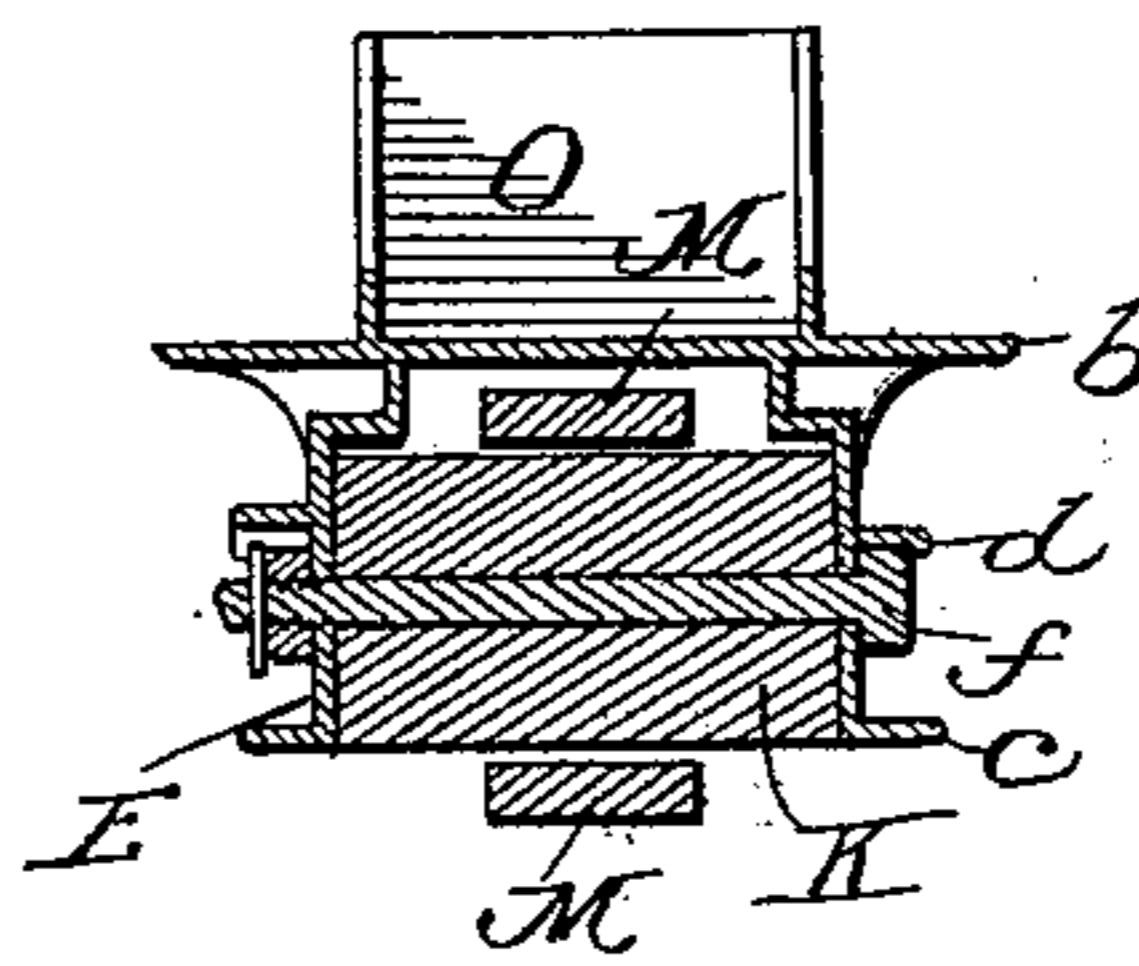


Fig. 14.



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UNITED STATES PATENT OFFICE.

HUBERT M. PERRY, OF DENVER, COLORADO.

DRAFT-GEAR FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 624,084, dated May 2, 1899.

Application filed October 14, 1898. Serial No. 693,543. (No model.)

To all whom it may concern:

Be it known that I, HUBERT M. PERRY, a citizen of the United States, residing at Denver, in the county of Arapahoe, State of Colorado, have invented certain new and useful Improvements in Draft-Gears for Railway-Cars; and I do hereby declare that the following, taken in connection with the accompanying drawings, is such a full, clear, and exact description thereof as will enable others skilled in the art to apply the invention.

My invention relates to the art of railway-car construction and has particular reference to the draft-gear forming part thereof, comprising a channeled or ribbed draft-iron of novel construction and integral therewith a draft-spring housing of cast-steel, malleable iron, or of pressed steel shapes rigidly secured together as a substitute for the ordinary draft-timbers, thus constituting a unitary draft-iron and spring-casing. This invention also contemplates the employment of suitable angle-blocks or stops rising from the surface of said draft-iron or rigidly secured thereto for abutting against the end sill of a car-frame and against a supplemental longitudinal filling-block for the purpose of transmitting all shocks, both buffing and hauling, to the longitudinal timbers of a car. As additional means of minimizing the shocks aforesaid incident to coupling and uncoupling a fixed stop or block is secured in the walls of said spring-housing, where it is flanked on either side by the usual draft-springs and serves to receive and transmit shocks directly on the line of the greatest resistance.

As a further feature the invention contemplates and employs vertical pockets in each side of the spring-housing, at opposite ends thereof, within which rest follower-blocks of ordinary construction. These blocks are accordingly limited in the extent of their reciprocation, thus avoiding undue strains upon the springs at all times. Furthermore, it is the purpose to extend the draft-irons to and beyond the body-bolster, over which it locks, thus materially augmenting the strength of the structure at its point of greatest weakness by securing the end sill, body-bolster, and both center sills solidly together.

The object and purposes of this invention may therefore be briefly outlined as follows:

first, durability and general efficiency, both as to the gear and the entire car-frame, of which it forms an important part; secondly, a compact arrangement of draft-irons and an economical distribution of strains imposed upon them, all such being transmitted centrally to the longitudinal timbers of the car; thirdly, economy of maintenance due to the absence of individual parts and structural stiffness, the body-bolster, end and center sills being firmly interlocked and bound together by the gear-iron; fourthly, to provide a fixed stop in the draft-gear at a point directly on the line of resistance which will take up all shocks, both of buffing or hauling, and transmit same, through agency of the angle-blocks aforesaid, to the longitudinal timbers of the car.

The foregoing being a general outline of this invention, its construction, uses, and advantages, it should be understood that I do not limit or confine myself to the precise arrangement and combination of parts or purposes herein set forth. On the contrary, various changes and modifications may be made and substituted for the disclosures herein made without departing from the spirit of my invention, which will now be particularly described, and pointed out in the claims following.

In the accompanying drawings, which form part of this specification and on which corresponding letters of reference indicate the same parts in the several views, Figure 1 represents my improved metallic draft-gear in side elevation, the draft-spring casing being partly broken away, exposing to view the draft-springs on either side of a centrally-located fixed stop. Fig. 2 is an inverted plan view of the invention, the spring-casing broken away similarly as in Fig. 1. Fig. 3 is an end view of the gear at the line 3 3, Fig. 1, with coupler or draw-bar removed. Figs. 4 and 5 are transverse vertical sections through the cylindrical draft-spring casing, taken on the lines 4 4 and 5 5, respectively, as indicated on Fig. 1. Fig. 6 is likewise a transverse section taken on line 6 6, Fig. 1, adjacent to the body-bolster. Figs. 7, 8, 9, and 10 represent a modified rectangular form of the invention, said figures being, respectively, a side elevation, an inverted plan,

and transverse sections, the latter taken on lines 9 9 and 10 10 of said Fig. 7. Figs. 11, 12, 13, and 14 represent another modified arrangement of the draft-spring casing, said figures being, respectively, a side elevation, an inverted plan, and vertical transverse sections, the latter taken on lines 13 13 and 14 14 as indicated on said Fig. 11.

Reference being had to the several illustrations and letters thereon, A A indicate the center or draft sills; B, an intermediate supplemental filling block or timber; C, a transverse end sill, and D a body-bolster, all of ordinary construction and usual arrangement. To the under side of draft-sills A A and sill C is rigidly secured my improved draft-iron E, which also locks over the body-bolster D, thus firmly binding said parts together in fixed relation. Upon the upper surface of draft-iron E are angle-blocks O O, which engage the end sill, and a supplemental filling-block or timber B. It will be noted, therefore, that the draft-iron and spring-casing are integral or form a unitary structure which transfers all strains from pulling or buffing to the end sill, a supplemental sill, and the bolster D, thus dividing up and disseminating the strain. This draft-iron E is of a length sufficient to connect the end sill C and bolster D and by preference is made of cast steel or malleable iron, though obviously pressed-steel shapes may be advantageously employed, if desired. In any event, however, the general outline of draft-iron E is rectangular in form and that of the spring-casing F by preference semicylindrical, the latter occupying an inverted position and formed integral with the former, as clearly shown by Fig. 1. As a closure for casing F a semicylindrical bottom G is provided which coincides with said casing and is firmly bolted thereto. The iron E upon both sides is reinforced by longitudinal ribs *a*, is closed above by a top plate *b*, and is completed by an integral bottom *c*, by means of which plate and bottom the structure is bolted to the car-timbers. Casing F and its closure G are likewise reinforced by longitudinal ribs *d d*, radiating from their outer surfaces, and by bolt-flanges *e e* at their median line of demarkation or any other line of separation. These reinforce-ribs *d d*, while preferably on the outside of iron E, as shown by Fig. 1, may obviously be located on the inside or upon both inside and outside, as indicated by Figs. 9 and 13, in which latter event said ribs serve the additional purpose of supporting springs L and maintaining them in operative position. Both members F and G of the spring-casing are also configured by transverse projections or pockets H H and I in register, which are of shell construction and receive parts of the draft mechanism, as will now appear.

Pockets H and H at opposite ends of the spring-casing contain the usual follower-plates J J and are of sufficient width to permit the necessary reciprocation thereof, at

the same time serving to prevent abnormal strokes, and consequently undue strains upon the springs. Intermediate pocket I, on the other hand, is of a width sufficient only to snugly receive and retain the sides of a fixed stop or block K, secured therein, dividing said casing into independent compartments. No other fastening is ordinarily required for block K; but in the modified construction illustrated by Figs. 11, 12, 13, and 14, in which closure G is omitted, said block may be secured to the side walls of iron E by a through-bolt *f*, as shown. Interposed between this fixed stop K and each of the follower-plates J J are the usual buffing and draft springs L' and L', while surrounding and confining said followers, stop, and springs is an ordinary coupler yoke or strap M, rigidly secured to the shank of the coupler or draw bar N.

Rising from the top plate *b* of the structure are angle-blocks O O, by preference cast integral or bent up from said plates at points where they abut firmly against opposing faces of end sill C and filling block or timber B, as clearly shown by Figs. 1, 7, and 11, where they impart all strains received by the draft-gear, either in buffing or pulling, to the longitudinal timbers of the car in direct line with the points of greatest resistance and from the fixed intermediate stop K.

The use and operation of draft-gear generally are so well understood and that of the present construction is so apparent that further and more detailed description is rendered unnecessary.

Therefore, the invention having been thus fully described, what I claim, and desire to secure by Letters Patent, is—

1. In a metallic draft-gear for railway-cars the combination with a front sill, bolster, and center sills, of a longitudinal filling-block, suitable springs and follower-plates, and a unitary draft-iron and spring-casing adapted to engage the front sill, bolster, and center sills provided with angle-blocks abutting said front sill and longitudinal filling-block, substantially as described.

2. In a metallic draft-gear for railway-cars, the combination with suitable springs and follower-plates, of a unitary draft-iron and spring-casing provided with angle-blocks abutting against the car-sills, and pockets for said follower-plates in the casing, substantially as described.

3. In a metallic draft-gear for railway-cars, the combination with suitable springs and follower-plates, of a unitary draft-iron and spring-casing provided with angle-blocks abutting against the car-sills, pockets for said follower-plates in the casing, and an intermediate fixed stop dividing said casing into compartments, substantially as described.

4. In a metallic draft-gear for railway-cars, the combination with suitable springs and follower-plates, of a unitary draft-iron and spring-casing provided with angle-blocks abutting against the car-sills, pockets in the

casing for said follower-plates, and an intermediate pocket containing a fixed stop, substantially as described.

5 In a metallic draft-gear for railway-cars, the combination with suitable springs and follower-plates, of a unitary draft-iron and spring-casing provided with angle-blocks abutting against the car-sills, pockets in the casing for said follower-plates, an intermediate pocket containing a fixed stop, and a closure for the spring-casing, substantially as described.

15 6. In a metallic draft-gear for railway-cars, the combination with suitable springs and follower-plates, of a unitary draft-iron and spring-casing provided with angle-blocks abutting against the car-sills, pockets in the casing for the follower-plates and an intermediate fixed stop, and a detachable closure

for said casing provided with pockets in register with those aforesaid, substantially as described. 20

7. In a metallic draft-gear for railway-cars, the combination with suitable springs and follower-plates, of a unitary draft-iron and spring-casing provided with follower-pockets, reinforce-ribs and angle-blocks abutting against the car-sills, a detachable closure for the casing having pockets in register with those of said casing, substantially as described. 25 30

In testimony whereof I affix my signature, in presence of two witnesses, this 11th day of October, 1898.

HUBERT M. PERRY.

Witnesses:

THOMAS R. LAWRENCE,
HUGH M. HEARON.