

(No Model.)

3 Sheets—Sheet 1.

H. H. SESSIONS.

MECHANISM FOR OPERATING CAR BRAKES AND COUPLINGS.

No. 396,614.

Patented Jan. 22, 1889.

Fig. 1.

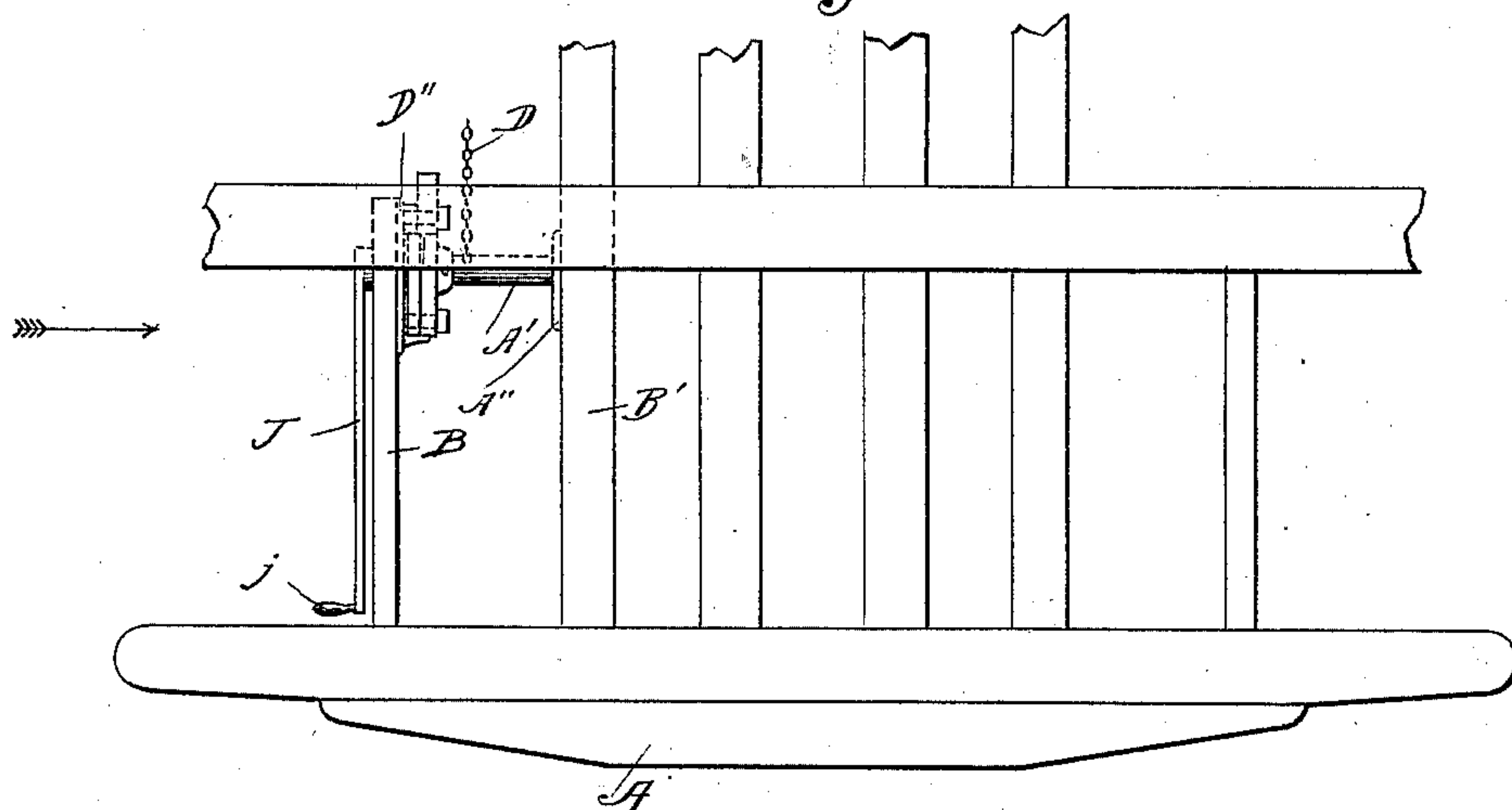
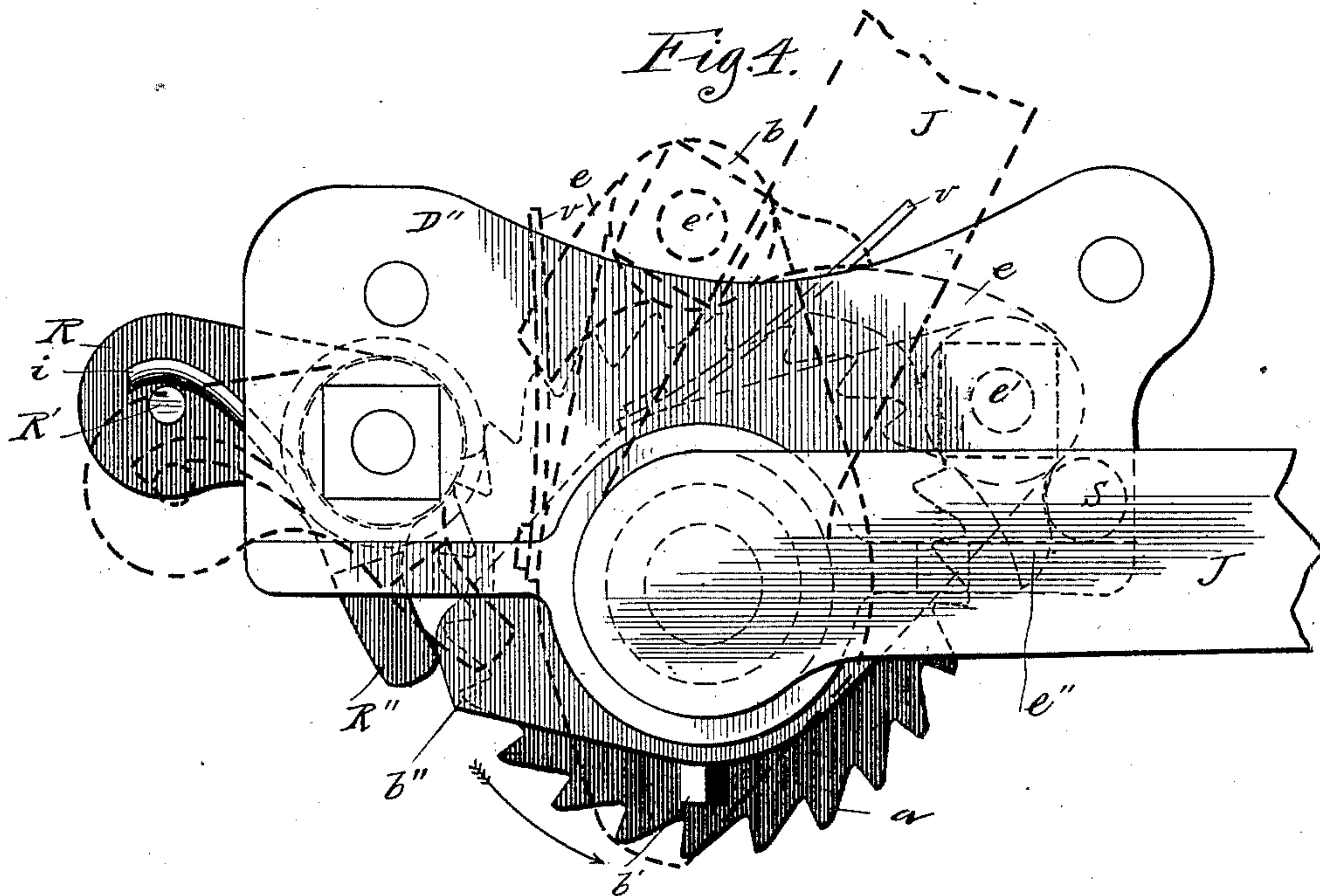


Fig. 4.



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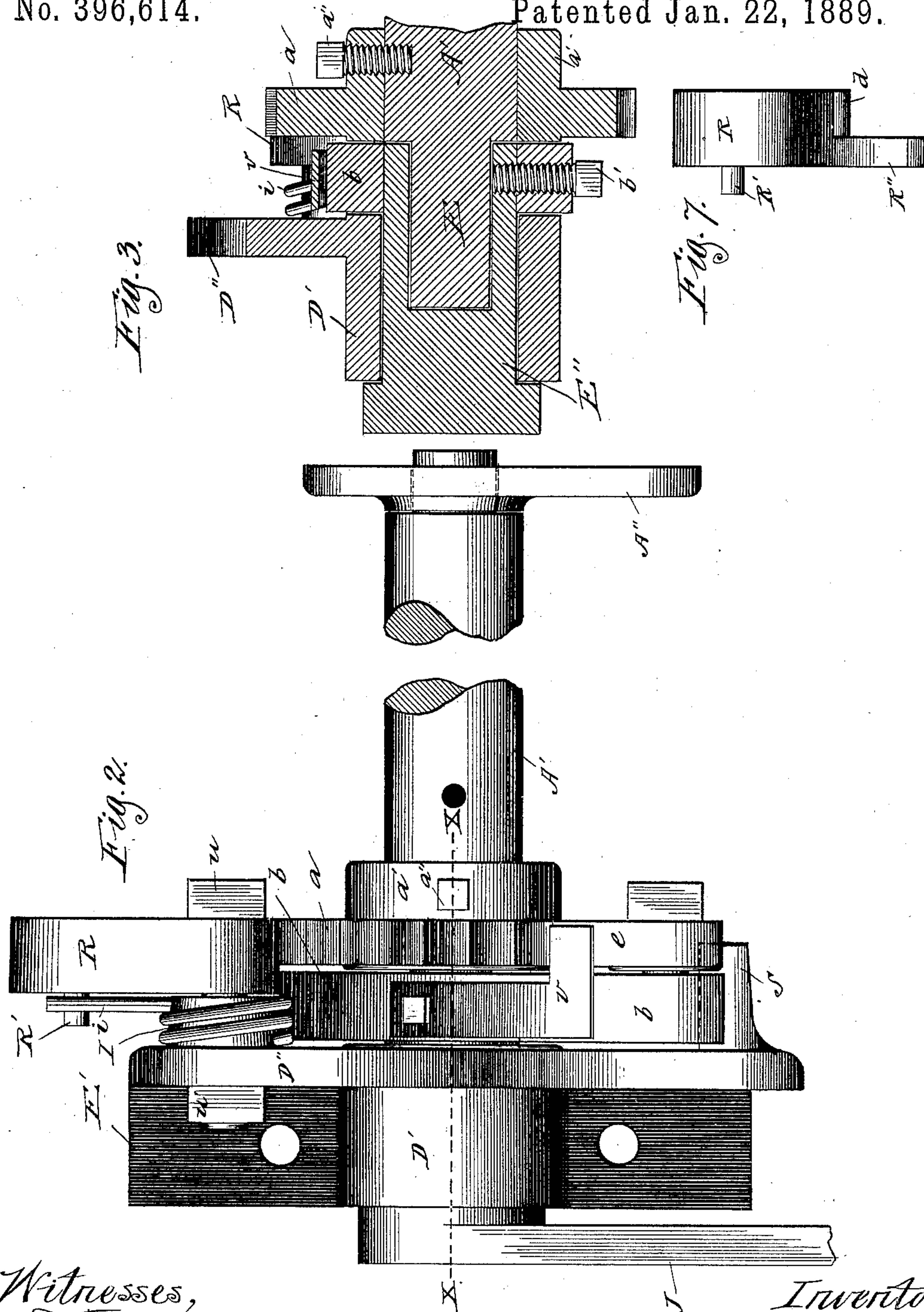
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MECHANISM FOR OPERATING CAR BRAKES AND COUPLINGS.

SPECIFICATION forming part of Letters Patent No. 396,614, dated January 22, 1889.

Application filed January 30, 1888. Serial No. 262,309. (No model.)

To all whom it may concern:

Be it known that I, HENRY HOWARD SESSIONS, a citizen of the United States, residing at Pullman, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Mechanism for Operating Car Brakes and Couplings, which I desire to protect by Letters Patent of the United States, and of which the following is a specification.

The purpose of my invention is to provide mechanism for operating the brakes of cars when the vestibuled construction of platform is adopted. The vestibule finish of a car renders the ordinary brake - operating mechanism inconvenient, if not impracticable, in such connection, and it therefore becomes necessary to so provide for such constructions that the mechanism may be placed in a convenient position for operation, and at the same time not interfere with nor offer any obstruction to the vestibule purposes and conveniences. My mechanism is also designed to be connected with the car in another and reverse position, where it is made available for the purpose of operating the car-coupling.

The mechanism of my improvement may of course be used in connection with cars of ordinary construction and afford advantages over other mechanism for such purpose.

In the drawings making a part of this specification, Figure 1 is a plan of car-platform timbers to which the improved mechanism is applied. Fig. 2 is a plan of the mechanism enlarged, with portions not important to the illustration omitted, as indicated by broken lines. Fig. 3 is a vertical section through line *x x*, Fig. 2. Fig. 4 is a side elevation, and in addition thereto embodies diagrams illustrating movements. Fig. 5 is an inverted plan of car-platform timbers, showing device for uncoupling. Fig. 6 is same as Fig. 4 reversed. Fig. 7 is a detail.

In Fig. 1 an outline or general view of the mechanism is given, showing the preferable position thereof and proportionate relation to the car-platform. Of the parts shown in this figure, A is the front timbers of the platform. B represents one of the platform-timbers

occupying the position of the riser of the upper step, and D represents a chain connecting the mechanism for operating the brake, as provided in this invention with the brake-levers. The chain D is attached to the shaft A'. A perforation, as a provision for such connection, is shown in Fig. 2.

One end of shaft A' has a journal-bearing in a plate, A'', secured against the side of timber B'. The other end of shaft A' has a seat for its reduced or journal end E in a cylindrical sleeve or shank, E'', which latter has a support in a journal-bearing, D'. The latter is provided with a vertical flanged portion, D''. Any convenient arrangement and construction of these supporting parts may of course be adopted; but in this example I locate the bearing D' and its extended portions E' beneath the timber B, with flange D'' bearing against the inner face of said timber when bolting or any convenient fastening is adopted.

On shaft A' is mounted a ratchet-wheel, *a*, secured thereto by a rim or sleeved portion, *a'*, carrying a set-screw, *a''*. On the outer end of sleeve E'' is attached a lever, J, which, as shown in Fig. 1, is provided with a handle, *j*. On the inner end of sleeve E'' is mounted a cam, *b*, secured to the sleeve by a set-screw, *b'*. At the extremity of cam *b*, adjacent to lever J, is pivoted an actuating-pawl, *e*, adapted normally to engage the teeth of ratchet *a*. As a means for preventing reaction of the ratchet when chain D is under tension pawl R is provided. The latter, as a bearing, is secured against the tubular projection I, emanating from and integral with flange D''. A bolt, of which *u* and *u'* represent the head and nut, that extends through the pawl, projection I, and the flange D'', serves in pivotally securing said pawl. The portion *d* of pawl R is adapted to engage the teeth of ratchet *a*. Coiled around projection I is a wire spring, *i*, having its inner end permanently fastened and its outer end bearing upon a stud, R', of the pawl R. The function of spring *i* is to normally hold the pawl in position to engage with the ratchet-wheel. Pawl *e* is normally held in such engaging position by a spring, *v*, bolted on cam *b*, or rather

the function of spring *v* is designed to insure proper action of pawl *e*.

Pawl *R* is provided with an extension, *R''*, that when said pawl is in normal position lies adjacent to or overlaps the ratchet. On that portion of cam *b* in proximity to pawl *R* is an extension or toe, *b''*, adapted to engage with extension *R''*. Pawl *e* on the opposite side of its pivotal point *e'* from the engaging end is provided with a tripping end, *e''*, (shown outlined in Fig. 4,) that is adapted to engage with a horizontal stud, *S*, projecting from the flange *D''*.

As shown by the lighter of the dotted lines, Fig. 4, when lever *J* is in a horizontal position, the end *e''* bears against stud *S* sufficiently to trip the ratchet end of the pawl and disengage it from the ratchet. This horizontal position of lever *J* is the one designed for it when the mechanism is not in use, in which said lever lies along the riser of the upper step, and is thus out of the way and in a position to be conveniently operated. In this position pawl *e* is, as before stated, thrown out of contact with the ratchet. The toe *b'* at such time is in contact with extension *R''* of pawl *R*, also disengaging the latter from the ratchet, shaft *A'* being then free to rotate and permit the unwinding of chain *D*. A position on a lower step affords a convenient one in which to operate the lever. After lever *J* is raised somewhat from its horizontal position the pawls are released and engage with the ratchet, when, by a succession of movements of the lever between the position indicated by the more prominent dotted lines, Fig. 4, and one sufficiently above the horizontal to not disengage the pawls, the shaft *A'* may be rotated and the chain thus wound up to apply the brakes. The end of the lever may be moved only through an arc sufficient to cause the ratchet to move one or more teeth on the retaining-pawl, and of course perform the operation designed, the dotted lines being intended to indicate this action to a greater or less degree.

In Fig. 6 the mechanism is the same as that described, excepting reversed to adapt it for the other side of the platform, and is for the purpose of operating the coupling. In Fig. 5, while the lever *J* is shown relatively to the sheet upon the same side as in Fig. 1, this is due to the fact that the platform is inverted. A chain, *D*, attached to shaft *A'*, is carried over a pulley, *V*, to a lever, *t*, of the clutch-coupling *H*, to open the jaw of the latter for the purpose of separating the cars.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In railway-car construction, a shaft piv-

otally mounted in a horizontal position in the timbers of the car-platform that is adapted for winding thereon, a chain or cable for operating the brakes or coupling of the car, a ratchet rigidly mounted on said shaft, an actuating-pawl having a movable bearing and adapted to engage with said ratchet, a retaining-pawl having a permanent bearing and adapted to engage with the ratchet, a lever connected with the actuating-pawl, adapted by a reciprocating movement thereof to impart a like movement to the said actuating-pawl, a stationary tripping part by which the ratchet end of the actuating-pawl is disengaged when the lever is brought to a given position, and a movable tripping point or cam actuated by the lever and adapted to disengage the retaining-pawl from the ratchet when the parts operated by the lever are in such position that the actuating-pawl is also disengaged.

2. In railway-car construction, a shaft to which is attached a chain or cable, the latter adapted for operating the brakes or coupling, said shaft having a horizontal position and pivotally bearing on the car-timbers, a ratchet-wheel mounted rigidly on said shaft, a pivotal sleeve or shank that serves as a bearing for one end of the shaft to which the chain or cable is attached, a cam rigidly secured on said sleeve or shank, a pawl mounted on said cam and adapted to engage with the ratchet-wheel, a retaining-pawl, also adapted to engage with the ratchet having a permanent bearing, and a lever so connected with the mechanism as to be adapted to operate the actuating-pawl.

3. In railway-car construction and applied to the platform of a car, a shaft, *A'*, horizontally located and pivotally mounted, a ratchet, *a*, rigidly mounted on said shaft, a bearing, *D'*, a pivotal shank or sleeve, *E''*, adapted as a journal-bearing for the end *E* of the shaft, a cam, *b*, rigidly mounted on the shank or sleeve *E''*, a pawl, *E*, secured to said cam, a pawl, *R*, attached to the permanent structure, a spring, *i*, for holding said pawl in engaged position, a movable toe or tripping part, *b''*, for disengaging the pawl *R*, a permanent tripping part, *S*, for disengaging the pawl *e*, and the lever *J*, adapted when not in use to occupy a horizontal position at the side of the platform that is so connected with the actuating mechanism as to be available for operating the same, substantially as described.

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