

W. A. GARVENS & C. J. GECKS.

ELEVATOR RAIL GREASER.

APPLICATION FILED AUG. 15, 1910.

984,206.

Patented Feb. 14, 1911.

2 SHEETS—SHEET 1.

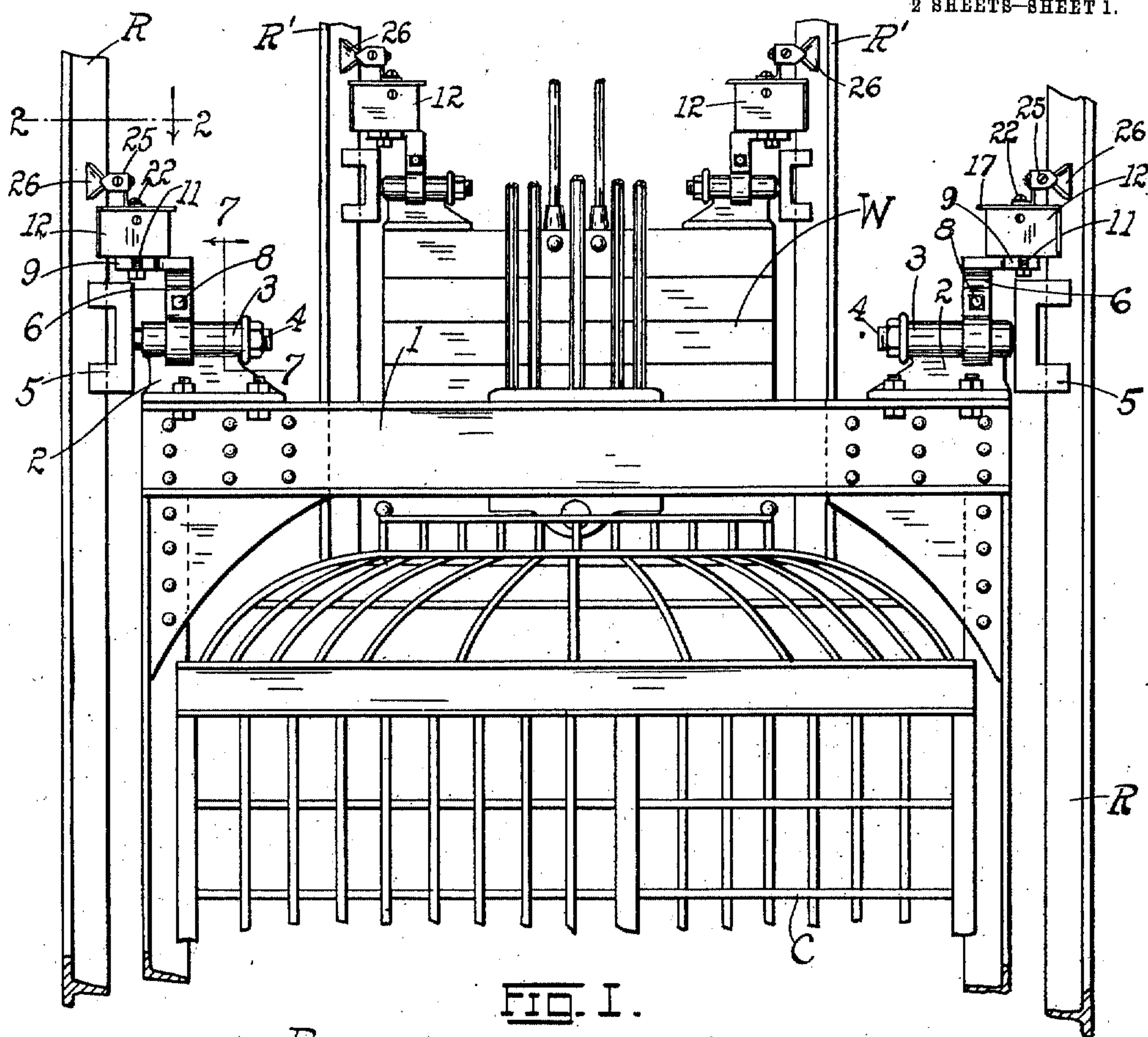


FIG. I.

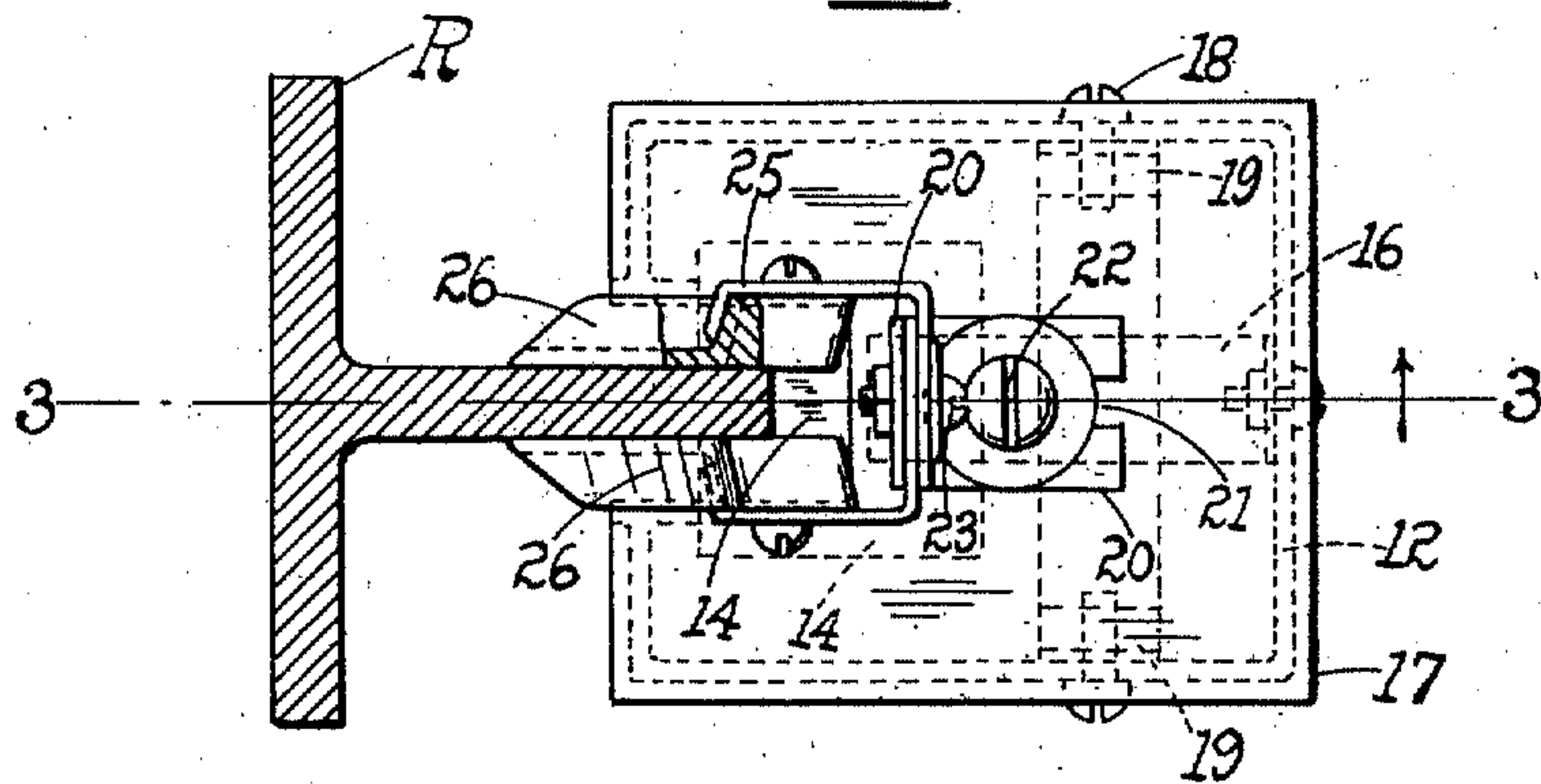


FIG. 2.

WITNESSES:

Harry A. Reimes
Stella Hall

INVENTORS.
Wm. A. Garvens and
Chas. J. Gecks.
BY
Emil Karem
ATTORNEY.

W. A. GARVENS & C. J. GECKS.

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2 SHEETS-SHEET 2.

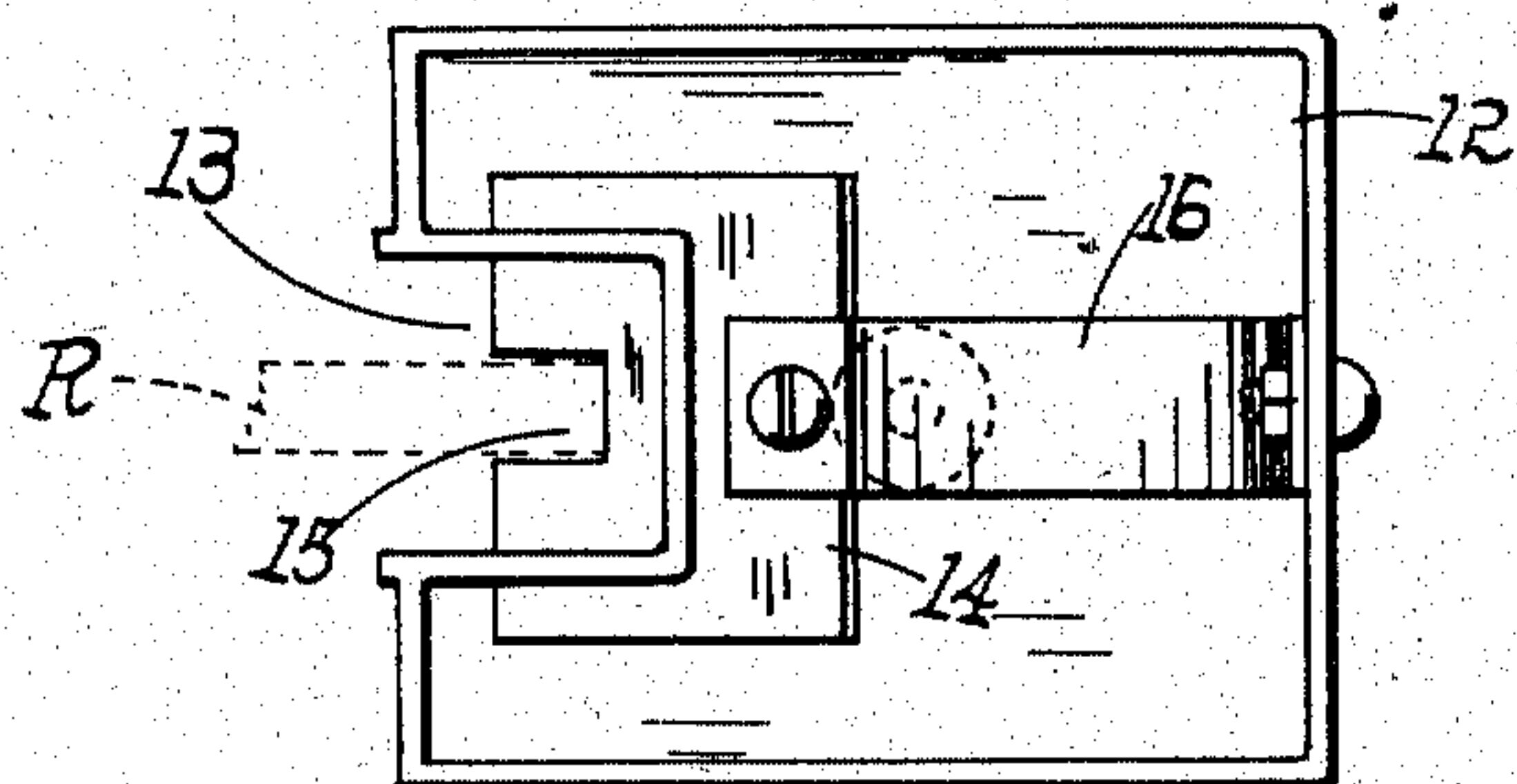
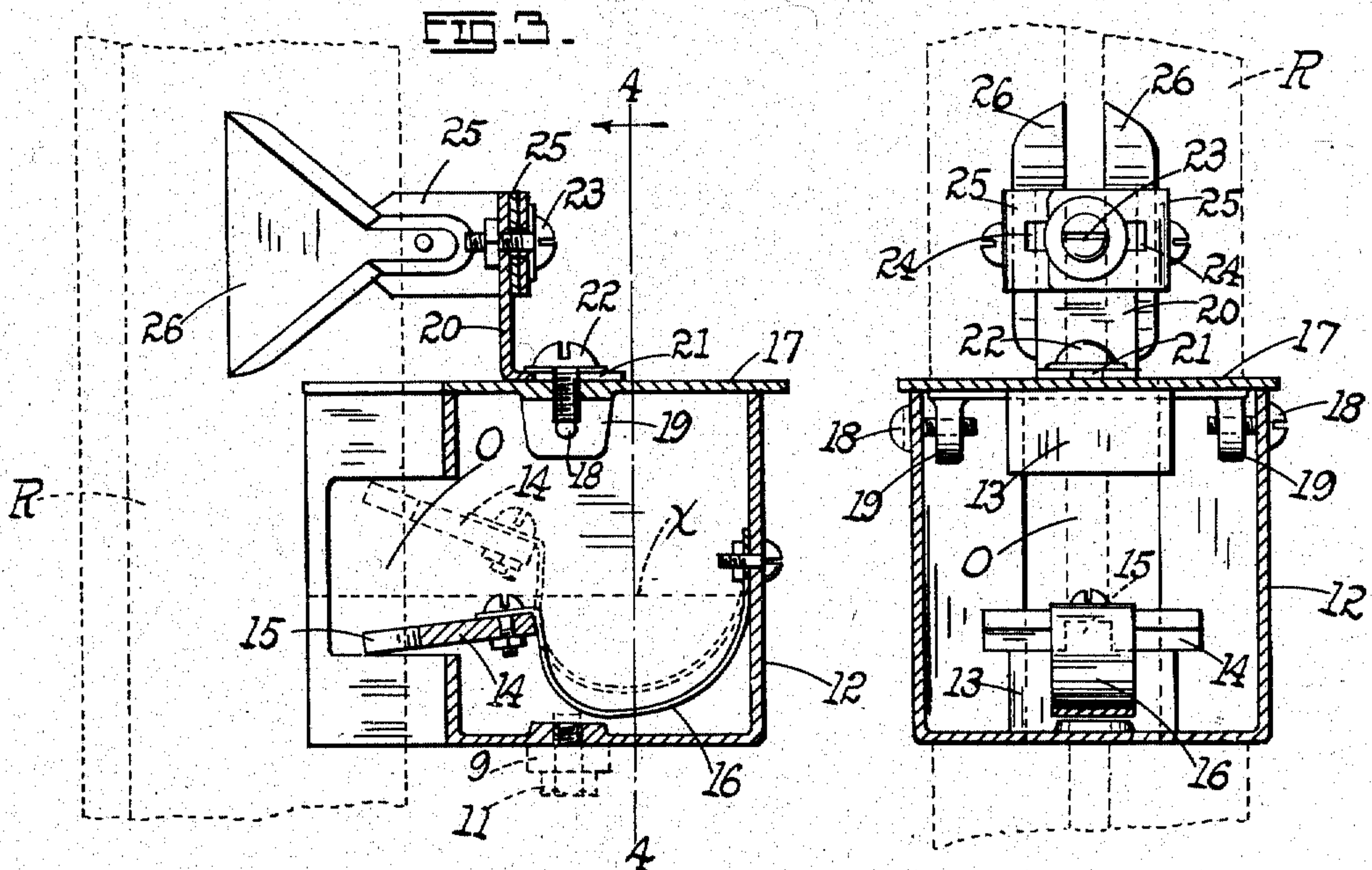


FIG. 5.

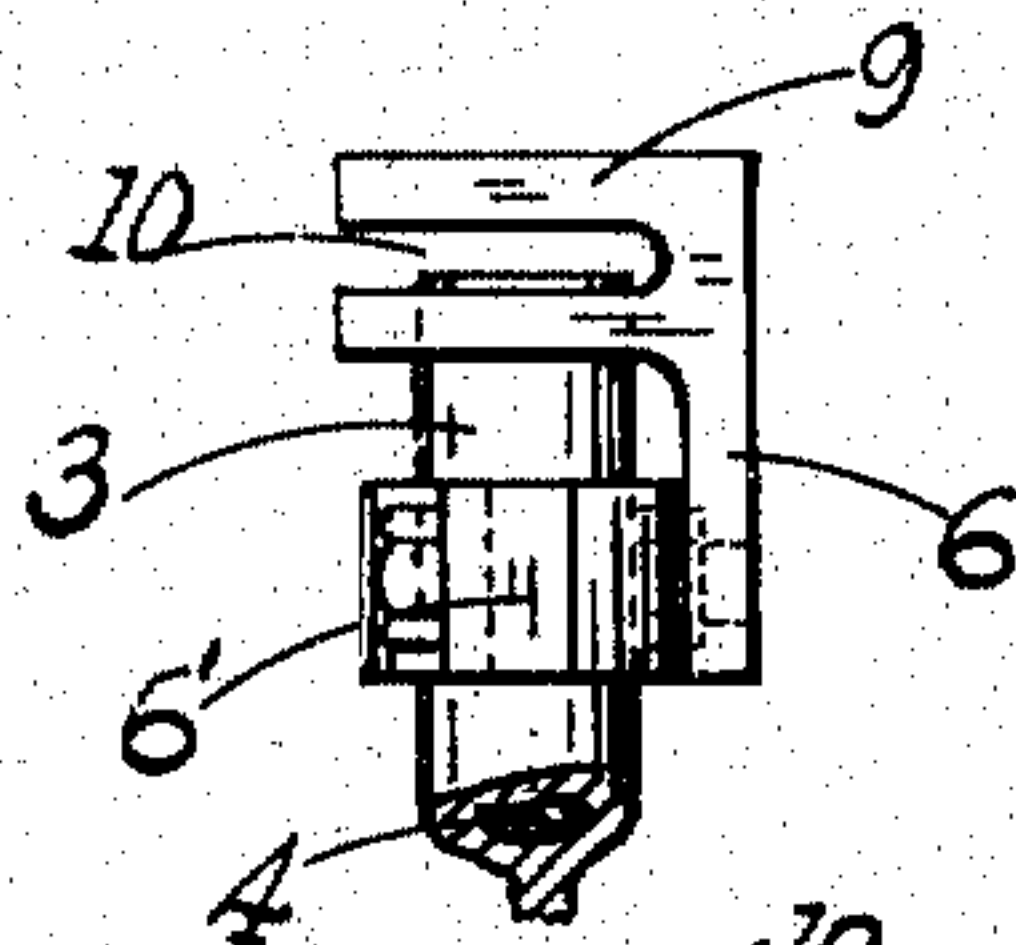


FIG. 6.

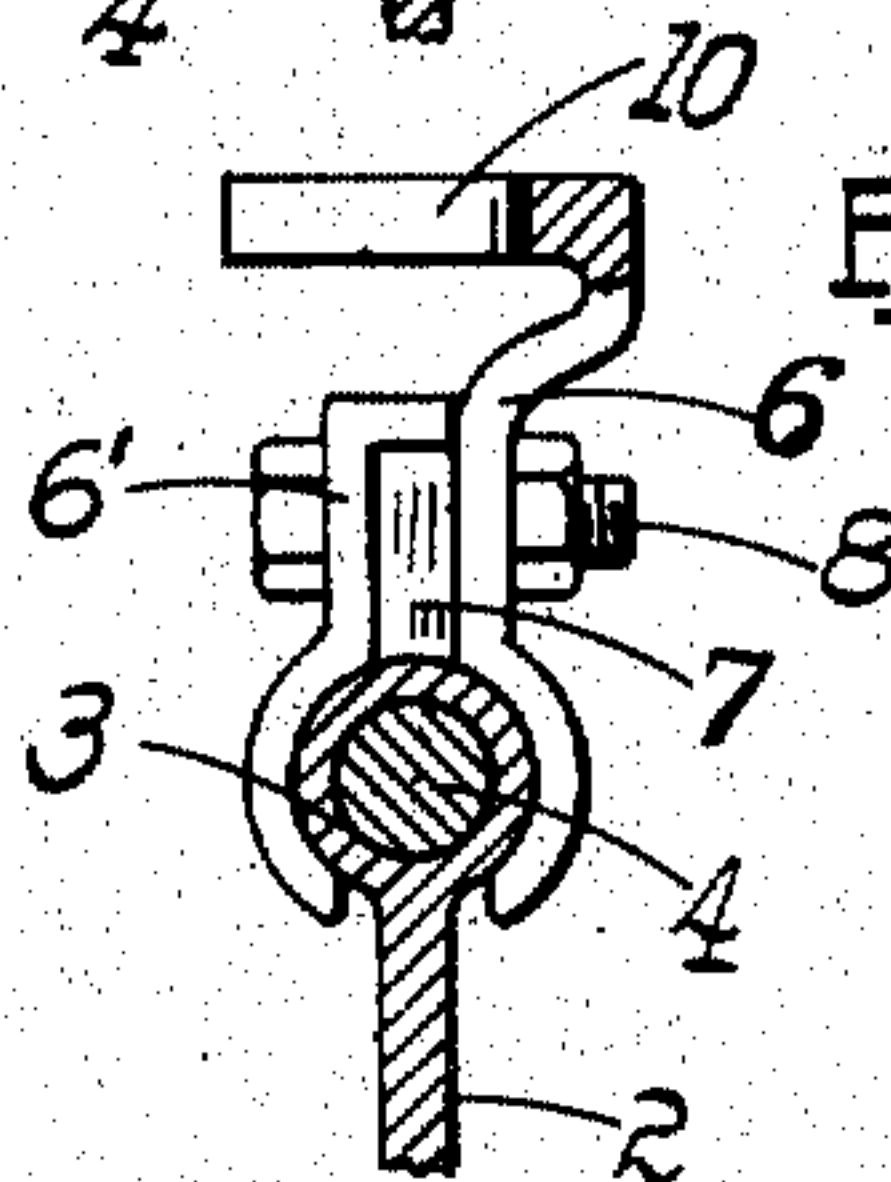


FIG. 7.

WITNESSES:

Harry A. Beimes.
Stella Hall

INVENTORS
Wm. A. Garvens and
Chas. J. Gecks.
BY
Emil Stank
ATTORNEY.

UNITED STATES PATENT OFFICE.

WILLIAM A. GARVENS AND CHARLES J. GECKS, OF ST. LOUIS, MISSOURI.

ELEVATOR-RAIL GREASER.

984,206.

Specification of Letters Patent.

Patented Feb. 14, 1911.

Application filed August 15, 1910. Serial No. 577,218.

To all whom it may concern:

Be it known that we, WILLIAM A. GARVENS and CHARLES J. GECKS, citizens of the United States, residing at St. Louis, State of Missouri, have invented certain new and useful Improvements in Elevator-Rail Greasers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

Our invention has relation to improvements in elevator-rail greasers; and it consists in the novel details of construction more fully set forth in the specification and pointed out in the claims.

In the drawings, Figure 1 is an elevation of the upper portion of an elevator cage or car showing our invention applied to the rails thereof, and to the rails for the counterbalance weight; Fig. 2 is an enlarged horizontal section on the line 2—2 of Fig. 1; Fig. 3 is a vertical section on the line 3—3 of Fig. 2, the rail being left dotted; Fig. 4 is a transverse vertical section through the grease-box on the line 4—4 of Fig. 3; Fig. 5 is a top plan of the grease-box or receptacle with lid removed; Fig. 6 is a top plan of Fig. 7; and Fig. 7 is a vertical cross-section on the line 7—7 of Fig. 1 showing the manner of clamping the supporting bracket for the grease-box to the shoe-bearing or sleeve, the terminal platform being partly broken.

The object of our invention is to provide an elevator car with a greaser for the main guide rails (and likewise for the rails guiding the counterweight) which shall insure an easy delivery of the grease to the rail; one which makes provision for wiping any excess of grease; one which keeps the rails smooth and clean; one which maintains the grease at the proper consistency to readily flow from the box or container in which it is held; and one possessing further and other advantages better apparent from a detailed description of the invention, which is as follows:—

Referring to the drawings, C represents the car or elevator cage, R the cage guide-rails, and R' the guide-rails for the counterweight W, the rails being T-shaped in cross-section, the web of the tee serving as the rail proper. The top beams or structural members 1 of the car carry the brackets 2, a sleeve 3 forming a part of said bracket and serving as a bearing for the stem 4 of the shoe 5

which rides over the rail and maintains the car in true position along the rails. The features referred to are well understood in the art and form no part of the present invention. The identical arrangement is resorted to for the guiding of the balance-weight W.

The improvement herein concerns itself with the manner of greasing the rails, each rail R, R', being greased in identically the same manner so that a description of one of the greasing devices will suffice for all.

The greaser is constructed substantially as follows:—Clamped to the sleeve 3 are a pair of bracket arms 6, 6', a filler block 7 being preferably introduced between them above the sleeve (Fig. 7), and a clamping bolt 8 passed through the arms and block. The upper end of the longer arm 6 terminates in a forked platform 9, the open-ended slot 10 between the fork members receiving the shank of a clamping screw 11 which is carried by the bottom of the grease-box or container 12. The slot is disposed at right angles to the web of the rail R, so that it makes it possible to adjust the box 12 on the platform 9 transversely across the plane of the rail-web. The box 12 is provided with a U-shaped recess 13 so as to straddle the rail-web (Fig. 5), the walls of said recessed portion being provided with an opening O through which is free to play (vertically) the leather wiper 14 said wiper being provided with a recess 15 the sides and bottom of which frictionally engage the sides and edge of the rail-web so as to effectively wipe the excess of grease delivered thereto from the grease-box 12. The wiper 14 is secured to a flexed resilient spring 16, one end of which is fixed to the front wall of the box 12 (Fig. 3). As the cage C rises, the wiper 14 will be forced into contact with the upper edges of the bottom side wall sections of the recess 13 defining the opening O, and when the cage descends the wiper will be forced along the rail until it strikes the bottom edges of the upper side wall sections defining said opening O (Fig. 3). The flexed spring 16 tends to force the wiper against the edge of the rail-web, the frictional contact between the parts causing the wiper to lag behind the cage with the descent or ascent of the latter, so that necessarily the wiper will reciprocate between the limits indicated with the travel of the cage up and down. In these reciprocations the

spring 16 will also play up and down thereby causing it to agitate the contents of the grease-box and causing such contents to readily flow over the upper edges of the basal wall sections of the recess 13, the maximum level of the grease being indicated by the line α . The grease-box is closed by a lid 17 which is held in position by screws 18 passed through the side walls of the box or container 12 into lugs 19 depending from the lid and projecting into the box. The lid is provided with an angle-bracket arm 20 the bottom horizontal leg of which is slotted, the slot 21 accommodating the shank of a securing screw 22 whereby the bracket may be adjusted to and from the rail R. The vertical arm or leg of the bracket 20 on the other hand is provided with a clamping screw 23, the shank of which passes through the open-ended slots 24 of the inwardly deflected legs of the angle-brackets 25, the side legs or members of which have secured thereto the scraper blades or jaws 26. These blades are preferably of the design best illustrated in Figs. 2, 3, 4, though any equivalent will answer therefor. These blades being carried by the bracket 20 are obviously adjustable to and from the exposed edge of the rail-web; and being secured directly to the brackets 25 (which by reason of the slotted connection thereof with the bracket 20 are adjustable to and from each other) these blades are in addition susceptible of adjustment at right angles to the plane of the rail-web, so that any thickness of rail may be spanned by the scrapers by adjusting the brackets 25 to and from each other along the screw 23. When properly adjusted the screw 23 clamps the brackets 25 tightly to the arm 20. The scraper keeps the rail clean of dust, grit and dirt so that the grease may always find a clean surface on the rail over which it may spread. The scraper however, performs an additional function:—The grease is of a limpid or semi-fluid consistency and at ordinary temperatures does not flow freely. The friction of the scraper rubbing along the rail heats the scraper more or less, the heat being communicated to the walls of the grease-container 12 which thereupon softens the contents to cause it to flow freely over the edges of the lower wall sections of the recess 13 through the opening or removed portions O of the rear and side walls thereof. In this way the rail web is well greased and the shoes 5 travel over the rails without friction. In addition the oscillation or reciprocation of the wiper 14 oscillates the spring 16 which thus keeps the contents agitated to insure a positive flow with a travel of the cage in either direction. The box 12 may be adjusted on its platform 9 across the plane of the rail web so as to accurately center the recess 13 and the recess 15 of the wiper

relatively thereto; the scraper jaws 26 on the other hand are susceptible of adjustment to and from the rail-web and may be separated to accommodate any thickness of web, all as fully obvious from the drawings. 70

With our invention the rails are always kept greased and cleaned, the shoes 5 always having a lubricated surface to travel over. The wiper wipes off any excess of grease with each trip of the cage, and the blades 26 keep the rail clean. 75

What is true of the greaser for the cage-rails R is true for the weight-rails R', the greasers in all instances being the same, and the same reference numerals applying thereto. 80

While the term "cage" in the claims designates the elevator car C, it is to be understood that the invention is not to be limited in its application to an elevator cage, for as already described, it may with equal propriety be attached to the counterweight W. 85

Having described our invention, what we claim is:—

1. In combination with a car, a shoe carried thereby, a rail for guiding the shoe, a grease container mounted on the car and delivering the grease to the rail, a wiper engaging the rail for wiping the excess of grease, and a member coupled to said wiper and partially submerged in the grease for agitating the latter. 90

2. In combination with a car, a shoe carried thereby, a rail for guiding the shoe, a grease container mounted on the car and delivering the grease to the rail, a wiper for the rail, a member coupled to the wiper for agitating the contents of the container, a scraper for cleaning the rail and frictionally engaging the same for developing sufficient heat to be communicated to the walls of the container for maintaining the grease contents in a fluid condition. 100

3. In combination with an elevator cage, a guide-rail, a grease-container provided with an open delivery portion spanning the rail, a wiper in the container engaging the rail and having a limited independent reciprocating movement along the rail, and a yielding member secured to the wiper and container wall respectively and submerged in the container contents, whereby the latter is agitated with the reciprocations of the wiper. 110

4. In combination with an elevator cage, a guide-rail, a grease-container provided with an open delivery portion spanning the rail, a wiper in the container engaging the rail, means connected to the wiper for agitating the container contents, a scraper coupled to the container and rubbing along the rail, the friction producing heat communicated to the walls of the container for maintaining the contents in a condition for ready flowing. 120 125 130

5. In combination with an elevator cage, a guide-rail, a platform having a slot disposed at right angles to the rail, a grease-container adjustable along the slot, and provided with a recessed portion spanning the rail, the side and rear walls of said recessed portion being cut away a suitable distance to form a discharge opening, a flexed spring having one end secured to the container wall opposite said opening, a wiper secured to the free end of the spring and operating through the discharge opening, the free edge of the wiper having a recess engaging the rail, a lid for the container, a pair of bracket members adjustable in a plane at right angles to the rail, and scraper blades enveloping the sides of the rail and secured to said bracket members, the parts operating substantially as, and for the purpose set forth.

6. In combination with a grease container having a discharge opening for the grease, a rail, a wiper in the container engaging the rail, and means coupled to the wiper for agitating the container contents.

7. In combination with a grease-container having a discharge opening for the grease,

a rail for receiving the grease, a wiper in the container engaging the rail, means coupled to the wiper for agitating the container contents, and a scraper on the container rubbing the rail and generating sufficient heat to maintain the contents in a liquid condition for flowing.

8. In combination with a rail, a greaser traveling along the rail, and a pair of scraper blades on the greaser engaging the opposite faces of the rail and adjustable to and from one another, and to and from the rail, substantially as set forth.

9. In combination with a guide-rail, a greaser traveling back and forth along the rail, and a wiper on the greaser engaging the rail, and having an independent motion along the rail in opposite direction to the travel of the greaser.

In testimony whereof we affix our signatures, in presence of two witnesses.

WILLIAM A. GARVENS.
CHARLES J. GECKS.

Witnesses:

EMIL STAREK,
STELLA HALL.