

K. RÁTH.

SAFETY HOSE COUPLING FOR RAILWAY AIR BRAKES.

APPLICATION FILED MAR. 16, 1907. RENEWED DEC. 12, 1908.

910,579.

Patented Jan. 26, 1909.

FIG. 1.

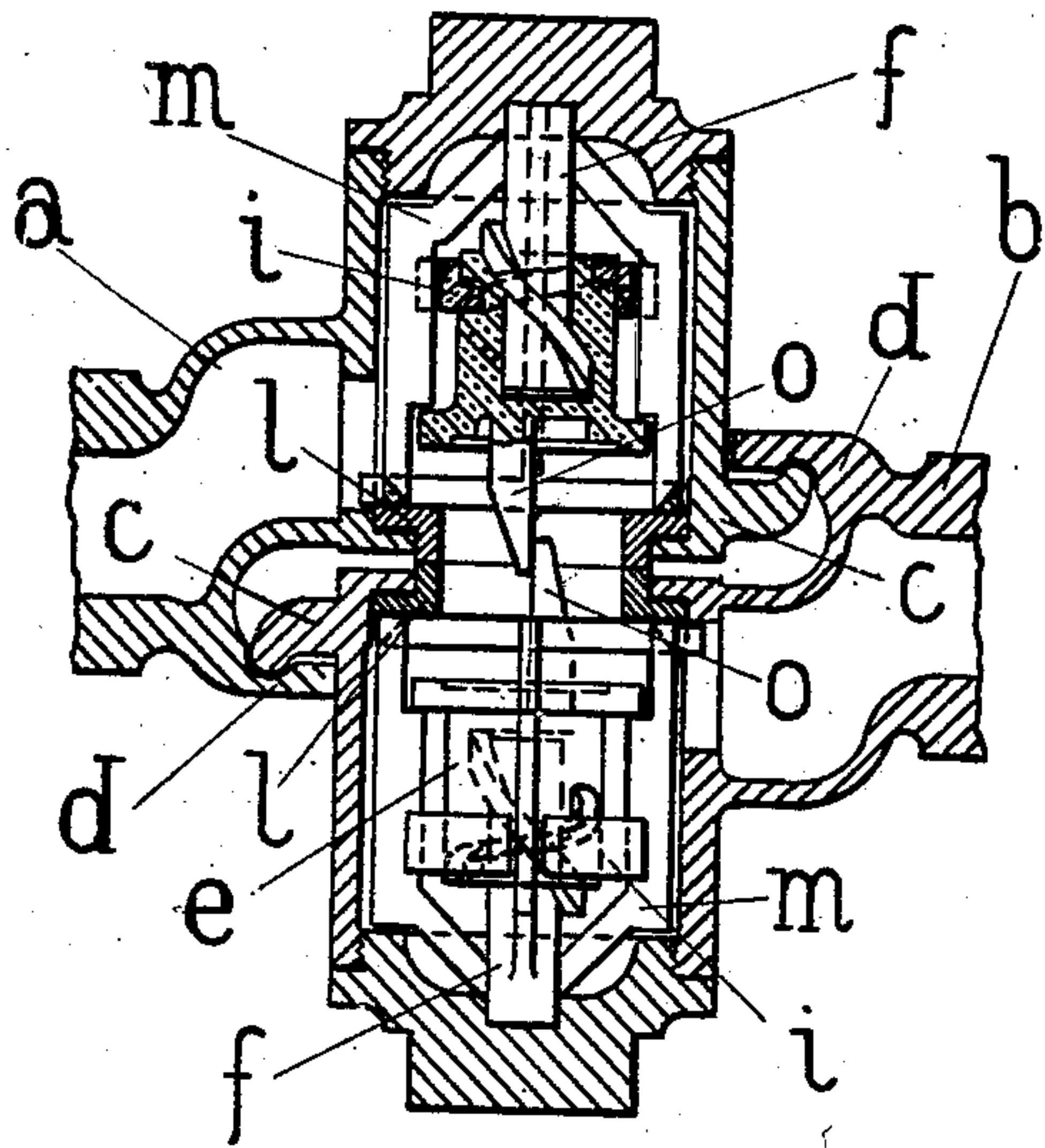


FIG. 2.

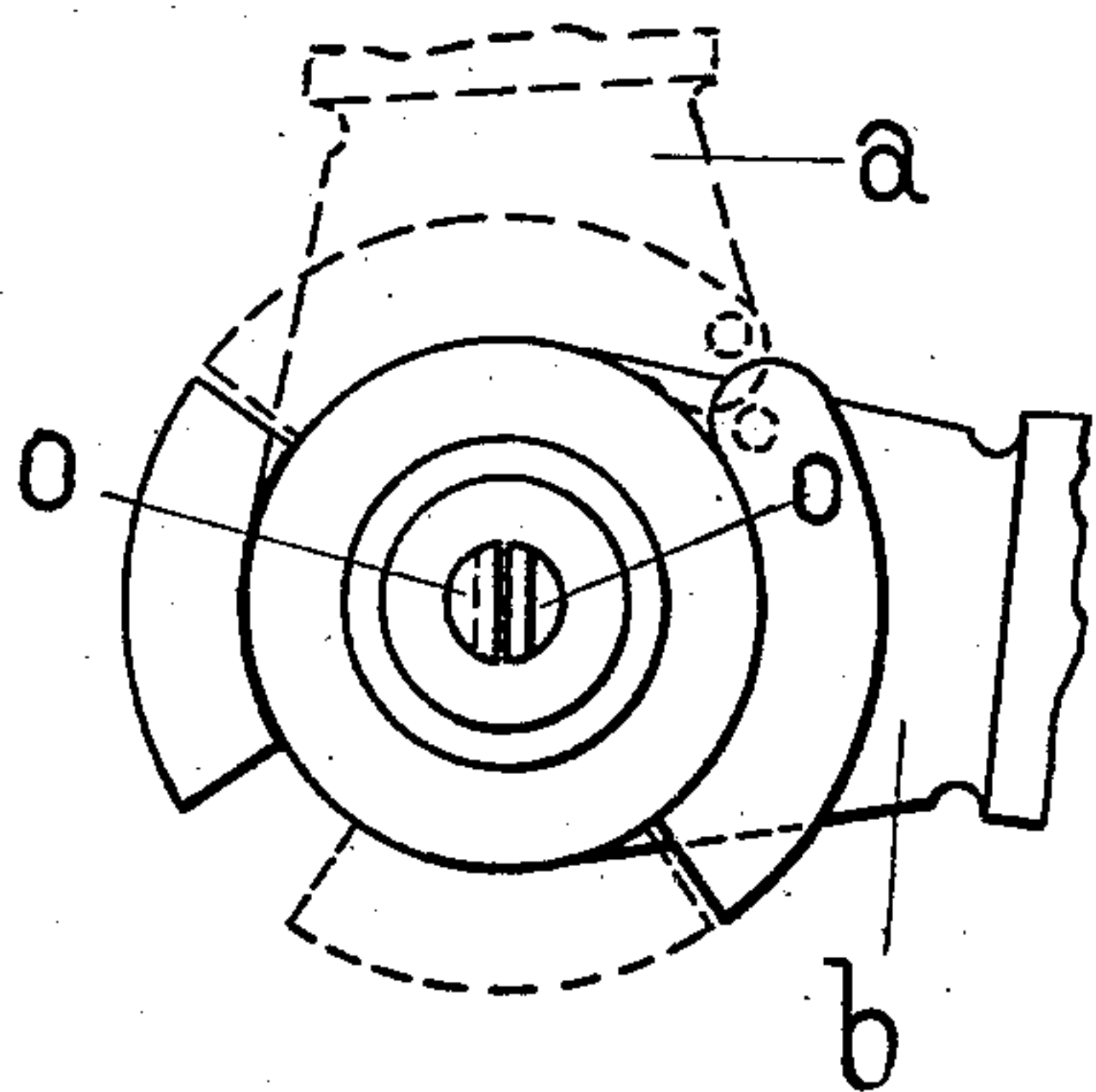


FIG. 3.

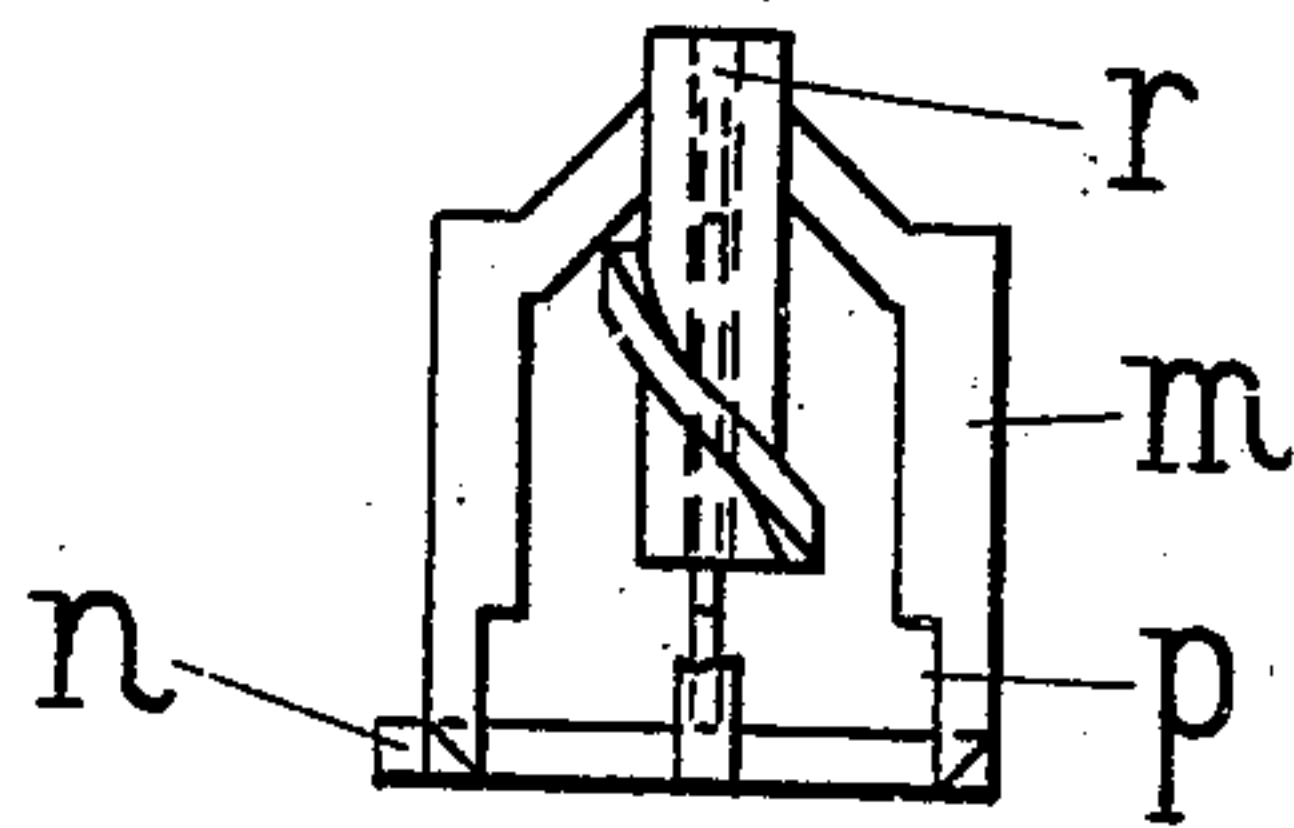


FIG. 4.

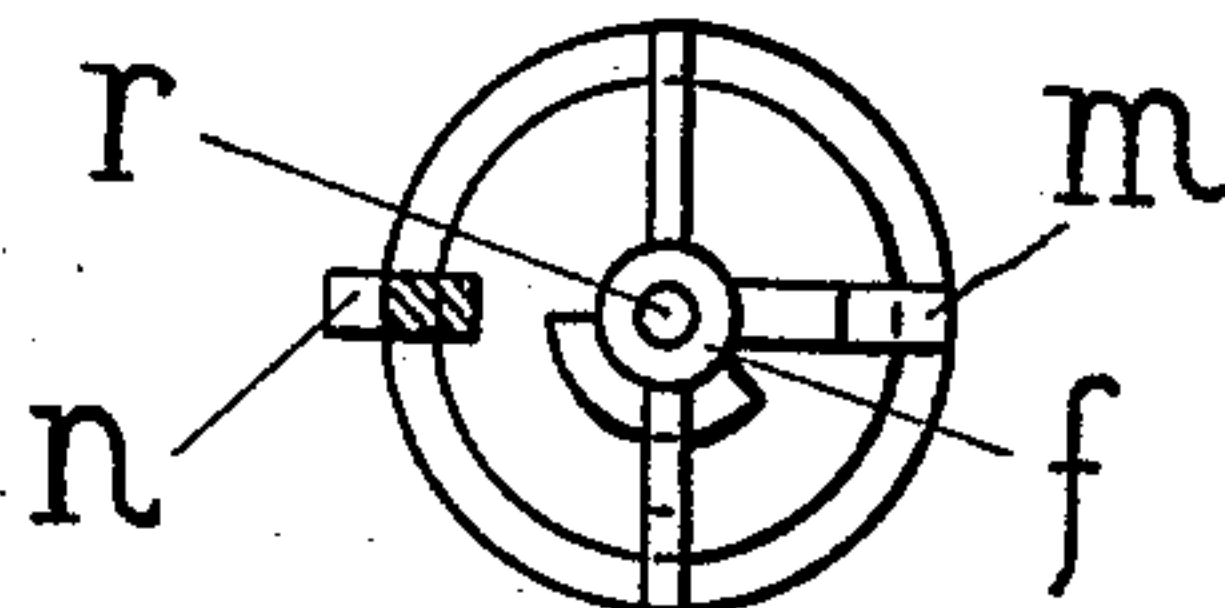


FIG. 5.

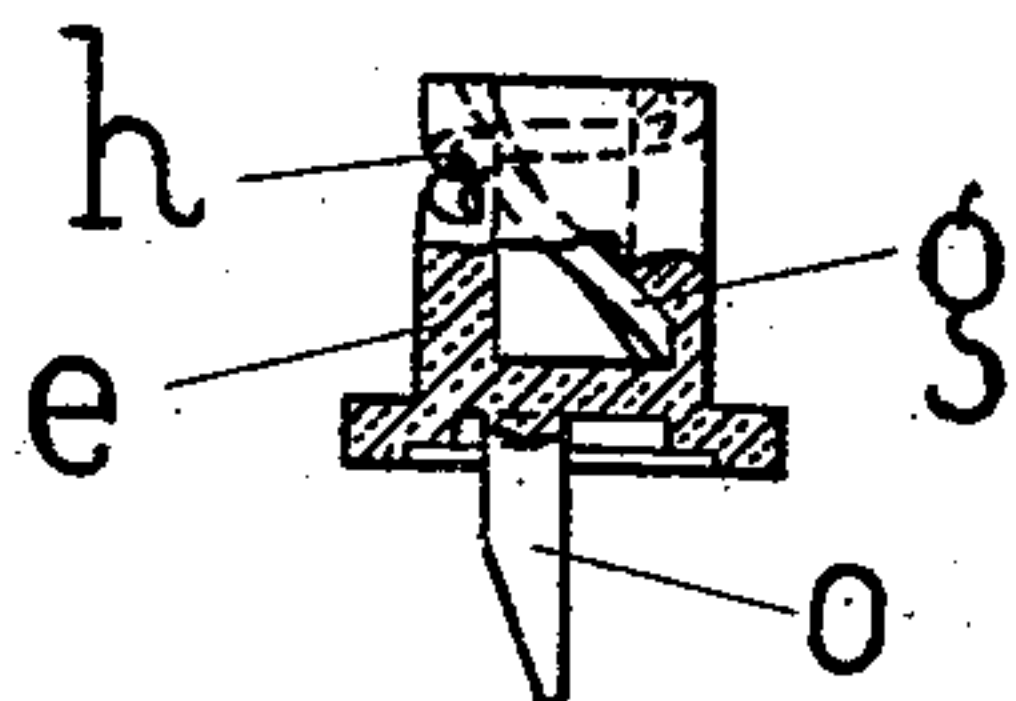


FIG. 6.

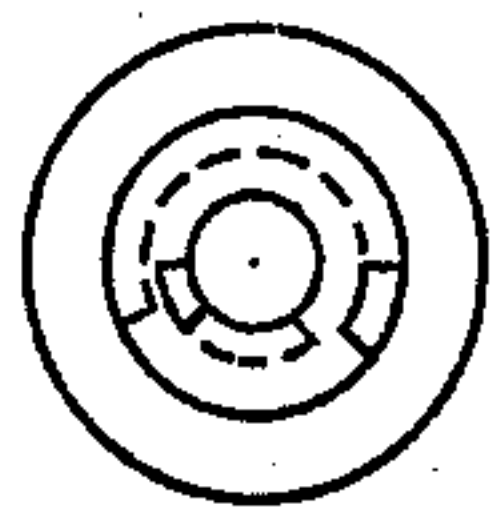


FIG. 7.

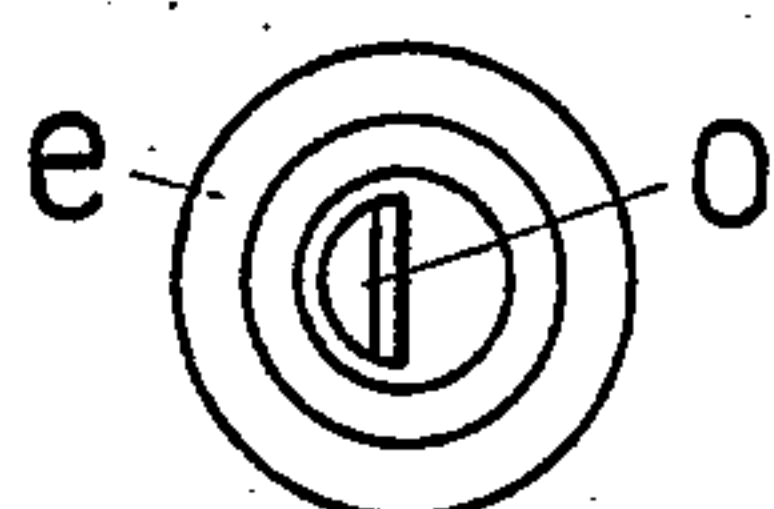
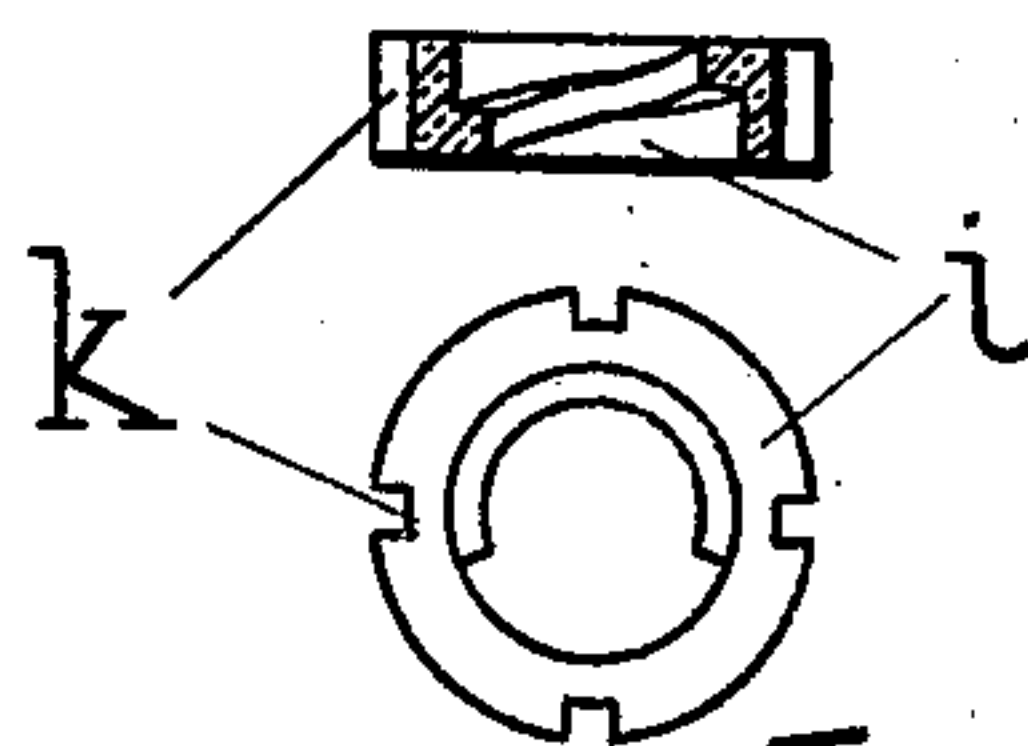


FIG. 8.



Witnesses:

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# UNITED STATES PATENT OFFICE.

KÁLMÁN RÁTH, OF SZABADKA, AUSTRIA-HUNGARY.

## SAFETY HOSE-COUPLING FOR RAILWAY AIR-BRAKES.

No. 910,579.

Specification of Letters Patent.

Patented Jan. 26, 1909.

Application filed March 15, 1907, Serial No. 362,570. Renewed December 12, 1908. Serial No. 467,219.

*To all whom it may concern:*

Be it known that I, KÁLMÁN RÁTH, a citizen of the Kingdom of Hungary, and resident of Szabadka, Austria-Hungary, have invented certain new and useful Improvements in Safety Hose-Couplings for Railway Air-Brakes, of which the following is a specification.

The present invention relates to a hose-coupling for railway air-brakes, for instance Westinghouse brakes, and is arranged in such a manner that when the coupling is effected a free communication between the sections of hose or train pipe is automatically established, and that when uncoupling is effected each is closed without it being necessary to employ cocks near the ends of the sections as at present. Thus, a refilling of the air-conduit or train pipe, which requires much time, is avoided, since the compressed air remains inclosed within the disconnected sections. On the other hand, when the train is severed, the compressed air can escape, so that the brakes are applied in the known manner, and the detached wagons are brought to a standstill.

A further advantage of this hose-coupling is that the attendants do not run the risk of their eyes being injured by the escaping compressed air.

Upon the accompanying drawings: Figure 1 is a longitudinal section of the general arrangement, Fig. 2 a plan, Figs. 3 and 4 a side view and plan respectively of the valve guide, Figs. 5, 6 and 7 are respectively a side view partly in section, a plan and a reverse plan of the shut-off valve, Fig. 8 shows the guiding of the valve in section and in reverse plan.

The ends of the hose are provided with coupling heads *a* and *b*, which in the known manner can be connected with each other by a turning movement, whereby the flanges *c* of the one head become engaged with the projections *d* of the other. According to the present invention these coupling heads are widened out, so as to form valve casings, and within each of them a valve *e* is arranged, which is centrally guided by means of the screw *f* having an external quick pitched thread. The bore of the valve is provided with a corresponding internal thread *g* (Fig. 5). Into the upper part of the body of the valve a thread *h* of slow pitch is cut, adapted to receive the threaded ring *i* (Fig. 8). The latter is provided with notches *k* by means of

which the ring *i* is centrally guided along the ledges or guides *m*. The guides *m* are rigidly connected on the top to a screw *f*, and below to a ring, which is firmly connected with the valve-casing by means of a snug *n*, fitting into a recess in the valve-casing. A rod *o* of semicircular section projects from the center of the bottom face of the valve-body *e*, the flat part of it, when both valve-casings are connected, resting against the flat part of the rod *o* of the other valve.

Both valves, previously to being connected together, rest upon their seats *l*, so that the casings or hose respectively are not in communication with each other. This position of the valve-casings is shown in Fig. 2. As soon, however, as the casings *a*, *b*, and with them the guides *m*, rings *i*, and spindles *f* are turned, in order to connect the valves, the flat portions of the rods *o* are pressed towards each other, whereby the valves, owing to the resulting torsional movement, slide along the screws *f*, and are lifted off their seats, so that the air-conduits can communicate with each other (Fig. 1). In order to limit the stroke of the valves, the guides are provided with stops *p*, the height of which corresponds with such a turning movement, that the position of both casings, as shown in Fig. 2, will be altered by 90 degrees. Consequently, by means of this device, between the different carriage-conduits or sections of train pipe, by simply connecting the casings, a free communication can be established, while hitherto it has been usual to provide the ends of the air-conduits or sections of train pipe with cocks, which, after a connection is made, are separately opened. The casings are disconnected by turning them in an opposite direction, whereby the valves are forced to their seats, thus closing the air-conduits before both casings have been wholly separated, whereby the compressed air is retained within the conduits. In case of excessive strain the gaskets give way sufficiently to let the flanges past each other by a simple longitudinal motion so that when the train is severed, the automatic brake will come into effect, since the friction between the threads *h* and *i* is quite sufficient to retain the valves in the raised position, so that an accidental closing of the air-conduit cannot occur. In order to secure a greater safety with regard to the working of the valves, the weight of the latter—for instance by means of a filling of lead—may



be unevenly distributed in such a manner that a torsional moment is obtained, which will prevent the valve from moving towards its seat. The screw *f* may also be provided  
 5 with a bore *r*, into which a spring may be placed, in order to increase the friction between the threads *h*, *i*, and also to maintain sufficient resistance in case the threads become worn.

10 Existing air-brakes may be provided with the hose-coupling described without serious changes being necessary, since all that is required is to exchange the coupling heads only, or to enlarge them, everything else re-  
 15 maining unaltered. In case an old coupling head is to be connected to a new one, the valve *e* of the latter is first turned by hand by means of the rod *o* and thus brought into position for opening.

20 What I claim, and desire to secure by Letters Patent, is:

1. In a safety hose-coupling for railway air brakes, valve casings fastened to the ends of the hose, valves arranged within the cas-  
 25 ings, rods of semicircular section projecting from the center of the lower surfaces of the

valves, screws for guiding the valves, a threaded ring adapted to engage with a thread of slow pitch cut into the upper part of the valve body, notches on the periphery  
 30 of the threaded ring adapted to engage with ledges rigidly connected to the valve guiding screws and the casings.

2. In a safety hose-coupling for railway air brakes, valve casings fastened to the ends  
 35 of the hose, valves arranged within the casings, rods of semicircular section projecting from the center of the lower surface of the valves, screws for guiding the valves, a threaded ring adapted to engage with a  
 40 thread of slow pitch cut into the upper part of the valve body, a spring placed into a bore of the valve guiding screw in order to increase the friction between the threads of the ring and valve body.  
 45

In witness whereof I have hereunto set my hand in presence of two witnesses.

KÁLMÁN RÁTH.

Witnesses:

ARNIM HISZBERG,  
 CHARLES ELWART ZATOM.