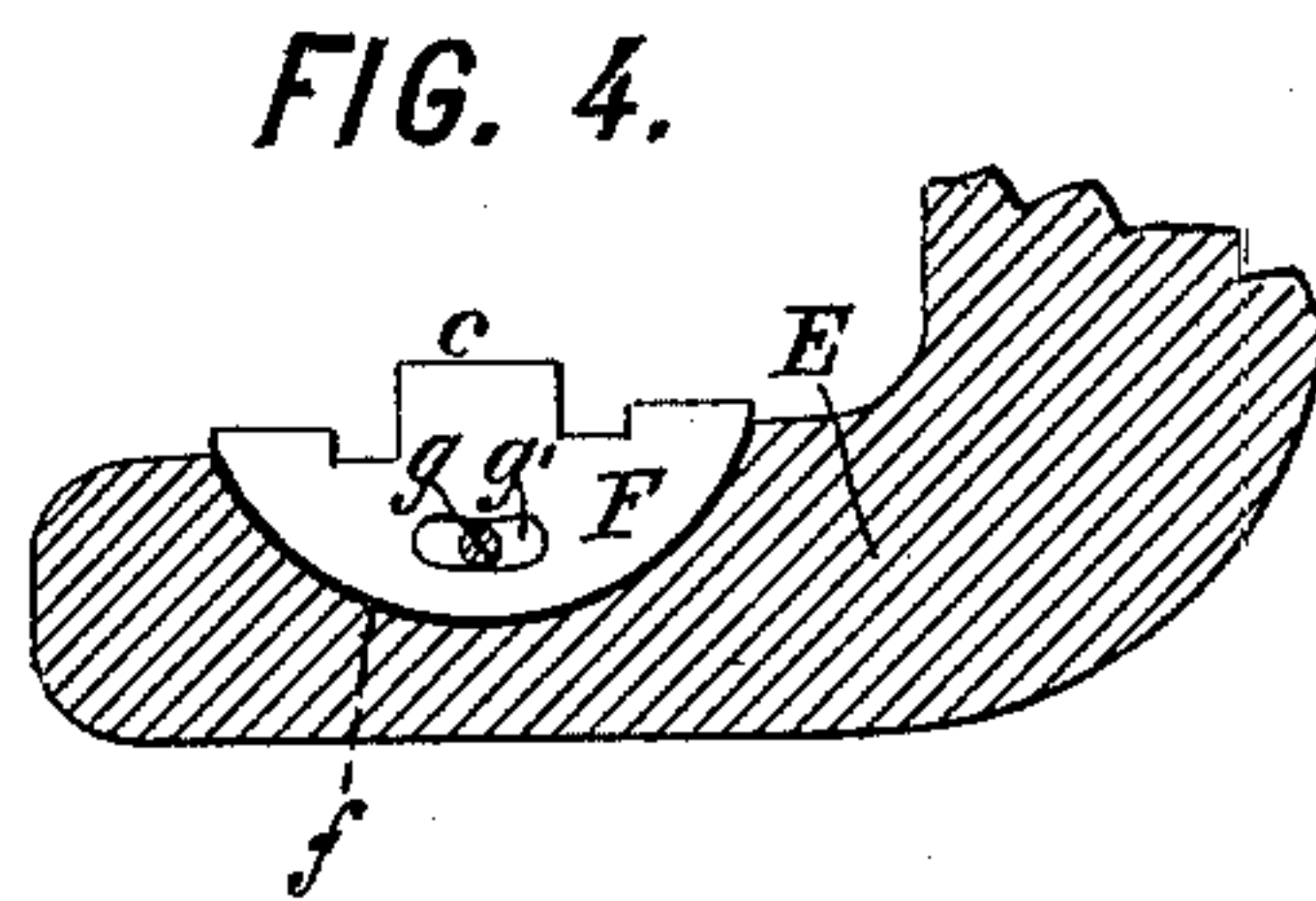
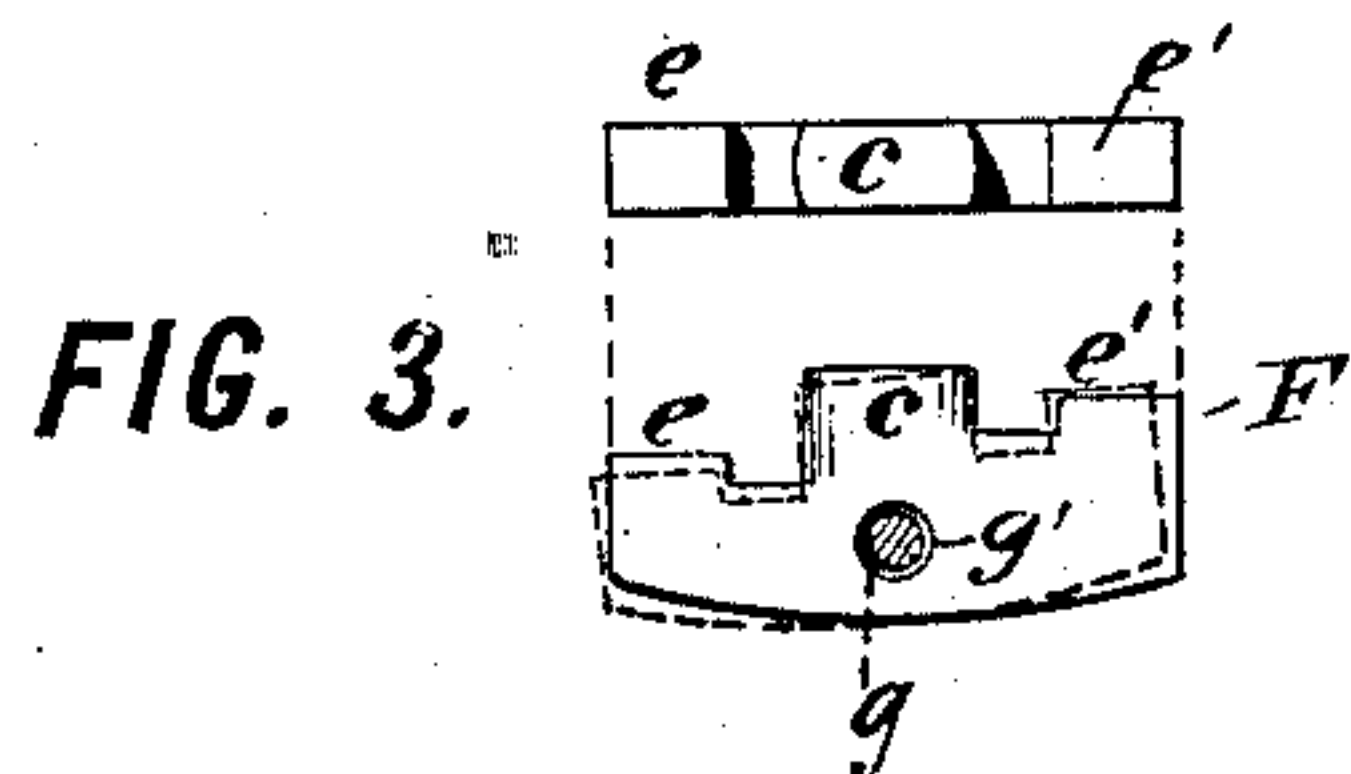
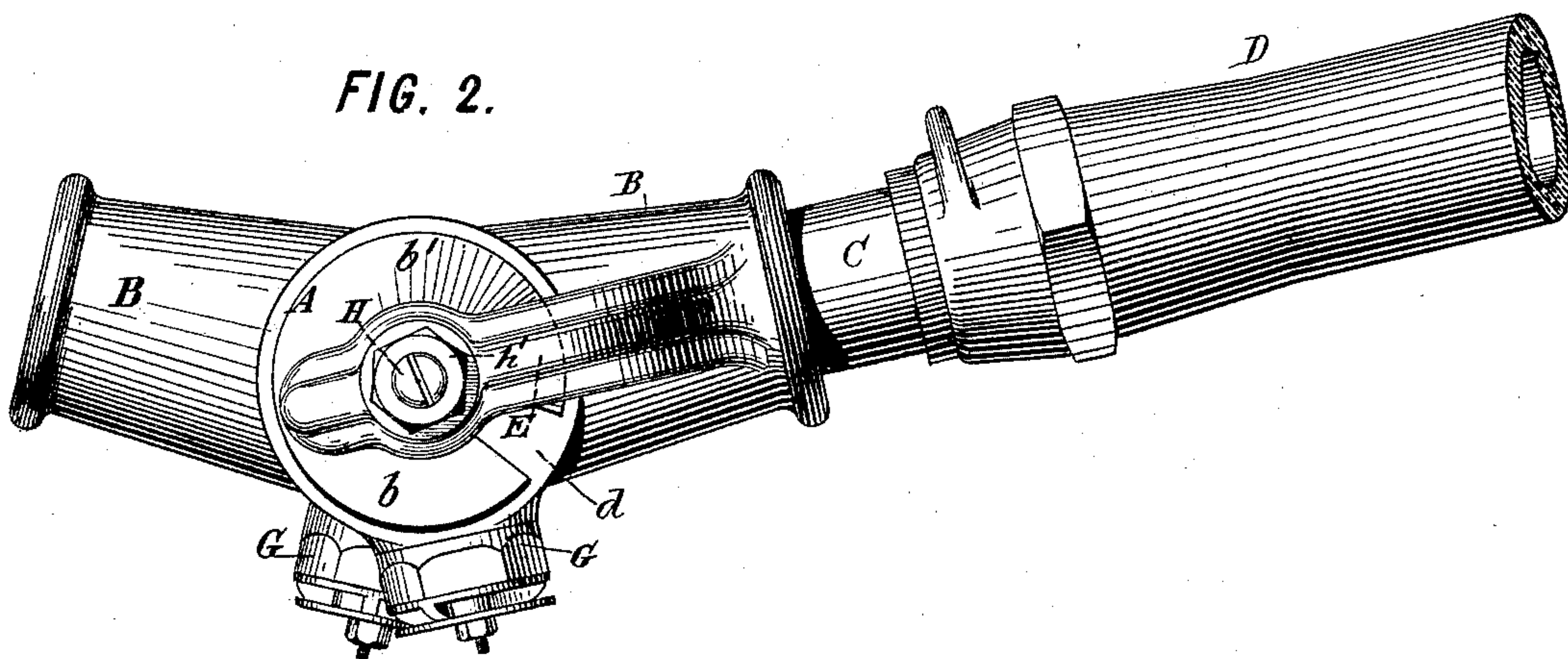
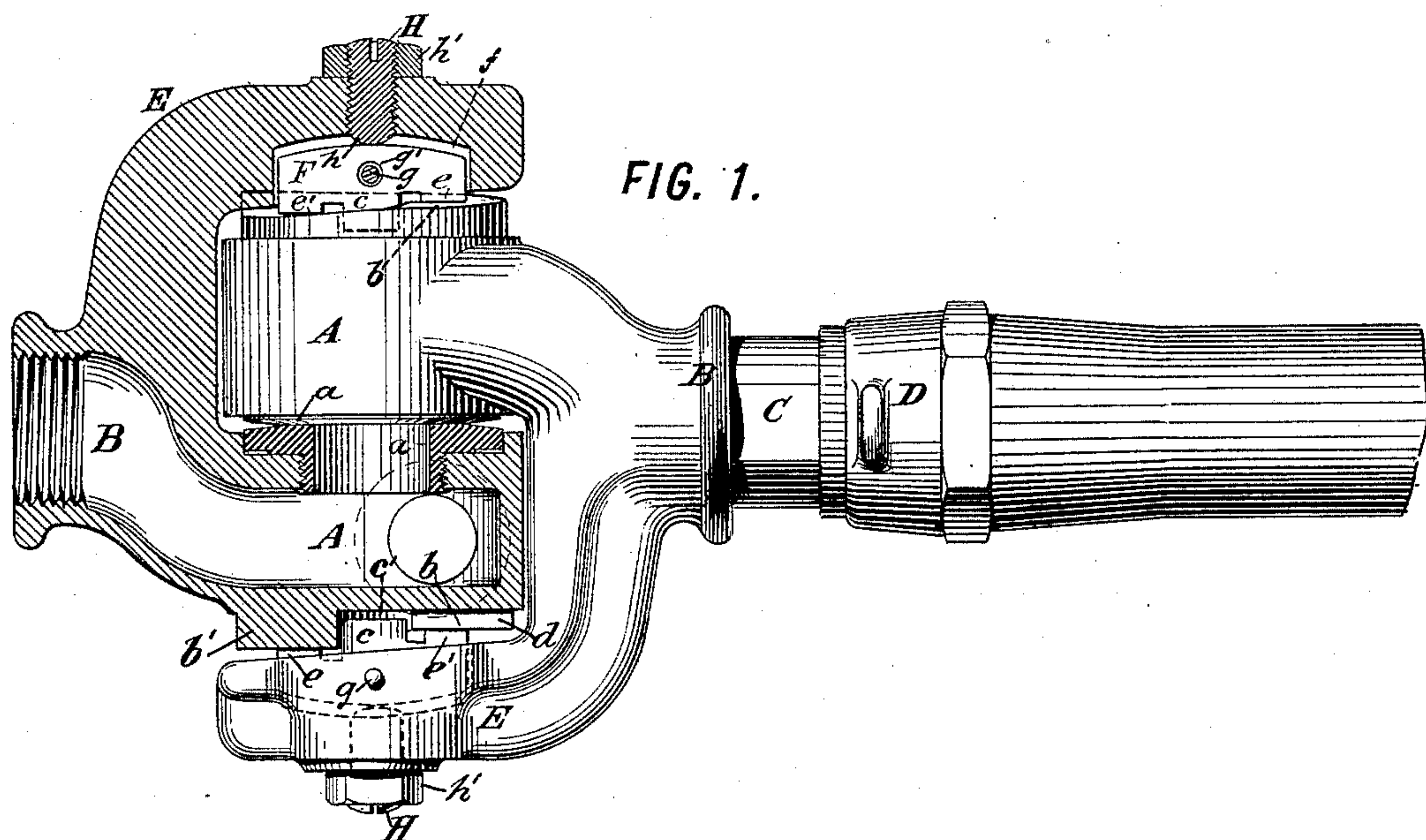


(No Model.)

E. E. GOLD.
PIPE COUPLING FOR RAILWAY CARS.

No. 435,016.

Patented Aug. 26, 1890.



WITNESSES:

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PIPE-COUPLING FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 435,016, dated August 26, 1890.

Application filed January 17, 1890. Serial No. 337,200. (No model.)

To all whom it may concern:

Be it known that I, EDWARD ETHEL GOLD, a citizen of the United States, residing in New York city, in the county and State of New York, have invented certain new and useful Improvements in Pipe-Couplings for Railway-Cars, of which the following is a specification.

This invention relates to pipe-couplings employed for connecting the length of flexible hose terminating the steam-heating or air-brake pipes on one car with a similar hose on the next car. Such couplings are already made with two laterally-engaging heads constructed to lock together with an oscillatory wedging movement and maintained in their locked condition by the sag of the pendent lengths of hose. Each head has a projecting arm constructed to embrace the other head, and formed with bearing-faces which come against wedging inclines on the back or outer side of the other head. It is to couplings of this type that my invention relates. In the construction of such couplings it has been found necessary to form the wedging inclines and the bearing-faces on the arms with great exactness, in order that they should bear evenly and force the meeting faces or seats of the two coupling-heads into contact with a uniform pressure on all sides. In case of any considerable deviation from an exact fit of the wedging inclines with the bearing-faces the seats would be forced together more tightly on one side than on the other and leakage at the other side would be apt to occur.

The object of my present invention is to provide a construction which shall insure the correct fitting and tight seating of the coupling-heads without demanding any extreme nicety of fitting or proportioning. To this end I provide the arm with a pivoted or rocking lever, on which the bearing-faces are formed, so that it is this lever which comes in contact with the wedging inclines on the opposite head, and by the rocking of the lever the two bearing-faces are caused to wedge with equal tightness against the inclines. I provide also means for adjusting the lever so as to make a tighter or looser fit, and thereby insure the tight locking of the coupling with a greater or less angle of oscillation, as may

be desired. The same construction serves also to compensate for wear.

Figure 1 of the accompanying drawings is a plan view of two coupling-heads united, the one being shown in elevation and the other in mid-section. Fig. 2 is a side elevation of the coupling-heads. Fig. 3 shows the rocking lever removed. Fig. 4 is a fragmentary section showing a modification.

The particular construction of coupling to which I have shown my invention as applied is the one described and claimed in my patent, No. 392,424, dated November 6, 1888, and shown in Figs. 1 to 5 of the drawings thereof, with, however, some slight modifications in proportion and details of construction.

The coupling is constructed with two heads A A, which come together laterally, being provided with valve-seats *a a*, through which the communicating openings are formed. Each head communicates by an opening or passage with a neck B, to which is screwed or otherwise united a union C of any suitable construction, by which the end of the flexible hose D is connected to the coupling. Each head is provided with an arm E, extending laterally sufficiently far to admit the other head A between this arm and the head. On the back or outer side of each head A are formed wedging inclines *bb'*. These are preferably constructed as a continuous spiral incline; but they may be constructed as separate inclines, which they essentially are. The arm E is provided with a pintle projection *c*, which enters a socket *c'* in the center of the back or outside of the other head, by which the two heads are pivoted together in their oscillatory movement. From this socket a groove *d* extends radially outward on the side of the head opposite the neck B.

In putting the coupling-heads together they are held both horizontally in the same plane, and the pintle projection *c* of each is entered through the groove *d* in the head of the other until the pintles are brought into the sockets *c'*, whereby the seats *a a* are brought into coincidence. The heads are then relatively oscillated by turning them both downwardly into the position shown in Fig. 2. In so doing bearing-faces *e e'*, carried by the arm E, are caused to bear against the inclines *b b'*,

and by the wedging inclination of the latter to force the two heads A A firmly together so that their seats are pressed into tight contact.

Heretofore the pintle projections *c* and the bearing-faces *e e'* have been formed rigidly on the arm E. According to my invention I form these parts on a separate piece, which constitutes a rocking lever F, which is shown detached in Fig. 3. This lever is housed within a recess *f*, formed in the end of the arm, with its portions *e e'* projecting sufficiently to perform their office. The lever is retained in place by a transverse pivotal pin *g*, which passes loosely through a hole *g'* in the lever. Preferably, however, the lever is not pivoted on this pin, but has a rocking fulcrum *h*, behind which takes the thrust of the wedging inclines and transmits this thrust to the arm E. This rocking fulcrum is made adjustable in order to regulate the extent of projection of the bearing-faces *e e'*, and thereby to regulate the angular extent of oscillation of the respective heads, which shall be necessary to press their seats tightly together. This adjustability of the rocking fulcrum *h* is preferably attained by constructing it as the end of a screw H, screwing into a threaded hole in the arm E and fastened by a set-nut *h'*, screwing on it against the outer side of the arm. The hole *g'* is made large enough to allow of the necessary adjustability, so that in fact the sole function of the pin *g* is to prevent the lever F dropping out. As the parts of the coupling are put together and oscillated, the lever F rocks until its two bearing-faces *e e'* both bear with equal firmness against the wedging inclines *b b'*. Thus the lever adjusts itself to any inequality in these inclines due to imperfect fitting originally or to wear, and also by its rocking movement compensates for the wear of the faces *e e'* themselves. The effect of this automatic compensation is to insure that the seating-faces shall be pressed together with equal force on all sides, so that a tight joint between the seats of the coupling-heads is assured. In case it be found that from imperfect adjustment originally, or by reason of wear, the faces *e e'* do not project sufficiently, and hence the coupling-heads require to be oscillated to too great an angle in order to fit them tightly together, the screw H may be adjusted slightly forward to cause the lever F to protrude somewhat farther beyond the arm. The construction of the pintle *c* on the lever F is not essential, but is the most convenient construction.

Fig. 4 shows an equivalent of a rocking lever, the rocking piece F', which performs the same function, being formed with an arc-shaped outline which fits against the arc-shaped bottom of the recess *f* in the arm E.

The tilting or compensating action is substantially the same as that of the lever first described.

In Fig. 2, G G are automatic drainage-traps applied on the under sides of the coupling-heads in substantially the manner illustrated in my said previous patent.

I claim as my invention the following defined novel features or combinations, each substantially as hereinbefore specified, namely:

1. In a hose-coupling of the described class, the combination, with the coupling head and arm, of a rocking lever carried by the arm and adapted to bear on opposite sides of its fulcrum against the wedging inclines on the other head, whereby by its rocking movement it may adjust itself to said inclines and equalize the pressure against each.

2. In a hose-coupling of the described class, the combination, with the coupling head and arm, of a rocking lever carried by the arm and adapted to bear on opposite sides of its fulcrum against the wedging inclines on the other head, and an adjusting-screw for setting said lever toward or from the other head, whereby it may be adjusted and its wear taken up.

3. In a hose-coupling of the described class, the combination, with the coupling head and arm, of a rocking lever carried by the arm and adapted to bear on opposite sides of its fulcrum against the wedging inclines on the other head, an adjusting-screw, against which said lever rocks at its fulcrum, and a pin passing loosely through a hole in the lever to retain it in place and admit of its adjustment.

4. In a hose-coupling of the described class, the combination, with the coupling head and arm, the latter formed with an elongated cavity in its inner side, of a lever pivoted in said cavity and projecting therefrom on opposite sides of its fulcrum to form bearing-faces for engaging the wedging inclines on the other head.

5. In a hose-coupling of the described class, the combination, with the coupling head and arm, of a rocking lever carried by the arm, formed with bearing-faces on opposite sides of its fulcrum adapted to bear against the wedging inclines on the other head and formed between said bearing-faces with a pintle projection adapted to enter the central socket in the other head.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

EDWARD ETHEL GOLD.

Witnesses:

GEORGE H. FRASER,
JNO. E. GAVIN.