

(No Model.)

J. T. HAYDEN.
COUPLING FOR AIR BRAKES.

No. 481,651.

Patented Aug. 30, 1892.

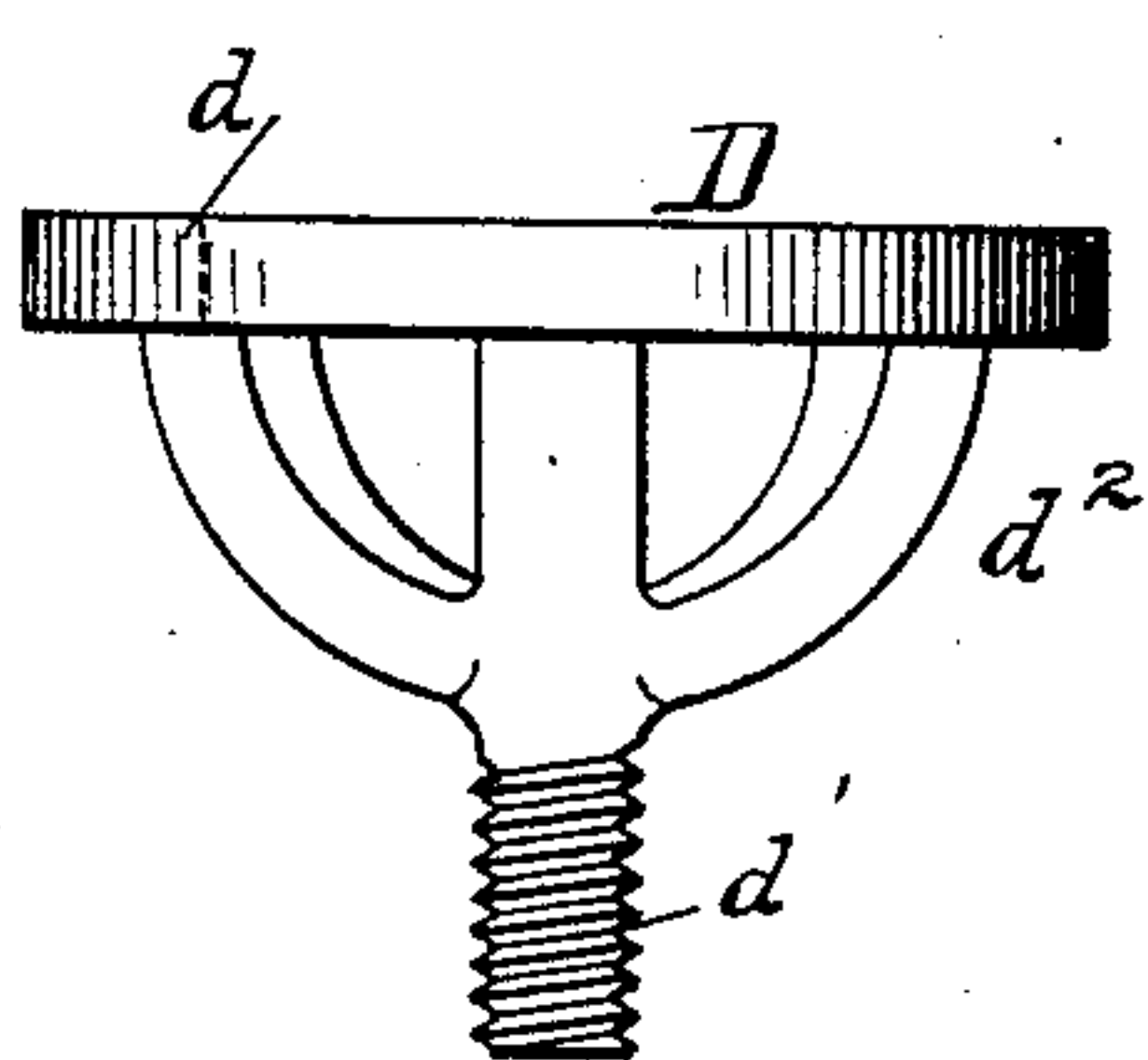
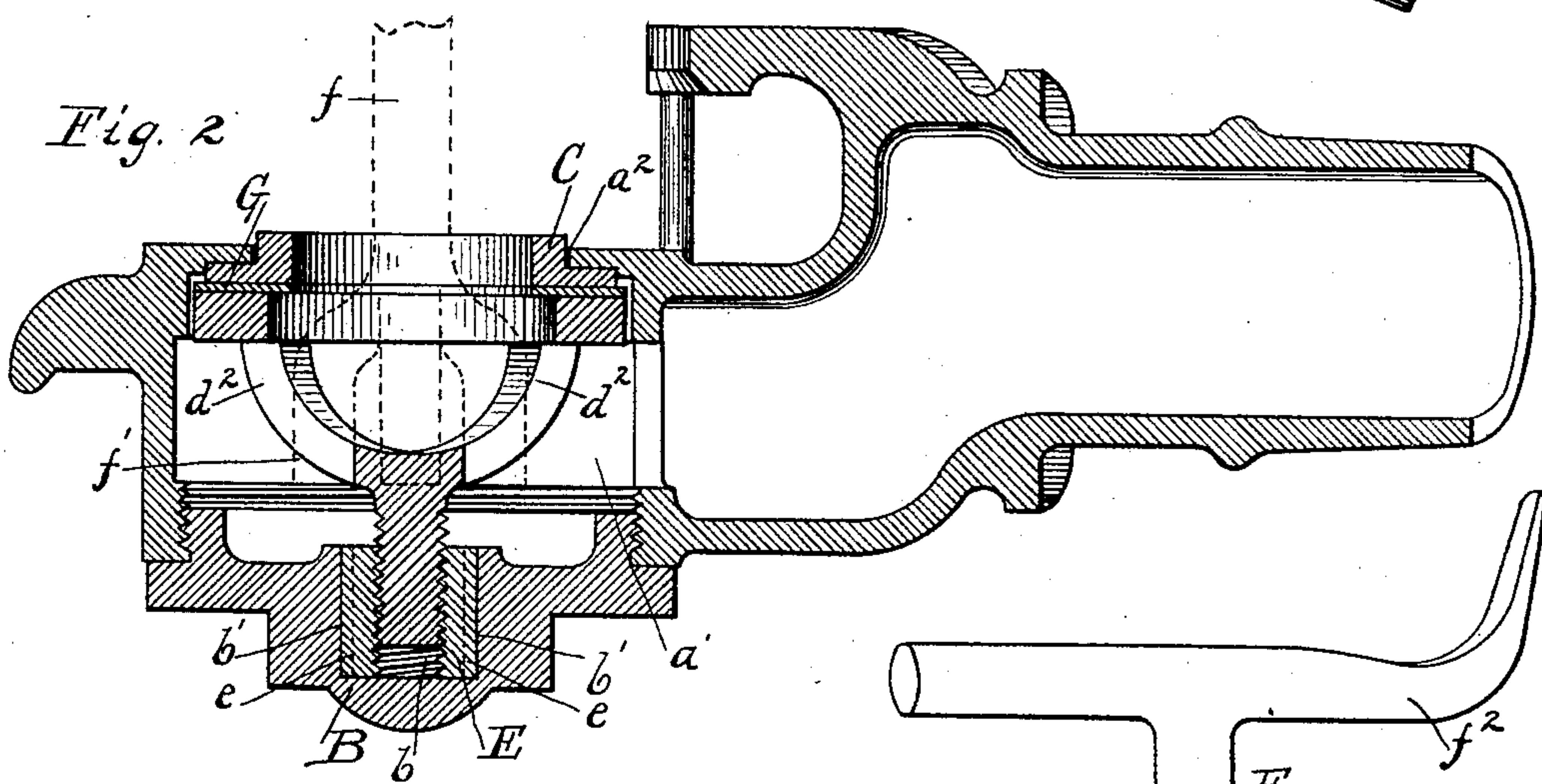
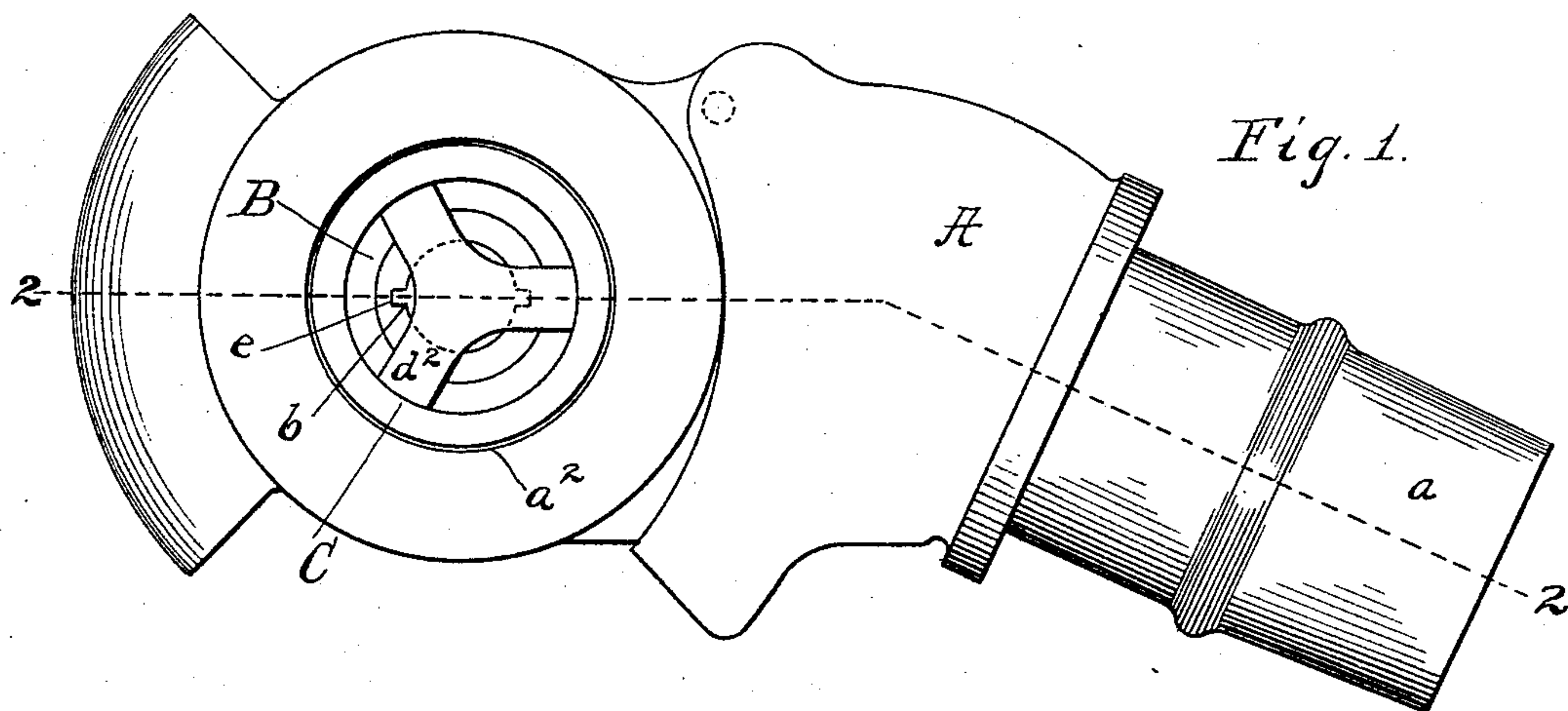


Fig. 3.

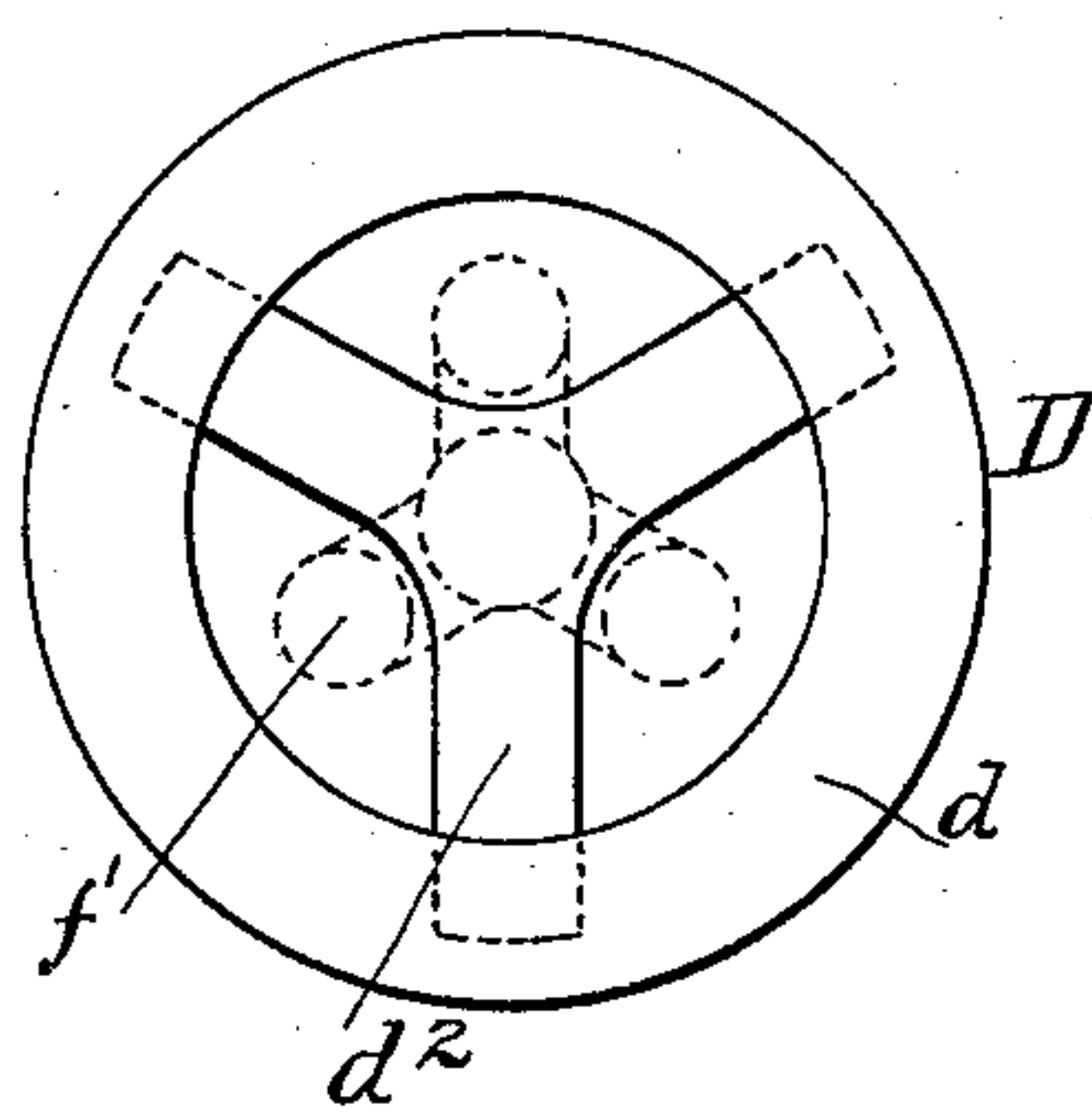


Fig. 4.

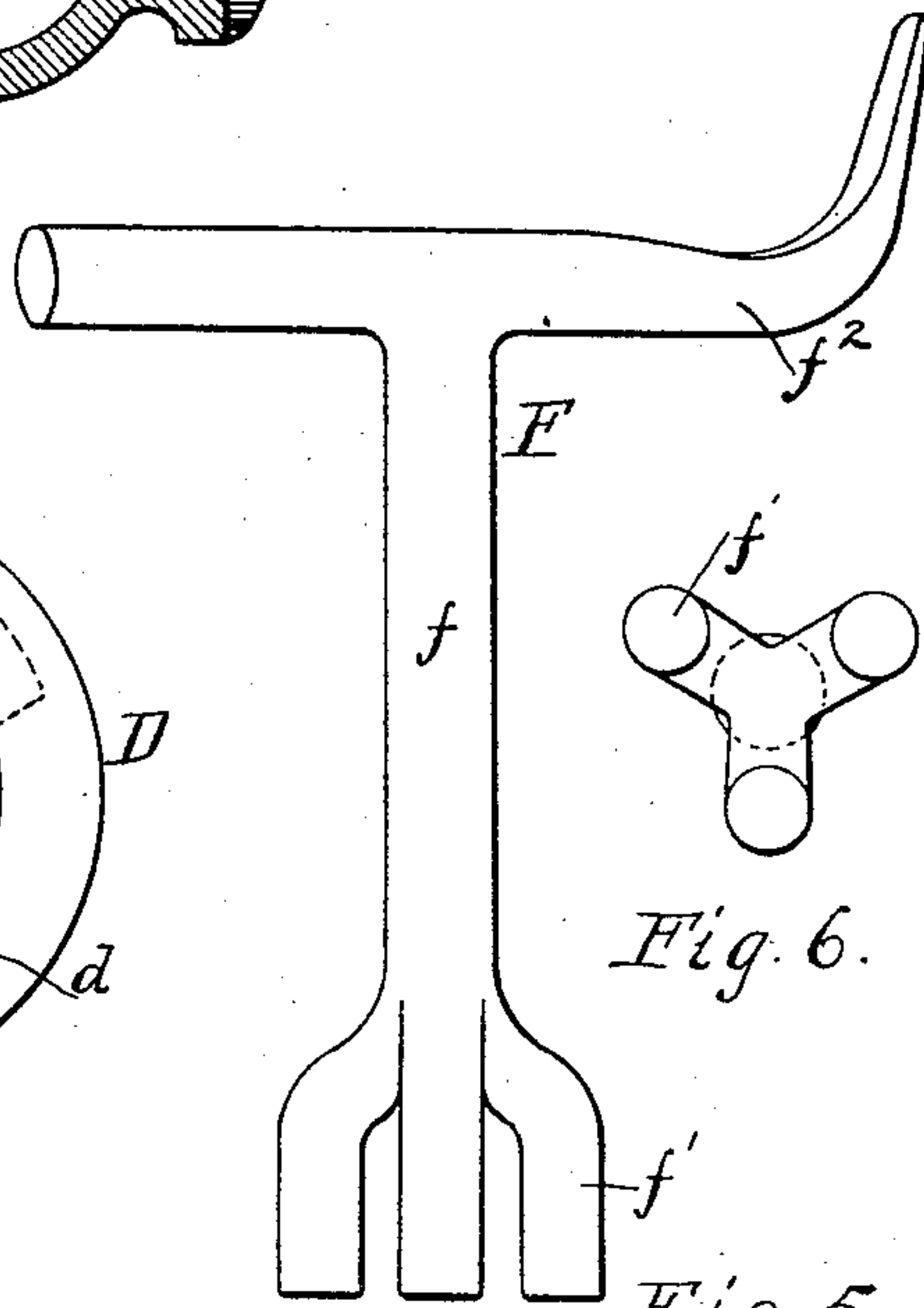


Fig. 6.

Fig. 5.

Witnesses
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COUPLING FOR AIR-BRAKES.

SPECIFICATION forming part of Letters Patent No. 481,651, dated August 30, 1892.

Application filed March 31, 1892. Serial No. 427,197. (No model.)

To all whom it may concern:

Be it known that I, JAMES T. HAYDEN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Couplings for Air-Brakes, which are fully set forth in the following specification, reference being had to the accompanying drawings, in which—

10 Figure 1 represents a plan view of one of the half-sections of a coupler embodying my invention; Fig. 2, a section of the same, taken on the broken line 2 2 of Fig. 1; Fig. 3, an elevation of the gasket-retainer detached; 15 Fig. 4, a plan view of the same; Fig. 5, an elevation of the wrench for operating the retainer, and Fig. 6 an end elevation of the same.

My invention relates to brake-hose couplings for the main air-pipes which are employed in automatic air-brake apparatus for railway-cars. In these couplings as heretofore constructed the device for setting the gasket and retaining it upon its seat is reached only by 25 the removal of the cap, and in fact is actuated by the cap.

The object of my invention is to provide a gasket-retainer which may be adjusted irrespective of the cap and without moving the 30 latter, so that there is no necessity for disturbing the cap unless it is desired to take out the retainer bodily or to reach the interior of the coupler for some other purpose.

I have shown in the drawings and will now 35 describe in detail the construction and operation of a coupler in which my invention is practically embodied so far as is necessary to an understanding thereof, and will then point out in the claims the particular improvements 40 which I believe to be new and wish to secure by Letters Patent.

The coupler is of the well-known type, composed of two parts or half-sections substantially alike in general features. So far as my 45 present improvement is concerned, it will be the same in each of these sections. Hence it is necessary to show only one of them, and inasmuch as the main features of this section are the same as in couplers now well known 50 and in general use it will be necessary only

to particularly describe the special parts to which my invention relates.

In the drawings, A represents the coupling-case, which is of ordinary construction, being provided with a tubular stem *a*, to which the 55 coupling-hose is attached, and a circular chamber *a'* at the other end thereof, at the inner side of which is the communicating passage or air-outlet *a''*. The outer end of this chamber is covered by the usual coupling- 60 cap B.

The communicating-passage or outlet-opening *a''* is fitted with an ordinary gasket or coupling packing-ring C, of rubber or other suitable material. This packing-ring in couplers heretofore known is set and held in position by a retainer or washer, which is either 65 integral with the cap B or is moved by it, so that the retainer is actuated by the turning of the cap and is dependent entirely upon the 70 latter. Very frequently the cap will stick, so that there will be more or less trouble and delay in loosening it, and the proper setting of the packing-ring is dependent entirely upon the proper adjustment of the coupling-cap. 75

I propose to make the adjustment of the packing ring, washer, or retainer entirely independent of the movement of the cap, so that it may be effected without moving the 80 cap whatever and through the connecting or outlet passage of the case. To accomplish this, I provide a retainer D, which is a part separate from the coupling-cap. It consists of a ring *d*, which is adapted to fit upon the 85 inner side of the packing-ring, and may be called the "washer" for this ring. At the other end of the retainer there is a threaded stem *d'*, and these two parts are connected by curved ribs *d''*, making a kind of skeleton 90 structure, as seen in Figs. 3 and 4. This retaining device is mounted by its threaded stem in the coupling-cap, and for this purpose the latter is provided with a socket *b* in its inner face, in which is set a bushing E, threaded internally, whereby it is adapted to 95 receive the threaded stem of the retainer, as seen in Fig. 2. If the socket *b* and bushing E are circular, it is of course desirable to provide some means for fixing the latter in the former. For this purpose shallow grooves *b'* 100

are made in the sides of the socket and the bushing is provided with splines *e*, adapted to fit these grooves, so that when set in place it cannot be turned about in the socket. Now
 5 it is obvious that this packing-ring retainer may be adjusted within the chamber of the coupling-case independently of the cap by means of some suitable device, which may be passed through the packing-ring and engaged
 10 with the retainer. Any suitable device may be provided for this purpose, the retainer being constructed so that the two may be engaged, and I do not limit myself to any particular means for this purpose. In the
 15 drawings I have shown, however, a wrench *F*, which is adapted to this purpose. This wrench consists of a straight rod or body *f*, provided at one end with three prongs *f'*, which are adapted to engage with the ribs of
 20 the retainer about where they join the stem of the latter. At the other end there is a suitable handle *f*². The forked or pronged end of the wrench is considerably smaller than the opening in the packing-ring and so may
 25 be passed through the same to engage with the retainer, as described, and as indicated in dotted lines in Fig. 2. The wrench is long enough to permit the handle to stand some distance outside of the coupling when this
 30 engagement is made, so that it may be easily turned, and, obviously, the turning of this wrench will turn the retainer in its threaded bushing, and so adjust it back and forth as may be desired, without in any way interfering with the cap. Preferably I use between
 35 the rubber packing-ring and the washer-ring of the retainer a metal packing-ring *G*, as seen in Fig. 2; but this is not an essential element of my invention and may or may not
 40 be used, as preferred.

The packing-ring retainer may be removed from the chamber by removing the coupling-cap--in fact may be removed with the latter, as is obvious: but once these devices are in

their proper place in the coupling the re- 45
 tainer may be adjusted at any time, as may be required, to set the packing-ring, without in any way disturbing the cap, and so the adjustment required for the purpose of securing a perfectly-tight joint is in no way de- 50
 pendent upon the cap itself. I am therefore enabled to adjust the retainer more readily than in the ordinary construction and also to secure the more efficient setting of the packing-ring, so as to secure a perfect joint, not 55
 only with a new ring, but also as wear occurs, and also replace an old ring with a new one without removing the cap.

There may be changes in details of construction without departing from the main 60
 feature of my invention, which is an adjustable packing-ring retainer adapted to be moved to set the packing-ring independently of the cap. The particular way of mounting this retainer and the particular means for 55
 operating it are minor features of the invention, which may be varied in many ways.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is— 70

1. In brake-hose coupling, the coupling-case *A*, in combination with the coupling-cap *B*, the packing-ring *C*, and the packing-ring retainer *D*, provided with a threaded stem *d'*, set in a threaded socket in the cap, whereby 75
 the retainer may be adjusted without moving the cap, substantially as described.

2. In brake-hose coupling, the coupling-case *A*, in combination with the packing-ring *C*, the cap *B*, provided with interior socket *b*, 80
 the internally-threaded bushing *E*, set in said socket, and the packing-ring retainer *D*, provided with threaded stem *d'*, adapted to fit said bushing, substantially as described.

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Witnesses:

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