

No. 784,400.

PATENTED MAR. 7, 1905.

F. F. HOWE.
CASING HEAD.

APPLICATION FILED DEC. 8, 1904.

Fig. 1.

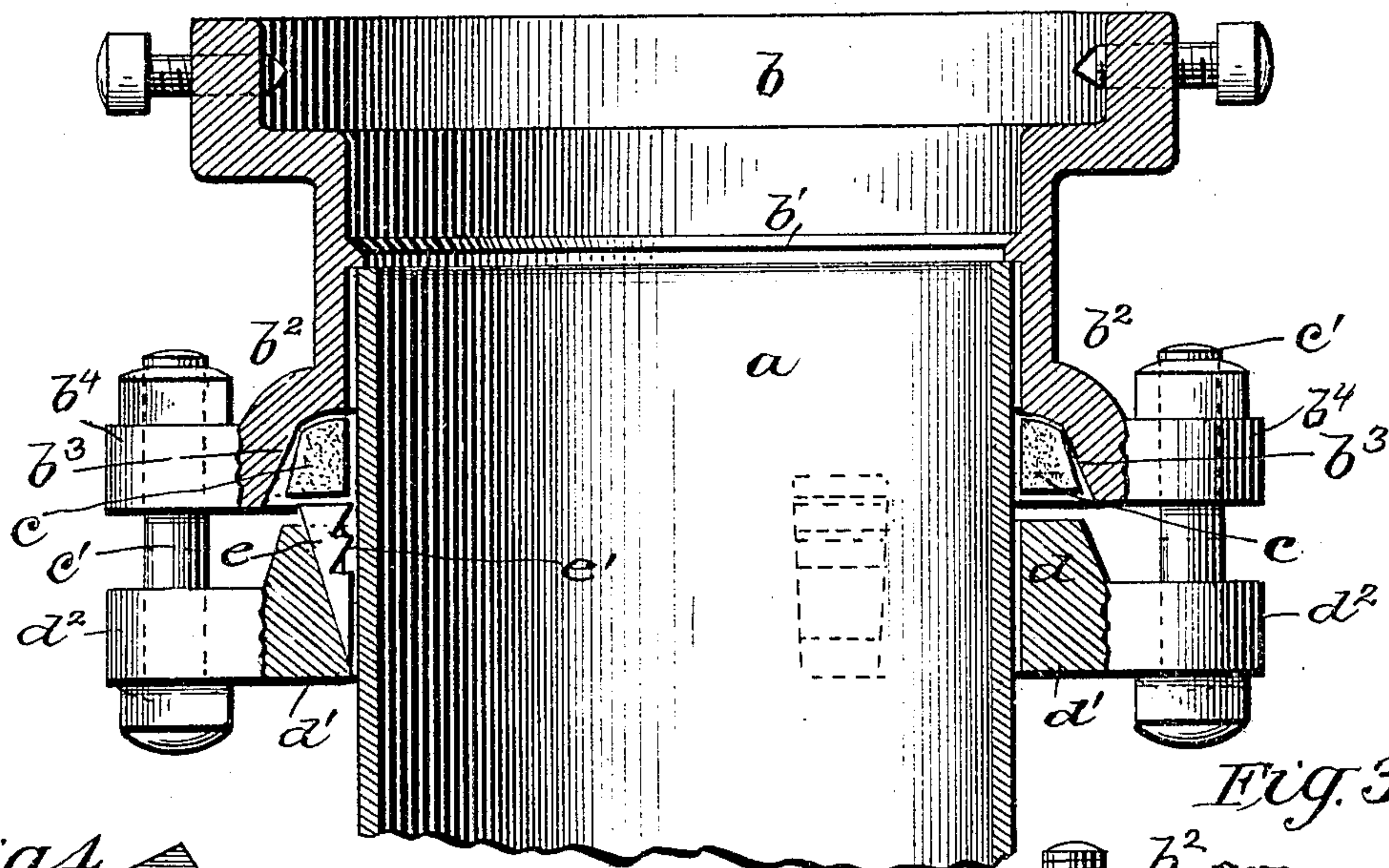


Fig. 3.

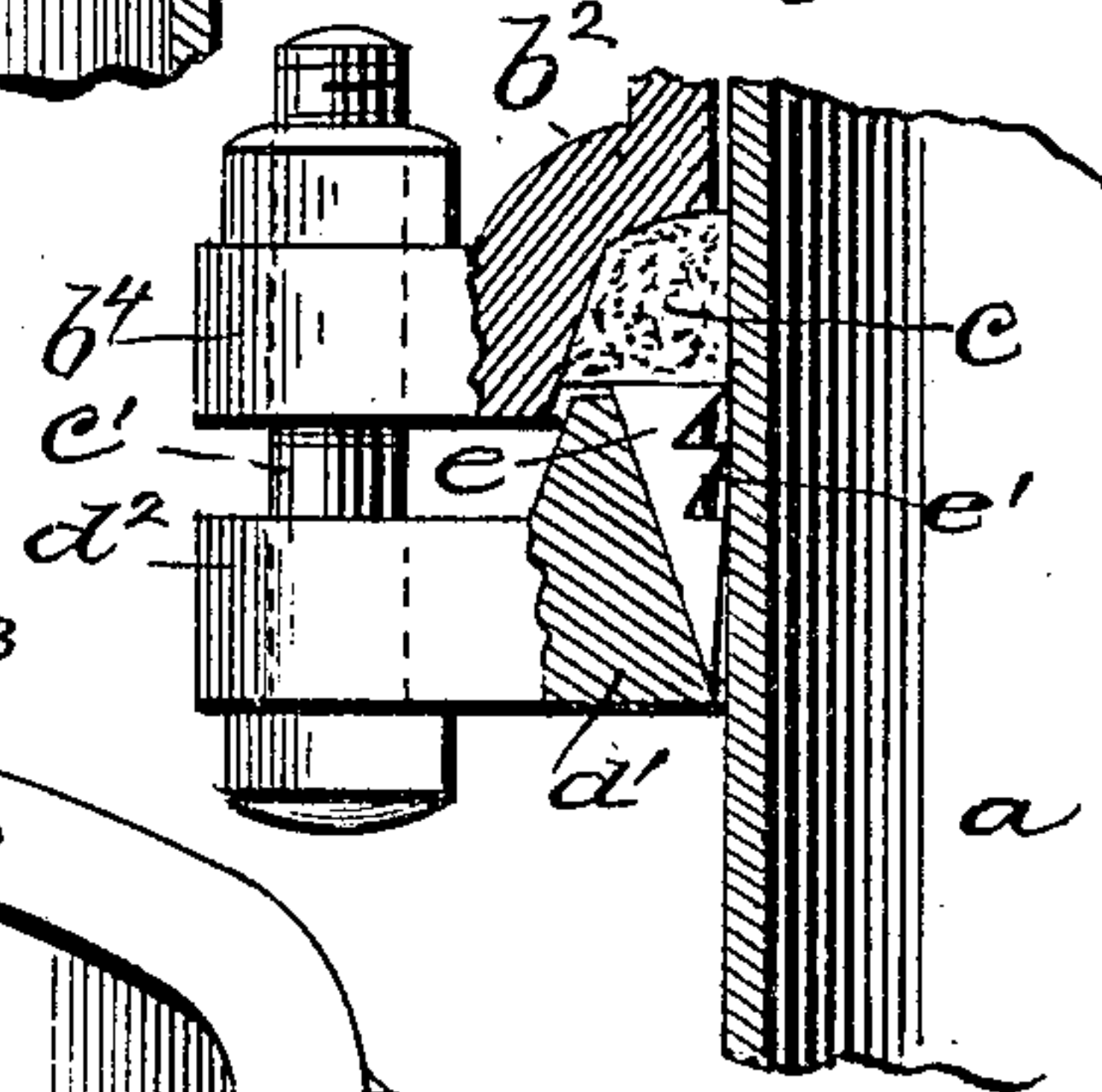


Fig. 4.

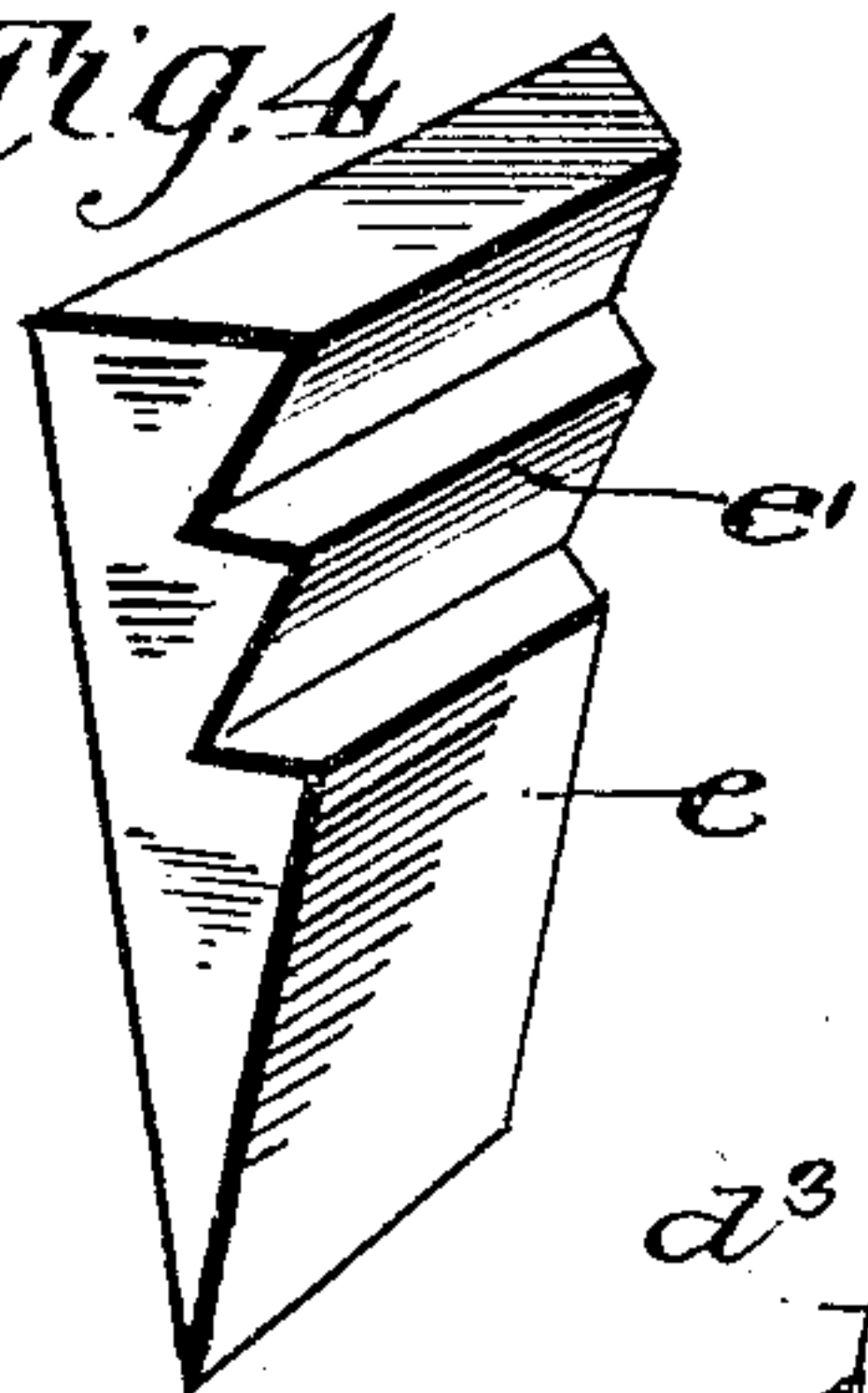
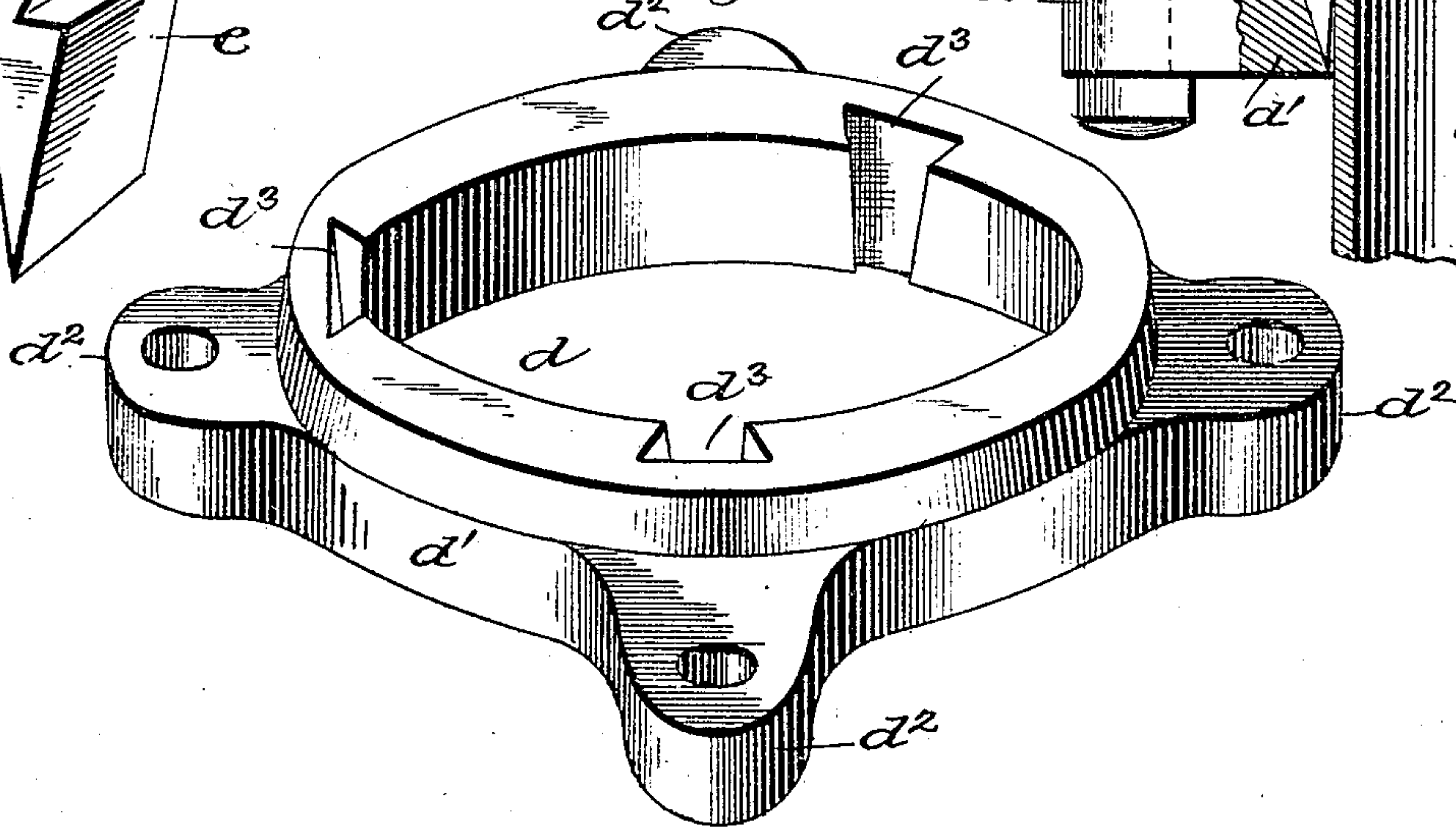


Fig. 2.



WITNESSES:

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CASING-HEAD.

SPECIFICATION forming part of Letters Patent No. 784,400, dated March 7, 1905.

Application filed December 8, 1904. Serial No. 235,965.

To all whom it may concern:

Be it known that I, FRANK F. HOWE, a citizen of the United States, and a resident of Marietta, in the county of Washington and State of Ohio, have invented a new and useful Improvement in Casing-Heads, of which the following is a specification.

My invention relates to an improvement in casing-heads and means for connecting it with the casing in oil, gas, or Artesian wells so as to prevent the leakage of fluid from the well, its object being to produce a device which shall be efficient, cheap, easily applied, and one which can be applied to varying sizes of casings.

To these ends my invention consists in certain novel features of construction, arrangement, and combination of parts, as will be hereinafter fully described, and pointed out in the claims, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical section showing my improvement as applied to a casing. Fig. 2 is a detail perspective view of the gland. Fig. 3 is a fragmentary section showing the position of the packing and the slips or gibs when the gland is forced upwardly. Fig. 4 is a perspective view of one of the slips or gibs.

a represents the well-casing, and *b* the head or bonnet, provided near its upper end with the internal annular flange *b'*, against which the upper end of the casing *a* abuts. Said head is provided with the flange *b''*, which is dished out at *b'''* to receive the packing *c*. The flange *b''* is provided with projecting lugs *b'''*, through which the bolts *c'* pass after passing through the projection *d''* on the flanged gland *d*. The projections on said flange *d'* of the gland are provided with bolt-holes through which the aforesaid bolts *c'* pass. The gland *d* is provided in its internal vertical face with a number of dovetail tapering slots *d'''*, the rear wall of which slants obliquely upwardly. Within these slots are placed what I shall designate as "slips" or "gibs" *e*, each slip or gib being slightly longer than the upright length of the slots, so that the upper ends of the slips project beyond the face of the gland adjacent to the packing *c*. The rear face of each slip is inclined to correspond with the

rear wall of the slot, and both the slots and the slips are wider at the top than at the bottom, so that said slips cannot accidentally fall out. The side walls of the slips are beveled, and the front face of each slip is provided with several transverse ridges forming teeth *e'*, the edges of which are sharpened, so as to bite against the casing when the gland is drawn upwardly by bolts passing through the gland and the casing-head flange. The slips are slightly smaller in cross-section than the slots, but of the same shape, and are made of steel or case-hardened iron.

The internal annular flange *b'* prevents the casing from shoving up or the casing-head from shoving down when the head or casing is anchored down, as in large oil or gas wells. The packing *c* shoves the slip *e* down and against the sides of the casing or pipe when the gland is pulled upwardly by the bolts *c'*, the slips being somewhat higher than the upper face of the gland. The packing is also displaced and forced against the wall of the head and casing and prevents the escape of gas or other fluid.

It will be seen that by my improved construction threading of the casing-head will be unnecessary, and the greater the length or weight of the casing the tighter will be the grip of the slips or gibs *e* upon the casing.

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

1. The combination with a casing having an unthreaded upper end, of a casing-head consisting of a bonnet having an enlarged upper end and provided with an internal annular flange intermediate its upper and lower ends adapted to be abutted by the upper edge of the casing, a gland adjustably secured to and below the bonnet, and a packing interposed between the said bonnet and the gland, and surrounding the casing.

2. A casing-head consisting of a bonnet provided with an internal annular flange and a dished flange at its lower end, packing within said dished portion, a gland adjustably secured to said bonnet and below the same, serrated slips or gibs movably held in said gland and means for forcing the gland into the dished

portion of the bonnet whereby the packing and the slips may be brought into contact with each other and forced against the outer face of a casing-pipe.

5 3. A casing-head consisting of a bonnet, provided with an internal annular flange, and a dished portion at its lower end, packing within said dished portion to surround a casing, a gland adjustably held to the bonnet and provided with dovetail slots in its inner face, and dovetailed slips or gibs mounted within said slots, the upper face of said slips projecting above the upper face of the gland, and means for forcing the gland toward the bonnet whereby the packing will be spread against the outer face of the casing and the slips or gibs forced into contact with the outer face of casing.

20 4. A casing-head consisting of a bonnet having an internal annular flange near its upper end, a dished lower end, packing held within said dished lower end and adapted to surround a casing-pipe, a gland adjustably held to and below said bonnet, said gland having dovetailed slots in its inner face, serrated dovetailed slips or gibs mounted in said slots, and

means for forcing the gland toward the bonnet whereby the packing will be forced into contact with the outer face of the casing and the serrated dovetailed slips or gibs caused to bite and retain the casing in position. 30

5. A casing-head consisting of a bonnet having an internal annular flange near its upper end, and a dished flange at its lower end said flange provided with outwardly - projecting perforated lugs, a packing within said dished flange, a gland mounted below the bonnet, provided with outwardly - projecting perforated lugs and having dovetailed slots in its inner face, dovetailed slips or gibs seated in said slots, the front face of said slips or gibs having serrated and biting teeth, and bolts passing through the perforated lugs of the bonnet, and the gland, whereby the gland may be forced upwardly and cause the packing to spread against the outer face of a casing-pipe and the serrated slips or gibs to bite against the outer face of said casing-pipe. 45

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Witnesses:

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