

No. 816,044.

PATENTED MAR. 27, 1906.

J. M. SCOTT.
NUT LOCK.

APPLICATION FILED MAY 1, 1905

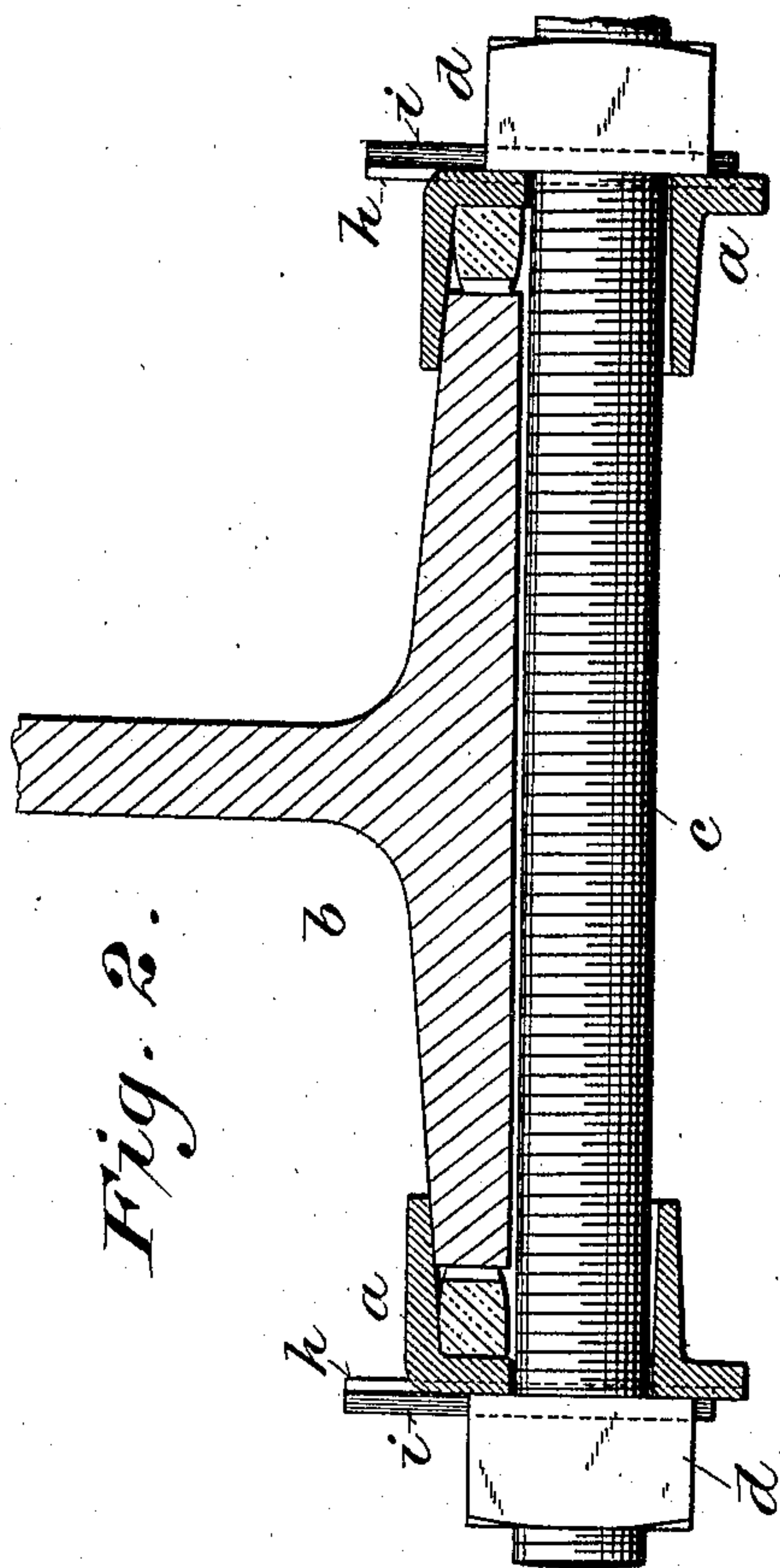


Fig. 2.

Fig. 4.

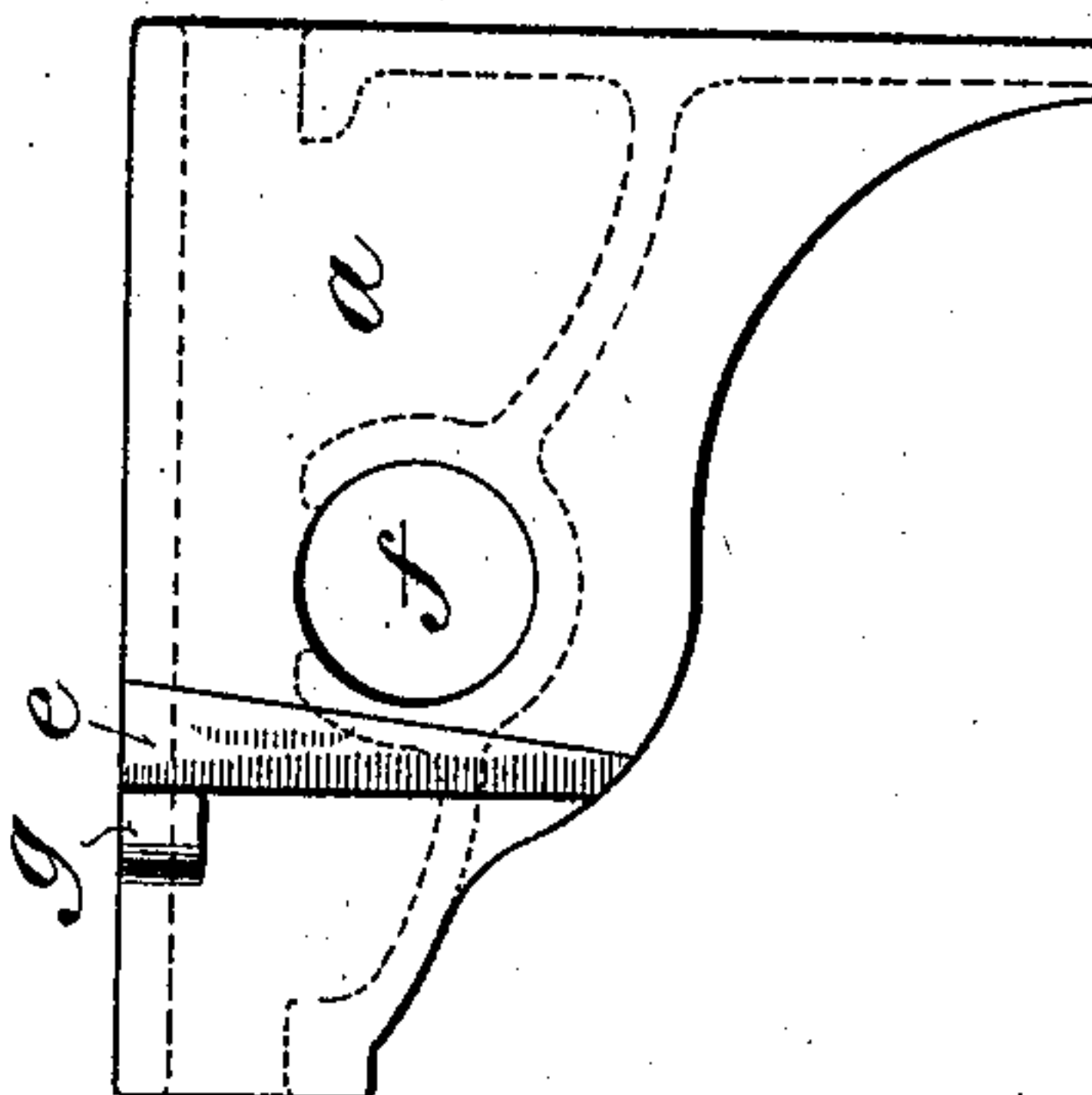


Fig. 5.

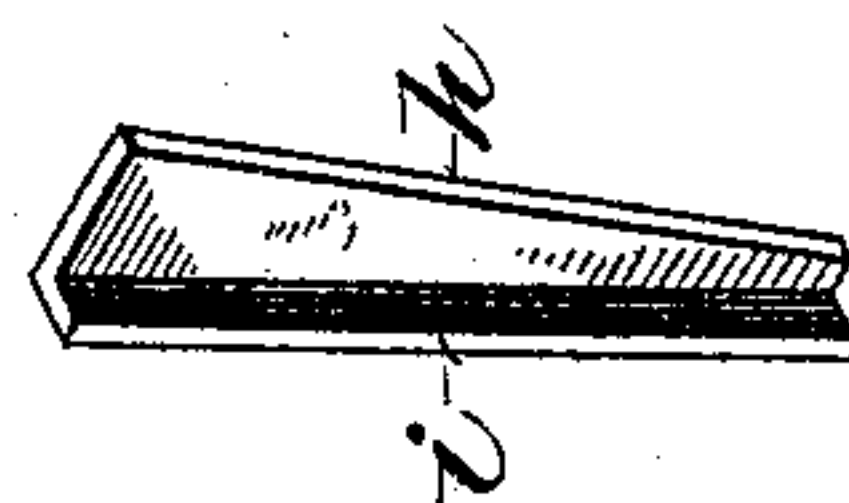


Fig. 1.

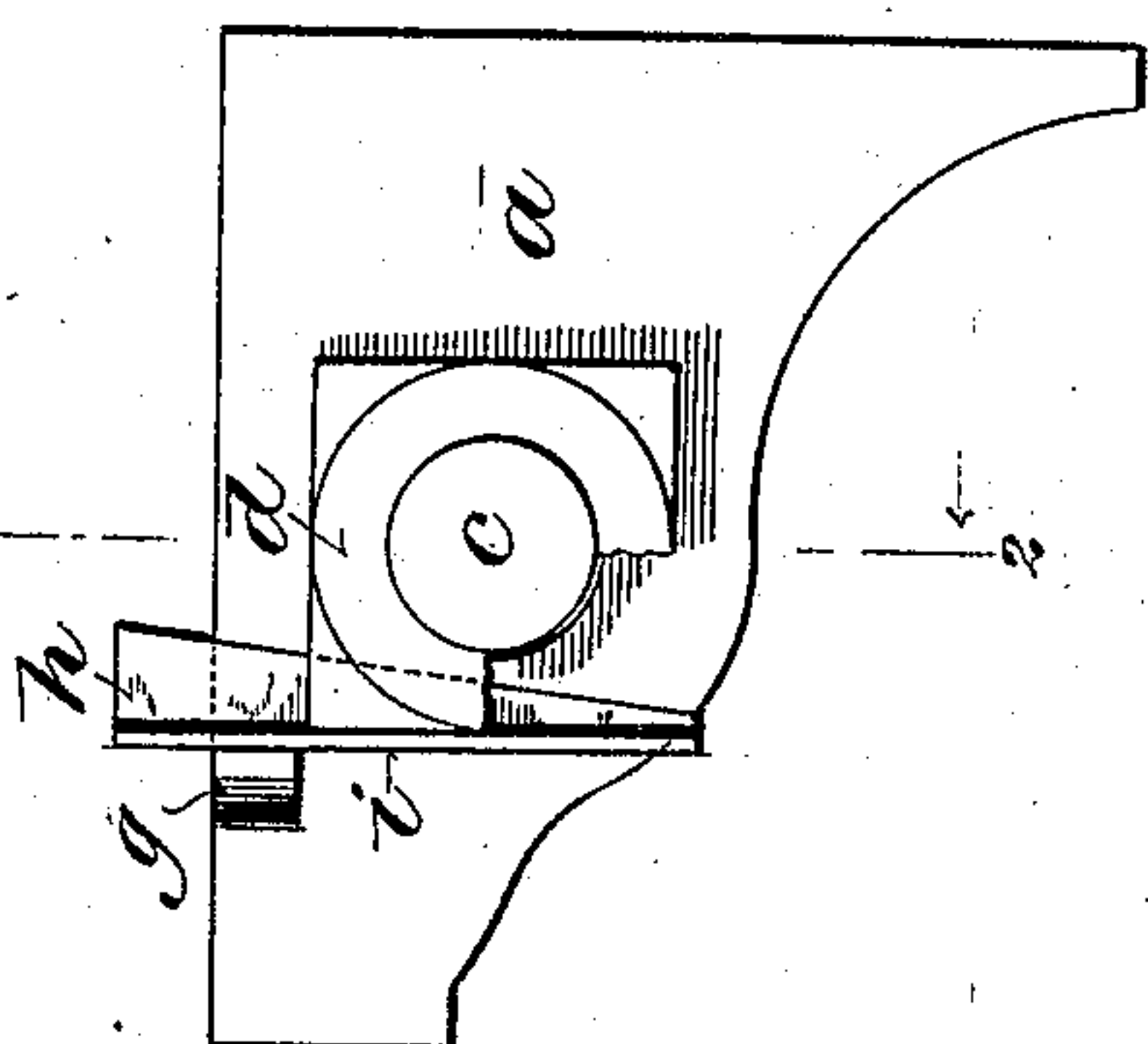
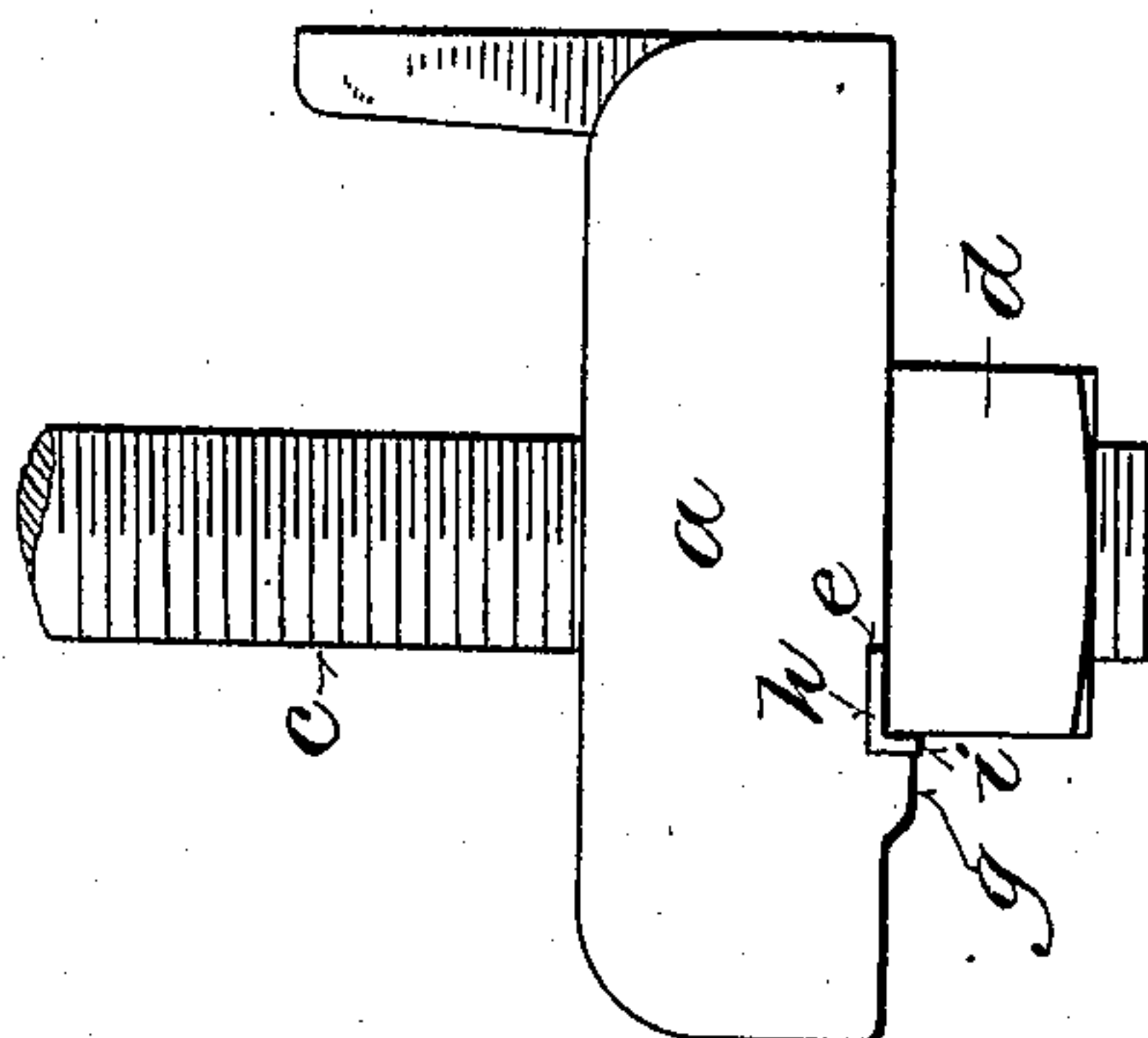


Fig. 3.



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UNITED STATES PATENT OFFICE.

JOHN M. SCOTT, OF RACINE, WISCONSIN.

NUT-LOCK.

No. 816,044.

Specification of Letters Patent.

Patented March 27, 1906.

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To all whom it may concern:

Be it known that I, JOHN M. SCOTT, a citizen of the United States, residing at Racine, in the county of Racine and State of Wisconsin, have invented certain new and useful Improvements in Nut-Locks, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof.

The main objects of this invention are to effectively and certainly hold nuts against turning and becoming loose on bolts to which they are applied, to provide for removing the nuts from the bolts whenever it may be desirable without mutilating or injuring the locks, nuts, or bolts, and generally to simplify and improve the construction and operation of devices for these purposes.

It consists in certain novel features of construction and in the peculiar arrangement of parts, as hereinafter particularly described, and pointed out in the claims.

In the accompanying drawings like characters designate the same parts in the several figures.

Figure 1 is a side elevation of a nut-lock embodying the invention applied to a railway rail-stay. Fig. 2 is a vertical section on the line 2 2, Fig. 1, showing two of the nut-locks as applied to the two opposing jaws of a rail-stay. Fig. 3 is a plan view of the nut-lock in connection with one of the jaws of the rail-stay. Fig. 4 is an outside elevation of one of the rail-stay jaws forming the nut-seat of the nut-lock, and Fig. 5 is a perspective view of the flanged wedge or key forming a part of the nut-lock.

For the purpose of illustration and explanation the nut-lock constituting the present invention is shown and described in connection with a railway-stay to which the nut-lock is adapted, although with little or no change it may be applied to other devices or structures and may be used to prevent bolts, as well as nuts, from unscrewing or becoming loose in the parts in which they are threaded, it being obvious that the flanged wedge or key may engage and prevent the turning of the head of a bolt, as well as a nut. Hence the term "nut" as herein used is intended to include its obvious equivalent—the head of a bolt—and the term "nut-seat" a seat for the head of the bolt, as well as for the nut.

Referring to the drawings, *a a* designate the jaws of a railway rail stay or anchor, which in practice are clamped on the base *b*

of a railway-rail, as shown in Fig. 2, and bear against the side of a tie to prevent the creeping or crawling of the rail. The jaws are in practice connected by a bolt having a head at one end and a nut threaded on the other end or by a threaded tie-rod *c*, provided with nuts *d d* for both jaws, as shown in Fig. 2. Each jaw *a* is formed, as shown in Fig. 4, in the outer face, which constitutes the nut-seat, with a tapering groove or key-seat *e*, tangent to the bolt-hole *f* or a concentric circumscribed circle. This groove or key-seat is preferably formed or arranged in a vertical position, with its larger end uppermost. At the back or side of the groove *e* opposite the bolt-hole *f* the jaw is formed with a lug *g*, projecting outwardly therefrom beyond the face of the nut-seat. A thin wedge or tapering key *h*, corresponding in thickness with the depth of the groove or keyway *e*, is fitted therein and formed on one side with a longitudinal flange *i*. This wedge or key may be conveniently and economically stamped or made from heavy sheet metal.

In practice when the nut *d* is turned up on the threaded bolt or rod *c* into place against its seat one side of the nut being brought parallel with the back of the groove *e*, the wedge or key *h* is inserted in the groove or keyway *e*, with its flange *i* projecting therefrom outwardly beyond the nut-seat and the base of the nut, so as to effectually prevent the nut from turning. The lug *g* bears against the outer side of the flange *i*, supporting it outside of the face of the jaw *a* or nut-seat and preventing the wedge from tipping and its flange from being bent when the nut is turned against it. The wedge or key may be driven tightly into place in the groove or keyway *e*, so that it will retain its place therein until it is forcibly removed by tapping its smaller end with a hammer or applying force thereto. The groove or keyway *e* being vertically disposed with its larger end uppermost, as above stated, gravity tends to retain the wedge or key in place therein. The groove or keyway is also preferably located, as shown in the drawings with relation to the bolt-hole *f*, so that any tendency of the nut to unscrew will operate to force the wedge or key more tightly into the tapering groove or seat. The nut overlying the groove or keyway *e* securely holds the wedge or key *h* therein, the space between the back or outer side of the groove or keyway and the adjacent side of the nut corresponding with the

thickness of the flange *i*, which occupies said space when the parts are assembled, as clearly shown in Figs. 1 and 3. When the wedge or key is withdrawn from the groove or keyway, the nut can obviously be turned on the bolt or threaded rod *c* to tighten or remove it, and the wedge or key can then be replaced to lock the nut as before without mutilating or injuring any of the parts.

Various modifications in minor details of construction and arrangement of parts may be made without affecting the principle and mode of operation of the nut-lock and without departing from the spirit and intended scope of the invention.

I claim—

1. In a nut-lock the combination of a nut-seat having a bolt-hole and a tapering groove cutting its face at one side of the bolt-hole within the margin of the nut, and a wedge fitted in said groove and having a flange adapted to engage with one side of the nut, the wedge and flange being of the same thickness, substantially as described.
2. In a nut-lock the combination of a nut-seat having a bolt-hole and a tapering groove cutting its face at one side of the bolt-hole within the margin of the nut, and a wedge fitted in said groove and having on one side a longitudinal marginal flange which is adapted to project from said groove beyond the face of the nut-seat into engagement with one side of the nut bearing against said seat and overhanging said groove, said groove and

wedge tapering throughout their length and the wedge and its flange being of the same thickness, substantially as described.

3. In a nut-lock the combination of a nut-seat having a tapering groove cutting its face at one side of the bolt-hole within the margin of the nut and a lug projecting therefrom at the back of said groove, and a wedge fitted in said groove and having a longitudinal flange at the back adapted to project outwardly from the face of the nut-seat into engagement with one side of the nut and to bear against said lug when the wedge is inserted in said groove, substantially as described.

4. In a nut and bolt lock the combination of a seat having a groove cutting its face adjacent to the bolt-hole within the margin of the nut, and a wedge fitted in said groove and having a flange on one of its longitudinal sides adapted to project outwardly from the face of the seat into engagement with the nut or bolt head which extends over said groove and holds the wedge therein, said groove and wedge tapering downwardly from their upper ends and so located in relation to the nut that gravity and the tendency of the nut to unscrew will operate to force the wedge downwardly, substantially as described.

In witness whereof I hereto affix my signature in presence of two witnesses.

JOHN M. SCOTT.

Witnesses:

CHRISTOPHER C. GITTINGS,
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