

No. 762,505.

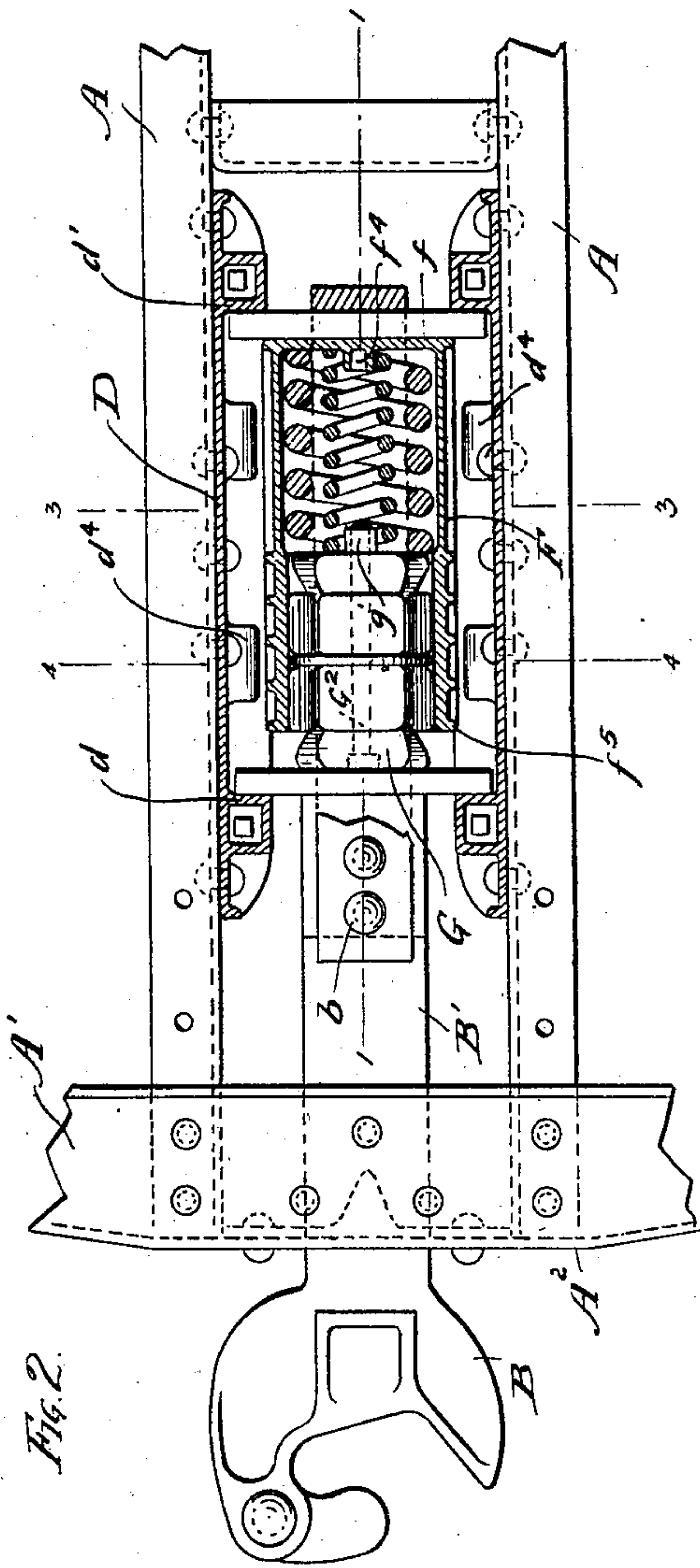
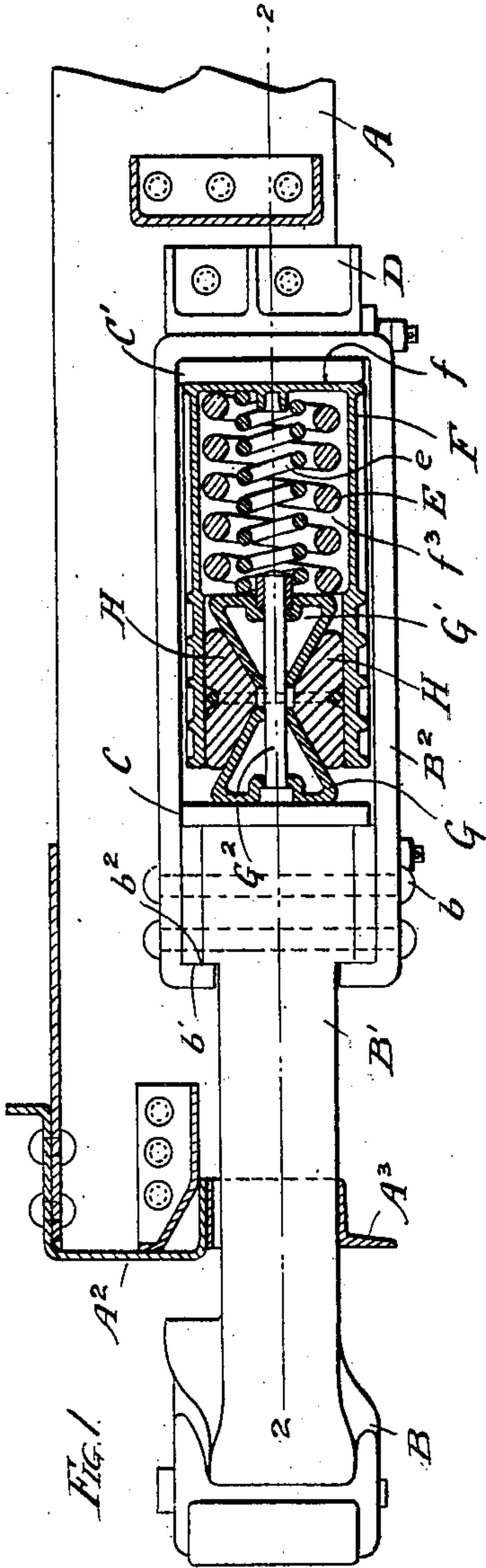
PATENTED JUNE 14, 1904.

F. B. TOWNSEND.
FRICTION DRAFT RIGGING.

APPLICATION FILED FEB. 18, 1904.

NO MODEL.

2 SHEETS—SHEET 1.



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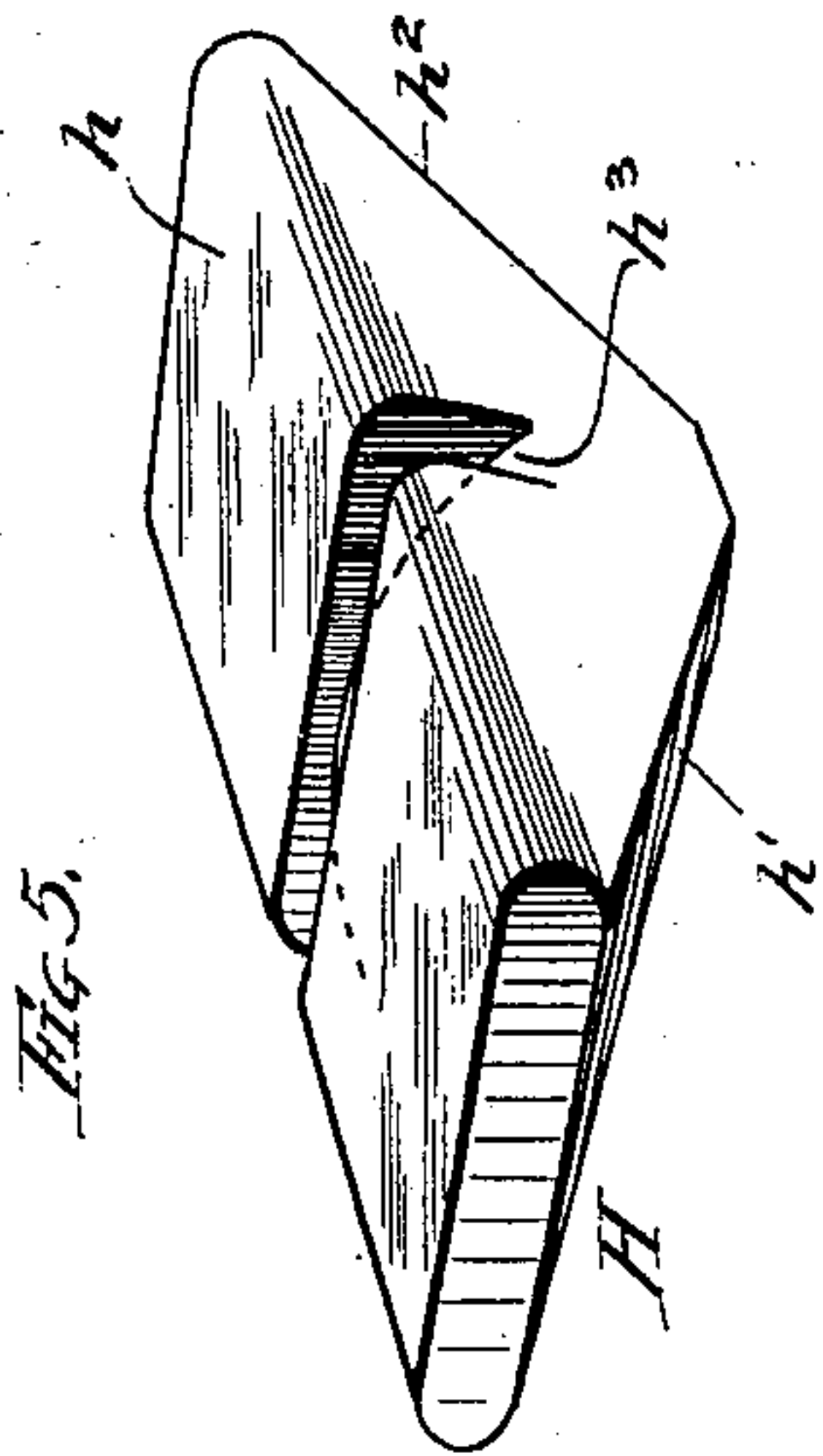


Fig. 7.

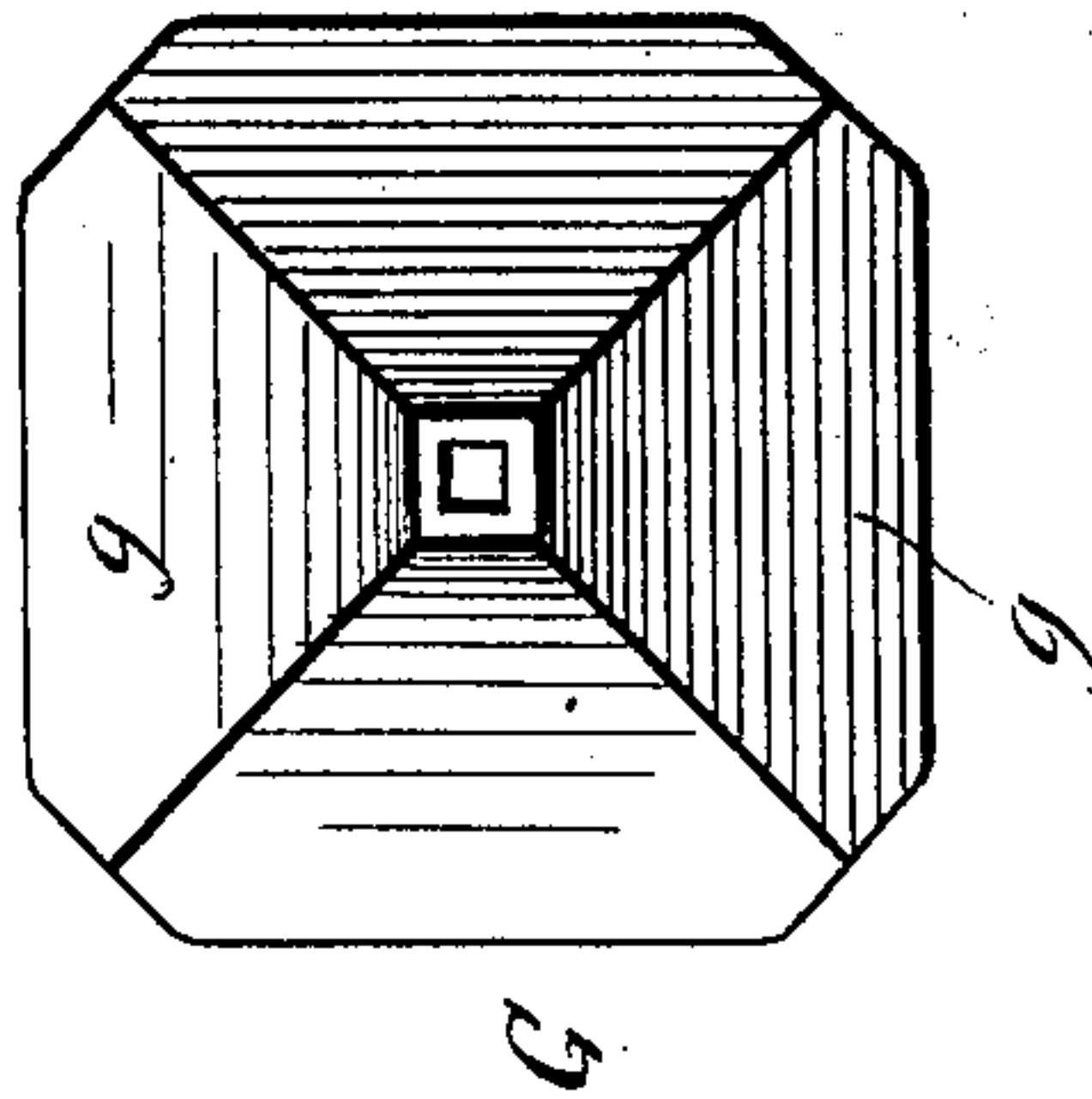


Fig. 6.

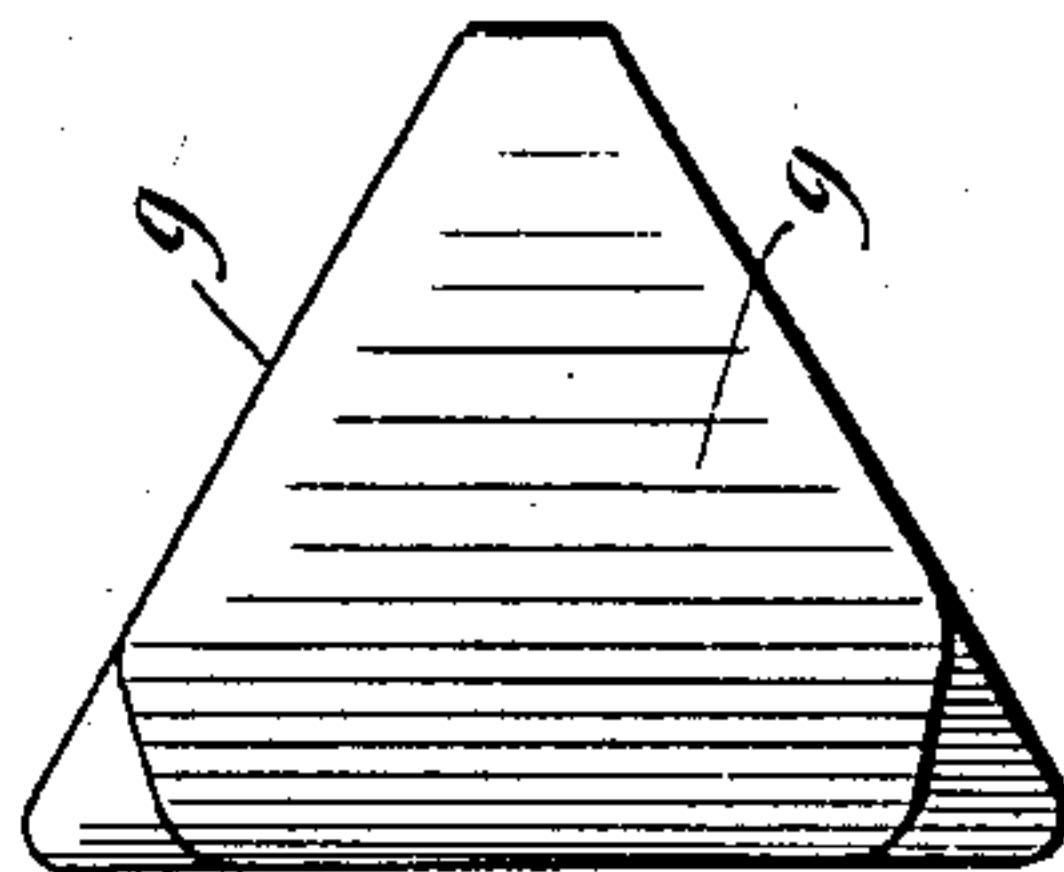


Fig. 3.

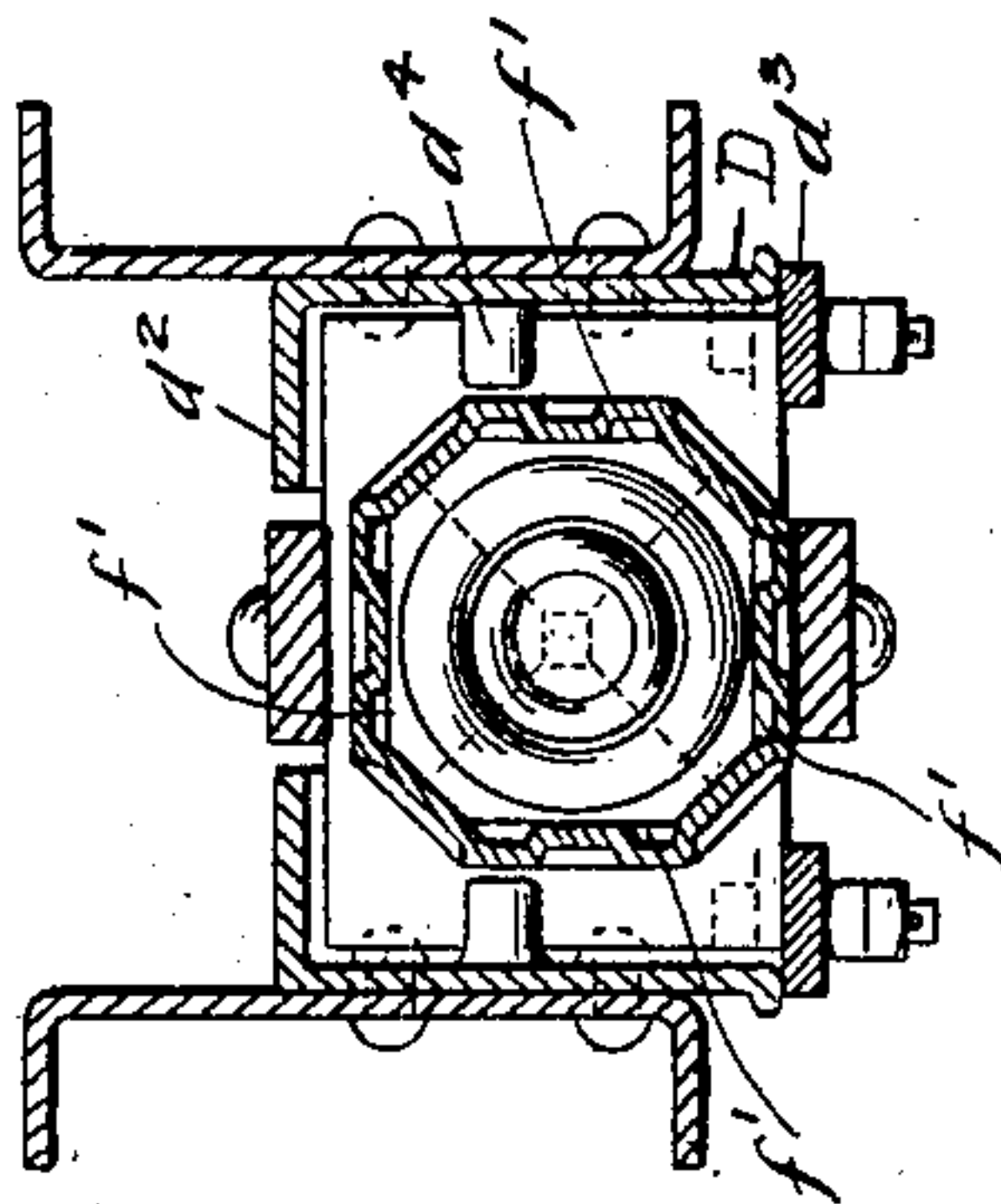
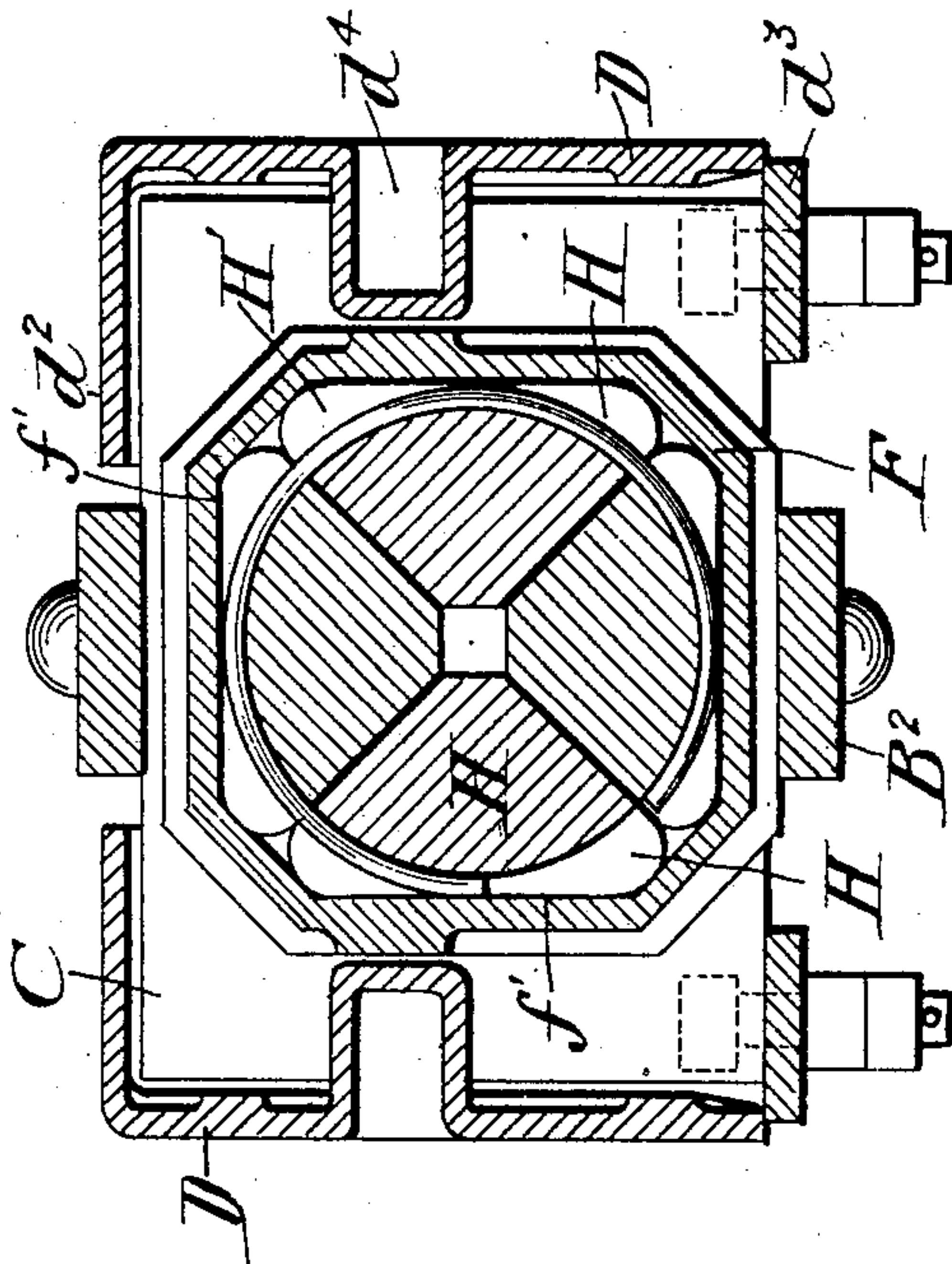


FIG. 4.



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FRICTION DRAFT-RIGGING.

SPECIFICATION forming part of Letters Patent No. 762,505, dated June 14, 1904.

Application filed February 18, 1904. Serial No. 194,208. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK B. TOWNSEND, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Friction Draft-Rigging, of which the following is a specification.

My invention relates to improvements in friction draft-rigging for railway-cars.

The object of my invention is to provide a friction draft-rigging of a simple, efficient, and durable construction, composed of few parts capable of being readily and quickly put together or assembled on the car and removed from the car, and which will cushion pulling and buffing strains both by the direct action of the longitudinally-arranged spring and by the frictional resistance cooperating therewith.

My invention consists in the novel construction of parts and devices and in the novel combinations of parts and devices herein shown and described, by which this result is accomplished.

In the accompanying drawings, forming a part of this specification, Figure 1 is a central vertical longitudinal section on line 1 1 of Fig. 2, partly in elevation, of a friction draft-rigging embodying my invention. Fig. 2 is a horizontal section on line 2 2 of Fig. 1. Fig. 3 is a cross-section on line 3 3 of Fig. 2. Fig. 4 is a cross-section on line 4 4 of Fig. 2. Fig. 5 is a detail perspective view of one of the friction-blocks. Fig. 6 is a detail elevation of one of the wedges, and Fig. 7 is a detail end view of one of the wedges.

In the drawings, A A represent the center sills, draft-timbers, or framework of the car to which the draft-rigging is to be attached; A', the cross-sill; A², the buffer-plate, and A³ the carry-iron.

B is the coupler, having a draw-bar B', a draw-bar extension or yoke B², securely attached thereto by the bolts or rivets b, and interengaging shoulders b' b².

C and C' are front and rear followers actuated by the draw-bar and draw-bar extension and alternately moving with the draw-bar and held stationary by the stops or shoulders

d d' on the stop-castings D D, which are rigidly and firmly secured to the draft-timbers or center sills of the car-framework. The side plates or stop-castings D D each have an upper flange or guide d² preferably integral therewith and a removable guide or plate d³ to guide the followers and support the same and through them the draw-bar-extension spring and other parts.

E is the longitudinally-arranged spring directly behind the draw-bar and in the line of draft and cooperating with the followers and stop-castings to cushion both buffing and pulling strains by its direct action.

F is a sliding friction shell or case interposed between the followers C C' and embraced between and supported or guided by the upper and lower limbs of the draw-bar extension or yoke B². This sliding friction-shell F incloses and surrounds the spring E and has a closed rear end f, against which the rear end of the spring abuts, the friction-shell being thus interposed between the spring and the rear follower. The friction-shell F has four interior friction-faces f' longitudinally parallel to the draw-bar or the line of draft and slightly inwardly raised or projecting in respect to the interior surface f³ of the shell which embraces the spring E to enable the friction-faces to wear away without forming a shoulder for the longitudinally-sliding friction-blocks H H to abut against at the ends thereof. The longitudinally-sliding friction-blocks H H are preferably four in number, each having an exterior friction-face h engaging a corresponding interior friction-face f' of the friction shell or case F. Each of the longitudinally-sliding friction-blocks H H has wedging or inclined faces h' h² at the opposite ends thereof, which engage the oppositely-disposed wedges G G'. Each of the wedges G G' has four wedging or inclined faces g g, one for each of the sliding friction-blocks H H. The wedge G abuts against the front follower C, and the wedge G' abuts against the front end of the spring E. A connecting-bolt or rivet-pin G², extending longitudinally through the wedges, connects the same and holds them together in position,

and an encircling spring or band H' , fitting in an exterior circumferential groove or channel h^3 in the sliding friction-blocks H , connects the four friction-blocks together, so that the four friction-blocks H and two wedges G G' are thus all held connected together and in position and may be inserted in operative position in the friction-shell F and removed therefrom all as one piece and very readily and quickly. The connecting-bolt or rivet-pin G^2 has a thimble g' to serve as a guide for the smaller spring e , which is preferably employed within the large spring E . The closed end plate f of the friction-shell F is also furnished with an integral boss f^1 to serve as a guide for the rear end of the spring e to hold it in place.

The friction shell or case F is provided with external circular ribs f^5 surrounding its friction-surface end or portion to strengthen the same against the outward pressure or bursting strain exerted against the same by the friction-blocks H under action of the wedges G G' and springs E e . As before stated, the friction shell or case F is guided and held in place against vertical movement by the upper and lower limbs of the draw-bar extension or yoke B^2 , and it is guided or held in position laterally or against sidewise movement by bosses, guides, or projections d^1 , preferably two in number, on each of the side plates or stop-castings D . The longitudinally-sliding friction-blocks H are contained in and confined from lateral or outward movement by the longitudinally-sliding friction shell or case F . The oppositely-disposed wedges G G' engage the friction-blocks H and move longitudinally with the same while causing the friction-blocks to be forcibly pressed against and to frictionally grip the longitudinally-sliding shell F . In buffing the front follower moves with the draw-bar and causes the two wedges and the friction-blocks to likewise move with the draw-bar, while the friction-shell F and rear follower are held stationary by engagement with the rear stops of the stop-casting. In pulling, the rear follower and friction-shell move longitudinally with the draw-bar, while the front follower, the two wedges G G' , and the friction-blocks H are held stationary by the front stops on the side plates or stop-castings.

I claim—

1. In a friction draft-rigging, the combination with a draw-bar, a draw-bar extension, side plates or stop-castings, followers, a longitudinally-arranged spring between the followers, a longitudinally-sliding friction shell or case having one closed end engaging one of the followers, and against which one end of the spring abuts, and furnished with interior friction-faces, a plurality of friction-blocks having exterior friction-faces in sliding frictional engagement with the interior friction-faces of the shell or case, and fur-

nished each with wedging or inclined faces at each end thereof, and a pair of oppositely-disposed wedges, one at each end of the friction-blocks, one interposed between the friction-blocks and one of the followers, and the other interposed between the friction-blocks and one end of the spring, substantially as specified.

2. In a friction draft-rigging, the combination with a draw-bar, a draw-bar extension, side plates or stop-castings, followers, a longitudinally-arranged spring between the followers, a longitudinally-sliding friction shell or case having one closed end engaging one of the followers, and against which one end of the spring abuts, and furnished with interior friction-faces, a plurality of friction-blocks having exterior friction-faces in sliding frictional engagement with the interior friction-faces of the shell or case, and furnished each with wedging or inclined faces at each end thereof, and a pair of oppositely-disposed wedges, one at each end of the friction-blocks, one interposed between the friction-blocks and one of the followers, and the other interposed between the friction-blocks and one end of the spring, said side plates or stop-castings having bosses or projections to guide and hold laterally in position the friction shell or case, substantially as specified.

3. In a friction draft-rigging, the combination with a draw-bar, a draw-bar extension, side plates or stop-castings, followers, a longitudinally-arranged spring between the followers, a longitudinally-sliding friction shell or case having one closed end engaging one of the followers, and against which one end of the spring abuts, and furnished with interior friction-faces, a plurality of friction-blocks having exterior friction-faces in sliding frictional engagement with the interior friction-faces of the shell or case, and furnished each with wedging or inclined faces at each end thereof, and a pair of oppositely-disposed wedges, one at each end of the friction-blocks, one interposed between the friction-blocks and one of the followers, and the other interposed between the friction-blocks and one end of the spring, a band encircling the friction-blocks and a longitudinally-extending pin or bolt connecting the wedges, substantially as specified.

4. In a friction-spring draft-rigging, the combination with a draw-bar and a draw-bar yoke, of side plates or stop-castings, followers, a longitudinally-arranged spring between the followers, a longitudinally-sliding friction shell or case having interior friction-surfaces and provided with external circular ribs surrounding the same, a plurality of sliding friction-blocks inside the shell and having exterior friction-faces and a pair of oppositely-disposed wedges, substantially as specified.

5. In a friction-spring draft-rigging, the combination with a draw-bar, a draw-bar

yoke, of side plates or stop-castings, followers, a longitudinally-arranged spring between the followers, a longitudinally-sliding friction shell or case having interior friction-surfaces 5 and provided with external circular ribs surrounding the same, a plurality of sliding friction-blocks inside the shell and having exterior friction-faces and a pair of oppositely-disposed wedges, said friction shell or case 10 having one closed end engaging one of the followers and against which one end of the spring abuts, substantially as specified.

6. In a friction-spring draft-rigging, the combination with a draw-bar and draw-bar extension, of side plates or stop-castings, fol- 15 lowers, a longitudinally-arranged spring between followers, a sliding friction shell or case having interior friction-surfaces, a plurality of friction-blocks inside the shell, and having exterior friction-faces, a pair of oppositely- 20 disposed wedges and a longitudinally-extending connecting bolt or pin for the wedges, substantially as specified.

7. In a friction-spring draft-rigging, the 25 combination with a draw-bar, and draw-bar extension, of side plates or stop-castings, followers, a longitudinally-arranged spring between followers, a sliding friction shell or case

having interior friction-surfaces, a plurality of friction-blocks inside the shell, and having 30 exterior friction-faces, a pair of oppositely-disposed wedges and a longitudinally-extending connecting bolt or pin for the wedges, said friction-blocks having an external circumfer- 35 ential groove and a spring or band fitting therein to connect the friction-blocks together and to the wedges, substantially as specified.

8. In a friction-spring draft-rigging, the combination with a draw-bar and a yoke con- 40 nected thereto, of side plates or stop-castings, followers, a longitudinally-arranged spring, a longitudinally-sliding friction shell or case embraced between the upper and lower limbs of the yoke, a plurality of longitudinally-slid- 45 ing friction-blocks inside the case, a wedge to cause the blocks to frictionally engage the shell or case, said side plates or stop-castings having integral inwardly-extending bosses or 50 projections to guide the shell or case and hold it in position laterally, substantially as specified.

FREDERICK B. TOWNSEND.

Witnesses:

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