

No. 716,415.

Patented Dec. 23, 1902.

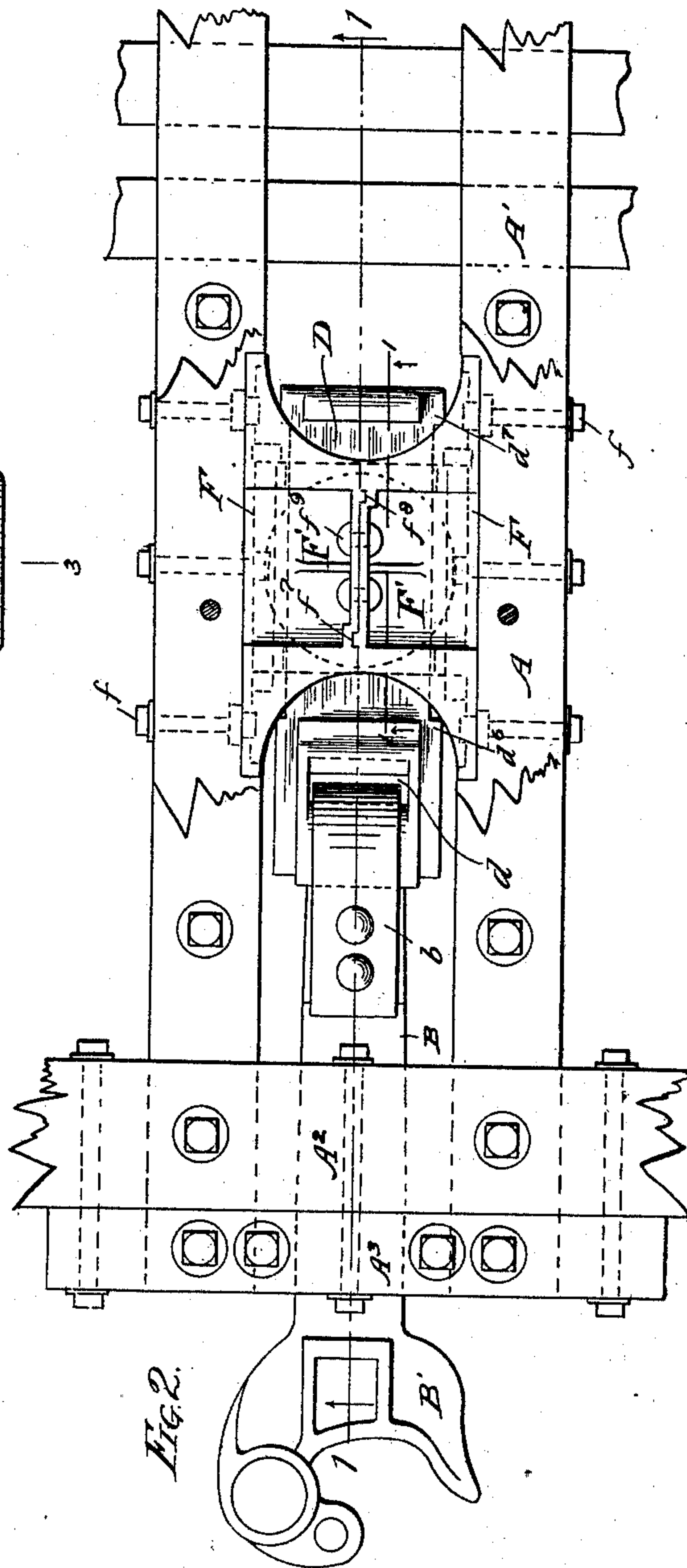
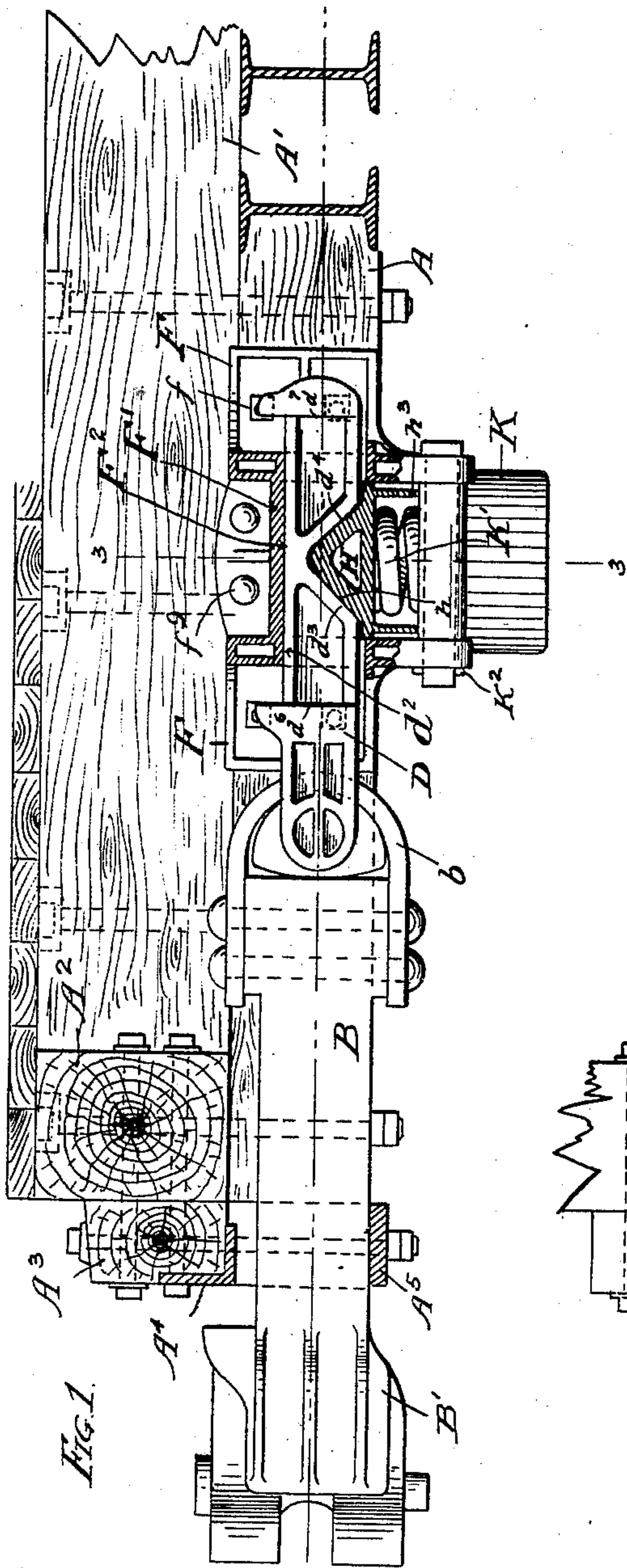
J. J. HENNESSEY.

FRICITION DRAFT RIGGING FOR RAILWAY CARS.

(Application filed Oct. 20, 1902.)

(No Model.)

2 Sheets—Sheet 1.



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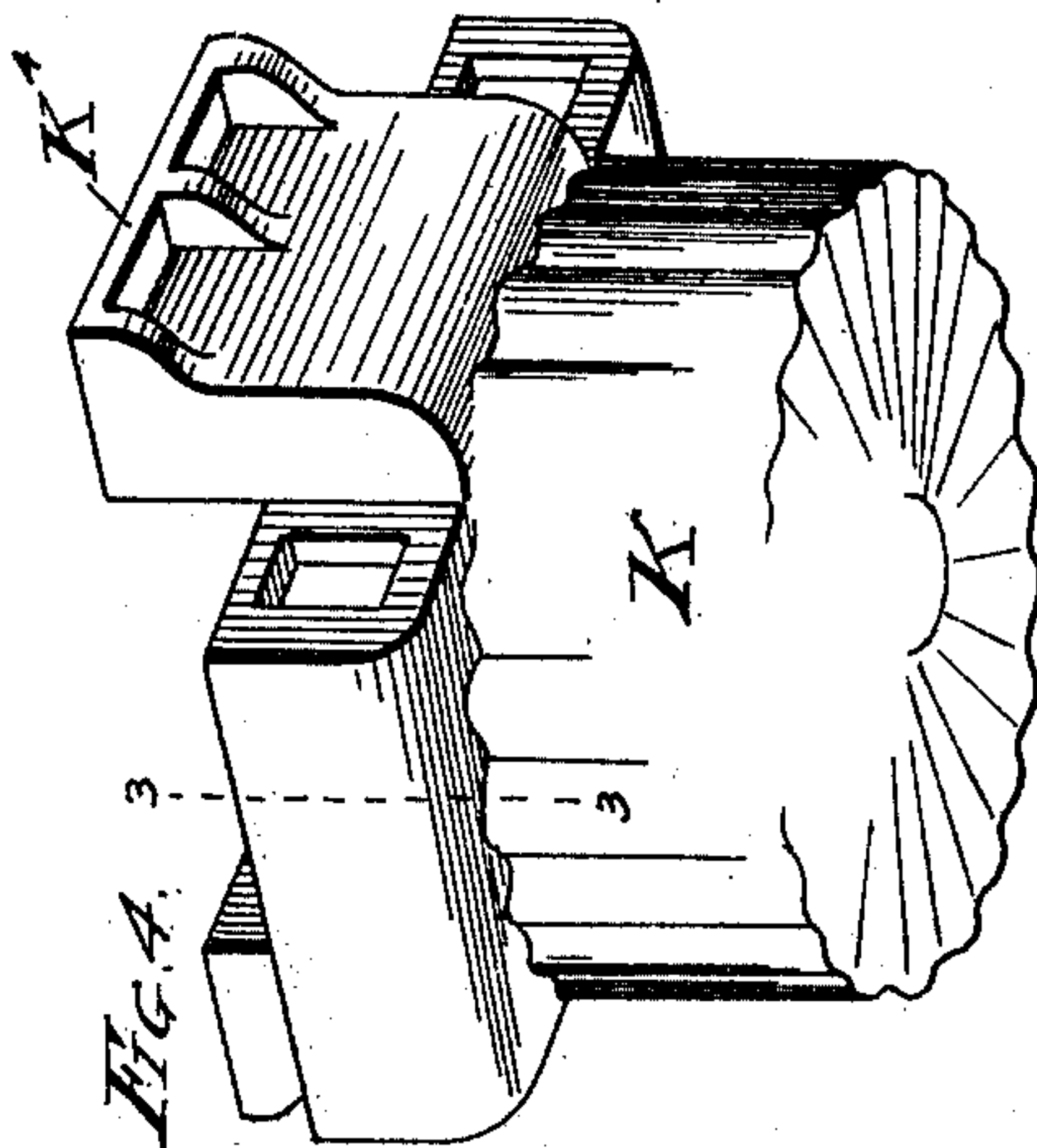
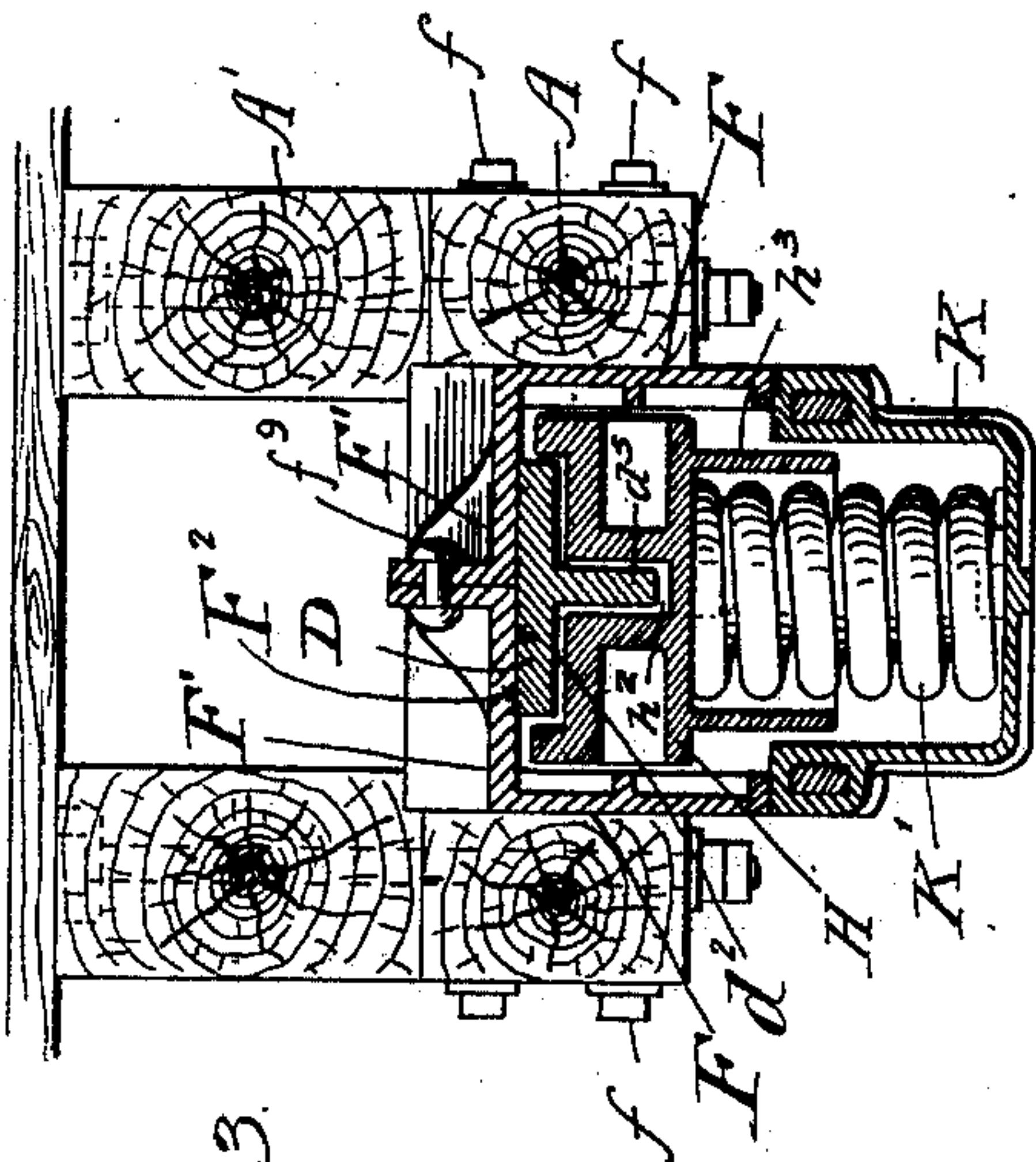
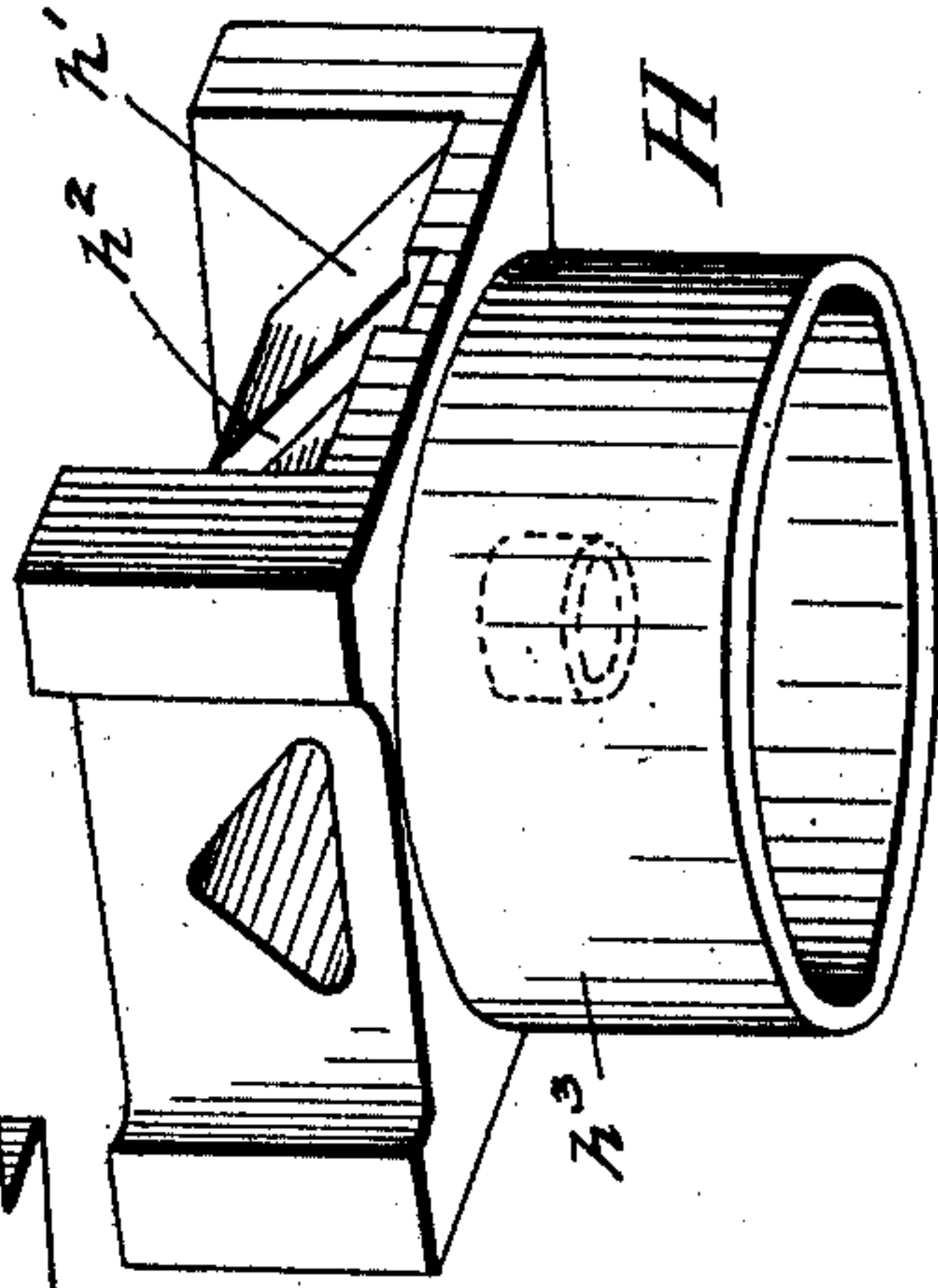
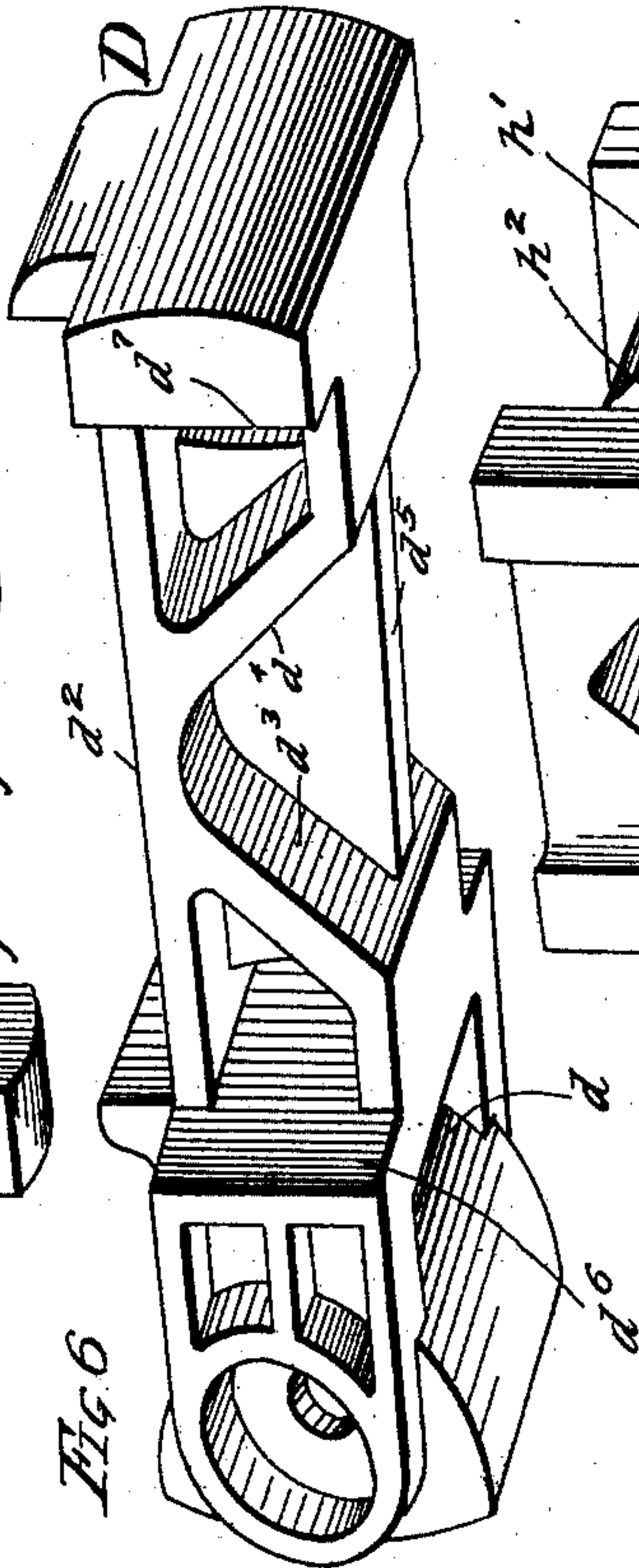
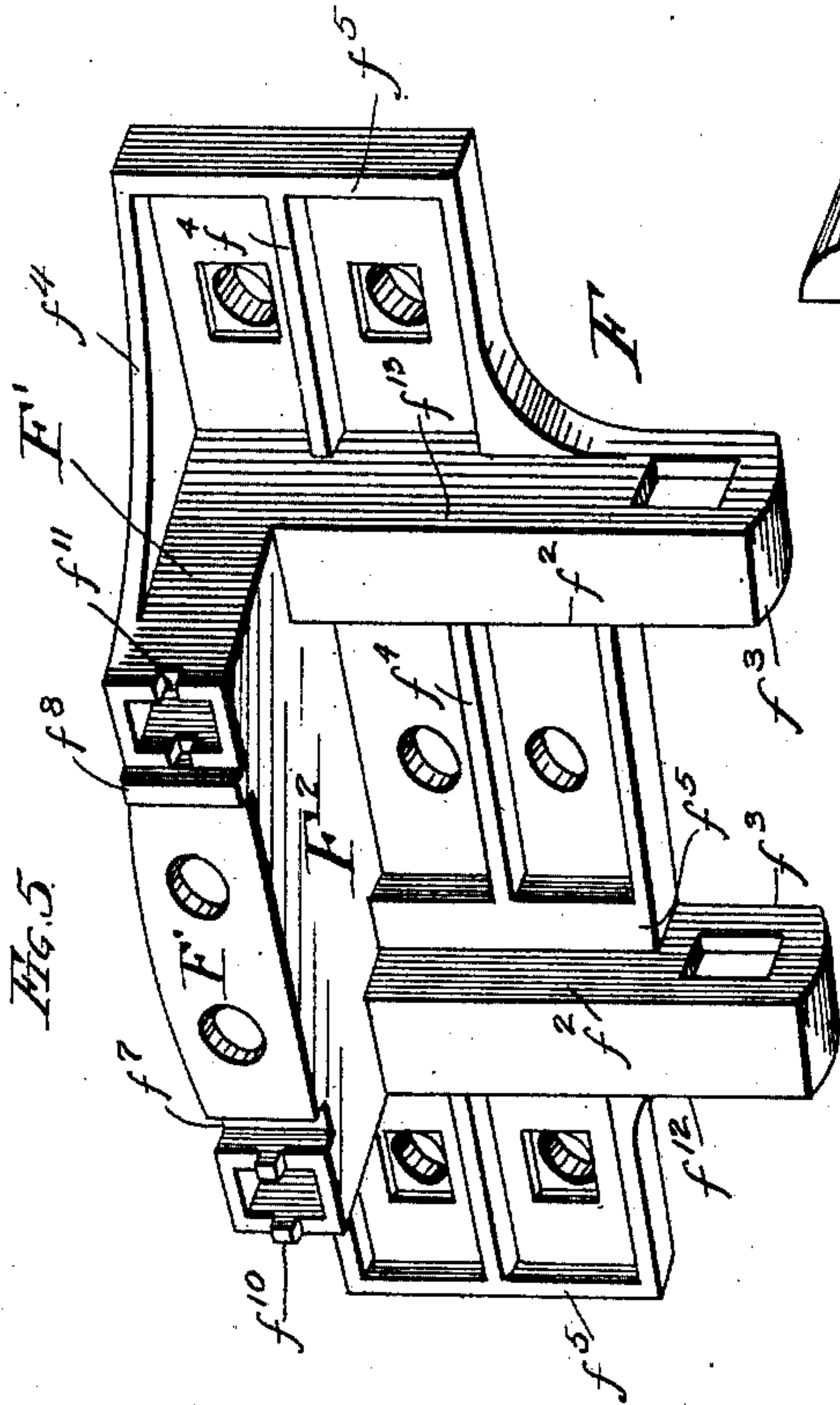
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UNITED STATES PATENT OFFICE.

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FRICITION DRAFT-RIGGING FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 716,415, dated December 23, 1902.

Application filed October 20, 1902. Serial No. 127,966. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. HENNESSEY, a citizen of the United States, residing in Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented a new and useful Improvement in Friction Draft-Rigging for Railway-Cars, of which the following is a specification.

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

The object of my invention is to provide a friction draft-rigging of a simple, strong, efficient, and durable construction in which the transversely-acting spring and double-incline friction-block may be located beneath the draft-iron and act against its lower side and which may be cheaply manufactured and readily applied to or removed from the car and which will operate to properly and efficiently cushion both light and heavy strains or blows.

My invention consists in the means herein shown and described, by which I accomplish this result—that is to say, it consists, in connection with a draw-bar and draft iron or extension in line therewith and having double-incline friction-faces on its lower side and a straight friction-face on its opposite or upper side, of a transversely or vertically movable friction-block below the draft-iron and having double-incline friction-faces engaging the double-incline friction-faces on the draft-iron, a transversely-arranged spring acting against said friction-block, and a pair of side plates or stop-castings secured to and between the draft-timbers or center sills of the car and provided each with an integral horizontally-extending wing or extension having a lower straight friction-face in sliding frictional engagement with the straight upper friction-face of the draft-iron, said integral friction-face wings on the side plates or stop-castings abutting directly together and being provided with interengaging registering notches to cause their friction-faces to coincide or lie in the same plane and also to interlock or secure the two side plates or stop-castings together and strengthen and add to the rigidity of the draft-rigging as a whole. By this means by making the draft-iron, on the one hand, of one suitable and frictional

material—as, for example, malleable iron—and the friction-block and top castings, on the other hand, of a different suitable and frictional material—as, for example, cast-iron or steel—proper frictional wearing surfaces or faces are secured without adding to the number of parts of the draft-rigging as a whole, which is a result of much practical importance and greatly desired. The side plates or stop-castings are also provided with integral guides for the transversely-movable friction-block to reciprocate vertically in while being held from longitudinal movement and also with a pair of downwardly-projecting lugs or extensions to receive the movable spring seat or cup against which the lower end of the spring bears. This removable spring seat or cup by its removal permits the draft-iron to be very readily and conveniently removed and replaced in position. The removable spring seat or cup is also provided with front and rear bearings or guides for supporting and guiding and preventing undue tilting of the draft-iron, especially in cases where my improved friction draft-rigging is constructed with only a single friction-block and spring, as illustrated in the drawings, instead of with two or more friction-blocks and springs, as shown in Patent No. 700,422, of May 20, 1902, to myself and P. N. Moore.

My invention also consists in the novel construction of parts or devices herein shown or described.

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, of a friction draft-rigging embodying my invention. Fig. 2 is a plan view. Fig. 3 is a cross-section on line 3 3 of Fig. 4. Fig. 4 is a detail perspective view of the removable spring-seat. Fig. 5 is a detail perspective view of one of the side plates or stop-castings. Fig. 6 is a perspective view of the draft-iron; and Fig. 7 is a perspective view of the removable spring seat or cup.

In the drawings like letters of reference indicate like parts in all the figures.

In said drawings, A represents the draft-timbers; A', the center sills; A², the cross-sills; A³, the buffer-block; A⁴, the buffer-

plate, and A^5 the carry-iron. B is the draw-bar of the coupler B' , these parts being of any suitable construction.

D is the sliding friction draw-bar extension or draft-iron, the same being directly in line with the draw-bar and connected thereto by a clip or yoke b , passing through an eye d in the draw-bar extension or draft-iron.

F F are a pair of side plates or stop-castings fitting between the draft-timbers and securely attached thereto by bolts f . Each of the stop-castings F is provided at its central upper portion with an integral horizontally-projecting wing or extension F' , having a straight flat friction surface or face F^2 on its lower side engaging the straight flat friction-face d^2 on the upper side of the draft-iron D. Each of the stop-castings F is also furnished with transverse or upright guides or flanges f^2 to guide and hold longitudinally in position the transversely-movable friction-block H. The guides or flanges f^2 are extended at their lower ends to form downwardly-projecting lugs f^3 to receive, support, and anchor in position the removable spring seat or barrel K, against which the lower end of the transversely-acting spring K' bears. Both of the stop-castings F are also provided or preferably provided on their inner faces with horizontal strengthening ribs or flanges f^4 and vertical ribs or flanges f^5 , the latter forming guide-faces for the transversely-movable friction-block H. The friction-face wings or extensions F' on the stop-castings F have interlocking or interengaging notches or tongues $f^7 f^8 f^{10} f^{11}$ on their abutting faces or edges and are rigidly secured together by bolts f^9 to give additional strength and rigidity to the structure as a whole and to cause the friction-faces $F^2 F^2$ of the wings $F' F'$ to properly register with each other or lie in the same plane.

The draft-iron D has on its lower side double-incline friction-faces $d^3 d^4$, and the transversely-movable friction-block H has corresponding double-incline friction-faces $h h'$, which bear against double-incline friction-faces on the draft-iron when the draft-iron moves longitudinally under either pulling or buffing strains. Bridging the double-incline friction-faces $d^3 d^4$ on the draft-iron is a strengthening-rib d^5 , which fits in a corresponding longitudinal groove or slot h^2 in the transversely-movable friction-block. The friction-block H is also provided with an integral downwardly-projecting flange or cup h^3 to receive and guide the spring K' . To prevent any tendency of the draft-iron to tilt up or down on the double-incline friction-block, H as a pivot, projecting guides or flanges K^4 for supporting or guiding the draft-iron may be provided on the removable spring seat or cup K, especially in cases where, as illustrated in the drawings, the draft-iron is provided with only a single pair of inclined friction-faces and with a single transversely-movable friction-block and spring.

To remove the draft-iron and transversely-

movable friction-block and spring, all that is required is to take out the cotter-bolts K^2 , when the removable spring-seat K will drop down, and thus permit the withdrawal of the spring, friction-block and draft-iron. My improved friction draft-rigging may be thus very quickly and conveniently removed from the car and replaced.

The draft-iron D has stop-shoulders $d^6 d^7$, which engage corresponding shoulders $f^{10} f^{11}$ on the side plates or stop-castings to limit the longitudinal movement of the draft-iron and draw-bar.

As the side plates and stop-castings F F are in separate pieces, they may be readily and economically cast or manufactured of malleable iron or other metal and strong perfect castings produced, as may likewise also the other parts.

I claim—

1. In a friction draft-rigging for railway-cars, the combination with the draw-bar, of a draft-iron in line therewith having a straight friction-face on its upper side, and double-incline friction-faces on its lower side, a transversely-movable friction-block below the draft-iron and having double-incline friction-faces engaging the double-incline friction-faces on the draft-iron, a transversely-arranged spring acting against said friction-block, and a pair of slide-plates or stop-castings provided each at its upper portion with a horizontally-projecting friction extension or wing, having a straight friction-face on its lower side engaging the straight upper friction-face of the draft-iron, substantially as specified.

2. In a friction draft-rigging, the combination with a draw-bar, of a draft-iron in line therewith having a straight friction-face on one side and double-incline friction-faces on its opposite side, a transversely-movable friction-block having double-incline friction-faces engaging the double-incline friction-faces on the draft-iron, a transversely-arranged spring acting against said friction-block, and a pair of side plates or stop-castings having integral friction-face wings or extensions engaging the straight friction-face of the draft-iron, substantially as specified.

3. In a friction draft-rigging for railway-cars, the combination with the draw-bar, of a draft-iron in line therewith having a straight friction-face on its upper side, and double-incline faces on its lower side, a transversely-movable friction-block below the draft-iron and having double-incline friction-faces engaging the double-incline friction-faces on the draft-iron, a transversely-arranged spring acting against said friction-block, and a pair of side plates or stop-castings provided each at its upper portion with a horizontally-projecting friction extension or wing, having a straight friction-face on its lower side engaging the straight upper friction-face of the draft-iron, said side plates or stop-castings having also upright guides or flanges to guide

and hold longitudinally in position said transversely-movable friction-block, substantially as specified.

4. In a friction draft-rigging for railway-cars, the combination with the draw-bar, of a draft-iron in line therewith having a straight friction-face on its upper side, and double-incline friction-faces on its lower side, a transversely-movable friction-block below the draft-iron and having double-incline friction-faces engaging the double-incline friction-faces on the draft-iron, a transversely-arranged spring acting against said friction-block, and a pair of side plates or stop-castings provided each at its upper portion with a horizontally-projecting friction extension or wing, having a straight friction-face on its lower side engaging the straight upper friction-face of the draft-iron, said side plates or stop-castings having also upright guides or flanges to guide and hold longitudinally in position said transversely-movable friction-block, and a removable spring seat or cup secured to said side plates or stop-castings for the lower end of the spring to bear against, substantially as specified.

5. In a friction draft-rigging for railway-cars, the combination with the draw-bar, of a draft-iron in line therewith having a straight friction-face on its upper side, and double-incline friction-faces on its lower side, a transversely-movable friction-block below the draft-iron and having double-incline friction-faces engaging the double-incline friction-faces on the draft-iron, a transversely-arranged spring acting against said friction-block, and a pair of side plates or stop-castings provided each at its upper portion with a horizontally-projecting friction extension or wing, having a straight friction-face on its lower side engaging the straight upper friction-face of the draft-iron, said side plates or stop-castings having also upright guides or flanges to guide and hold longitudinally in position said transversely-movable friction-block, and a removable spring seat or cup secured to said side plates or stop-castings for the lower end of the spring to bear against, said removable spring seat or cup having guides or supports for the draft-iron to prevent its tilting, substantially as specified.

6. In a friction draft-rigging for railway-cars, the combination with the draw-bar, of a draft-iron in line therewith having a straight friction-face on its upper side, and double-incline friction-faces on its lower side, a transversely-movable friction-block below the draft-iron and having double-incline friction-faces engaging the double-incline friction-faces on the draft-iron, a transversely-arranged spring acting against said friction-block, and a pair of side plates or stop-castings provided each at its upper portion with a horizontally-projecting friction extension or wing, having a straight friction-face on its lower side engaging the straight upper friction-face of the draft-iron, said side plates or stop-castings having also upright guides or flanges to guide and hold longitudinally in position said transversely-movable friction-block, and a removable spring seat or cup secured to said side plates or stop-castings for the lower end of the spring to bear against, said removable spring seat or cup having guides or supports for the draft-iron to prevent its tilting, substantially as specified.

tion-face of the draft-iron, said side plates or stop-castings having also upright guides or flanges to guide and hold longitudinally in position said transversely-movable friction-block, and a removable spring seat or cup secured to said side plates or stop-castings for the lower end of the spring to bear against, said removable spring seat or cup having guides or supports for the draft-iron to prevent its tilting, and said side plates or stop-castings having each a pair of downwardly-projecting lugs to receive said removable spring seat or cup, substantially as specified.

7. In a friction draft-rigging for railway-cars, the combination with the draw-bar, of a draft-iron in line therewith having a straight friction-face on its upper side, and double-incline friction-faces on its lower side, a transversely-movable friction-block below the draft-iron and having double-incline friction-faces engaging the double-incline friction-faces on the draft-iron, a transversely-arranged spring acting against said friction-block, and a pair of side plates or stop-castings provided each at its upper portion with a horizontally-projecting friction extension or wing, having a straight friction-face on its lower side engaging the straight upper friction-face of the draft-iron, said friction-face wings or extensions on the stop-castings abutting together and having interengaging notches to cause their lower friction-faces to register with each other, substantially as specified.

8. In a friction draft-rigging, the combination with a draw-bar, of a draft-iron in line therewith having a straight friction-face on one side and double-incline friction-faces on its opposite side, a transversely-movable friction-block having double-incline friction-faces engaging the double-incline friction-faces on the draft-iron, a transversely-arranged spring acting against said friction-block, and a pair of side plates or stop-castings having integral friction-face wings or extensions engaging the straight friction-face of the draft-iron, said side plates or stop-castings being provided with upright guides or flanges to guide and hold longitudinally in position said transversely-movable friction-block, substantially as specified.

9. In a friction draft-rigging, the combination with a draw-bar, of a draft-iron in line therewith having a straight friction-face on one side and double-incline friction-faces on its opposite side, a transversely-movable friction-block having double-incline friction-faces engaging the double-incline friction-faces on the draft-iron, a transversely-arranged spring acting against said friction-block, and a pair of side plates or stop-castings having integral friction-face wings or extensions engaging the straight friction-face of the draft-iron, said side plates or stop-castings being provided with upright guides or flanges to guide and hold longitudinally in position said transversely-movable friction-block, substantially as specified.

sition said transversely-movable friction-block, and a removable spring seat or cup for the end of the spring to bear against, substantially as specified.

5 10. In a friction draft-rigging, the combination with a draw-bar, of a draft-iron in line therewith having a straight friction-face on one side and double-incline friction-faces on its opposite side, a transversely-movable friction-block having double-incline friction-faces engaging the double-incline friction-faces on the draft-iron, a transversely-arranged spring acting against said friction-block, and a pair of side plates or stop-castings having integral friction-face wings or extensions engaging the straight friction-face of the draft-iron, said side plates or stop-castings being provided with upright guides or flanges to guide and hold longitudinally in position said transversely-movable friction-block, a removable spring seat or cup for the end of the spring to bear against, said side plates or stop-castings having each a pair of downwardly-projecting lugs to receive said

removable spring seat or cup, substantially as specified. 25

11. In a friction draft-rigging, the combination with a draw-bar, of a draft-iron in line therewith having a straight friction-face on one side and double-incline friction-faces on its opposite side, a transversely-movable friction-block having double-incline friction-faces engaging the double-incline friction-faces on the draft-iron, a transversely-arranged spring acting against said friction-block, a pair of side plates or stop-castings having integral friction-face wings or extensions engaging the straight friction-face of the draft-iron, the friction-face wings or extensions of said side plates or stop-castings being secured together and having interengaging notches to cause the same to register with each other, substantially as specified. 30 35 40

JOHN J. HENNESSEY.

Witnesses:

JAMES E. MEHAN,
AUGUST HESS.