

(No Model.)

2 Sheets—Sheet 1.

H. H. HEWITT.

CAR COUPLING.

No. 300,257.

Patented June 10, 1884.

Fig. 2.

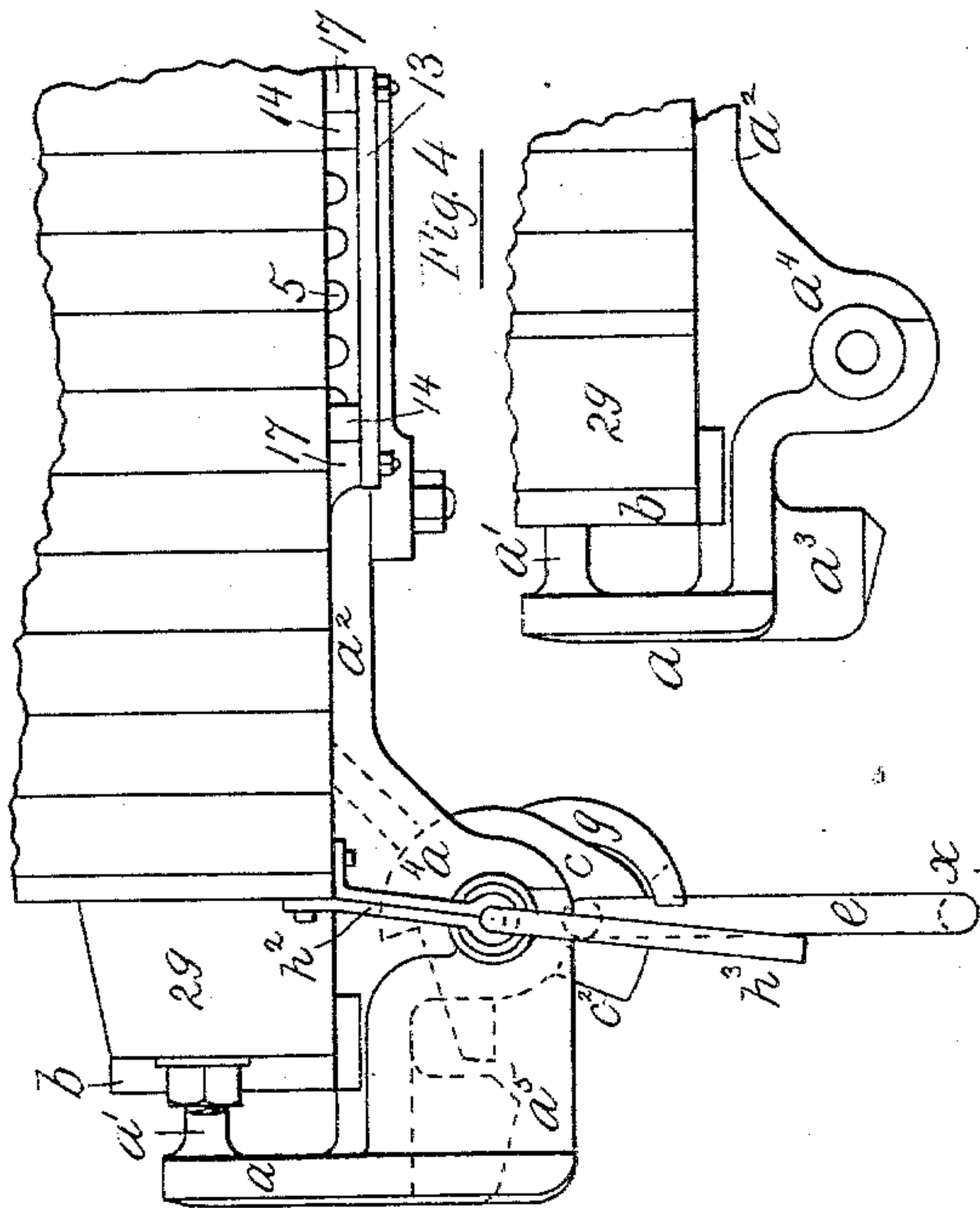
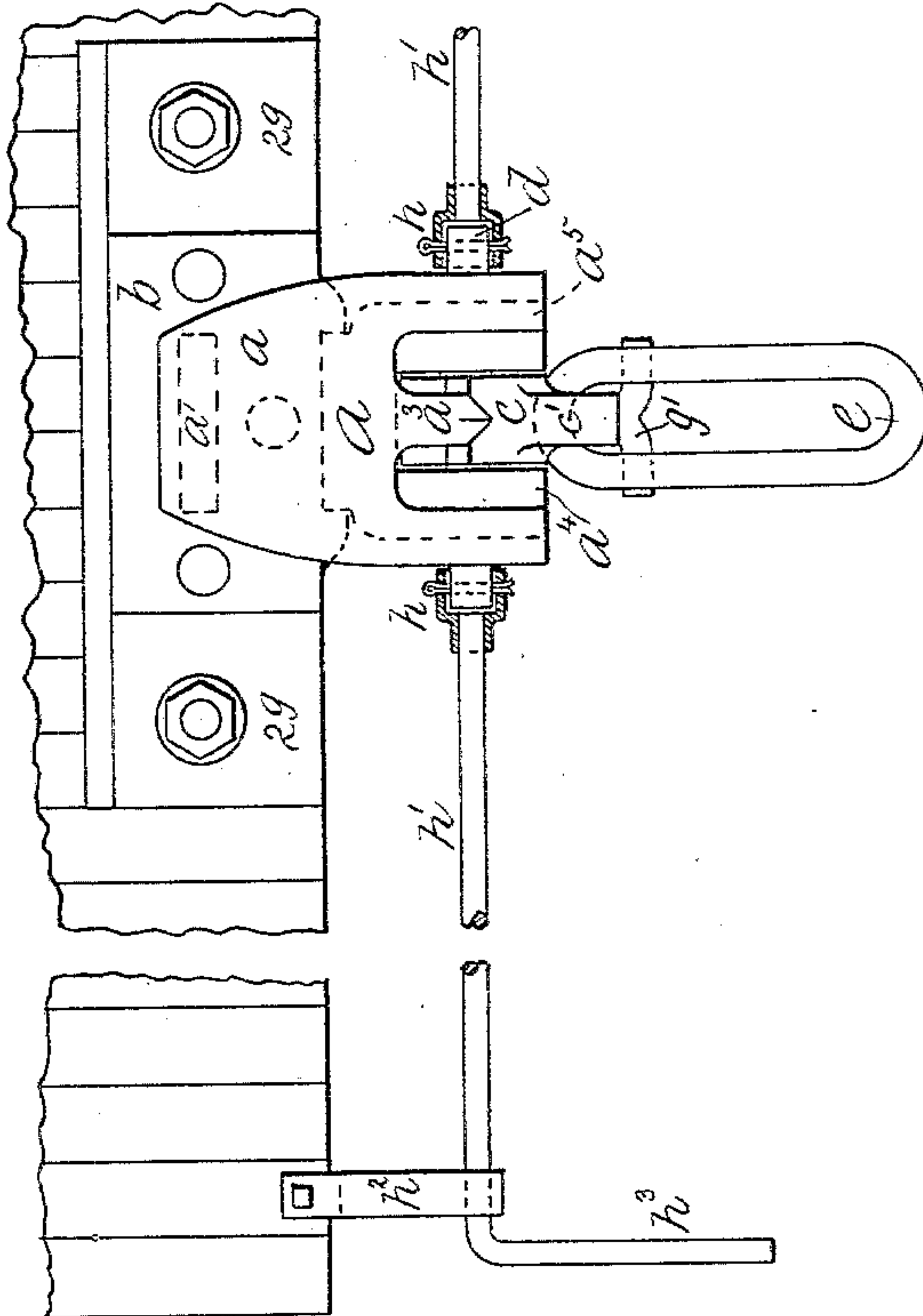


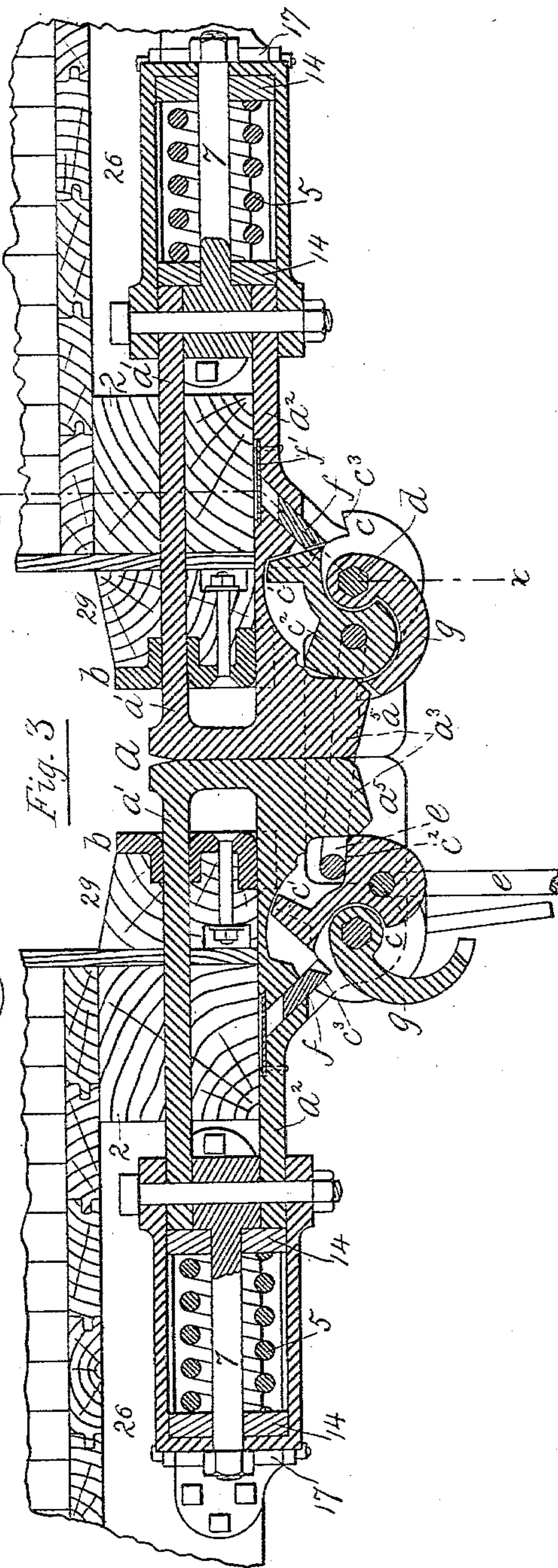
Fig. 1.



Witnesses.

H. D. Williams
P. L. Brown

Fig. 3.



Herbert H. Hewitt

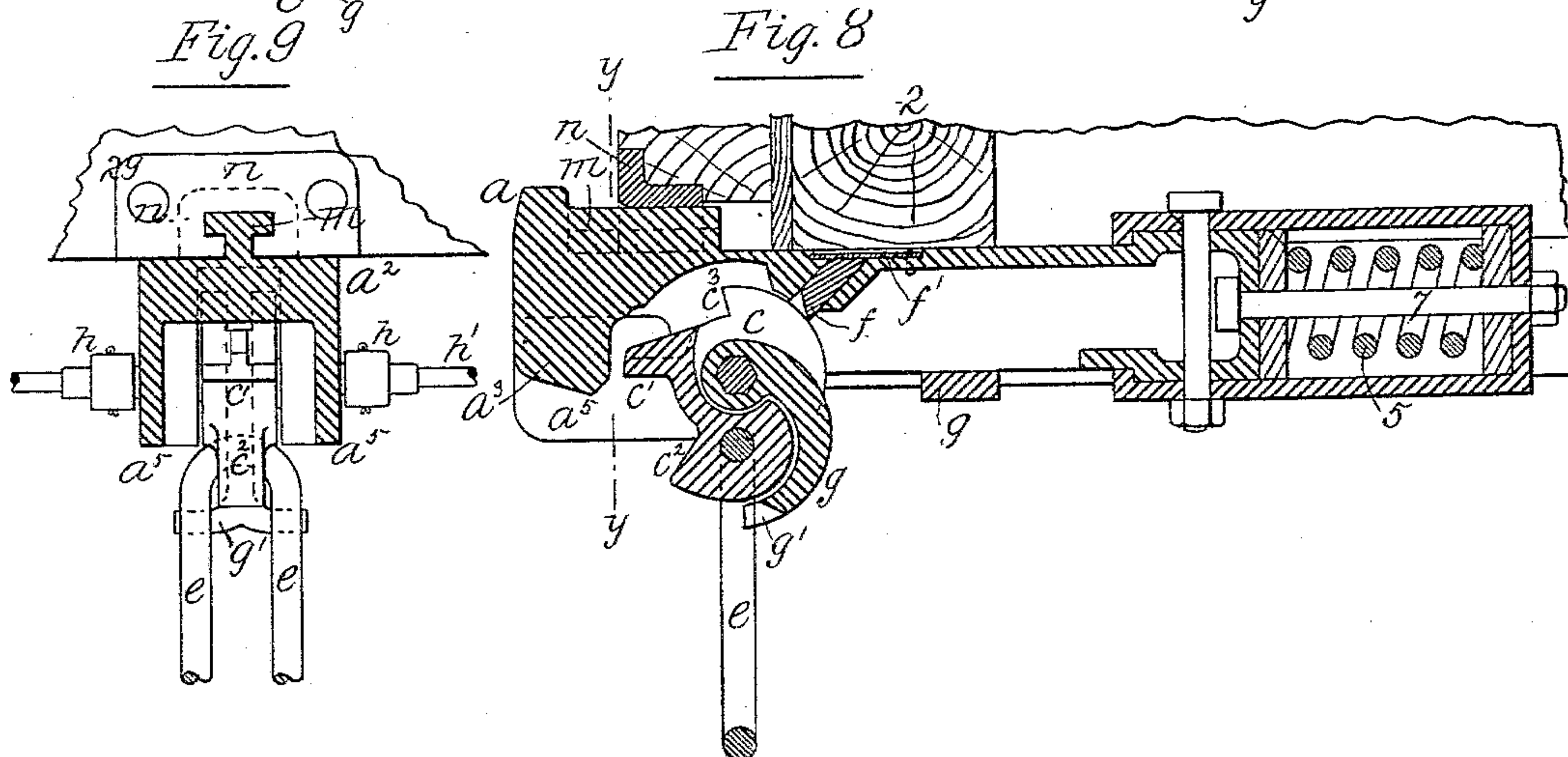
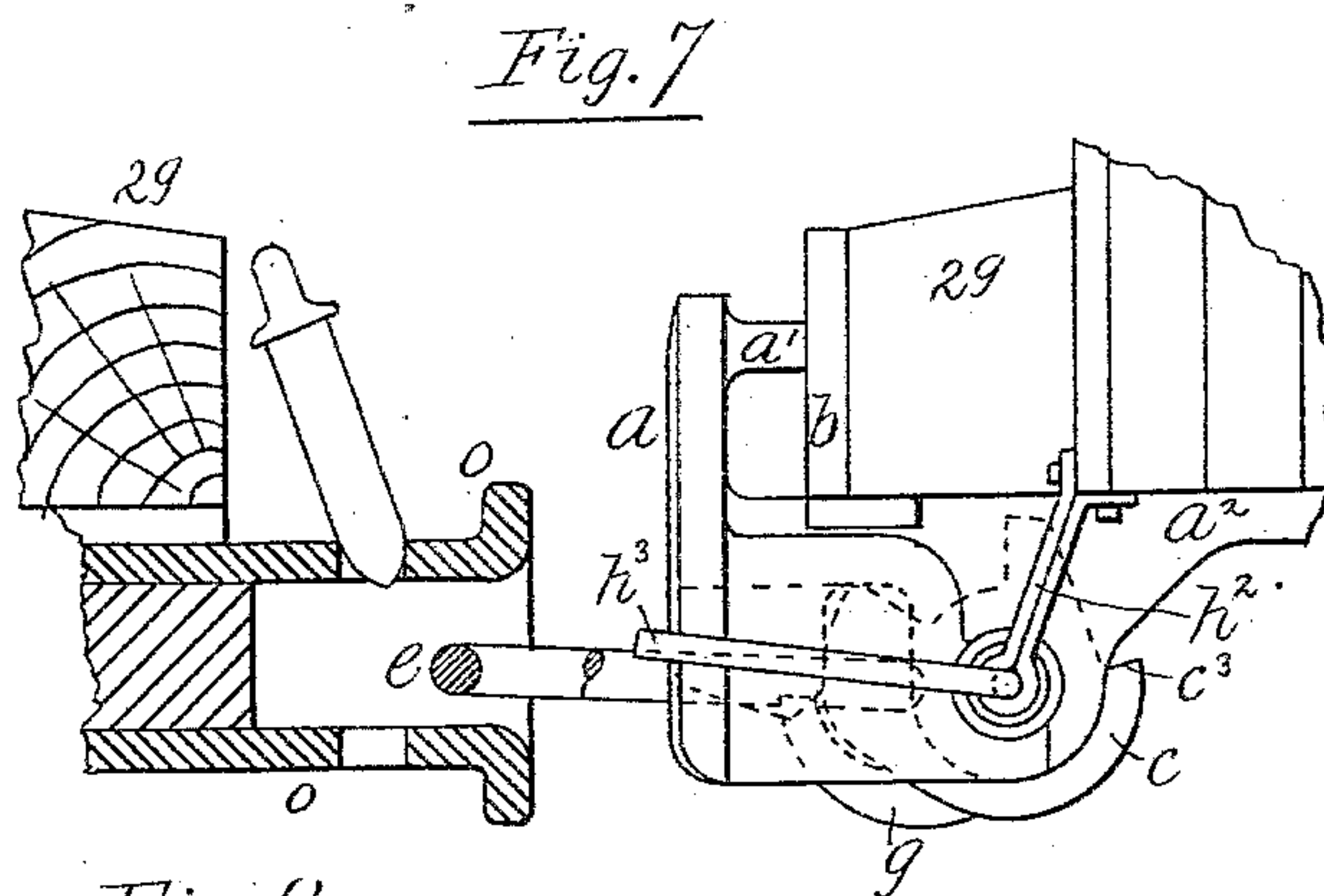
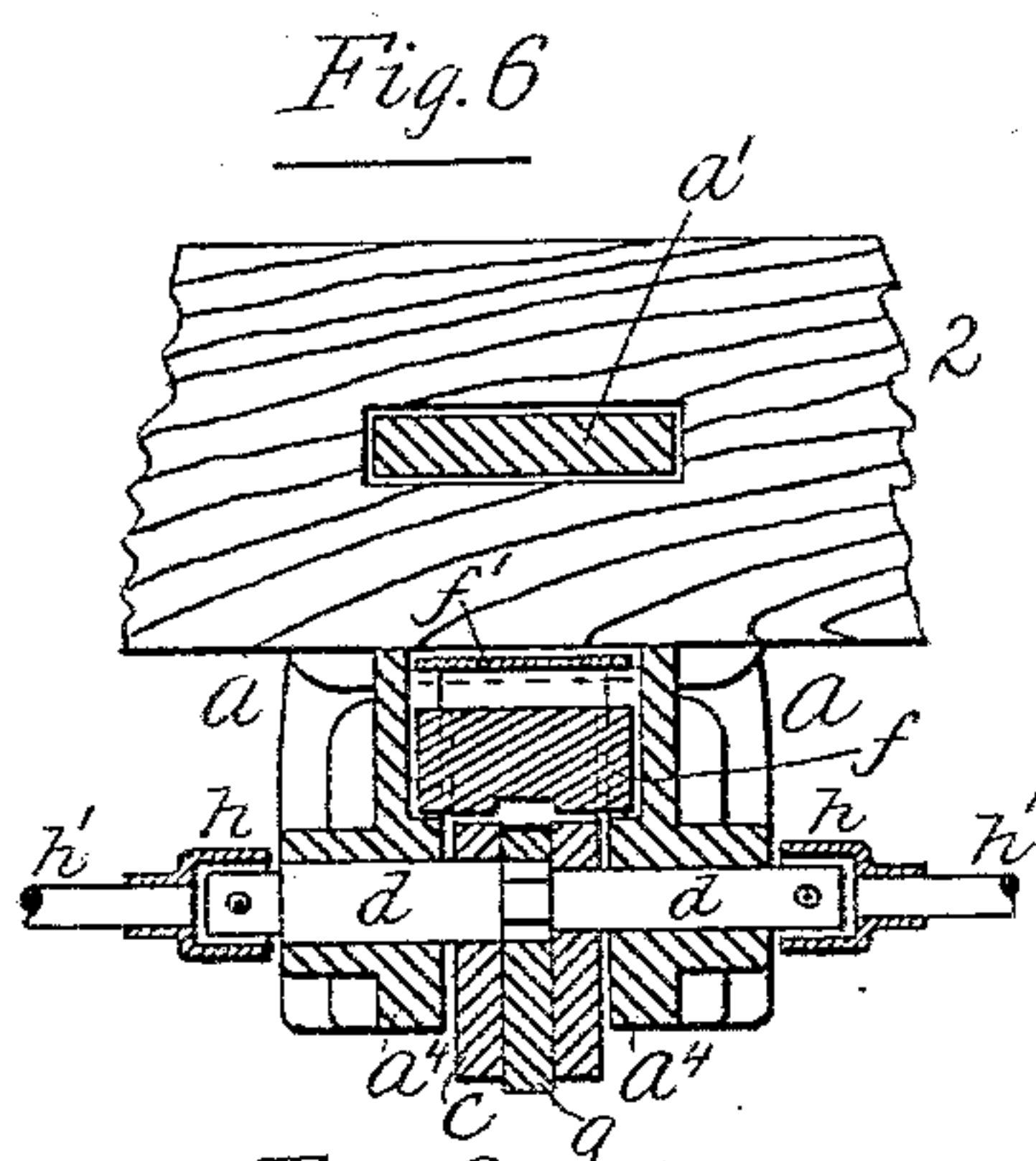
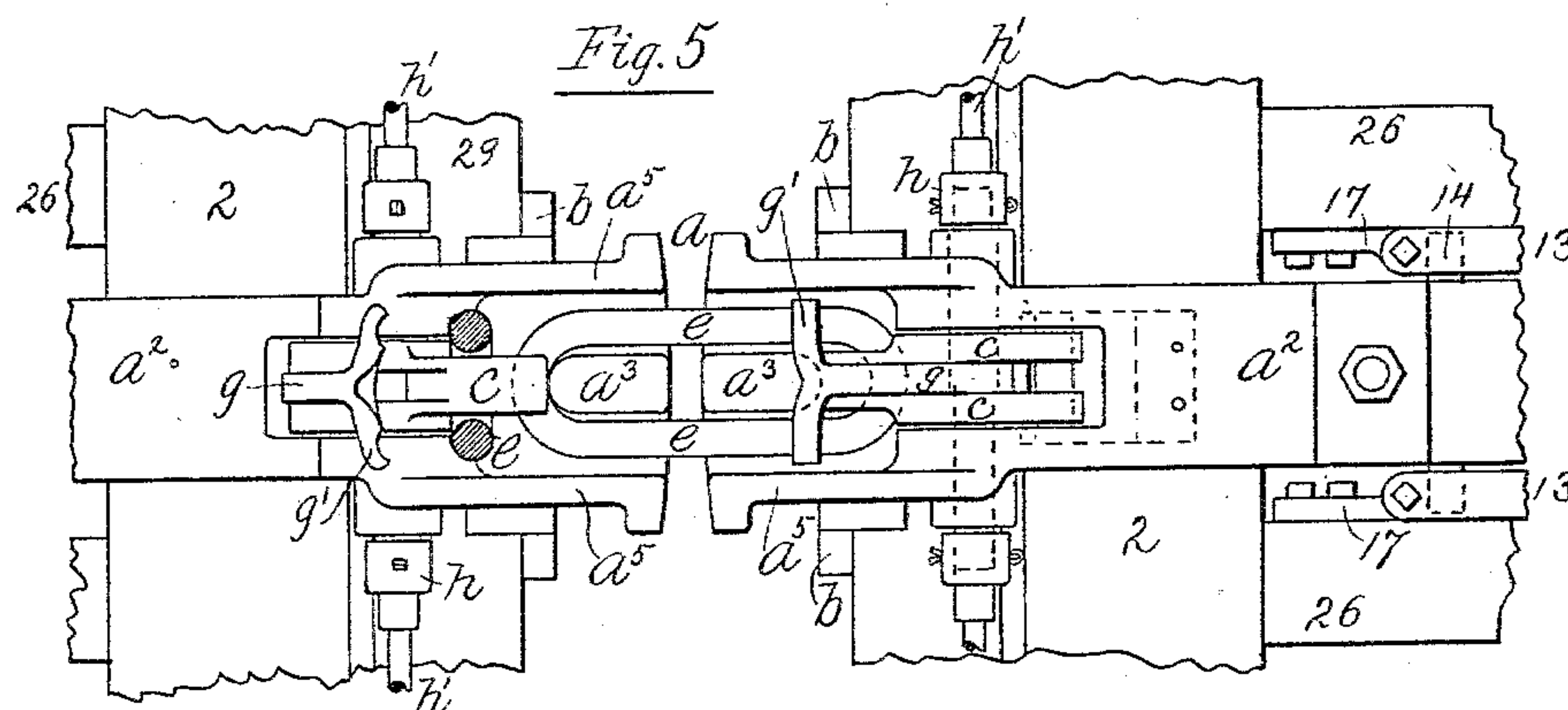
Inventor.

per Alfred Hedlock
Atty.

2 Sheets—Sheet 2.

CAR COUPLING.

Patented June 10, 1884.



Herbert H. Hewitt
Inventor

H. D. Williams
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UNITED STATES PATENT OFFICE.

HERBERT H. HEWITT, OF NEW YORK, N. Y.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 300,257, dated June 10, 1884.

Application filed December 7, 1883. (No model.)

To all whom it may concern:

Be it known that I, HERBERT H. HEWITT, a citizen of the United States, and a resident of New York, county and State of New York, have invented certain new and useful Improvements in Buffing and Coupling Attachments for Railway-Cars, of which the following is a specification.

The car buffing and coupling device forming the subject-matter of this application is composed of one main casting or forging, so shaped that the buffing-strains are resisted in direct line with the floor-timbers of the car by means of a stem extending from the back of the buffer-head and passing through the end sill of the car, and a stem extending from the lower part of the buffer-head below the floor-timbers of the car. Said stems are parallel, and their free ends are connected to the draw and buffer spring gear of the ordinary construction. By this arrangement I embody the advantages of the Miller buffer, covered by United States Letters Patent No. 56,594, dated July 24, 1866—viz., having the direction of compression-strains in line with the floor-timbers of the car, by means of a more perfect construction, by reason of the extra stem located under the sill, said construction enabling me to combine with the buffer a coupling device the connecting part of which consists of a downwardly-projecting hook located immediately below the buffer-head and integral with it and the two stems.

This invention also embraces a new method of coupling cars, which consists in raising a pendent coupling-link attached to the coupling device of one car so that its free end engages the downwardly-projecting hook of the coupling device of the other car. This raising of the link is performed by means of a pivoted lifter operated by a hand-lever located at the side of the car, thus avoiding the necessity of the attendant going between the ends of the cars. A link-retaining device is also provided to close the entrance to the downwardly-projecting hook, thus securely holding said link in position, and it is so caused to close the opening of the hook by the end of the link itself as it passes over the hook. The link-lifter is also adapted to free the end of the link so retained on the hook by being turned back-

ward, thus enabling cars to be detached as well as connected when they are close together, thus avoiding the necessity of moving cars for these purposes, and thereby greatly facilitating the operation of coupling and uncoupling cars and removing all dangers attending such operations. The uncoupling of cars may also be performed while the cars are in motion, thus greatly facilitating the operation of switching portions of a train onto different tracks. This coupling device is also adapted to be used in conjunction with ordinary link-couplers, and has sufficient range of motion to connect cars whose couplers are at different heights, and where necessary the ordinary coupling-link, either straight or bent, may be used, leaving the link belonging to my coupling device in a pendent position, as when in such position the link is entirely out of the way, being below the buffer-block of the car.

In the accompanying drawings, forming part of this specification, Figure 1, Sheet 1, is a front view of my improved buffer and coupler. Fig. 2, Sheet 1, is a side view of the same. Fig. 3, Sheet 1, is a longitudinal central section showing the ends of two cars each provided with my improved buffer and coupler. Fig. 4, Sheet 1, is a side elevation showing a modification in the construction. Fig. 5, Sheet 2, represents two couplers and buffers as shown in Fig. 3, looking upward. Fig. 6, Sheet 2, is a transverse section cut on the line *xx*, Fig. 3. Fig. 7, Sheet 2, shows my improved coupler in position to couple with an ordinary coupler. Fig. 8, Sheet 2, is a longitudinal central section of a modification adapting my improvements to be substituted for the ordinary coupler without any material changes being made on the car; and Fig. 9, Sheet 2, is a transverse section of the same cut on the line *yy*.

a is the buffer-head; *a'*, the upper stem, passing through a slot formed in the buffer-block 29 and end sill, 2; *a''*, the lower stem, passing under the head-block and sill; *a'''*, the downwardly-projecting hook; *a⁴*, the side lugs, between which the parts of the coupler are pivoted; and *a⁵*, cheeks, the front edges of which, as well as the front edge of the hook, are in line with the buffer-face, the object of these cheeks being to prevent a very low

coupler of the ordinary construction crowding under the hook a^3 . All of these parts constitute one piece, preferably a steel casting. The cheeks a^5 may be omitted, if desired, as shown at Fig. 4.

To the front of the buffer-block 29 is secured by bolts the guide-plate b , provided with a rectangular hole as a bearing for the upper stem, a^1 , and a grooved bearing for the upper surface of the lower stem, a^2 . The free ends of the stems a^1 and a^2 are connected by means of the bolt a^6 to the buffer and draw-gear of ordinary construction located between the draw-timbers 26 26, and which consists of a yoke, a^7 , a draw and buffer spring, 5, draw-bar bolt 7, follower-plates 14 14, guides 13, and stops 17, said bolt a^6 passing through the yoke a^7 , the free ends of the stems a^1 and a^2 , and the eye of the draw-bar bolt 7, after these parts are placed in position relatively to one another, as shown.

In the recess formed by the two lugs a^4 a^4 is placed the link-retaining device c , held therein by the pin d , upon which it freely turns. Through a hole in this piece c is permanently secured the connecting-link e , and it is provided with a notch or opening, the upper side, c^1 , of which closes the opening of the hook a^3 when the coupler is open and in its normal position, as shown at Fig. 2, and the lower side, c^2 , also closes the opening of the hook to retain the free end of the link e thereon, as shown in the left-hand coupler of Fig. 3. To lock or retain this piece c when in this position, another notch is formed in it, into which the sliding bolt or catch f , fitted to slide freely in an oblique groove formed in the stem a^2 , falls, and against which the side c^3 of said opening bears. The bolt f may, if desired, be provided with a spring to throw it down and retain it in the notch of the piece c ; but I deem its weight sufficient for this purpose. The cap-plate f' holds the bolt f in its oblique groove when this coupling device is detached from a car.

The central and rear portions of the link-retaining piece are cut away to form a slot for the reception of the link-lifter g , which is securely fastened to the center of the pin d by any suitable means, a good practical way being as clearly shown at Figs. 3 and 6—viz., a hexagonal shoulder formed on the center of the pin, fitting in a corresponding hole in the lifter g , the entering end of the pin being reduced in size to pass through the hole in the lifter g . The pin is passed through the bearing-holes in the lugs a^4 , the link-retaining piece c , and lifter g , from left to right, Fig. 6, and is retained in place by the coupling-sockets h on the ends of the operating-rods h^1 . Said rods extend to the sides of the cars, being held in place by the wrought brackets h^2 , secured to the corners of the cars. Beyond these brackets they are bent at right angles, to form handles h^3 , for operating the lifter. The coupling-sockets h fit loosely on the ends

of the pin d , and are secured thereto by loose-fitting split pins, thus forming universal joints with sufficient play to allow for the different positions assumed by the coupling device when its buffing and draft spring is under compression. The end of the link-lifter has a T-head, g' , to engage in the sides of the link e , to lift it into or beyond a horizontal position, and its rear edge is curved or cam-shaped, so as to adapt it to raise the bolt f away from the side c^3 of the opening in the piece c , when the link-lifter is turned backward.

The operation is as follows: Assume two cars to be close together, with their respective couplers in their normal open position, as shown at Fig. 2, one of the handles h^3 of one of the cars is moved upward toward the other car, thus violently throwing up the free end of the link e over the hook a^3 of the adjacent coupler, which, striking the side c^1 of the front notch in the piece c , turns said piece c on the pin d until the bolt f falls into the other notch, the other side, c^2 , of the front notch then closing the opening of the hook a^3 when the side c^3 is against the bolt f . Thus the coupling of cars can be effected as fast as the operator can move along the side of a train of cars, and when all the cars are close together and stationary. By reason of the link e being secured to the pivoted piece c , it has two centers on which to turn in being thrown up, thereby giving it a greater range of motion than if it were pivoted directly to the draw-bar, and also preventing it from bending upon receiving direct blows on its free end.

In Fig. 5, which is an underneath view of Fig. 3, the free pendent dead-link e is shown in section, and the cars are shown under traction-strain, with the active operating-link against the hook. To relieve the traction-strain of the active operating-link from the pin d , its notched piece c may fit sufficiently loose on the pin, so that the front of this piece c shall also bear against the face of the hook a^3 , as shown in the right-hand coupler of Fig. 3.

To disconnect cars, all that is necessary to do is to turn one of the handles h^3 of the coupler, in which the free end of the link of the other coupler is retained, backward, which causes the cam-shaped back of the lifter g to raise the bolt f away from the side c^3 of the notch in piece c , allowing the piece c to fall into the position shown at Fig. 2, and leaving the end of the link free to fall away from the hook. This can be performed when the train is stationary and the cars close together or when the train is in motion, thus greatly facilitating the operation of switching, &c.

To adapt my improved buffing and coupling attachment to be substituted for the ordinary coupler in general use, the body l is made of a rectangular hollow casting placed under the buffer-block 29 and end sill, 2, of the

car, and held up by the draw-bar-carrying iron 9 and a T-head flange, *m*, cast on the top of the body, immediately behind the head *a* of the buffer, which fits and slides in the guide 5 *n*, having a correspondingly-shaped T-groove.

The construction and operation of the working parts are the same as those of the coupler before described, and are similarly marked.

Fig. 7 represents the operation of coupling with an ordinary coupler, *o*, the link *e* being upheld by the side handles, *h*³, so as to enter the mouth of the coupler *o*, as the cars are brought together.

Ordinary straight or bent links may be used 15 in connecting my improved coupler with any of the couplers now in general use by placing one end of the link over the hook *a*³, and by means of the handle *h*³, moving the notched piece round on the rod *d*, so as to close the 20 opening of the hook, the other end of the link being then placed in the ordinary coupler in the usual manner.

Having now described my invention, what I claim, and desire to secure by Letters Patent, 25 is as follows:

1. The combination, with a buffer having an integral stem constructed to pass through the buffer-block and the end sill of a car, and an integral stem located under the buffer-block and end sill, of a buffer-head and draw-spring attachment located between the center timbers behind the end sill, and connected to the free ends of the two stems of the buffer, substantially as set forth.

35 2. An integral buffer and coupler consisting of a buffer-head, a downwardly-projecting hook located under the same, and two parallel stems, one adapted to pass through and the other under the buffer-block and end sill of a car, substantially as set forth.

3. In a car-coupling, a detachable piece or plate pivoted to the draw-bar, and a pendent link permanently attached to said pivoted piece or plate and actuated by means, substantially as described, whereby the link and pivoted piece are swung up, so that the free end of the link engages a downwardly-projecting hook on or enters the mouth of an ordinary coupler of an adjacent car, as set forth.

50 4. The combination, with the downwardly-projecting hook of a car-coupling, of a closing device, constructed and operated to automatically close the opening of the hook when the coupling-link of an adjacent coupler passes 55 over the hook and by the upward movement of the link, substantially as set forth.

5. In a car-coupler, a downwardly-projecting hook, in combination with a pivoted notched piece, which, when in open position, allows 60 the free end of a coupling-link to pass into the notch over the hook, and when turned on its axis into its closed position the side of the notch retains the link on the hook, substantially as set forth.

65 6. The combination, with a downwardly-projecting hook and a pivoted notched closing-

piece, of a sliding bolt or catch constructed and operated to hold the pivoted closing-piece in its closed position, substantially as set forth.

7. In a coupling, a hook, and a pivoted piece 70 provided with a notch, the upper side of which is in front of the hook when in its open position, in combination with the coupling-link of an adjacent car, which when thrown up over the hook strikes said upper side of the notch 75 of the pivoted piece and forces it partly round on its center, so that the under side of the notch closes the opening to said hook, and a bolt or catch constructed and operated to hold the plate in its closed position, substantially 80 as set forth.

8. In a coupling, a pivoted notched piece, a bolt or catch adapted to hold the plate in its closed position, and a lifter and cam device pivoted on the same axis as the plate, constructed and operated, when moved in one direction, to turn the pivoted notched piece into its closed position, and when moved in the opposite direction to raise the bolt or catch to free the notched piece, substantially as set 90 forth.

9. In a coupler, a pivoted notched piece, a link permanently attached thereto and hanging loose, and a lifter pivoted on the same axis as the notched piece to raise said link into position to couple with an adjacent car, in combination, substantially as set forth.

10. In a coupler, a pivoted notched piece, a link permanently attached thereto and hanging loose, and a lifter pivoted on the same axis 100 as the notched piece, in combination with a downwardly-projecting hook of the coupler of an adjacent car, substantially as and for the purpose set forth.

11. In a coupler, a pivoted notched piece, 105 a link permanently attached thereto and hanging loose, and a lifter pivoted on the same axis as the notched piece, in combination with the coupler on an adjacent car, composed of a hook, a pivoted notched piece adapted to close the 110 opening to the same when the link passes over it, and a bolt or catch adapted to hold said plate in its closed position, substantially as set forth.

12. The integral buffer and coupler *a a' a''* 115 *a*³, in combination with the connecting-bolt *a*⁶, the yoke *a*⁷, and the draft and compression spring device 7, 5, 14, 13, and 17, substantially as set forth.

13. The link *e*, notched piece *c*, lifter *g*, and 120 handles *h*³, in combination, substantially as set forth.

14. In combination, the pivoted notched piece *c*, lifter *g*, located between the lugs *a*⁴ of a car-coupling, the pin *d*, fitted to turn freely 125 in the lugs *a*⁴ *a*⁴, and notched piece *c*, and secured to the lifter *g*, and the rods *h*³, attached to the ends of the pin *d* by means of universal couplings, substantially as and for the purpose set forth.

15. The combination of the link *e*, pivoted piece *c* of a car-coupling, and downwardly-pro-

jecting hook a^3 of a car-coupling on an adjacent car, substantially as and for the purpose set forth.

16. The link e and lifter g of a car-coupling, 5 in combination with the hook a^3 , and pivoted notched piece c of the coupler of an adjacent car, substantially as set forth.

17. The combination of the link e , pivoted piece c , and lifter g , substantially as and for 10 the purpose set forth.

18. The combination of the hook a^3 , notched pivoted piece c , and sliding bolt f , substantially as and for the purpose set forth.

19. The combination, with the notched piece 15 c , the hook a^3 , and sliding bolt f , of the cam-

shaped lifter g , substantially as and for the purpose set forth.

20. The combination of the link e , pivoted piece c , and pin d , by means of which the piece c is held between the lugs a^4 of the coupling, 20 substantially as and for the purpose set forth.

In testimony whereof I have hereunto set my hand at New York, county and State of New York, this 4th day of December, A. D. 1883.

HERBERT H. HEWITT.

Witnesses:

H. D. WILLIAMS,
ALFRED SHEDLOCK.