

No. 716,508.

Patented Dec. 23, 1902.

R. P. WILSON.
VALVE LOCKING APPARATUS.

(Application filed Jan. 17, 1902.)

(No Model.)

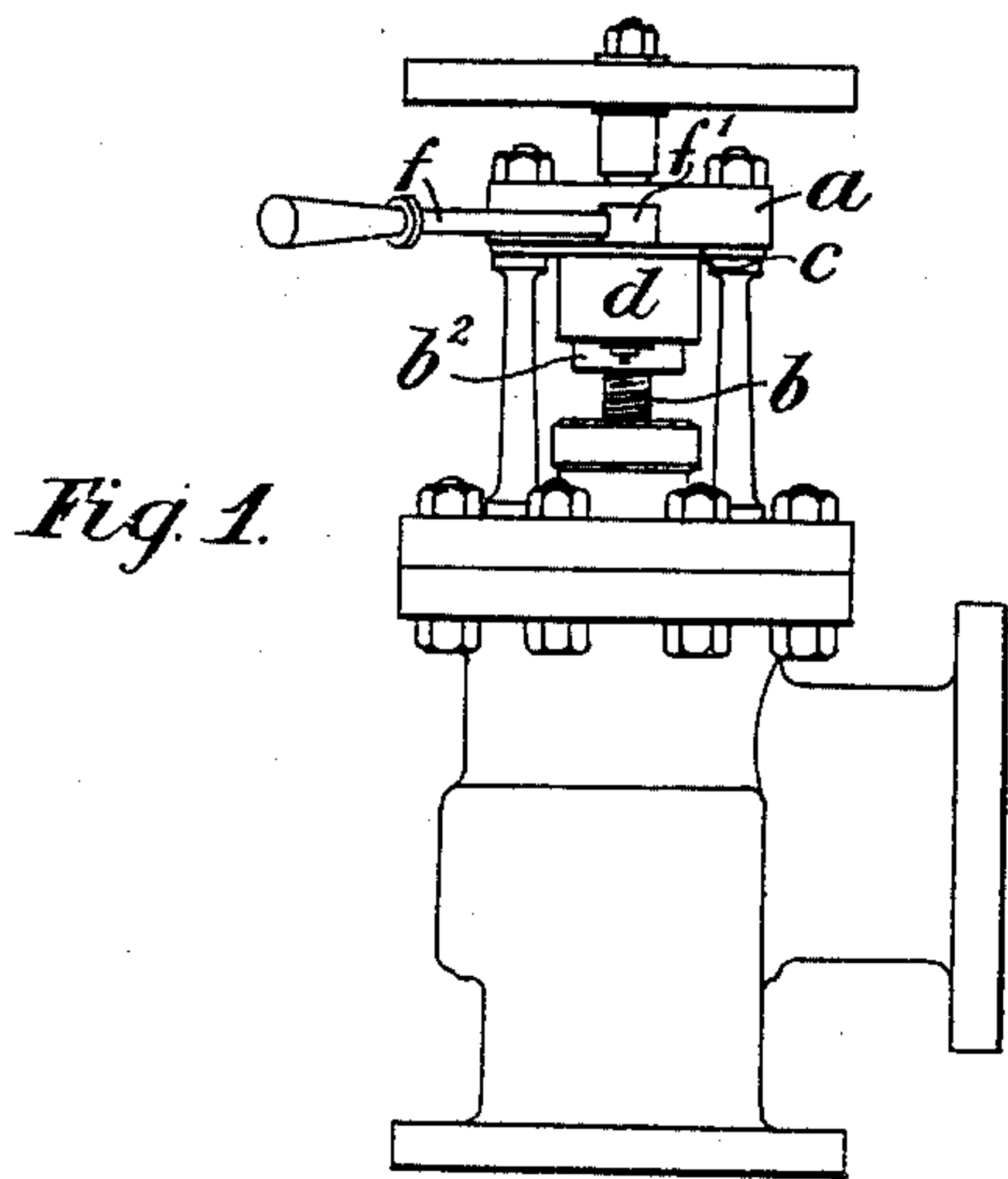


Fig. 1.

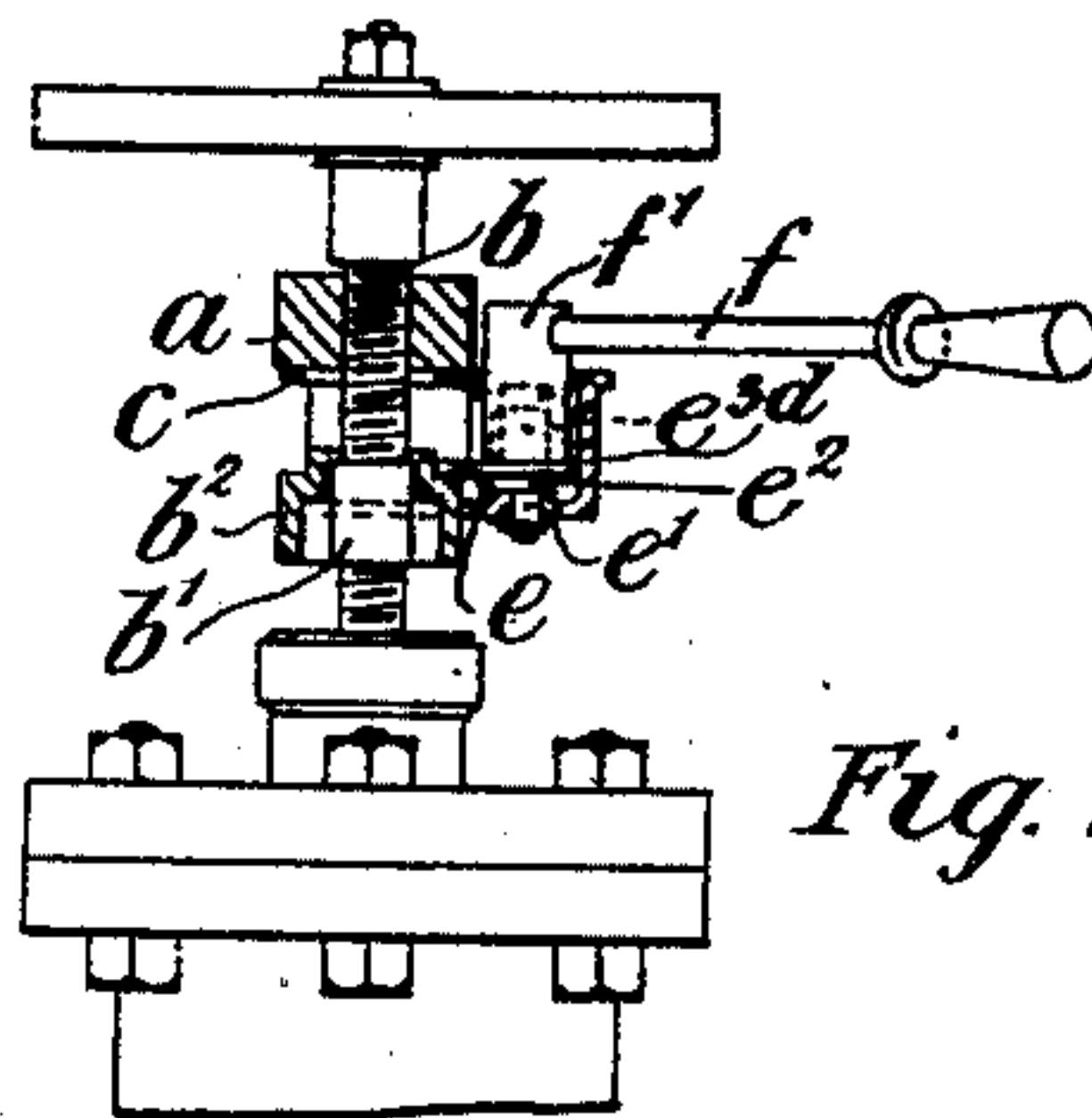


Fig. 2.

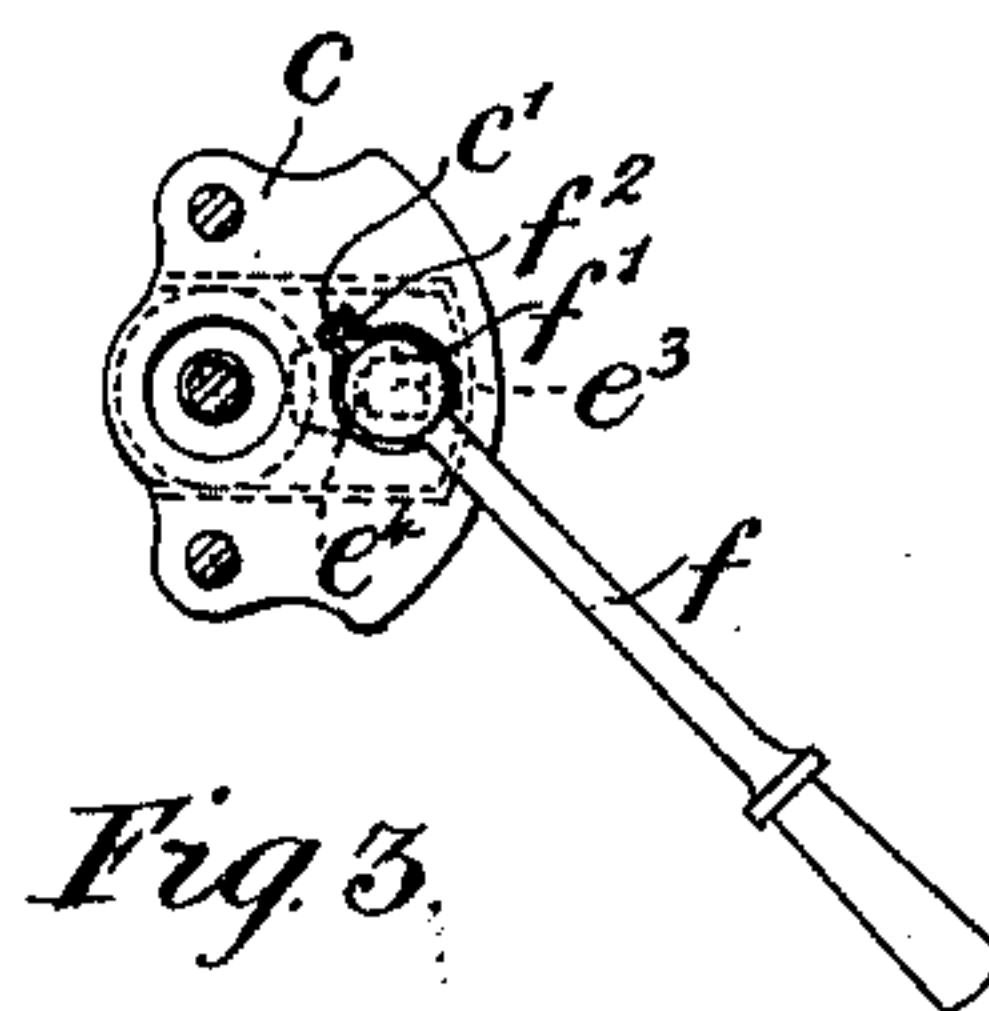


Fig. 3.

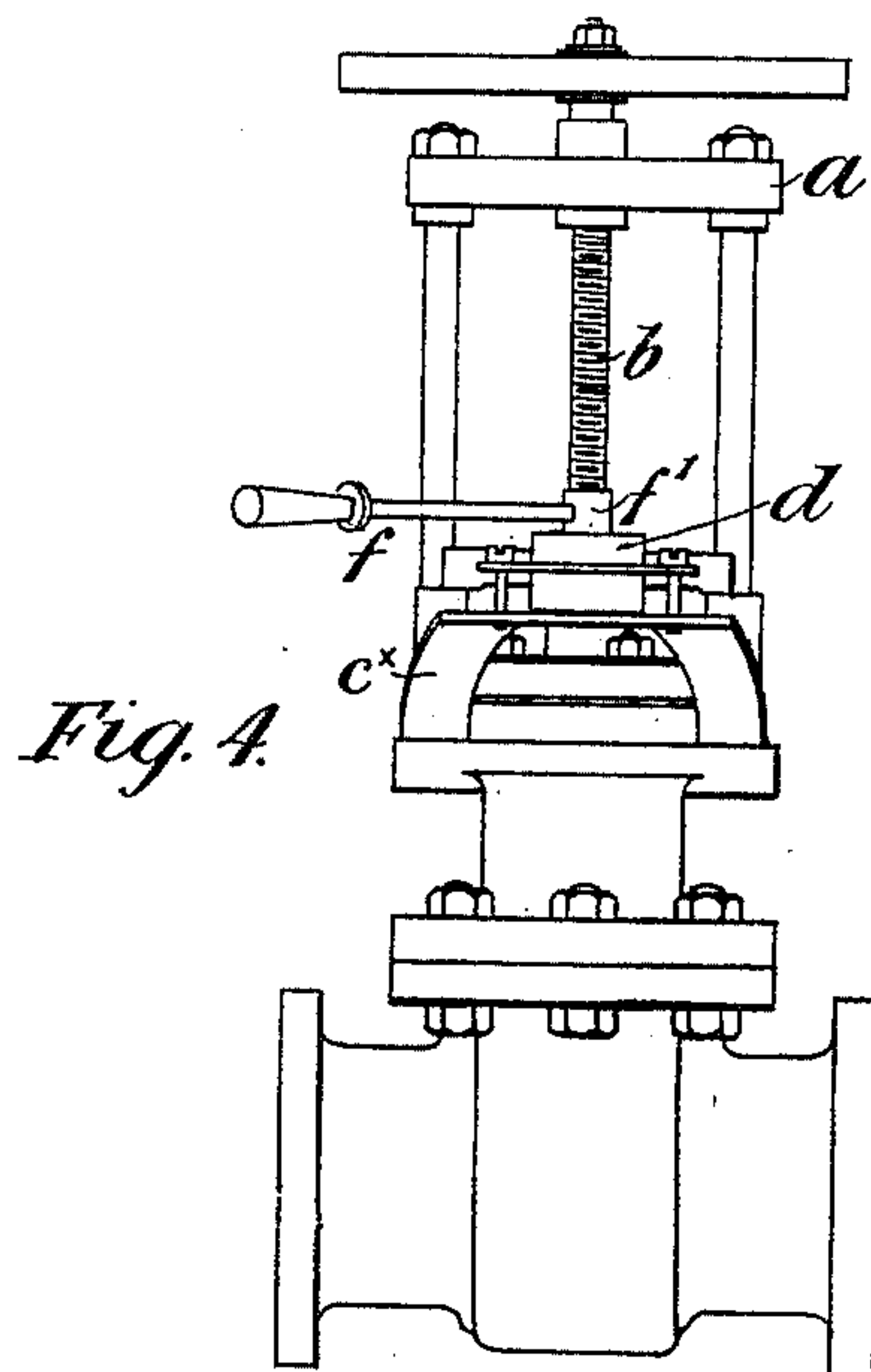


Fig. 4.

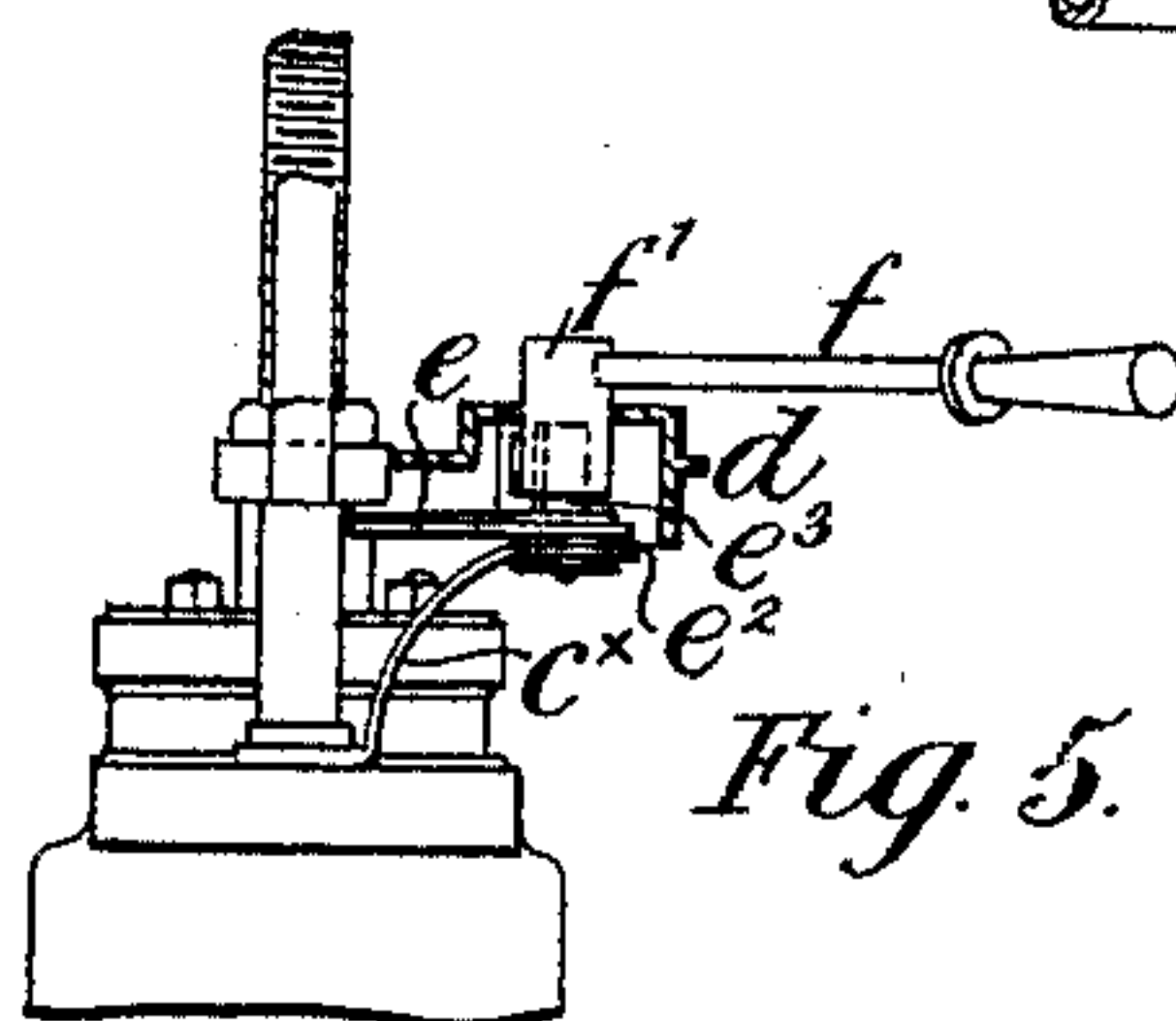


Fig. 5.

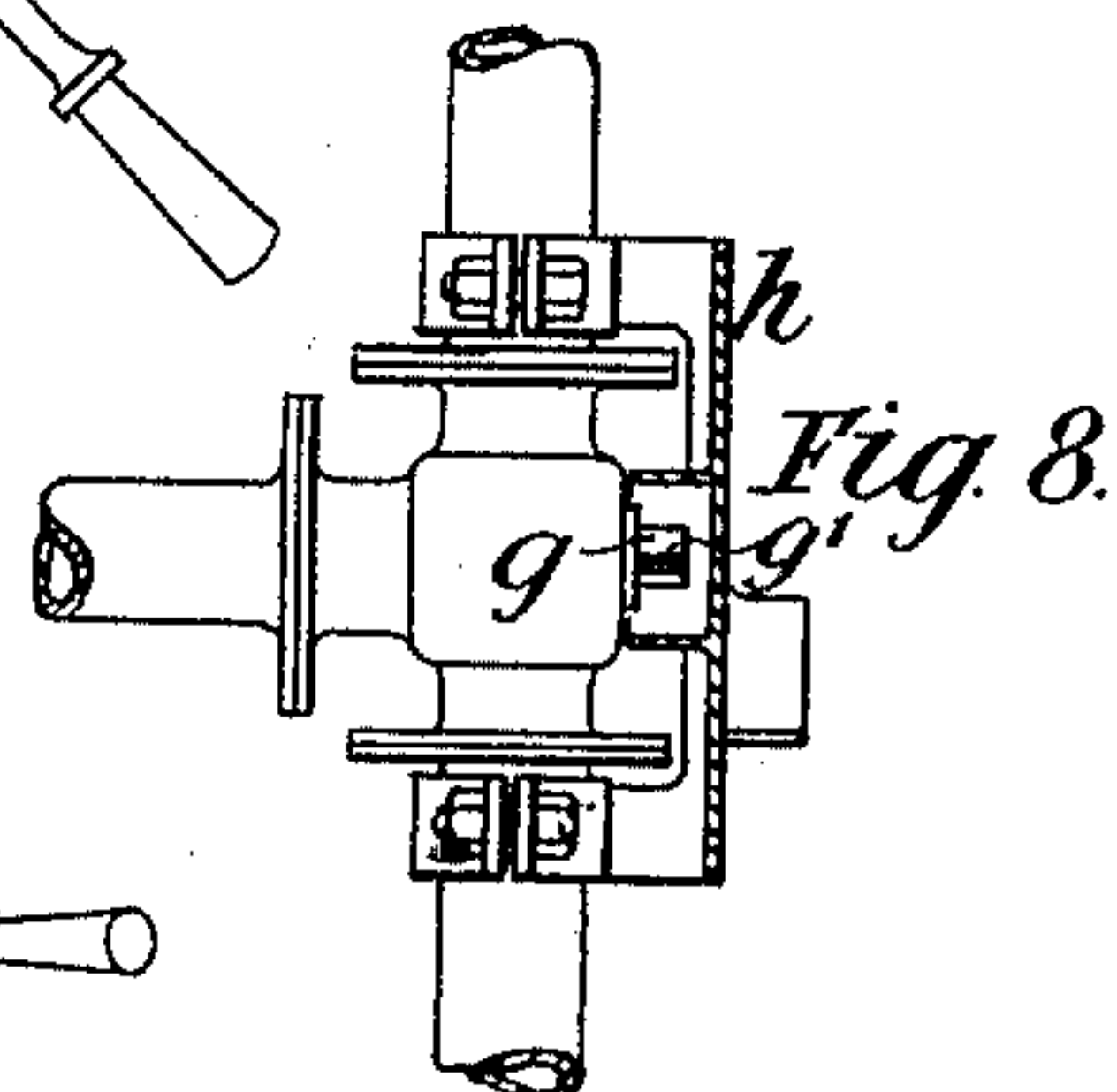


Fig. 8.

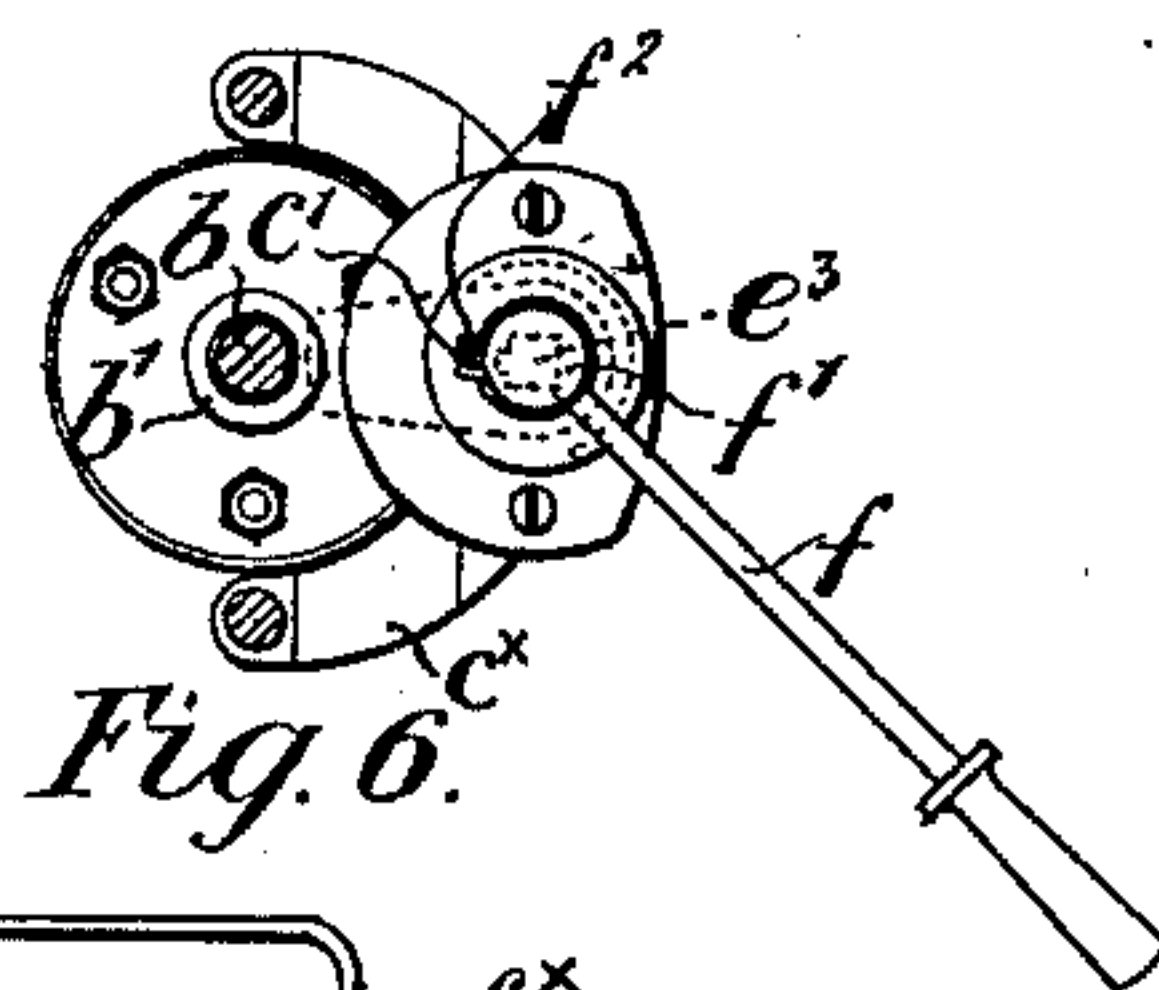


Fig. 6.

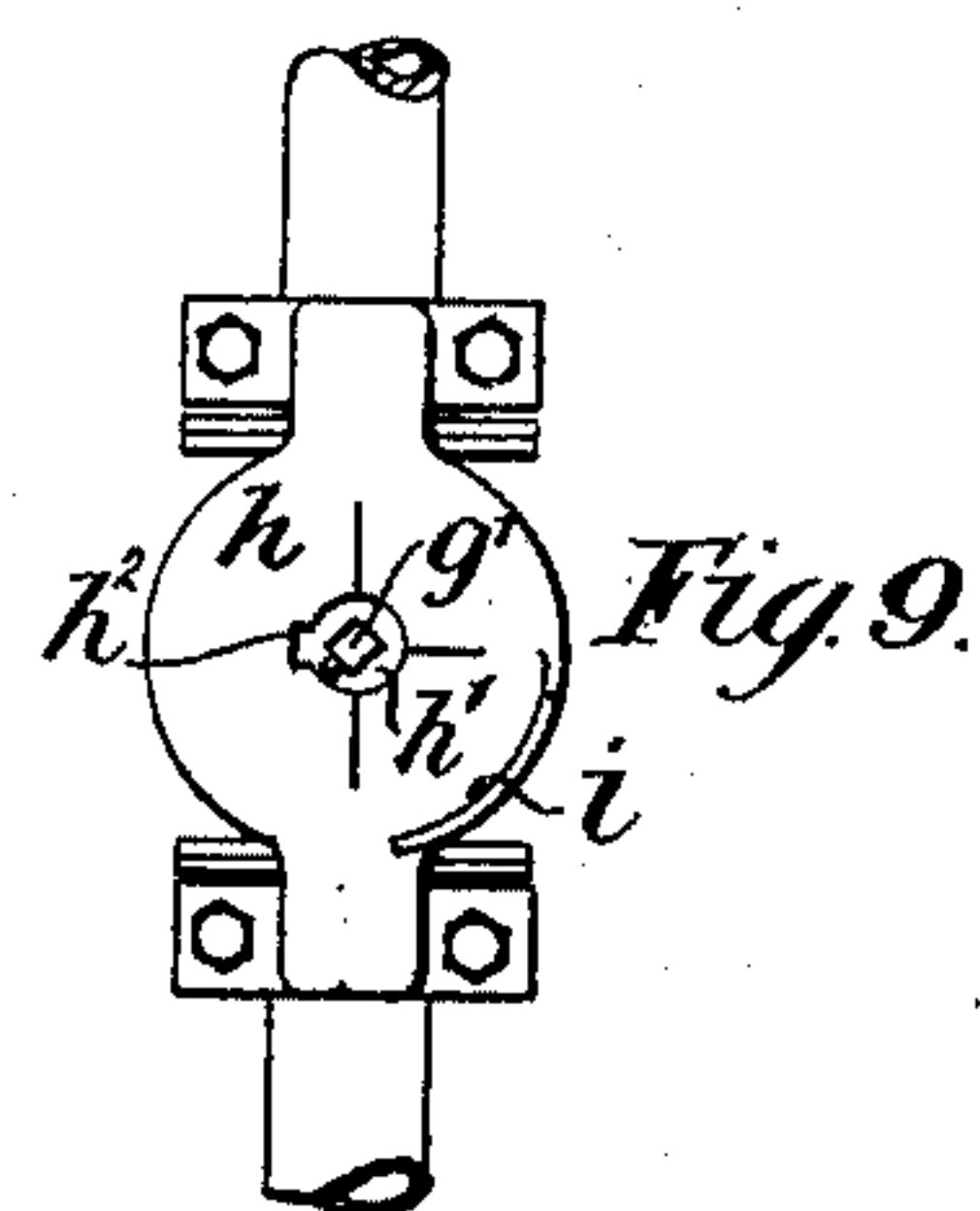


Fig. 9.

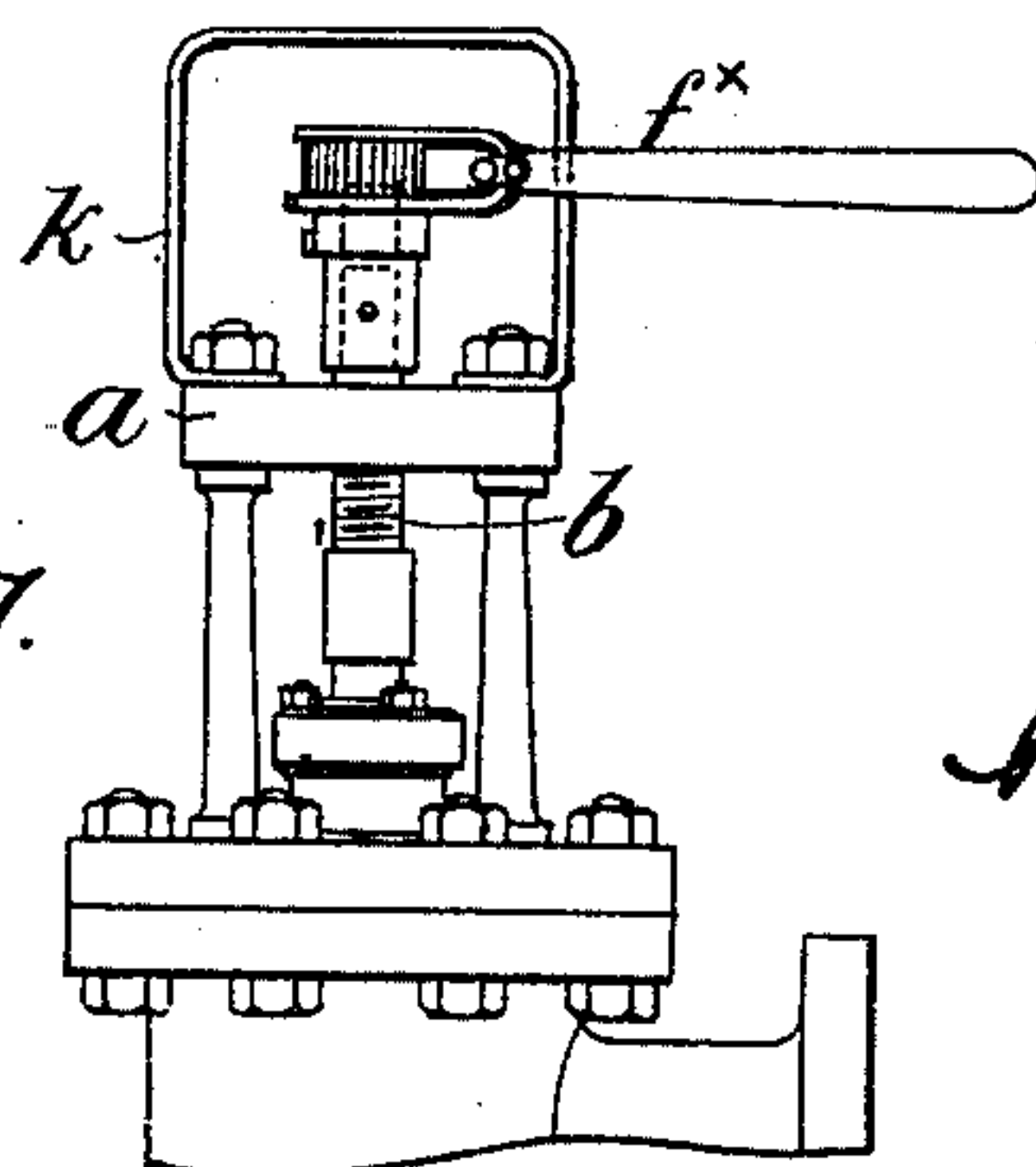


Fig. 7.

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VALVE-LOCKING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 716,508, dated December 23, 1902.

Application filed January 17, 1902. Serial No. 90,193. (No model.)

To all whom it may concern:

Be it known that I, REGINALD PAGE WILSON, a subject of the King of Great Britain and Ireland, residing at 66 Victoria street, in the city of Westminster, in the county of London, England, have invented new and useful Valve-Locking Apparatus, of which the following is a specification.

This invention relates to improved means for controlling the stop-valves of steam-boilers; and it consists in providing such valves with locking devices, so that they cannot be opened unless and until the conditions are such as to admit of their being opened with safety, the object being to provide against danger, especially when the boiler is under inexperienced management.

According to my invention the stop valve or valves is or are fitted with a locking device capable of being operated only by means of the handle pertaining to the superheater blow-down or flooding valve, the arrangement being such that the handle cannot be removed from the latter valve until the draining of the superheater and its connection with the steam-space of the boiler have been effected.

As exemplifying the means employed in carrying my invention into effect Figures 1 to 7 illustrate the application of my locking device to stop-valves of ordinary construction. In Figs. 1 to 3 the device is carried by a plate held in position by the bridge-piece, Fig. 1 being an elevation, Fig. 2 a fragmentary side view with the locking device in section, and Fig. 3 a plan corresponding with Fig. 2. Figs. 4 to 6 are views, respectively, similar to Figs. 1 to 3, wherein the locking device is carried by a bracket clamped between the lower extremities of the pillars of the bridge-piece and the body of the valve. Fig. 7 is an elevation of a stop-valve, showing the application of the invention in connection with a ratchet-spanner. Figs. 8 and 9 are views in elevation and partial section and plan, respectively, illustrating an ordinary superheater flooding and draining cock provided with means for locking applicable for use in conjunction with the locking device on the stop-valve of the boiler.

Referring to Figs. 1 to 3, the bridge or cross piece *a*, through which the screwed portion of the stop-valve spindle *b* works, is furnished with a plate *c*, having a pocket *d*, wherein is mounted laterally to the valve-spindle *b* a catch or bolt *e*, rotatably mounted upon a stud *e'*, a spring-washer *e''* serving to prevent the shifting of the catch or bolt. This latter carries an angular turning-head *e'''*, which is formed with a nose or projection *e''''*, a handle *f*, having a socket or box *f'* at its extremity and adapted to fit the turning-head *e'''*, being employed for operating the catch or bolt *e*. The periphery of the socket *f'* is furnished with a key or projection *f''* for passing through a lateral keyway *c'*, formed in the aperture in the plate *c* through which the socket or box end *f'* of the handle *f* passes, the said keyway *c'* being so arranged that the handle can be removed only when the valve has been shut down, as shown clearly in the drawings. Upon the spindle *b* of the stop-valve is rigidly mounted a collar *b'*, or a cap or washer *b''* may be passed on to the collar, which when the valve is shut down is engaged and held by the catch or bolt *e*.

From the foregoing the arrangement illustrated in Figs. 4 to 6 will be readily understood. *c^x* is the bracket, carrying the pocket *d*, which incloses the locking device, *e* being the catch or bolt, *f'* the box end of the handle for engaging the turning-head *e'''*, and *e'* the keyway for the passage of the key or projection *f''* on the socket or box end of the handle. The plug *g* of the blow-down or flooding valve pertaining to the superheater is provided with a turning-head *g'*, corresponding with that, *e'''*, of the stop-valve-locking device, a shield or plate *h*, having an aperture *h'* formed with a keyway *h''*, so arranged that the handle *f* can be applied or removed only when the valve is shut, being provided over the said turning-head *g'*. A stop *i* or stops may be provided on the shield or plate *h* for arresting the rotation of the handle *f*.

In the case of a battery of boilers it is preferable that the handles be non-interchangeable.

Instead of the handle being arranged to

operate a locking device in connection with the stop-valve it may be arranged as a ratchet-spanner and be used in place of the usual hand-wheel on the stop-valve spindle, as shown in Fig. 7, the guard k permitting the removal of the handle f^x only when the valve is shut.

Although I have described by way of example a construction of locking device, it will be readily understood that certain modifications will be necessary to adapt the invention to different descriptions of valves. By these means the possibility of accidentally flooding the superheater, the steam-pipes, and the engine-cylinders with water during working is avoided. The handle of the flooding-valve in the one case is locked in the stop-valve device, and therefore cannot be used to operate the flooding-valve until the stop-valve has been shut, while in the other case the stop-valve cannot be opened until the superheater has been drained, when the handle can be removed therefrom and used to release the lock pertaining to the stop-valve.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A locking device applicable for use in controlling the valves of steam-boilers and comprising a bolt having an angular turning-head covered by a shield or plate and a handle formed with a box-spanner end for

operating the bolt, substantially as herein described.

2. A locking device applicable for use in controlling the valves of steam-boilers and consisting of a rotatable bolt covered by a shield or plate and having an angular turning-head formed with a lateral projection and a handle or key adapted to fit the said turning-head, in combination with a collar on the valve-spindle, substantially as herein described.

3. In a locking device applicable for use in controlling the valves of steam-boilers, the combination, with a valve, of a shield or plate, an angular turning-head within such shield and a box-spanner-ended handle for operating the said valve and adapted for withdrawal only when the latter is shut, substantially as herein described.

4. In a controlling device applicable to the valves of steam-boilers, a socket or box spanner-ended handle adapted for operating the locking device and for use as a ratchet-spanner for turning the valve-spindle, substantially as herein described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

REGINALD PAGE WILSON.

Witnesses:

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