

No. 889,255.

PATENTED JUNE 2, 1908.

U. G. McQUEEN.
WINDOW.

APPLICATION FILED NOV. 11, 1907.

2 SHEETS—SHEET 2.

Fig. 3.

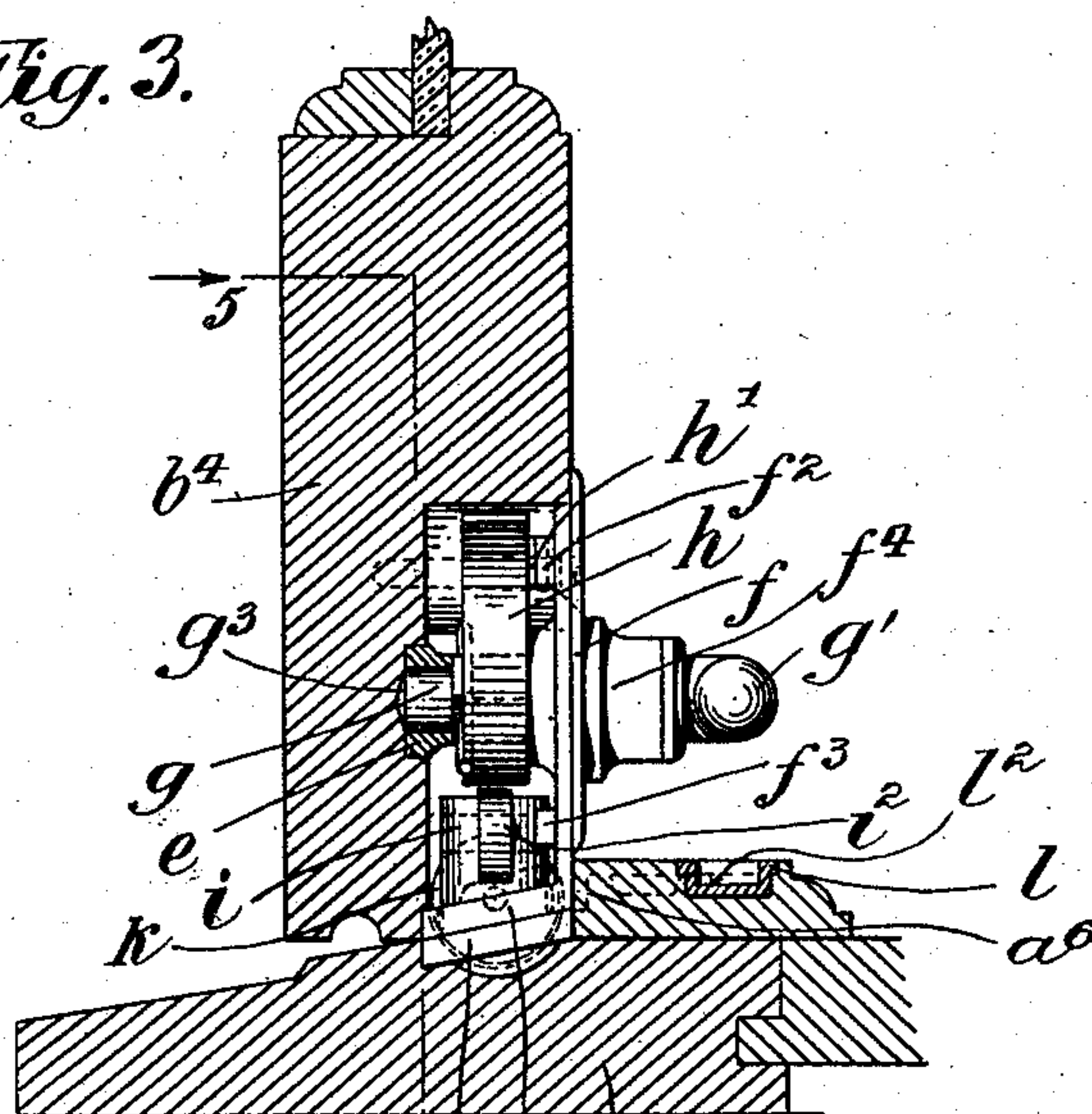


Fig. 4.

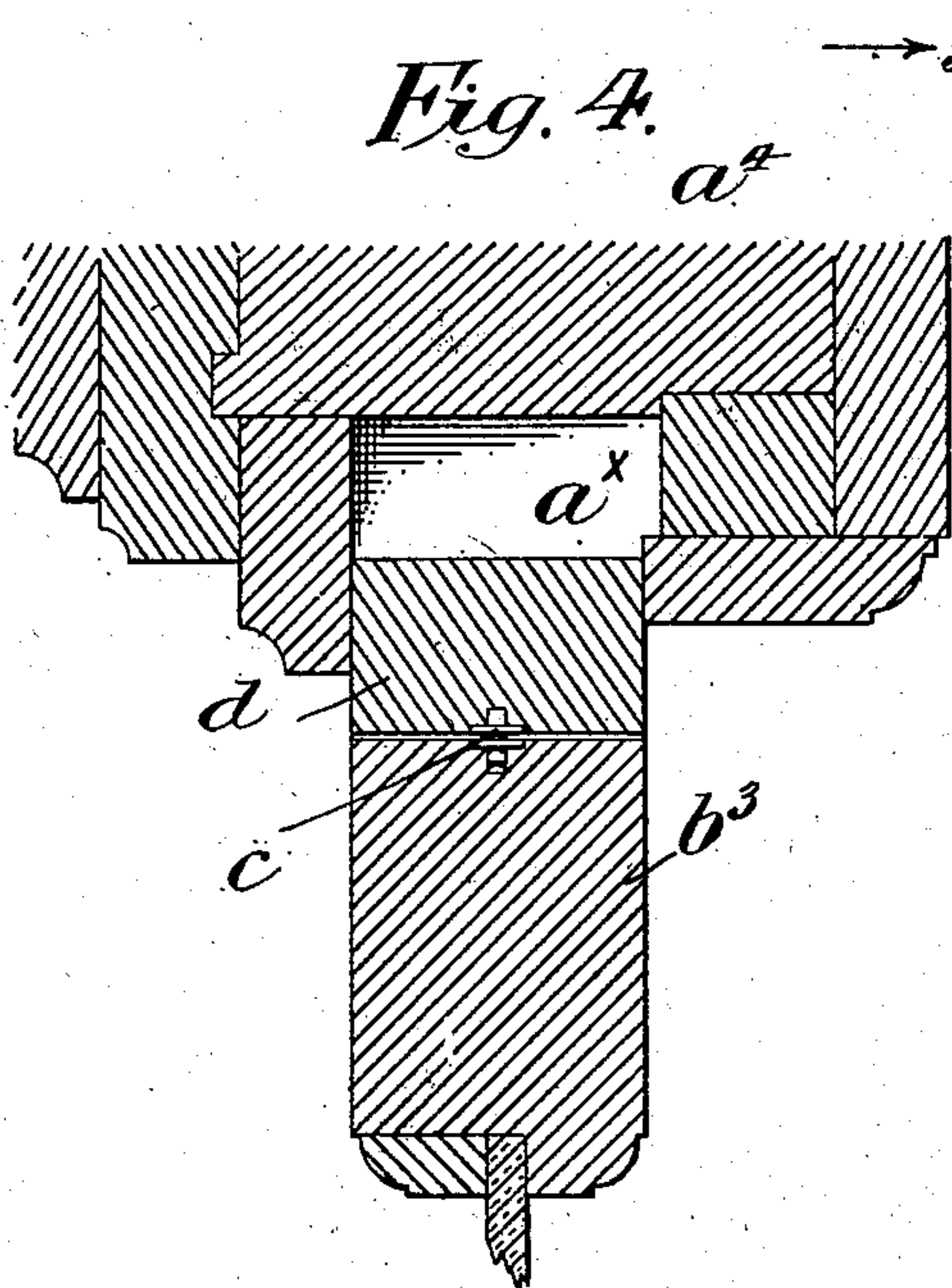
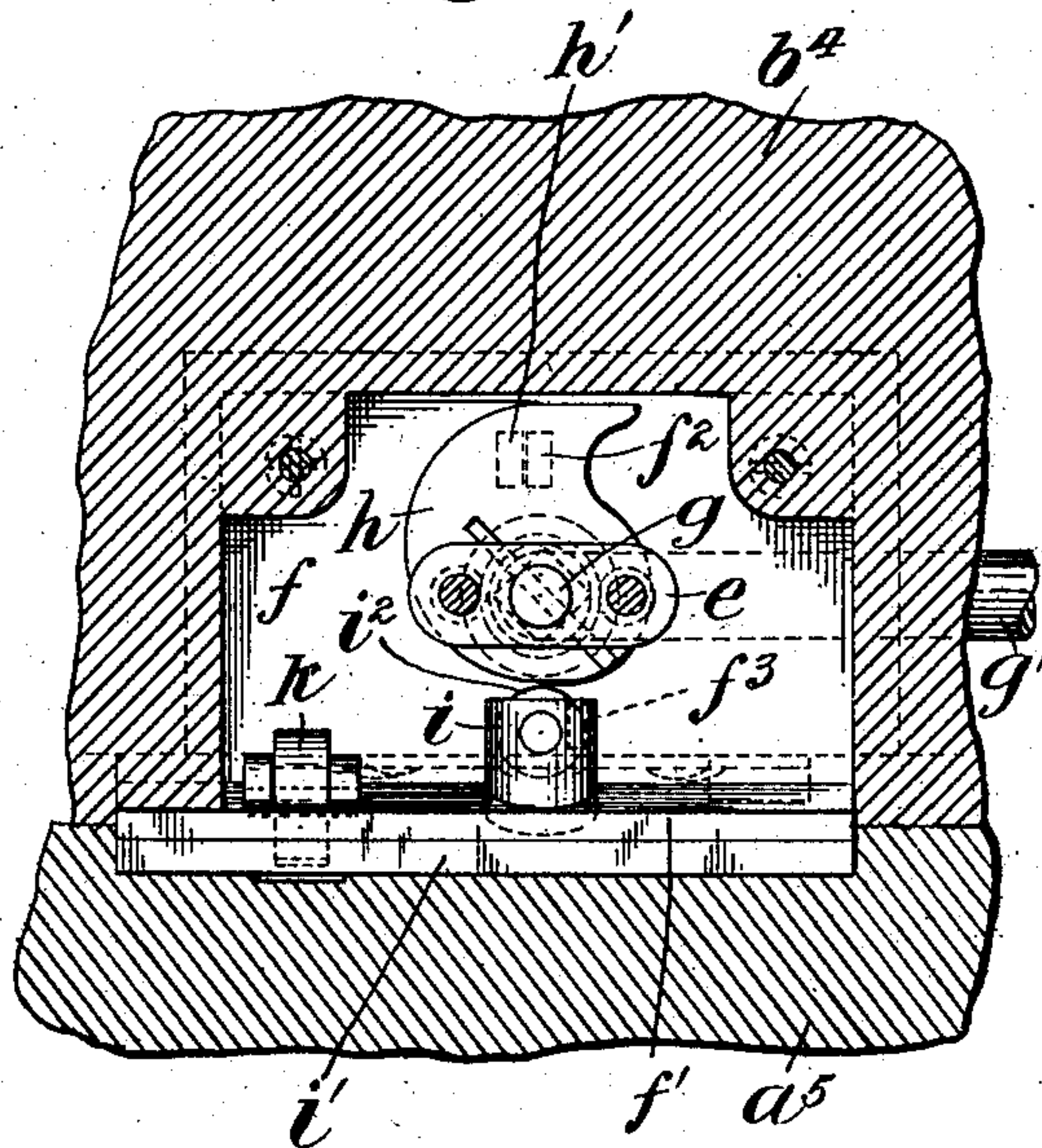


Fig. 5.



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UNITED STATES PATENT OFFICE.

ULYSSES GRANT McQUEEN, OF NEW ROCHELLE, NEW YORK, ASSIGNOR TO GRANT PULLEY AND HARDWARE COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

WINDOW.

No. 889,255.

Specification of Letters Patent.

Patented June 2, 1908.

Application filed November 11, 1907. Serial No. 401,681.

To all whom it may concern:

Be it known that I, ULYSSES GRANT McQUEEN, a citizen of the United States, residing in the city of New Rochelle, in the county of Westchester, in the State of New York, have invented certain new and useful Improvements in Windows, of which the following is a specification, reference being had to the accompanying drawings, forming a part hereof.

This invention relates to windows which being arranged to swing upon central vertical axes, must be lifted above the window stops of the frame sills, before they can be swung. In such windows the sash head is usually pivoted upon a follower which is raised and lowered with the sash, and at the lower end is pivoted upon a stud which is seated or bears upon the sill and with which coöperate the devices by which the sash is lifted to clear the sill stop.

It is with the lower pivot and sash lifting devices that the invention is particularly concerned and it has for its object to provide an improved construction which can be readily applied to the window, shall be easily operated, shall be efficient, shall provide for the retention of the window in any one of several positions without danger of breakage of parts should the window be forced by the wind or by persons ignorant of the mechanism to move, and shall not be liable to be put out of order from any ordinary cause.

The invention will be more fully explained hereinafter with reference to the accompanying drawings in which it is illustrated as embodied in a convenient and practical structure, and in which—

Figure 1 is a view in front, inside elevation of a window equipped with the present improvement, the window sash and frame being shown. Fig. 2 is an enlarged detailed view in horizontal section on the plane indicated by the line 2—2 of Fig. 1. Fig. 3 is a detail view in vertical section through the lower sash member, showing the sash lifting devices in elevation. Fig. 4 is a detail view in vertical section through the sash head and upper frame member. Fig. 5 is a detail view partly in vertical longitudinal section through the lower sash member, showing the sash lifting devices and detent in elevation.

The window frame *a* and the sash *b* may be of any desired size and shape and of any suitable construction, the sash being movable

vertically to a limited extent in the frame and swinging upon a vertical central axis, being suitably provided, as clearly shown in Fig. 2, with right and left rabbeted edges *b'*, *b''*, to coöperate with corresponding rabbeted stops *a'* and *a''* of the frame. The sash head *b³* is pivoted centrally, as at *c*, to a follower *d* which may rise, with the sash, into a recess *a^x* in the frame head *a⁴*.

The lower sash member *b⁴* is recessed, preferably from the inner face and at the lower edge, to receive the sash lifting devices with which the invention is particularly concerned, a bearing plate *e*, for the inner end of the shaft hereinafter mentioned, being secured to the inner face of the recess, while the recess is closed by a cap plate *f*, having at its lower edge an inclined or beveled flange *f'* to conform to the inclination of the sill. The plate *f* is also provided with an extended bearing *f⁴* for the shaft *g*, which, outside of the plate, carries the operating handle or lever *g'*. At *g²* the shaft may be squared to receive a cam *h* and at its inner end *g³* it is bluntly pointed to serve as a center punch for determining the position of the inner bearing plate *e*, after the cap plate *f* has been fitted to the sash. The cam *h* is provided upon its face adjacent to the cap plate *f*, as shown by dotted lines in Fig. 5, with a stop *h'*, which coöperates with the upper and lower stops *f²* and *f³*, as also shown by dotted lines in Fig. 5, on the inner face of the cap plate *f*, to prevent the cam from being turned too far in either direction. A stationary stud *i*, which forms the lower pivot for the sash, is mounted fixedly on a foot *i'*, secured to the sill *a⁵*, the stud *i* rising, with a snug working fit, through the flange *f'*. In the upper end of the stud *i* is mounted an anti-friction wheel or roller *i²* upon which the cam *h* is adapted to bear. In the flange *f'*, near one end thereof, is mounted a detent wheel or roller *k* which projects downward slightly beyond the lower face of the flange *f'* and is adapted to coöperate with a track *l* secured to the sill and provided with a series of depressions or recesses *l', l²*, etc., into which the wheel or detent *k* may enter, if the sash is lowered slightly when swung from its closed position, and thereby retain the window in any one of several different positions.

In the operation of the devices described, it being assumed that the window is in its closed position, the handle or lever *g'* is

grasped and moved so as to partially rotate the cam h which, bearing upon the roller i^2 in the pivot stud i , is turned easily and lifts the sash until its lower edge is raised above the sill stop a^6 and the sash is then swung upon the vertical axis of the two pivots c and i . If it is desired to retain the sash in one position or another, the handle g' is moved slightly to permit the sash to drop somewhat, thereby permitting the detent k to engage one or another of the recesses l' , l^2 , etc., in the track l . The recesses are preferably shallow and concave, so that, if the sash is compelled to move by the wind or by the pressure of the hands, the detent wheel k will roll out of the recess, raising the sash slightly, and thereby permit the sash to swing to its closed position without danger of breaking any of the parts.

It will be understood that the details of construction may be varied without departing from the spirit of the invention.

I claim as my invention:

1. The combination with a window frame and a sash arranged to swing therein of a stationary pivot stud fixedly mounted upon the frame, a lifting device carried by the sash and arranged to cooperate with the stud, and means to actuate the lifting device.

2. The combination with a window frame and a sash arranged to swing therein of a stationary pivot stud fixedly mounted upon the frame, a wheel mounted in the stud, a cam carried by the sash and arranged to bear upon the wheel, and means to partially rotate the cam.

3. The combination with a window frame and a sash arranged to swing therein of a stationary pivot stud fixedly mounted upon the frame, a cam carried by the sash and arranged to cooperate with the stud, stops to limit the movement of the cam in opposite directions and means to partially rotate the cam.

4. The combination with a window frame and a sash arranged to swing therein and having a recess, of a cap plate for said recess, a stationary pivot stud fixedly mounted upon the frame, a shaft having a bearing in the cap plate, a cam mounted on the shaft and arranged to cooperate with the stud, and a handle for the shaft.

5. The combination with a window frame and a sash arranged to swing therein, of a stationary pivot stud fixedly mounted upon the frame, a lifting device carried by the sash and arranged to cooperate with the stud, means to actuate the lifting device, and a detent carried by the sash and arranged to engage the frame to hold the sash in position.

6. The combination with a window frame and a sash arranged to swing therein, a stationary pivot stud fixedly mounted upon the frame, a lifting device carried by the sash and arranged to cooperate with the stud, means to actuate the lifting device, a concentric track with depressions mounted on the frame and a roller detent carried by the sash to engage said depressions.

7. The combination with a window frame and a sash arranged to swing therein and having a recess, a cap plate for said recess having a bottom flange with an aperture, a pivot stud mounted upon the frame to enter said aperture, a shaft having a bearing in the cap plate, a cam mounted on the shaft and arranged to cooperate with the stud, a handle for the shaft, a detent wheel carried by the flange of the cap plate and a concentric track with depressions secured to the frame.

This specification signed and witnessed this 9th day of November, A. D., 1907.

ULYSSES GRANT McQUEEN.

Signed in the presence of—

W. B. GREELEY,
AMBROSE L. O'SHEA.