

No. 758,632.

PATENTED MAY 3, 1904.

W. EMOND.
SASH STOP AND LOCK.
APPLICATION FILED NOV. 4, 1903.

NO MODEL.

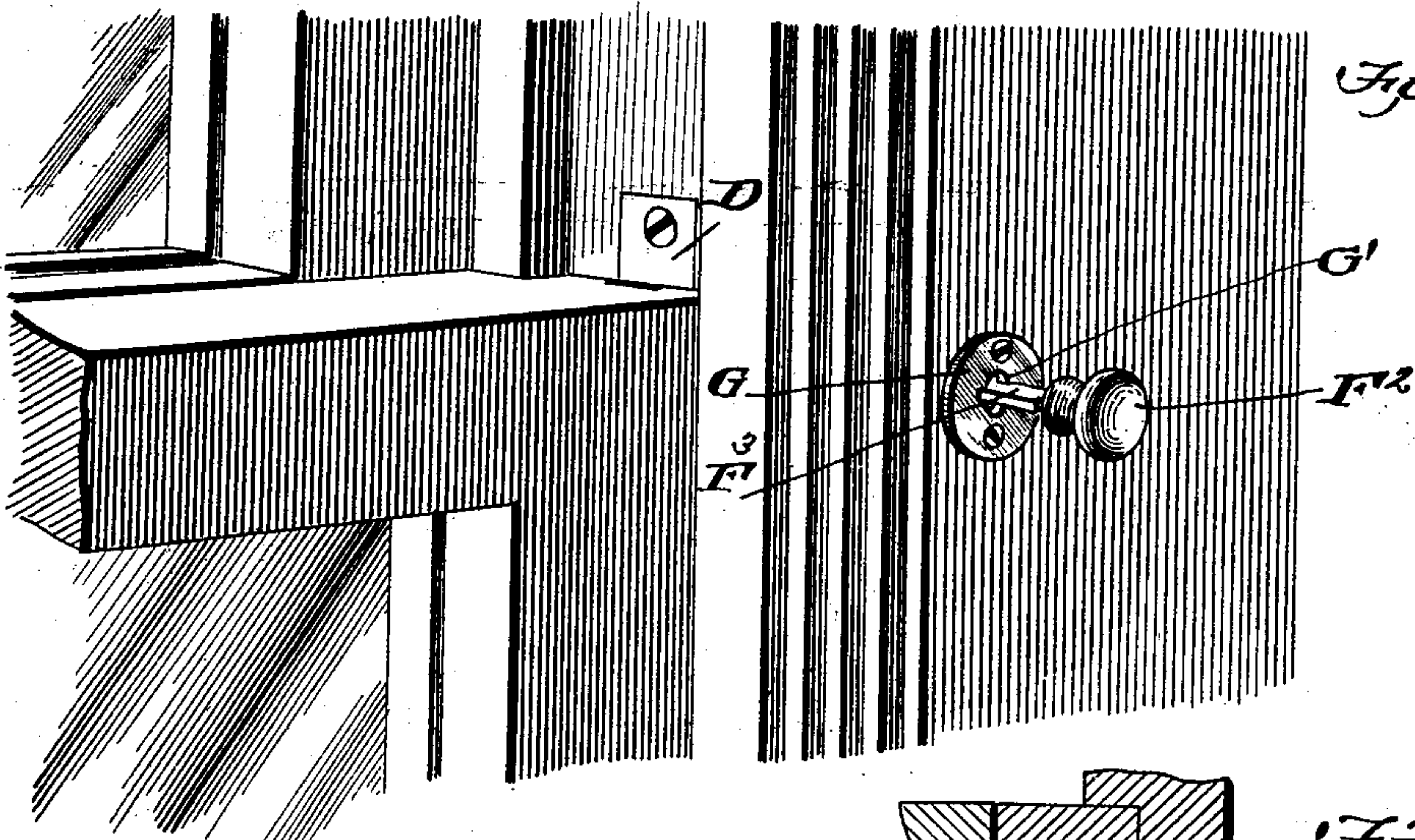


Fig. 1.

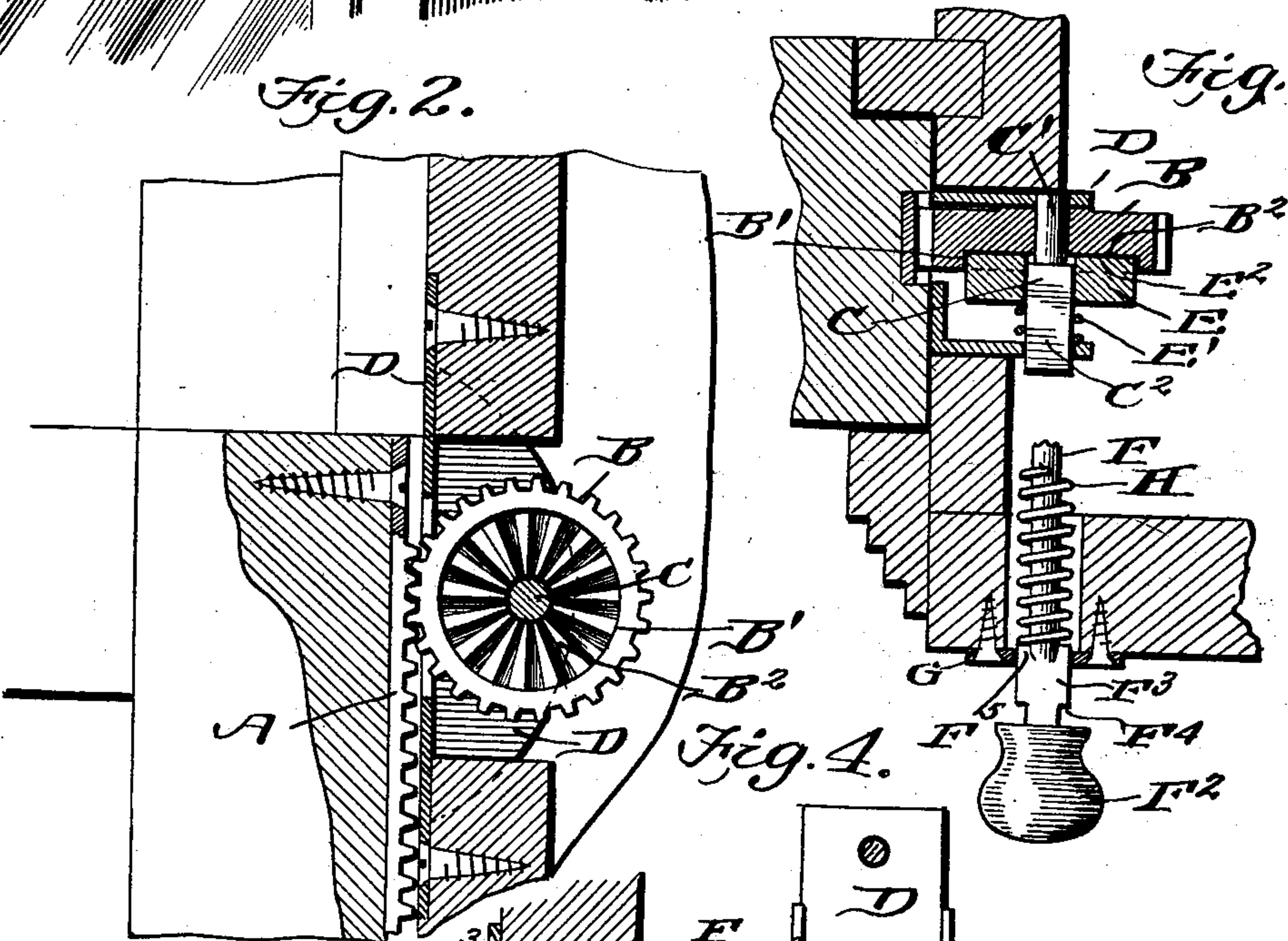


Fig. 2.

Fig. 3.

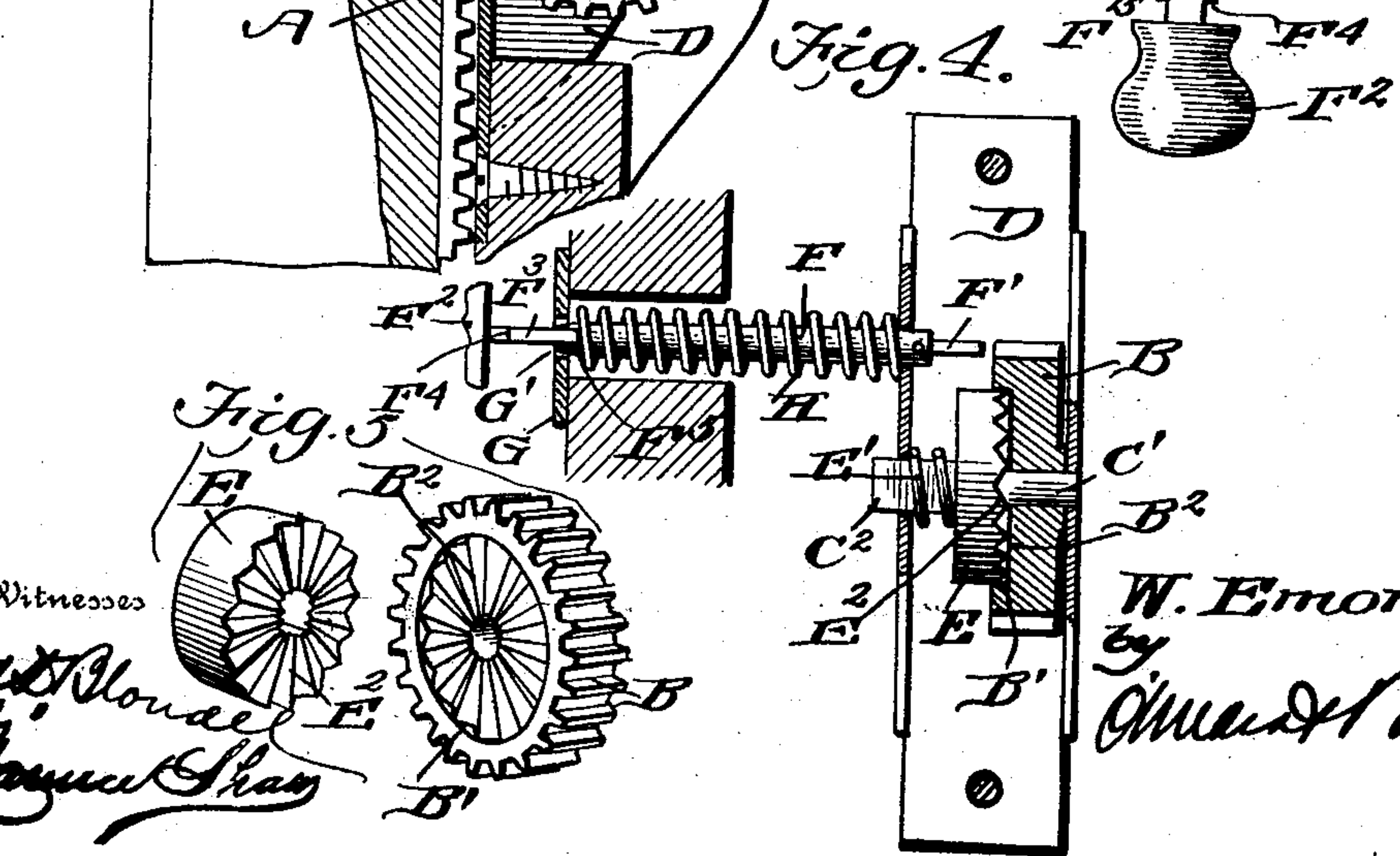
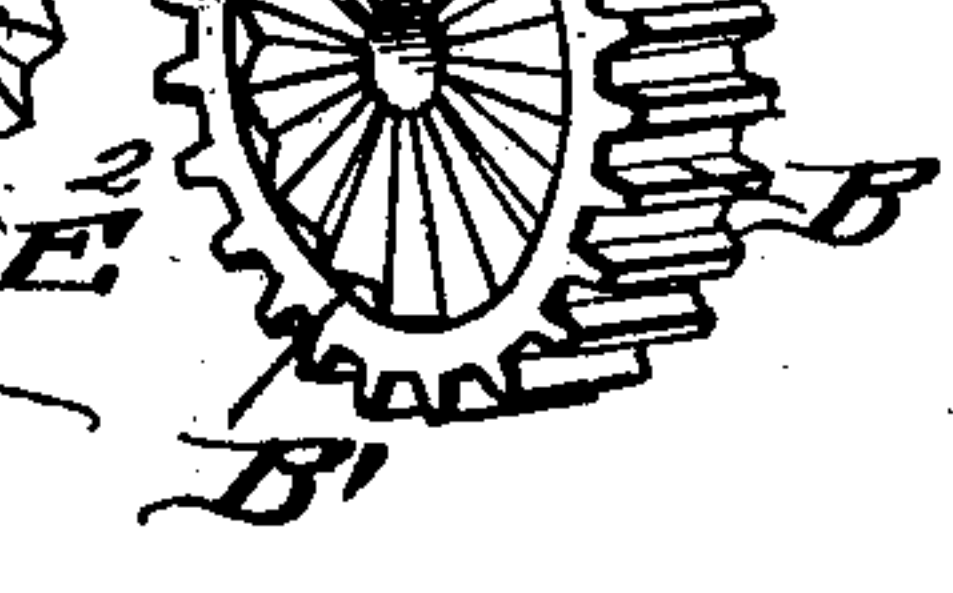


Fig. 4.

Fig. 5.

Witnesses

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UNITED STATES PATENT OFFICE.

WALTER EMOND, OF LOUDEN, NEW JERSEY.

SASH STOP AND LOCK.

SPECIFICATION forming part of Letters Patent No. 758,632, dated May 3, 1904.

Application filed November 4, 1903. Serial No. 179,841. (No model.)

To all whom it may concern:

Be it known that I, WALTER EMOND, a citizen of the United States, residing at Loudon, in the county of Camden and State of New Jersey, have invented a new and useful Sash Stop and Lock, of which the following is a specification.

This invention is an improved construction of sash stop and lock, the object being to provide a stop by means of which the window can be held at any desired point and the use of sash cords and weights avoided.

Another object of the invention is to provide a locking mechanism in connection with the stop mechanism and by means of which the window can be securely locked in either an open or closed position.

With these objects in view the invention consists, essentially, in the employment of a rack-bar attached to a window-sash and adapted to be engaged by a pinion journaled in the housing attached to the window-frame, said pinion having a radially-corrugated face, which is adapted to be engaged by a radially-grooved disk normally held in engagement with the corrugated face of the pinion by spring-pressure; and the invention consists also in the employment of a spring-actuated bolt, which is adapted to engage the pinion and hold same locked against rotation.

The invention consists also in certain details of construction and novelties of combination, all of which will be fully described hereinafter and pointed out in the claims.

In the drawings forming part of this specification, Figure 1 is a view showing a portion of a window frame and sash to which my invention is connected. Fig. 2 is a sectional elevation showing the rack-bar, pinion, and the housing in which the pinion is journaled. Fig. 3 is a horizontal sectional view, partly in plan. Fig. 4 is a view, partly in section and partly in end elevation, showing the relative positions of the stop and lock mechanism. Fig. 5 is a detail perspective view showing the pinion and the disk operating in connection therewith.

In carrying out my invention I employ a rack-bar A, which is attached to the side rail of the lower sash, said rack-bar being adapted

to engage a pinion B, which is loosely mounted upon a shaft C, fixed in a housing D, arranged in the window-frame, a suitable opening being produced for the reception of this housing. One end of the shaft C is made round, as shown at C', and upon which the pinion turns. The opposite end of the shaft is made square, as shown at C², and mounted upon said square portion of the shaft is a disk E, which seats in the circular recess B', produced in the opposing face of the pinion B. The recessed portion of the pinion is corrugated or grooved radially, as shown at B², and the opposing face of the disk E is correspondingly corrugated or grooved, as shown at E², the corrugated face of the disk and pinion being normally held in engagement by means of a spring E', which surrounds the square portion of the shaft and bears against the disk E at one end and against the housing D at the opposite end. The tension of this spring is sufficient to hold the pinion against movement when the window is at rest in any position—that is, the tension of the spring E' is sufficient to support the weight of the window-sash and it will therefore not be necessary to employ sash cords and weights, as it is obvious that by moving the window up or down by hand the rack-bar engaging the pinion will cause said pinion to rotate in one direction or the other and during such rotation the corrugations will slip over the corrugations or ridges of the disk E, the spring E' yielding sufficient to permit such movement of the pinion. The moment, however, the window is brought to rest the engagement of the corrugated face will prevent any further movement of the pinion, and consequently the window will be held at the desired point. For the purpose of locking the pinion against rotation and securely locking the window against movement either up or down I employ a bolt F, which is inserted through the face of the casing and has a reduced inner end F', which is adapted to engage the toothed periphery of the pinion when forced inwardly. This bolt F has a handle or knob F² at the outer end, by means of which the said bolt is manipulated. The outer end of the bolt or that portion adjacent the handle is flattened, as shown at F³, and

works through the elongated opening G', produced in the plate G, attached to the face of the window-frame, and this flattened portion F³ is provided with shoulders F⁴ upon the outer end and shoulders F⁵ upon the inner end, so that the said bolt can be held in either a locked or unlocked position, it being understood that in order to lock the bolt it is pushed inwardly to its full extent and then given a quarter-turn, so as to bring the shoulders F⁴ upon the inner side of the plate G, whereas when the bolt is unlocked it is turned to disengage the shoulders F⁴, and the spring will then force the bolt outwardly, removing the reduced end. The main portion of the bolt is round in cross-section, as shown in Figs. 3 and 4, and the spring H surrounds said bolt between the housing D and the shoulders F⁵, the purpose of said spring being to throw the bolt outwardly or to an unlocked position the moment the handle is turned to such a position as to permit the unlocking of the bolt.

It will be understood that when the bolt is pushed inwardly, so that the end F' passes between two of the teeth of the pinion, all movement of said pinion is prevented, and it will then be impossible to move the sash in either direction. This avoids the use of sash locks or fasteners commonly arranged upon the meeting-rails of the sashes.

It will thus be seen that I provide a simple and efficient device which combines the features and functions of a sash stop or balance in the sash lock or fastener.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a rack-bar, of a housing, a pinion journaled in the housing, and adapted to engage the rack-bar, a disk mounted upon the same shaft as the pinion, the face of said disk being normally in contact with the face of the pinion, and a spring surrounding the shaft within the housing, and adapted

to hold the disk in frictional contact with the face of the pinion. 45

2. The combination with a rack-bar, of a housing, a pinion mounted in the housing and adapted to engage the rack-bar, the face of the pinion being recessed, said recessed portion being radially corrugated, a disk mounted upon the same shaft, as the pinion and having its opposing face radially corrugated means for holding the disk against rotation, together with a spring surrounding the shaft, and adapted to normally hold the disk within the recessed corrugated portion of the pinion. 55

3. The combination with a rack-bar, of a housing having a shaft mounted therein, one portion of the shaft being round in cross-section and the other portion polygonal in cross-section, a pinion mounted upon the round portion of the shaft and adapted to engage the rack-bar, a disk mounted upon the square portion of the shaft, the opposing face of the pinion and disk being radially corrugated, and a spring for holding the said corrugated faces in engagement as set forth. 65

4. The combination with the rack-bar, of the housing, the pinion journaled in the housing, the spring-actuated friction-disk adapted to engage the face of the pinion, and the locking-bolt adapted to engage the toothed periphery of the pinion and hold same against movement, as set forth. 75

5. The combination with the rack-bar, of the housing, the shaft journaled in said housing, the pinion mounted upon the shaft, the spring-actuated bolt having a reduced inner end, and a flattened outer end, and the plate having an elongated opening through which the flattened portion of the bolt works, said flattened portion having shoulders at each end, as set forth. 80

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Witnesses:

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