

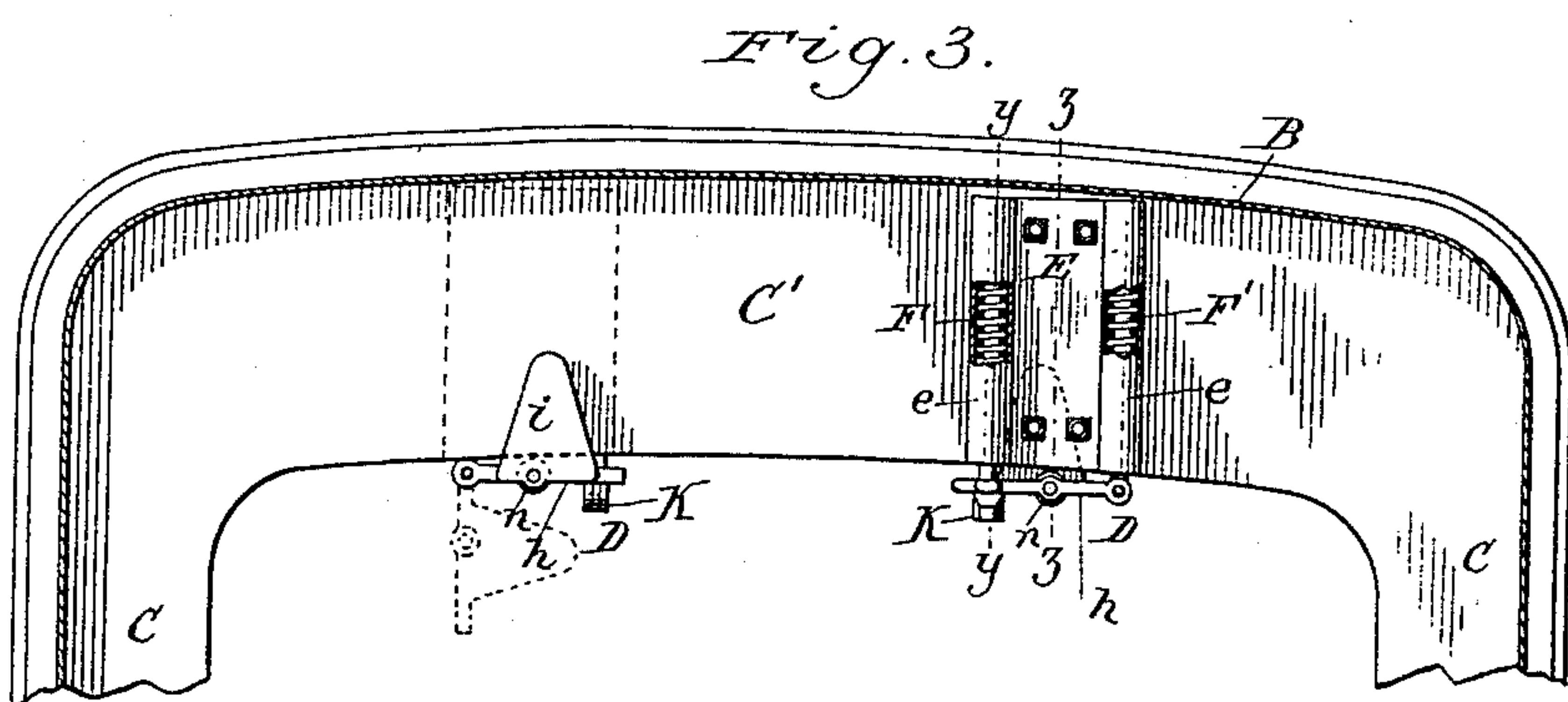
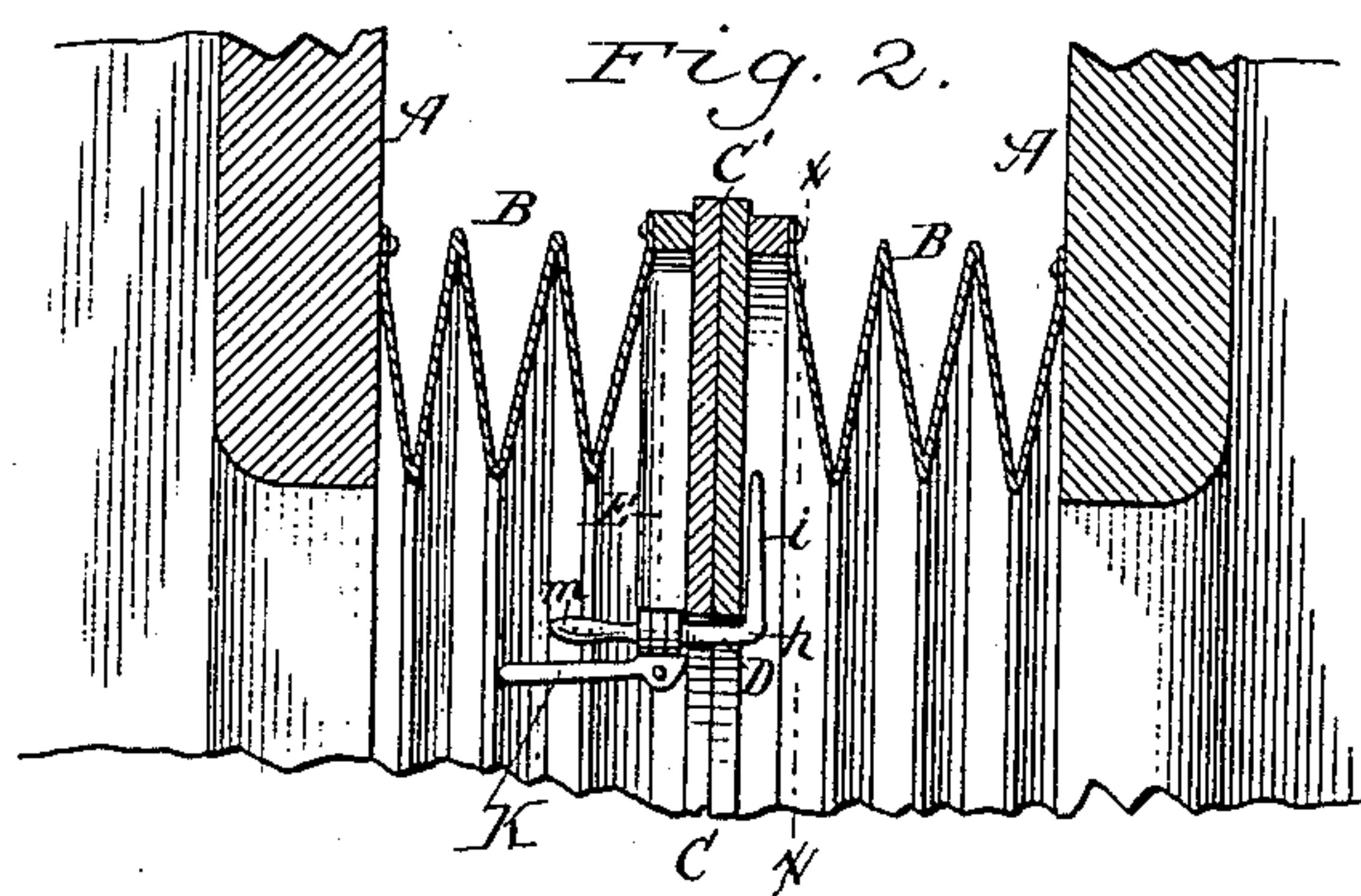
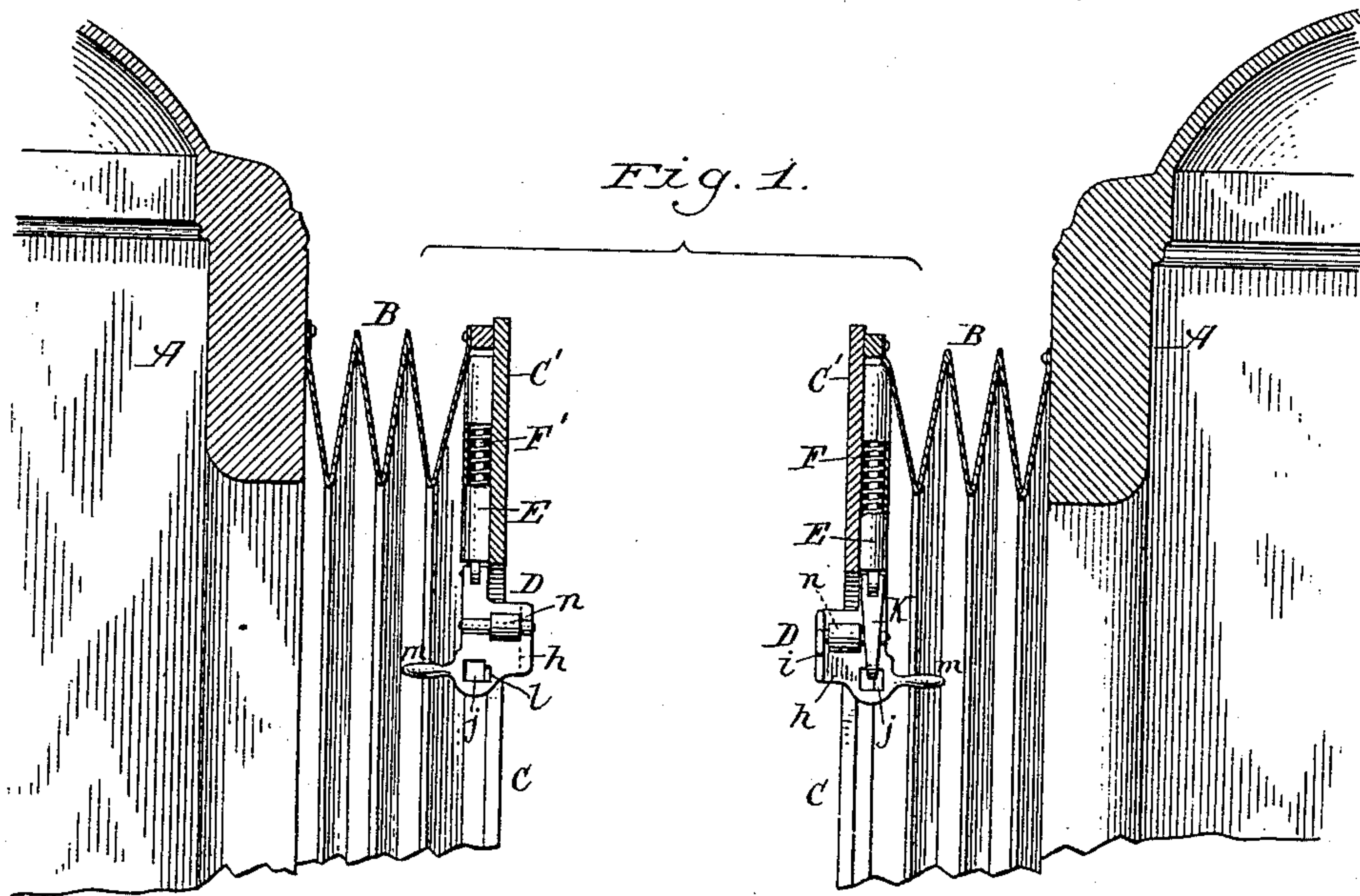
(No Model.)

2 Sheets—Sheet 1.

T. A. BISSELL & C. BERGMAN.
RAILWAY CAR.

No. 389,437.

Patented Sept. 11, 1888.



Geo. J. Buchheit Jr.
Chas. J. Buchheit. } witnesses.

T. A. Bissell
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By Wilhelm Bournet.
Attorneys.

(No Model.)

2 Sheets—Sheet 2.

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Fig. 4.

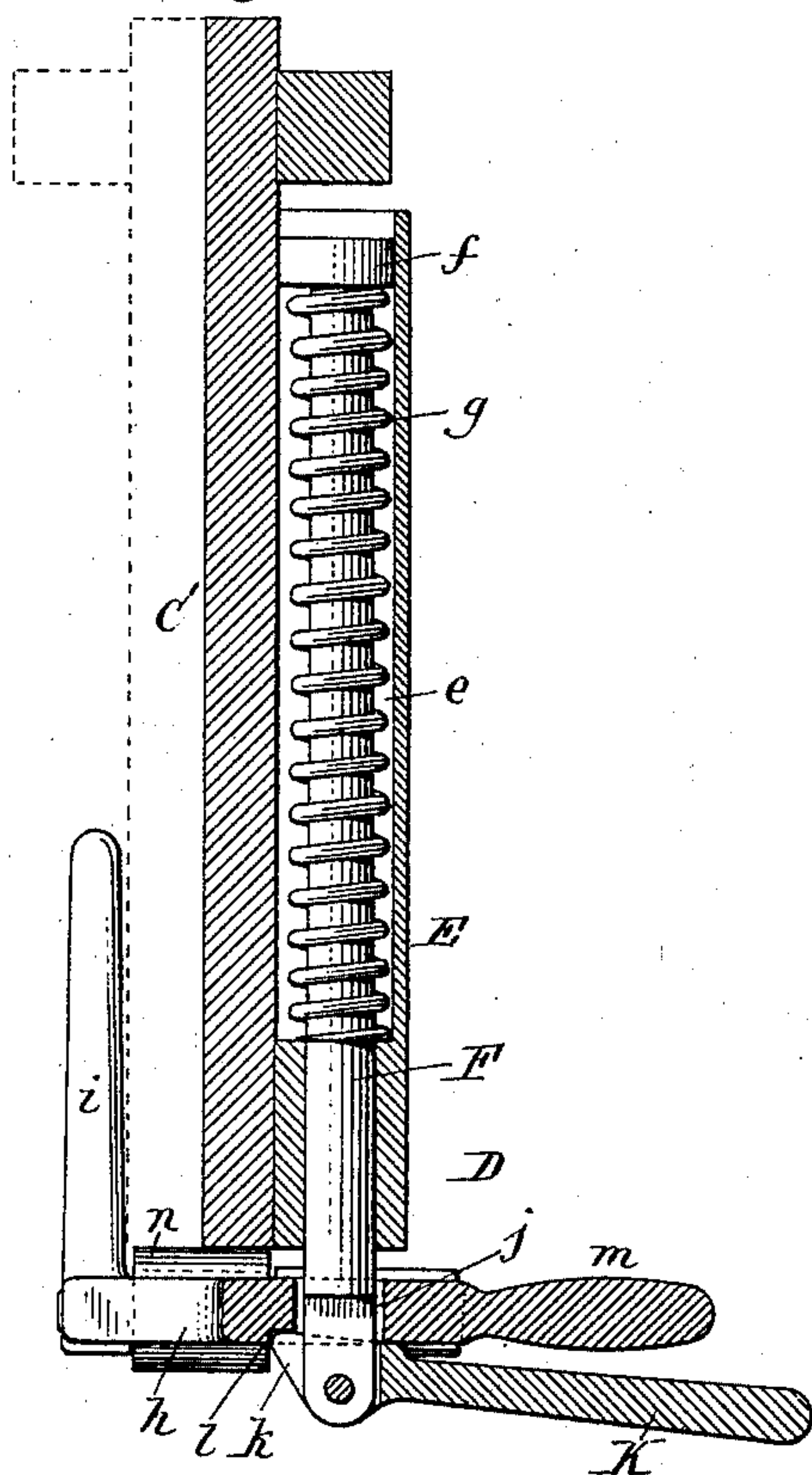


Fig. 5.

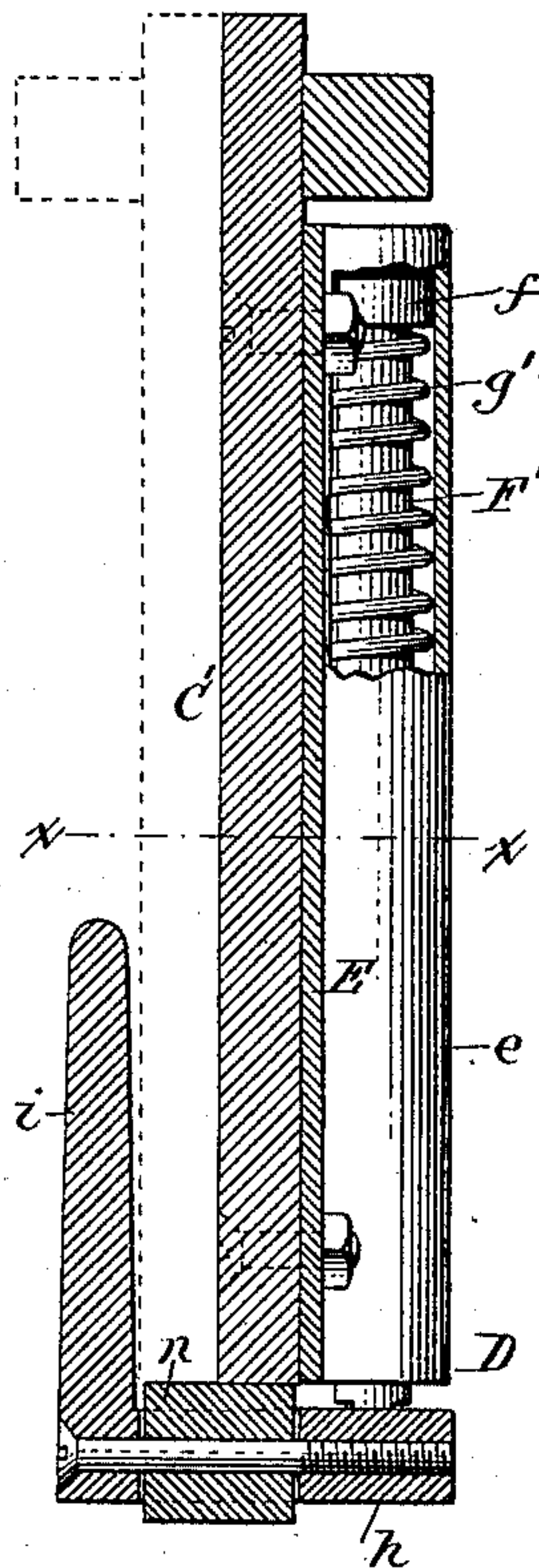


Fig. 6.

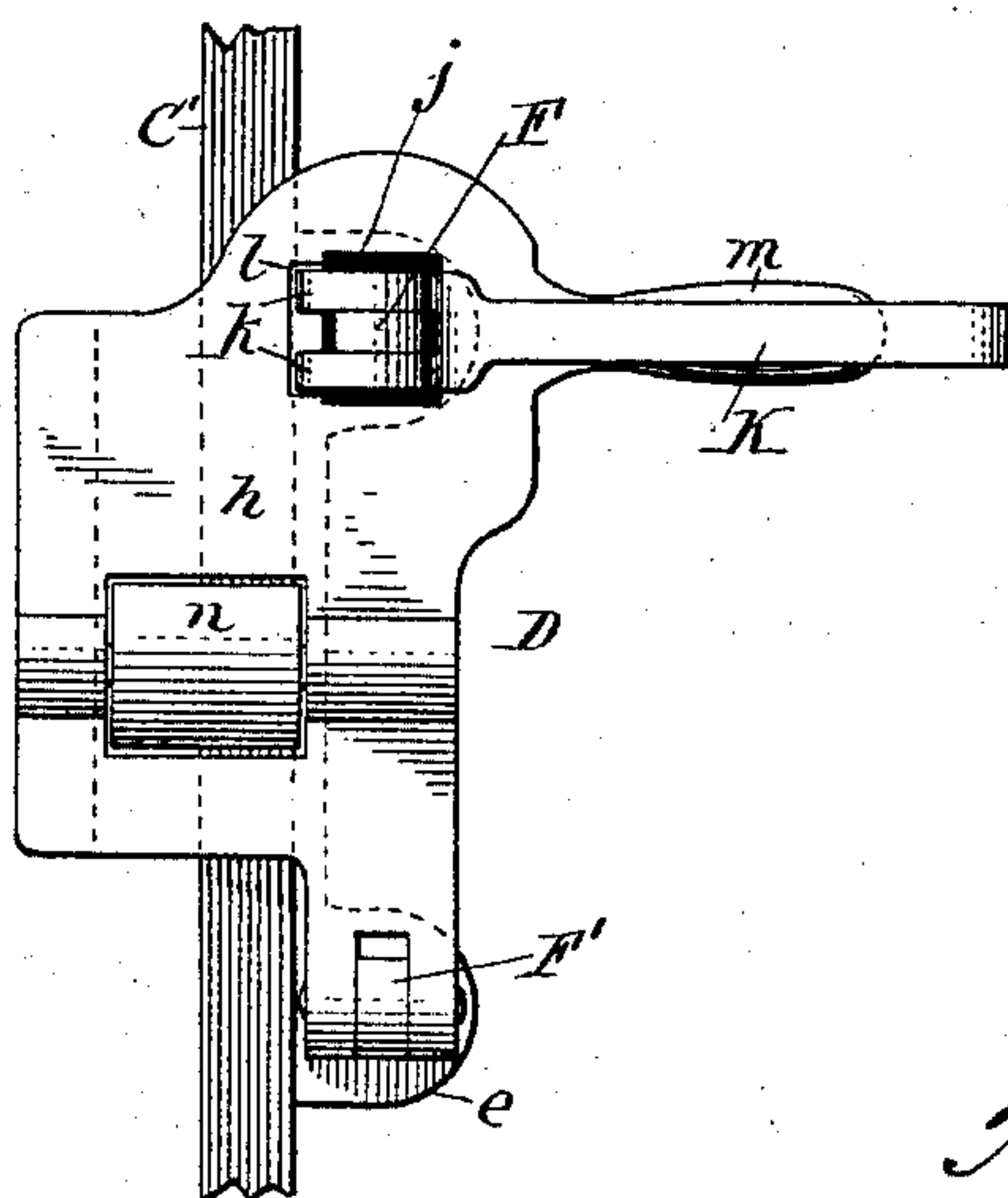
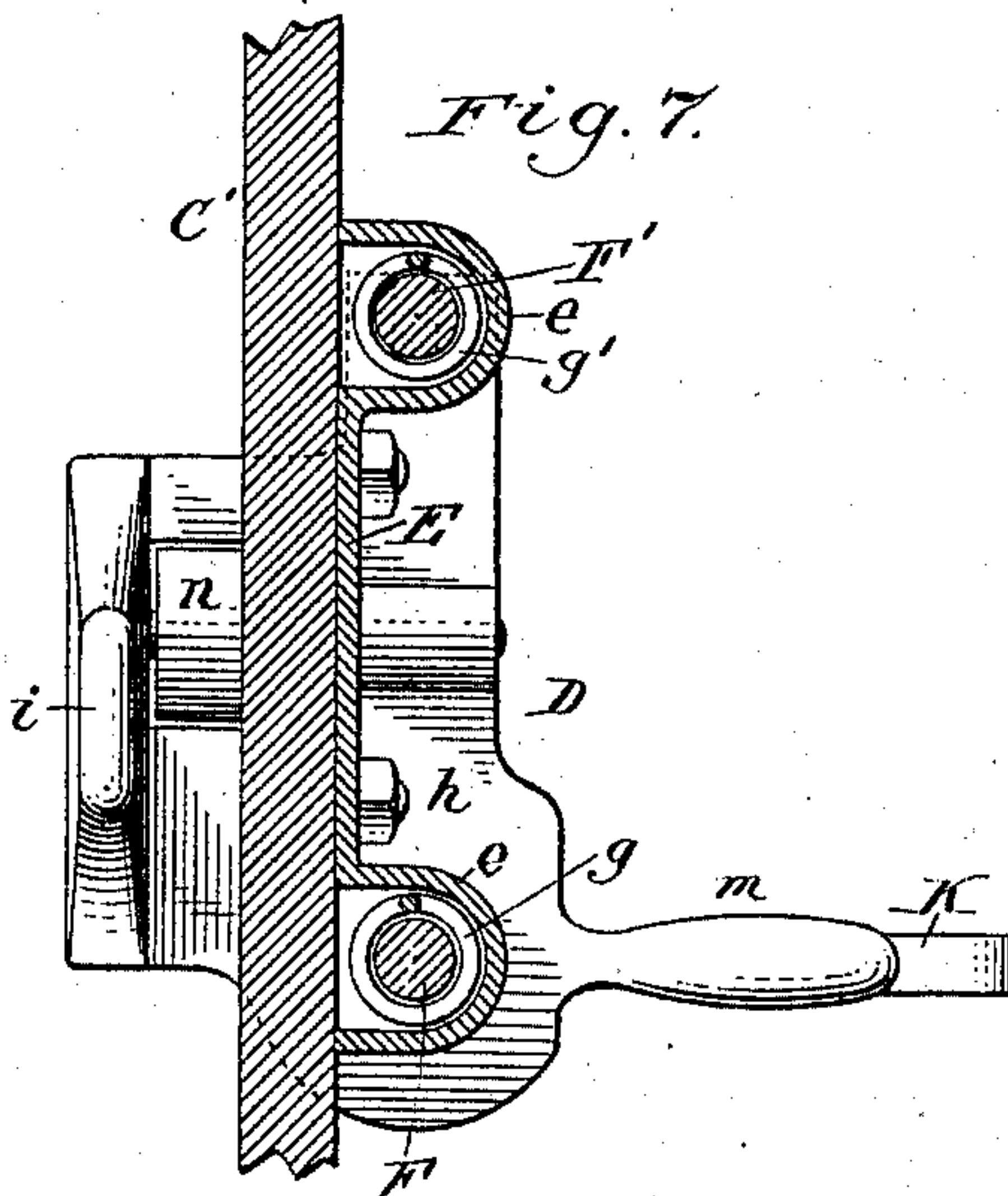


Fig. 7.



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UNITED STATES PATENT OFFICE.

THOMAS A. BISSELL AND CLAES BERGMAN, OF BUFFALO, NEW YORK.

RAILWAY-CAR.

SPECIFICATION forming part of Letters Patent No. 389,437, dated September 11, 1888.

Application filed June 4, 1888. Serial No. 275,914. (No model.)

To all whom it may concern:

Be it known that we, THOMAS A. BISSELL and CLAES BERGMAN, both of the city of Buffalo, in the county of Erie and State of New York, have invented a new and useful Improvement in Railway-Cars, of which the following is a specification.

This invention relates to that class of vestibule-cars in which the vestibule is composed of flexible or extensible hoods having at their outer ends vertical frames or face-plates which abut against each other when the cars are coupled, and thus form a closed passage between the cars. These extensible hoods have heretofore been expanded by means of springs, so as to hold the face-plates of the hoods in frictional contact at all times.

The object of our invention is to provide simple means whereby these face-plates are held against each other without the employment of extending springs, while permitting the plates to move vertically as well as laterally to a certain extent, so as to enable the same to take part in the rocking and swaying movements of the cars, and at the same time maintain a closed connection between the hoods.

The invention consists to that end of an improved coupling device for connecting the face-plates of the extensible hoods, as will be hereinafter fully described, and pointed out in the claims.

In the accompanying drawings, consisting of two sheets, Figure 1 is a longitudinal sectional elevation of the adjacent ends of two vestibule-cars, showing the face-plates of the extensible hoods uncoupled. Fig. 2 is a similar view showing the same coupled together. Fig. 3 is a cross-section in line *x x*, Fig. 2. Fig. 4 is a vertical longitudinal section of the coupling in line *y y*, Fig. 3, on an enlarged scale. Fig. 5 is a similar view in line *z z*, Fig. 3. Fig. 6 is a bottom plan view of the coupling. Fig. 7 is a horizontal section in line *x x*, Fig. 5.

Like letters of reference refer to like parts in the several figures.

A represents the end walls of the vestibule or car. B represents the extensible hoods secured at their inner ends to said end walls, and C represents the vertical rectangular

frames or face-plates secured to the outer ends of the hoods B.

D represents the couplings whereby the adjoining face-plates C are connected together, and which are constructed in the following manner.

E represents a rectangular plate, which is secured to the inner side of the upper cross-piece, C', of the face-plate C, and is provided at both its vertical edges with upright tubular enlargements *e e*, which are preferably U-shaped in cross-section and rest with their open sides against the face-plate. The tubular enlargements *e e* are closed at their lower ends and are open at their upper ends, as shown in Fig. 4.

F F' represent vertically-sliding rods or bolts arranged in the tubular enlargements *e e*, and extending with their lower ends through the bottom of the enlargements.

g g' are spiral springs surrounding the rods F F' within the tubular enlargements, and bearing with their upper ends against heads *f* formed on the rods, and with their lower ends against the bottoms of the hollow enlargements. The springs *g g'* hold the sliding rods F F' in an elevated position and resist their downward movement.

h represents a swinging plate pivoted to the lower end of one of the sliding bolts F F', preferably to the outer bolt, F', and *i* is a hook or upward projection formed on or secured to the outer lateral edge of the swinging plate *h*, and designed to engage behind the upper cross-piece, C', of the face-plate C of the adjoining car when the pivoted plate *h* is swung upward into a horizontal position, as shown in Figs. 2, 3, 4, and 5. The swinging plate *h* extends outwardly beyond the face-plate C a sufficient distance to allow the face-plate of the adjoining hood to fit between the hook *i* and the plate to which the hook is attached.

The swinging plate *h* is provided near its outer free end with an opening, *j*, which fits over the lower end of the bolt F when the plate is swung into a horizontal position.

K represents a locking-lever pivoted to the lower end of the spring-bolt F, and whereby the free end of the swinging-plate *h* is held upon said bolt. The inner end of this lock-

ing-lever is bifurcated, and its jaws, which straddle the lower end of the spring-bolt F, terminate in noses *k*, which bear against the bottom of the swinging plate. The latter is locked upon the spring-bolt F by the inner end of the locking-lever extending across the opening *j* of the swinging plate at right angles to the bolt F, and bearing against the bottom of the swinging plate, the lever being held in this position by the bolt F, which is drawn upwardly by the spring *g*. Upon swinging the locking-lever K downwardly in line with the spring-bolt F, the plate *h* can be swung downwardly by stripping its opening *j* over the locking-lever, thereby disengaging the hook or projection *i* from the face-plate C of the adjoining car and uncoupling the hoods of the two cars, as shown in Fig. 1.

In depressing the locking-lever K, its noses *k* ride over the edge of the opening *j* in the swinging plate and enter said opening, the spring *g* permitting the bolt F to be drawn downward sufficiently to enable the noses to clear said edge. In swinging the plate *h* upwardly to couple the two face-plates together, the opening *j* passes over the locking-lever K and the lower end of the spring-bolt F, and when the plate is raised to this position it is locked upon said spring-bolt by turning the locking-lever at right angles to the spring-bolt. To form a more secure lock, the lever K, after being swung upward into a horizontal position, is preferably given a quarter-turn, so as to stand at right angles to the swinging plate *h*, as represented in Figs. 4 and 6. The swinging plate *h* is provided on its under side, adjacent to the opening *j*, with a notch or recess, *l*, in which the noses *k* of the locking-lever engage, and whereby the lever is firmly held against turning. A laterally-projecting handle, *m*, is formed near the free end of the swinging plate *h* for raising and lowering the same.

n represents a transverse anti-friction roller journaled horizontally in the plate *h*, and upon which the upper cross-piece, C', of the face-plate of the adjoining hood rests. The roller *n* reduces the friction between the parts and permits the face-plates to move laterally upon each other with great freedom in the swaying movements of the car.

As the swinging plate *h*, which supports the upper end of the adjacent face-plate, is suspended at both ends by the spring-rods F F', it can yield vertically, and thus allows of a free rising and falling movement of the face-plates in the rocking motions of the car.

A coupling, D, is attached to the face-plate of each hood, so that the hook *i*, attached to one face-plate, will engage with the upper cross-piece of the other face-plate and thus securely connect the face-plates at two points located at opposite sides of the center of the face-plates. For this purpose the two couplings are arranged diagonally opposite each other; or, in other words, a coupling is ar-

ranged on one side of the center of one of the face-plates and another coupling is located on the opposite side of the center of the adjacent face-plate. Both face-plates are thus supported upon friction-rollers, and are embraced by two hooks resting, respectively, against the inner sides of the face-plates.

Our improved coupling forms a simple and reliable connection between the face-plates of the hoods, which is conveniently manipulated. It dispenses with the extending springs heretofore employed, and it permits the face-plates to yield both laterally and vertically, so as to accommodate themselves to the varying positions of the car.

We claim as our invention—

1. A coupling for connecting the hoods of vestibule-cars, consisting of a supporting frame or plate attached to the face-plate of the hood, and a movable hook yieldingly attached to said supporting-frame and capable of vertical movement thereon, substantially as set forth.

2. A coupling for connecting the hoods of vestibule-cars, consisting of a supporting plate or frame attached to the face-plate of one of the hoods, two vertically-movable spring-rods attached to said supporting plate or frame, a swinging plate pivoted at one end to one of said spring-rods and detachably connected at its opposite end to the other spring-rod, and a hook or projection arranged on said swinging plate and engaging with the face-plate of the opposing hood, substantially as set forth.

3. A coupling for connecting the hoods of vestibule-cars, consisting of a supporting plate or frame attached to the face-plate of the hood, and two vertically-movable spring rods or bolts arranged in said supporting-frame, a swinging plate pivoted to the lower end of one of said spring-rods and provided at or near its opposite end with an opening adapted to engage over the lower end of the other spring-rod, a locking bar or lever pivoted to the lower end of said last-mentioned spring-rod, whereby the swinging plate is held upon said spring-rod, and a hook or projection arranged on said swinging plate and engaging with the face-plate of the opposing hood, substantially as set forth.

4. A coupling for connecting the hoods of vestibule-cars, consisting of a supporting-plate attached to the face-plate of the hood and provided with tubular enlargements *e e*, vertically-sliding rods F F', arranged in said enlargements, springs *g g'*, surrounding said rods, whereby the same are held in an elevated position, a swinging plate, *h*, pivoted at one end to one of said rods and provided with an opening, *j*, engaging over the other rod, a hook or projection, *i*, arranged on the swinging plate *h*, and a locking-lever, K, pivoted to the lower end of said last-mentioned rod, substantially as set forth.

5. A coupling for connecting the hoods of

vestibule-cars, consisting of a supporting plate
or frame attached to the face-plate of one of
the hoods, two vertically-movable spring-
rods attached to said supporting plate or
5 frame, a swinging plate pivoted at one end to
one of said spring-rods and detachably con-
nected at its opposite end to the other spring-
rod, a hook or projection arranged on said
swinging plate and engaging with the face-
10 plate of the opposing hood, and an anti-fric-

tion roller journaled in said swinging plate
and upon which the opposing face-plate rests,
substantially as set forth.

Witness our hands this 2d day of June,
1888.

THOMAS A. BISSELL.
CLAES BERGMAN.

Witnesses:

C. DENNISON HOWE,
F. CHARLES GEYER.