

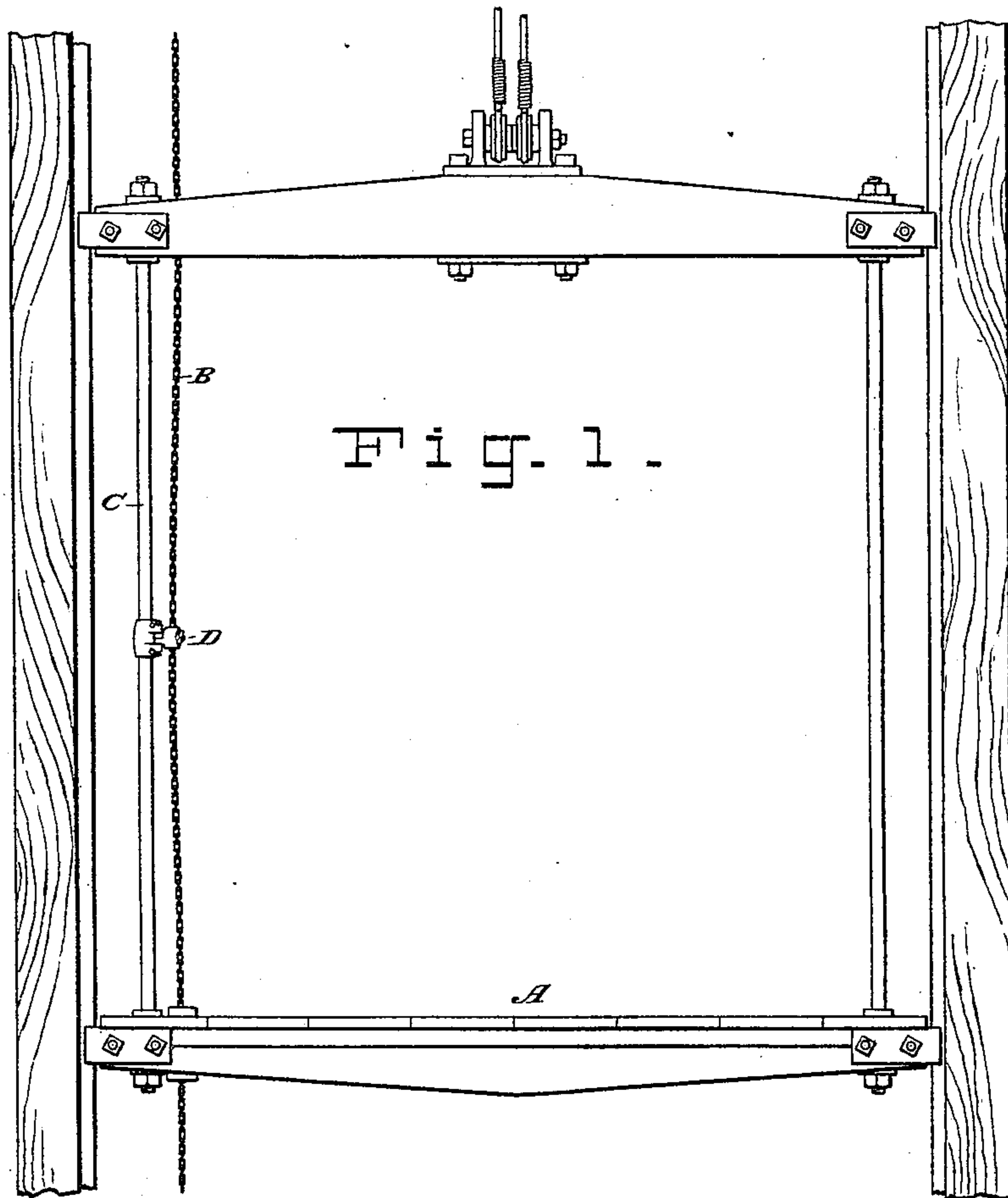
(No Model.)

2 Sheets—Sheet 1.

T. F. MORRIN.
ELEVATOR LOCK.

No. 365,088.

Patented June 21, 1887.



WITNESSES:

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INVENTOR:

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By *Henry Combs*
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(No Model.)

2 Sheets—Sheet 2.

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Fig. 2.

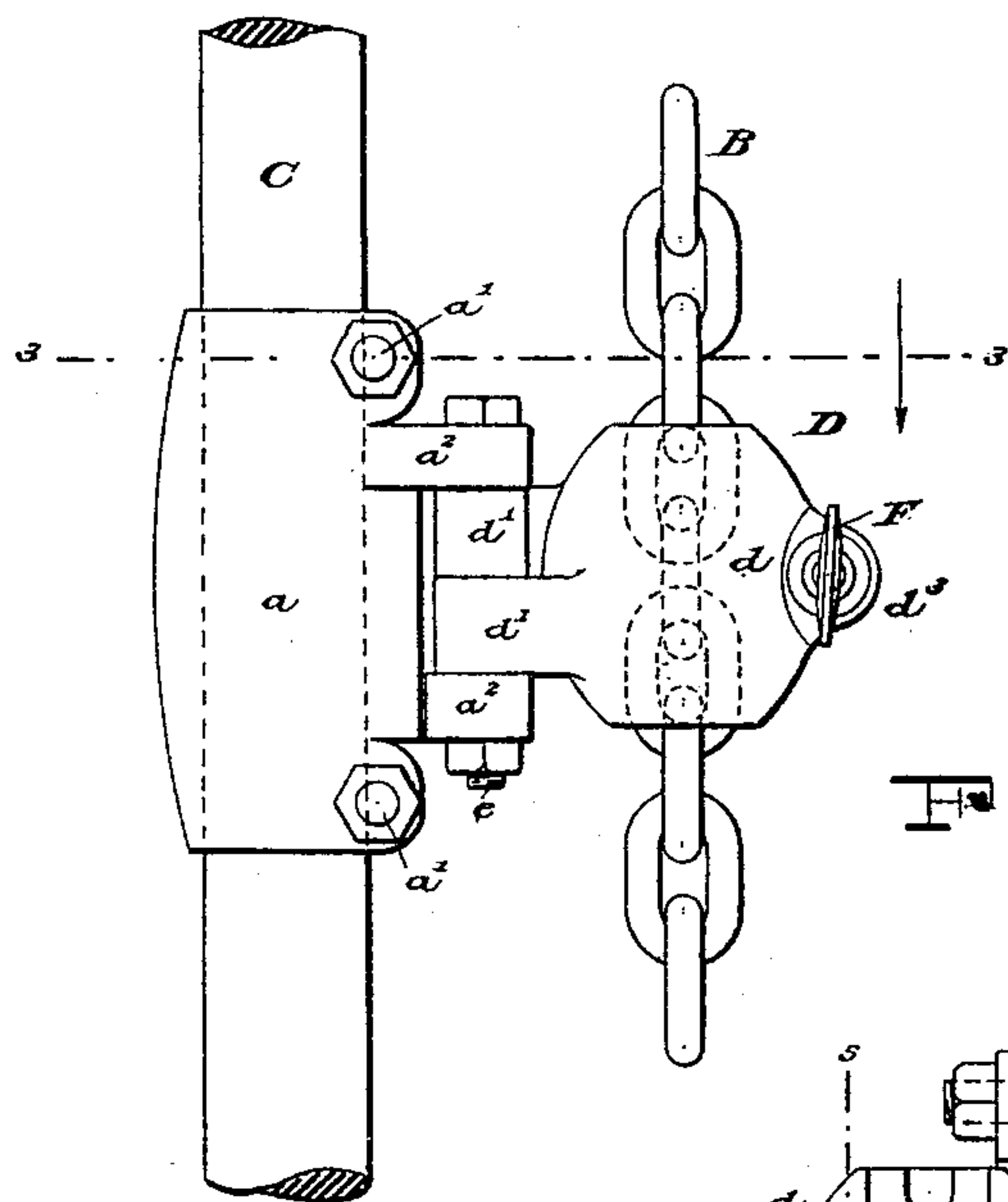


Fig. 6.

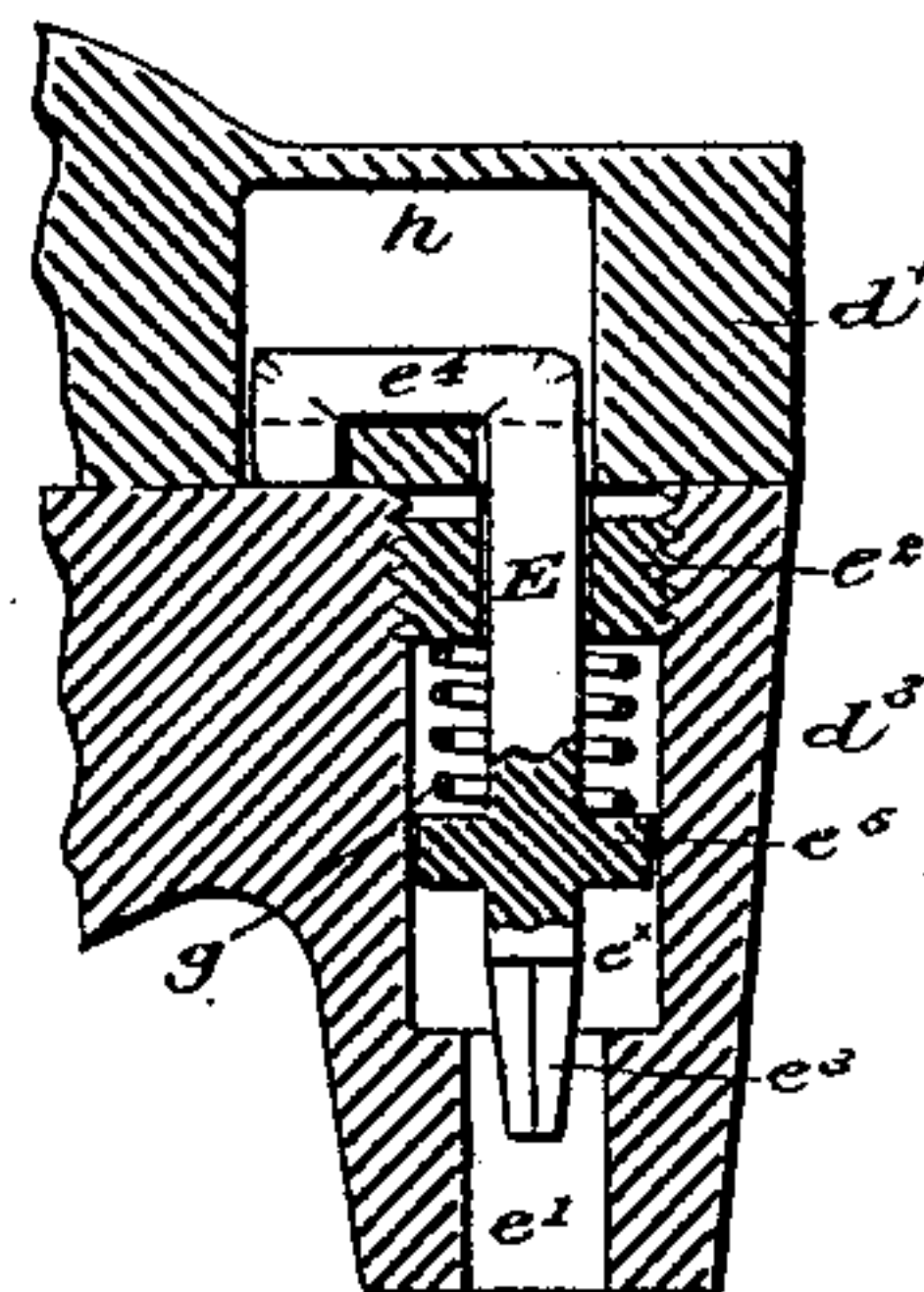


Fig. 4.

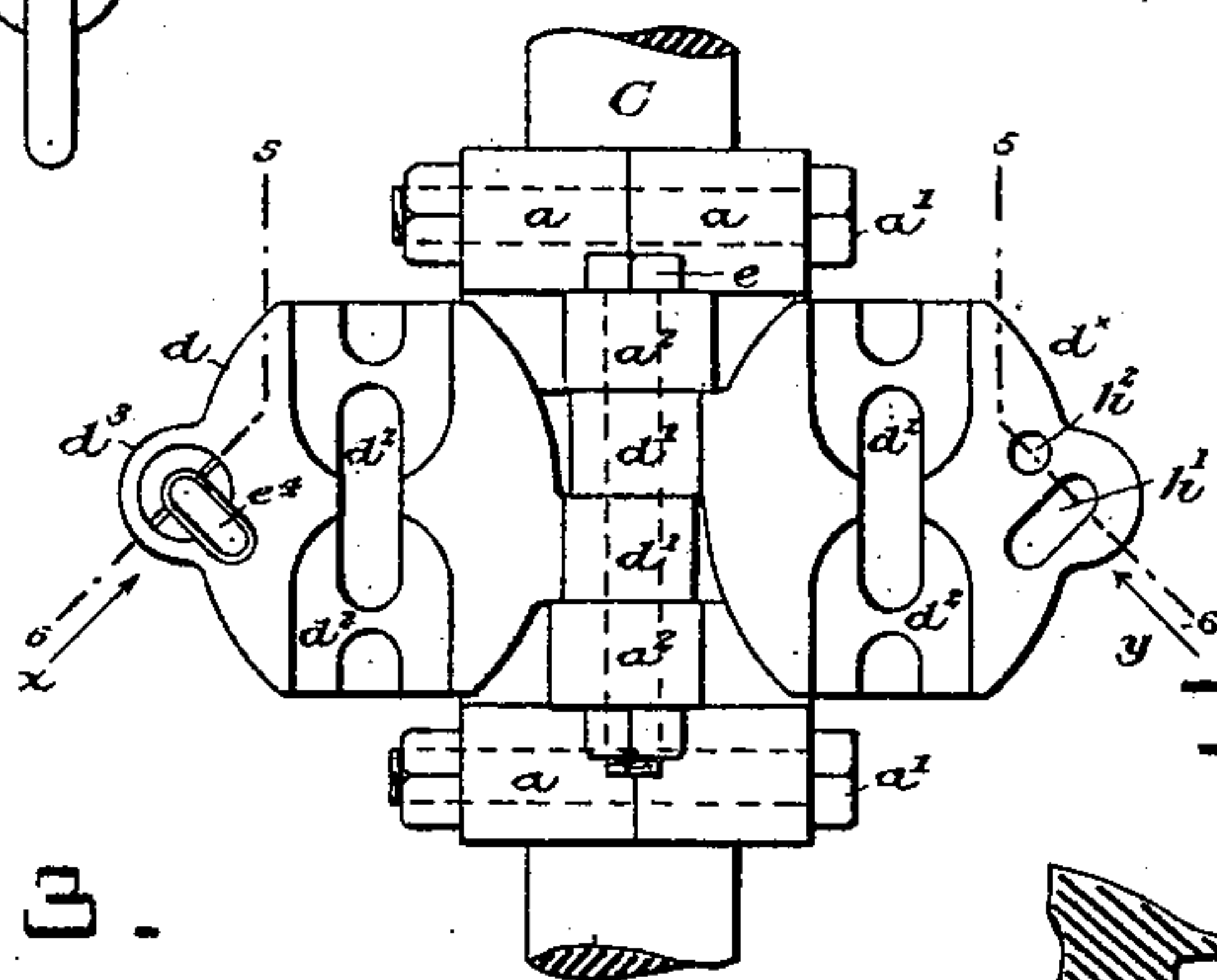


Fig. 5.

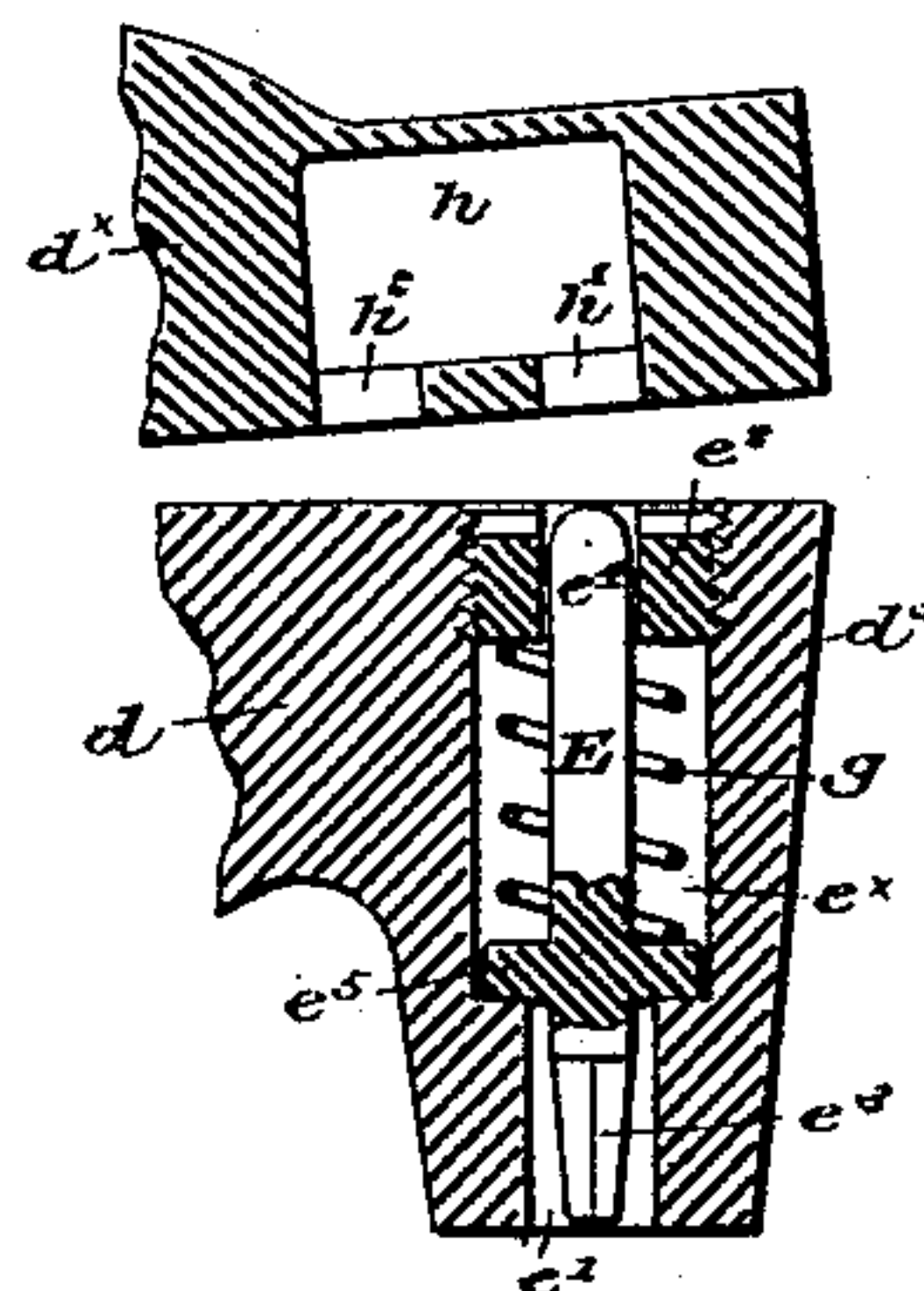
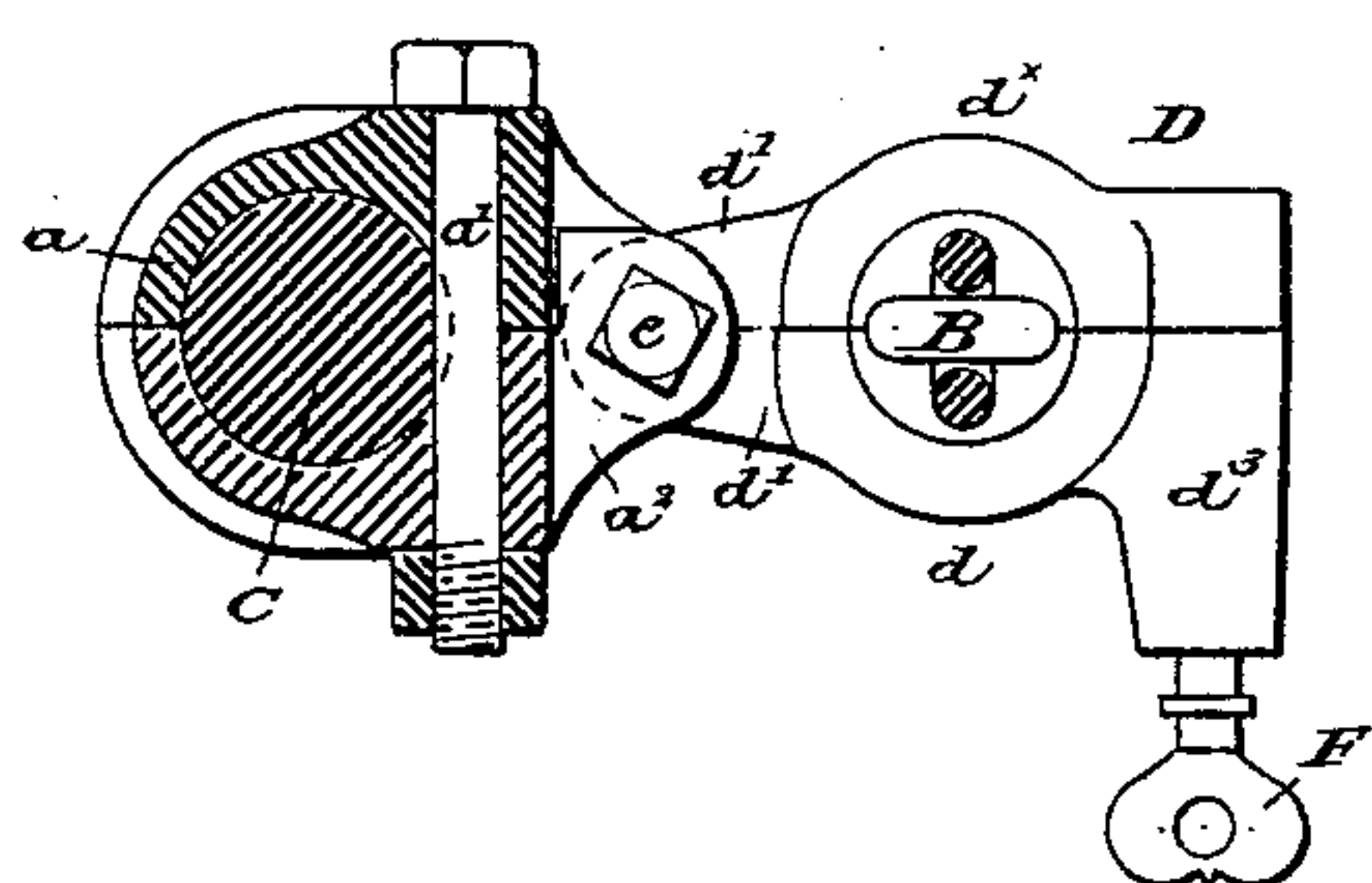


Fig. 3.



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UNITED STATES PATENT OFFICE.

THOMAS F. MORRIN, OF JERSEY CITY, NEW JERSEY.

ELEVATOR-LOCK.

SPECIFICATION forming part of Letters Patent No. 365,088, dated June 21, 1887.

Application filed January 12, 1887. Serial No. 224,100. (No model.)

To all whom it may concern:

Be it known that I, THOMAS F. MORRIN, a citizen of the United States, residing in Jersey City, Hudson county, New Jersey, have invented an Improved Clamp and Lock for Elevators and Hoists, of which the following is a specification.

My invention relates to a means of locking fast the operating rope or chain of an elevator or hoist, so that mischievous or unauthorized persons may be prevented from setting the car or platform in motion. In clamps heretofore devised for this purpose the jaws of the clamp have been made to clamp on the operating or "shipper" rope like the jaws of a vise, a screw, eccentric, or similar mechanism being employed to effect the clamping, and these have been relied on also to hold the jaws clamped on the rope or chain.

I do not employ force to effect the clamping, and I employ a lock and key to prevent the jaws of the clamp from being opened by unauthorized persons—that is to say, the faces of the jaws of my clamp are formed like a mold to fit the inequalities of the surface of the operating-chain; and they are hinged so as to simply close or shut together upon said chain without the need of exercising force, and when closed and locked the chain cannot slip through said clamp.

My invention will be hereinafter fully described, and its novel features carefully defined in the claims.

In the drawings, which serve to illustrate my invention, Figure 1 is a general view on a small scale, illustrating the application of my invention to an ordinary freight-elevator with an operating-chain. Figs. 2, 3, and 4 are views on a much larger scale, illustrating the clamp and lock, Fig. 2 being a side elevation; Fig. 3, a sectional plan, (the plane of the section being indicated by lines 3 3 in Fig. 2;) and Fig. 4, a front view showing the jaws of the clamp thrown apart. Figs. 5 and 6 are sectional views on a scale double that of Figs. 2, 3, and 4, illustrating the construction of the lock. The dotted lines 5 6 in Fig. 4 show the planes of the sections (in each jaw of the clamp) seen in Figs. 5 and 6. Fig. 5 shows the jaws unlocked, and Fig. 6 shows them locked.

A represents any ordinary elevator-plat-

form, and B the operating-chain. This chain, which is of the kind ordinarily employed, is endless, and by pulling up or down on it the machinery is started and the platform set in motion. I need not more particularly describe these parts, as they are common to most elevators or freight-hoists.

C is one of the stay-rods or uprights of the elevator-platform, which stands in many elevators of this kind quite close to the operating-chain B.

D is the clamp and lock, as a whole, which is mounted on the rod C and in position to embrace the chain B.

I will now describe the clamp in detail, premising that it may be varied in construction without materially departing from my invention.

On the rod C is secured a hinging-sleeve, *a*, for the clamp. This sleeve is made in two parts to embrace the rod C, and these parts are secured together by means of bolts or screws *a'*. Said screws or bolts are made to cross a part of the tubular cavity in the sleeve *a* and to engage recesses formed in the rod C, (see Fig. 3,) whereby slipping of the sleeve along said rod is prevented, in case it should be loose enough thereon to slip. On each half of the sleeve *a* is formed a hinging-lug, *a''*, and between these are embraced the hinging-lugs on the clamp. The clamp D is composed of two similar parts or jaws, *d d'*, which are provided, respectively, with hinging-lugs *d''*. Through all the lugs *a''* and *d''* is passed a hinging-bolt, *e*. The jaws *d d'* have recesses *d''* formed in their faces, to fit and receive the links of the chain B, so that when the jaws of the clamp are brought together on the chain until their faces are in contact the chain will be effectually prevented from slipping by the engagement of its links with the said recesses *d''*.

I will now describe the lock whereby the jaws of clamp D are secured together when closed, premising that any good form of lock will answer the purpose.

Special reference may be had to Figs. 5 and 6. In a lug, *d''*, on jaw *d* is formed a chamber, *e'*, and a key-aperture, *e'*, leading into this chamber, and in the inner end of chamber *e'* is screwed or fixed a stop-plug, *e''*. E is a

hook-bolt rotatively mounted in said chamber e^x and in a bore in the plug e^2 . This bolt has at its outer end a "square," e^3 , to receive a key, F , (seen inserted in Figs. 2 and 3,) and on its inner or locking end is formed a hook, e^4 . On the body of the bolt E is formed a collar, e^5 , which bears on a spring, g , in chamber e^x . In the face of plug e^2 and in the face of jaw d , part in each, is formed a recess that allows the hook e^4 to be drawn in flush with the face of jaw d by the spring g . This position of the hook is seen in Fig. 5, and at arrow x in Fig. 4, and represents the situation of the lock elements when the clamp is unlocked.

In the jaw d^x of the clamp is formed a chamber, h , into which open from the face of the jaw two apertures, h' and h^2 , the former in the nature of an oblong slot, (seen at arrow y in Fig. 4,) to permit the passage of the hook e^4 , and the latter a lesser aperture to receive the point of said hook in locking. When the jaws of the clamp are closed, the aperture h' registers with the recess in jaw d , (at arrow x in Fig. 4,) in which the hook e^4 rests.

The operation of locking is as follows: The jaws of the clamp D are closed on the chain B and key F inserted at aperture e' until it engages the square on the hook-bolt E . By pressing on the key the spring g is compressed and the hook e^4 pushed through aperture h' into chamber h . The hook-bolt is then rotated until the point of the hook coincides with aperture h^2 , when the spring g (the pressure being relaxed) will draw the said point into the aperture. The parts will now stand in the position seen in Fig. 6, and the jaws will be firmly locked together. To unlock them, it is necessary to insert the key and push the hook back into chamber h until its point is freed from aperture h^2 , when the hook-bolt may be turned. The recess h will, for convenience, have such form and dimensions that the bolt can only be pushed in and turned in either direction far

enough to effect the desired result. As shown, the bolt makes about a quarter-revolution.

Having thus described my invention, I claim—

1. The combination, with an elevator platform or car, of a hinging sleeve or plate secured to some part of said platform adjacent to the operating-chain, a clamp hinged to said sleeve in position to clamp said operating-chain, and a lock and key to lock said clamp, substantially as set forth.

2. The combination, with an elevator car or platform, of the clamp D , mounted on said platform in position to clamp the operating chain or rope, and provided with a lock and key to secure it when clamped, the faces of the clamp-jaws being recessed to engage and fit the surface irregularities of the said operating rope or chain, whereby said rope or chain is prevented from slipping through said clamp.

3. The combination, with the upright of the elevator-platform, provided with cross-recesses to receive the bodies of the clamping-bolts a' , the said bolts, and the tubular hinging-sleeves a , made in two halves or sections to embrace said upright, and provided with hinging-lugs, of the clamp D , hinged to said sleeve, as set forth.

4. The combination of the jaw d of the clamp D , provided with a recessed lug, d^3 , with a hook-bolt, E , rotatively mounted in said recessed lug, and with a spring, g , arranged as set forth, with the jaw d^x of the clamp hinged to jaw d , and provided with a hook-recess, h , and two apertures, h' and h^2 , opening into said recess h , and a key to operate said hook-bolt, all arranged substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

THOMAS F. MORRIN.

Witnesses:

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T. D. CAPLINGER.