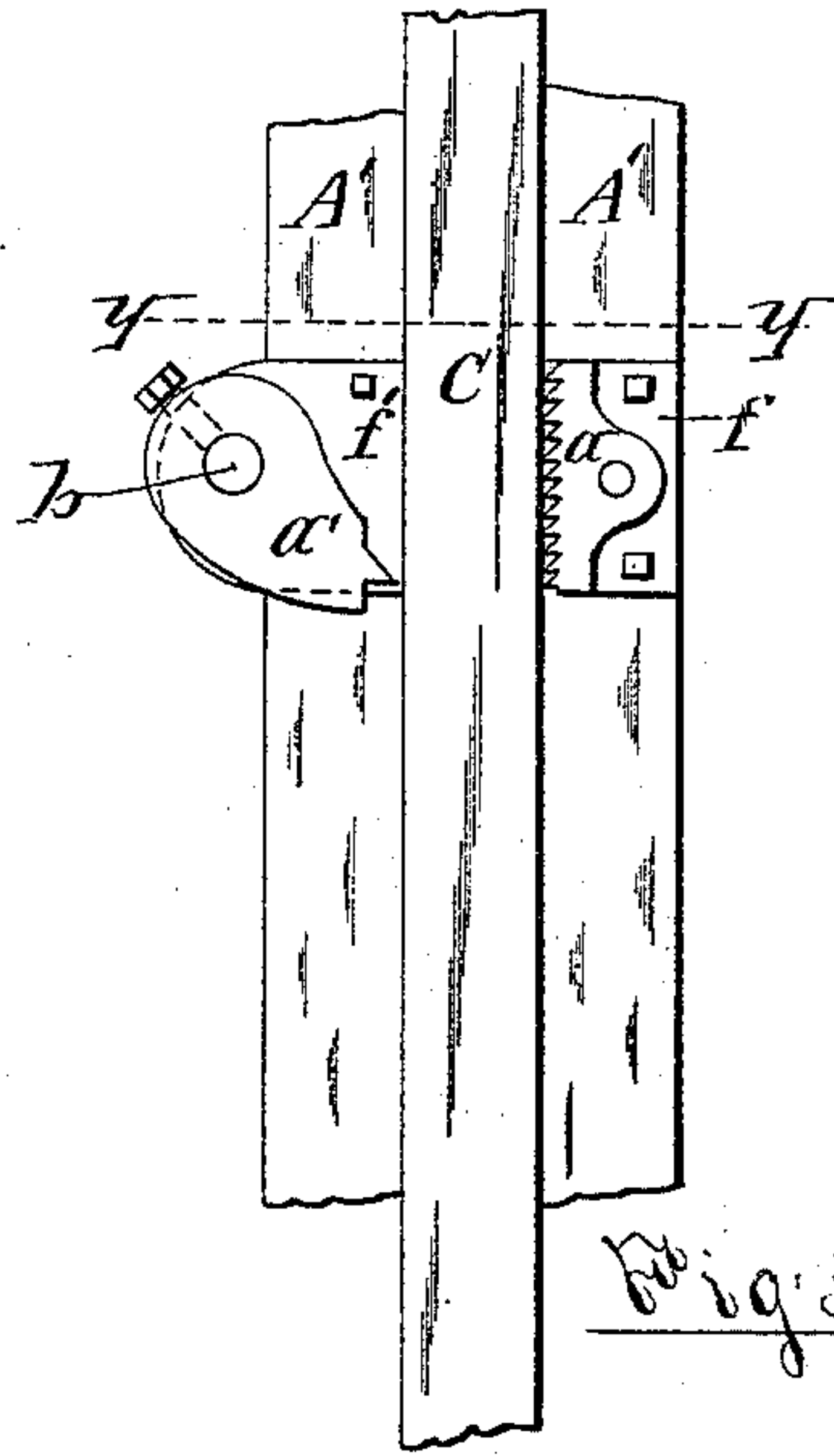
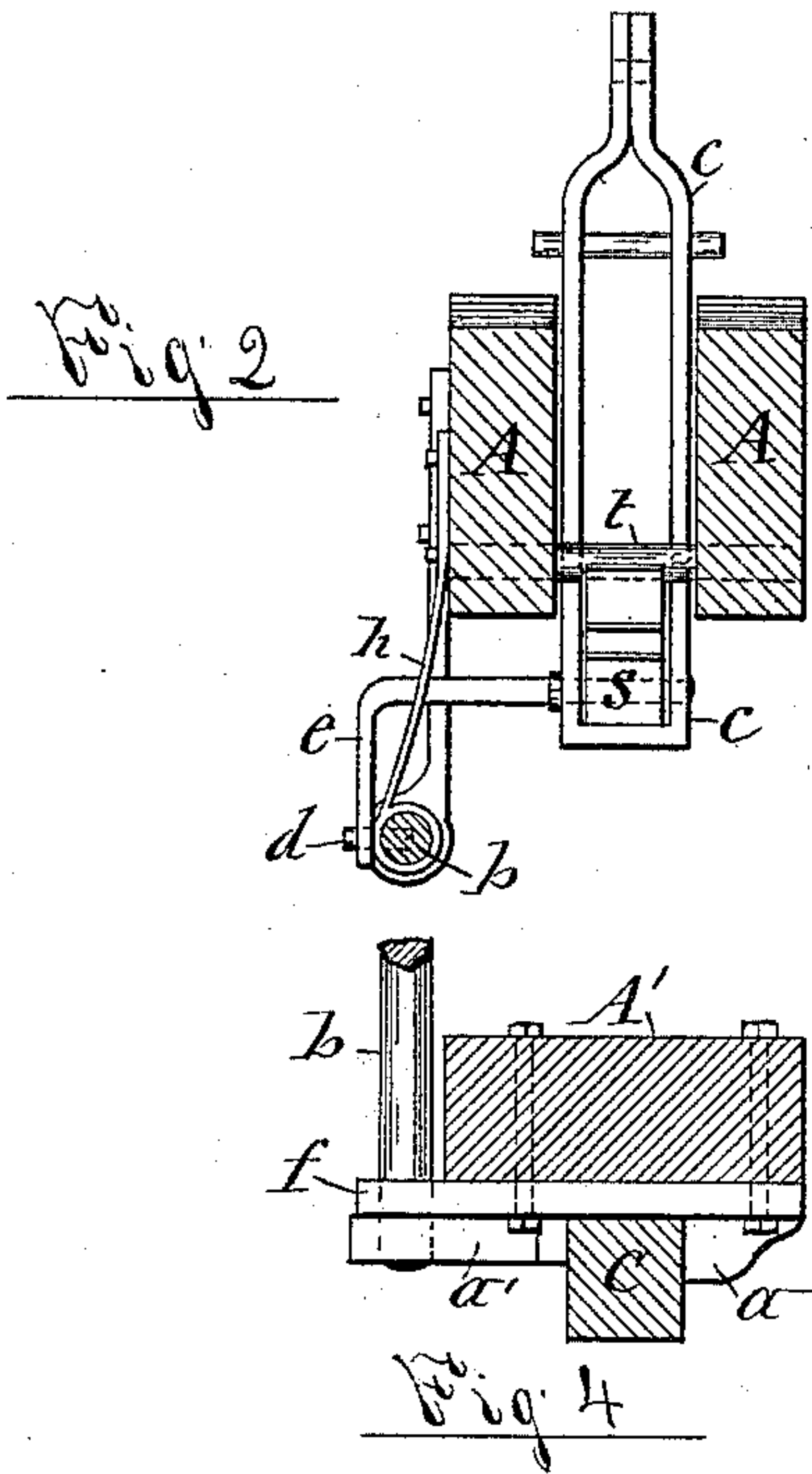
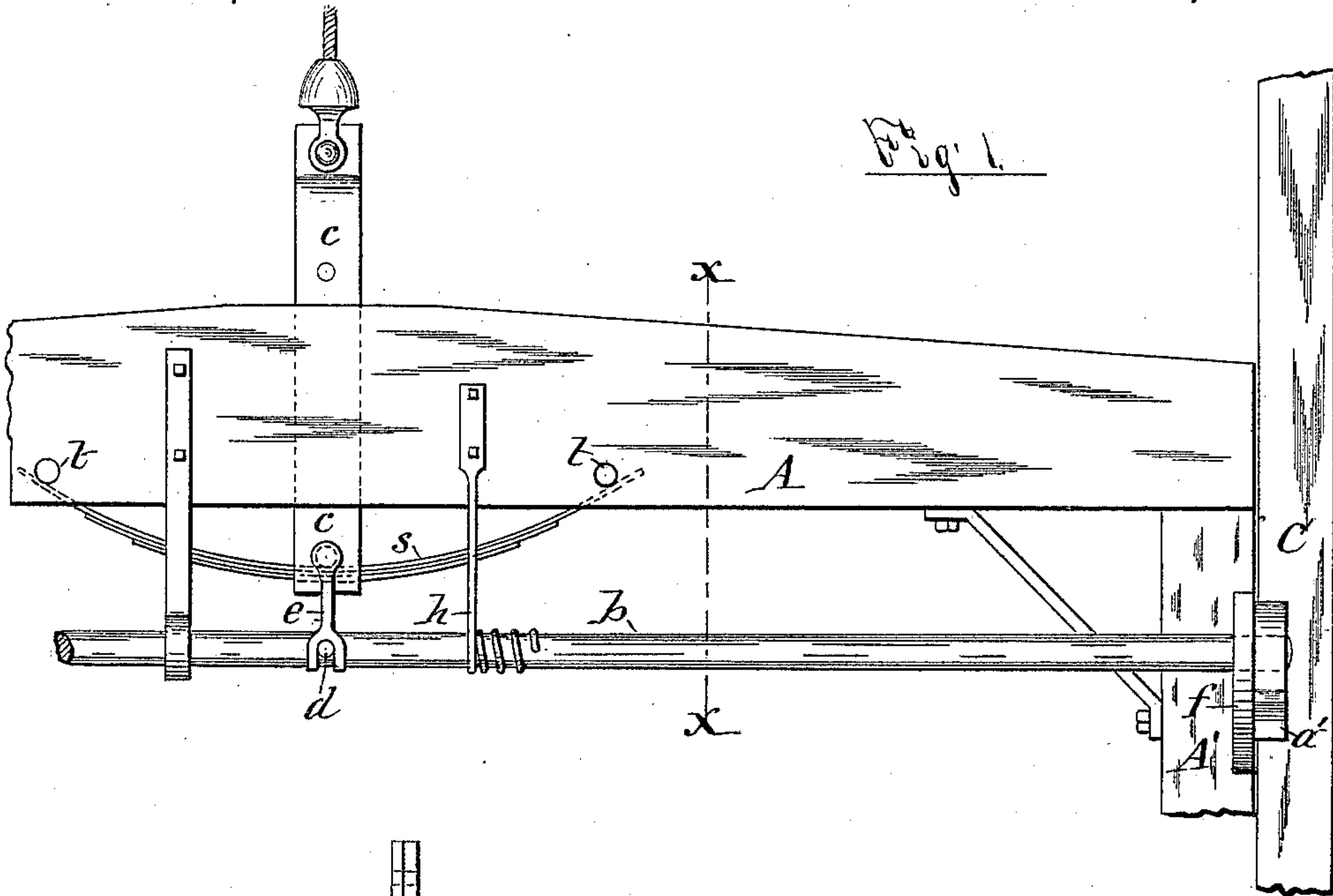


(No Model.)

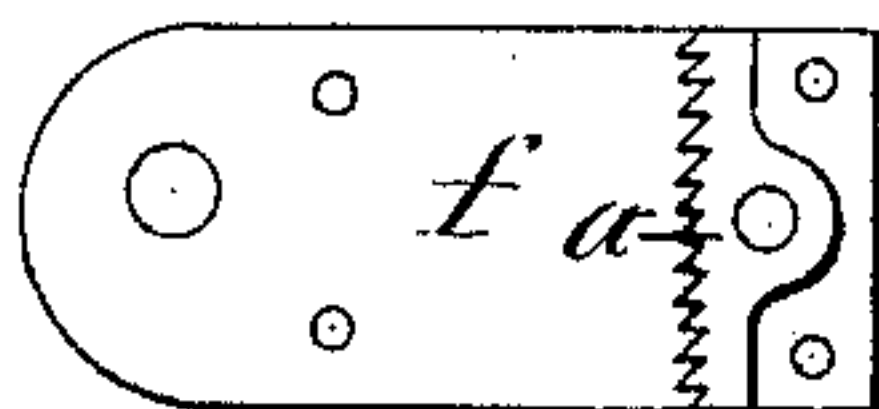
E. W. HOUSER.
SAFETY CLUTCH FOR ELEVATORS.

No. 405,555.

Patented June 18, 1889.



WITNESSES:
C. L. Bunker
Mark W. Dewey



INVENTOR
Edgar W. Houser
BY
Shull, Laess Shull
ATTORNEYS

UNITED STATES PATENT OFFICE.

EDGAR W. HOUSER, OF SYRACUSE, NEW YORK.

SAFETY-CLUTCH FOR ELEVATORS.

SPECIFICATION forming part of Letters Patent No. 405,555, dated June 18, 1889.

Application filed May 14, 1888. Renewed April 29, 1889. Serial No. 309,115. (No model.)

To all whom it may concern:

Be it known that I, EDGAR W. HOUSER, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Safety-Clutches for Elevators, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention consists in a novel construction of a safety-clutch which is simple, comparatively inexpensive, and readily connected to an elevator-car, and is safe and reliable in its operation.

In the annexed drawings, Figure 1 is a front view of the main portion of the upper part of an elevator-car provided with my improved safety-clutch. Fig. 2 is a vertical transverse section on line *x x*, Fig. 1. Fig. 3 is a side elevation of the same. Fig. 4 is a horizontal transverse section on line *y y*, Fig. 3; and Fig. 5 is a detached face view of the plate, which is formed with the stationary clutch-jaw in one piece.

Similar letters of reference indicate corresponding parts.

A A represent the head cross-beams of the elevator-car, and A' one of the vertical side posts framed to the said cross-beams.

C denotes one of the usual vertical guide-rails secured to the sides of the elevator-shaft.

c is the hoisting-strap, formed in the shape of a loop, which passes vertically between the cross-beams A A, and is secured at its upper end to the hoisting-cable, and supports the car by a semi-elliptic spring *s*, passing through the lower end of the loop of the hoisting-strap and bearing with its ends against the under side of stout pins *t t*, extending transversely through the cross-beams A A.

To the side of the post A', adjacent to the guide-rail C, is fastened a plate *f*, which has integral or formed in one piece therewith the jaw *a*, facing one side of the guide-rail C, as shown in Figs. 3 and 4 of the drawings, said jaw being provided with a serrated or toothed face adapted to engage and firmly grip the guide-rail. At the opposite side of the guide-rail is a shaft *b*, extended horizontally across the car A A', and journaled at its

ends in the two plates *f' f'*, secured to opposite sides of the car. To each end of the said shaft is firmly secured a jaw *a'*, which is inclined downward and toward the guide-rail and provided with a tooth adapted to engage the said guide-rail, so as to obtain a firm hold thereon.

At the center of the length of the shaft *b* is a crank-pin *d*, projecting from the side of the shaft, and from the hoisting-strap *c* projects an arm *e*, which is bifurcated at its free end, by which it is adapted to bear on top of the aforesaid crank-pin. A spring *h*, attached at one end to the head cross-beam A and having its opposite end coiled around the shaft *b* and secured thereto, serves to turn said shaft, so as to hold the jaw *a'* normally out of engagement with the guide-rail C.

The operation of my improved safety-clutch is as follows: In case the hoisting-cable breaks while supporting the car in a suspended position, the spring *s* presses the strap *c* downward, and thereby causes the arm *e* to press on the crank-pin *d*, so as to turn the shaft *b* and throw the jaw *a'* into engagement with the guide-rail C. Said jaw stands at such an angle in relation to the guide-rail as to cause the former to be crowded toward the latter by the weight of the car, and thus re-enforce the hold of the said jaw on the guide-rail. Said hold of the two sets of jaws on the two guide-rails at opposite sides of the car serves to effectually arrest the descent of the car.

I do not limit myself specifically to the form of the arm *e* and its bearing on the crank-pin *d*, as it is obvious that most any suitable and well-known crank-connection between the strap *c* and strap *b* will answer the same purpose.

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

In combination with the car A A', guide-rail C, and the strap *c*, supporting the car by a spring, the jaw *a*, fixed to the car at one side of the guide-rail, the shaft *b*, extended across the car, the jaw *a'*, secured to the end of said shaft, crank-connections between the

strap *c* and shaft *b*, and the spring *h*, arranged to turn the shaft and hold the jaw *a'* normally out of engagement with the guide-rail, substantially as set forth.

5 In testimony whereof I have hereunto signed my name, in the presence of two witnesses, at Syracuse, in the county of Onondaga, in the

State of New York, this 10th day of May, 1888.

EDGAR W. HOUSER.

Witnesses:

C. L. BENDIXON,

C. H. DUELL.