(No Model.)

A. P. WEBB.

HOISTING MECHANISM FOR ELEVATORS.

No. 495,078. Patented Apr. 11, 1893.

Fig: 1.

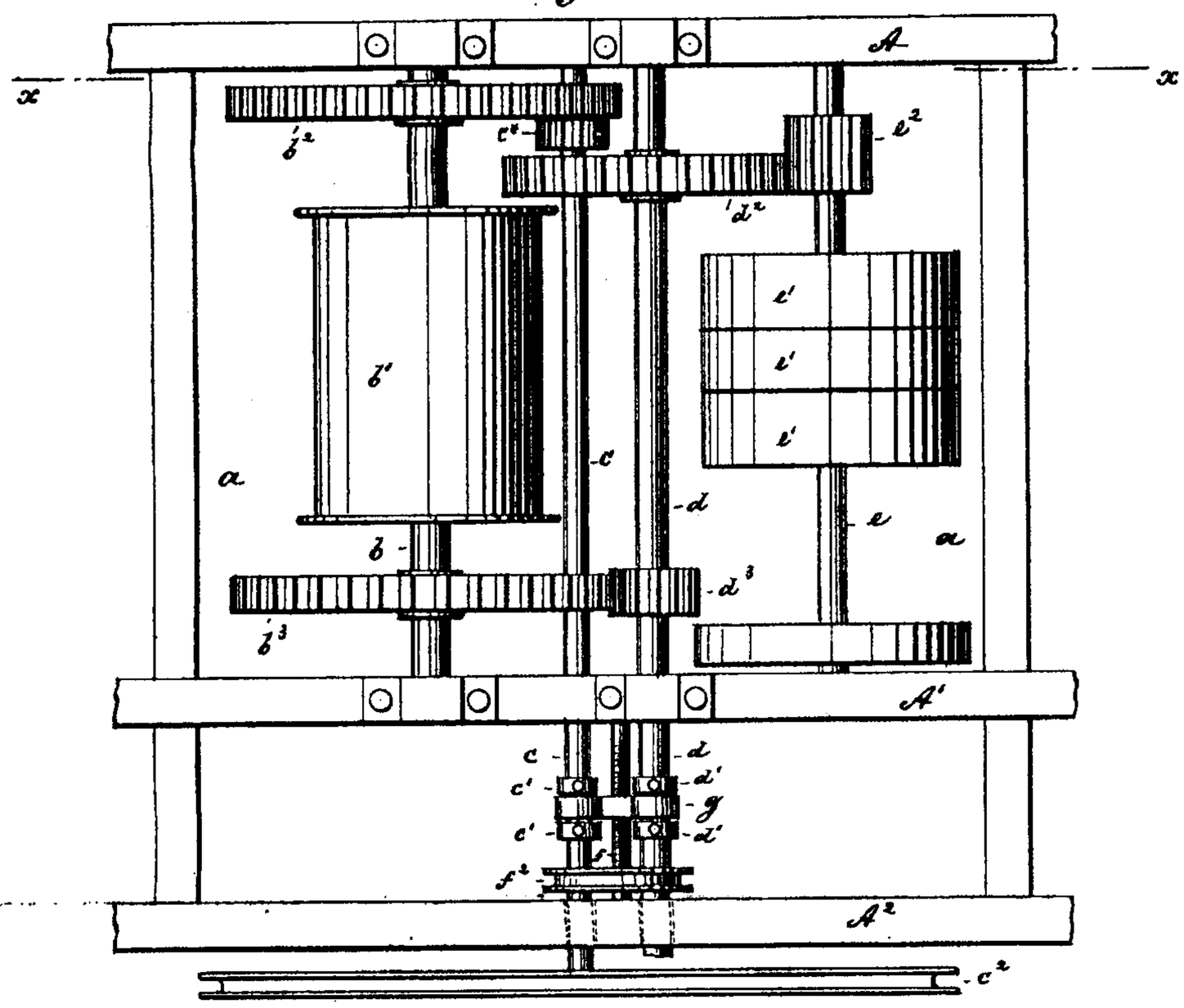
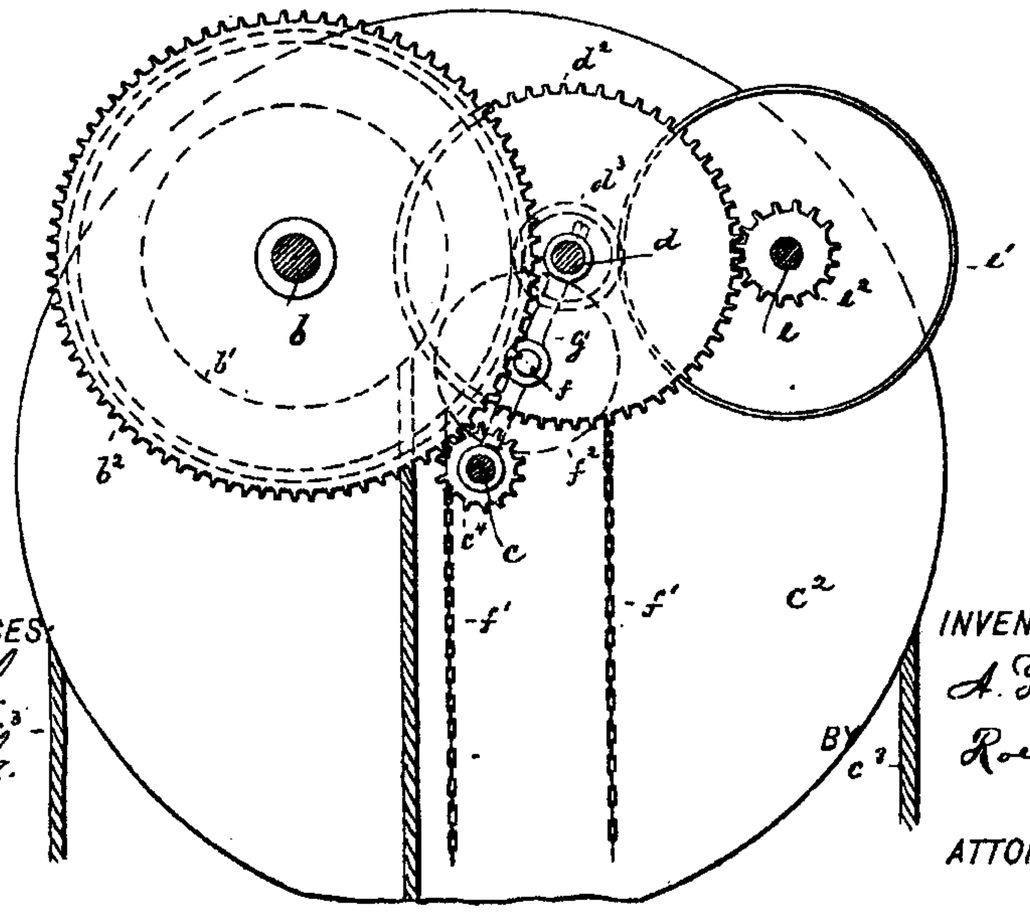


Fig: 2.



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HOISTING MECHANISM FOR ELEVATORS.

SPECIFICATION forming part of Letters Patent No. 495,078, dated April 11, 1893.

Application filed July 9, 1892. Serial No. 439,471. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR P. WEBB, of Hoboken, Hudson county, New Jersey, have invented an improved Hoisting Mechanism for Elevators, of which the following is a specification.

This invention relates to a novel mechanism for intergearing the hoisting shaft of a freight elevator either with the hand shaft or with the power shaft so that the elevator may be easily converted from a hand elevator to a power elevator and vice versa.

The invention consists in the various features of improvement more fully pointed out in the claim.

In the accompanying drawings: Figure 1 is a top view of the improved hoisting mechanism, and Fig. 2 a vertical section on line x, x, Fig. 1.

The letter a represents the well of an elevator across which there is hung the shaft b, in timbers A, A′. The shaft b, carries the usual hoisting drum b', and to the right and left thereof the gear wheels b^2 b^3. Parallel to the shaft b, there are provided three additional shafts, viz: the hand shaft c, the intermediate shaft d, and the power shaft e. The shafts c, d, are journaled in timbers A, A^2, and pass freely through the timber A′. They are adapted to be simultaneously moved backward and forward in the direction of their axis by means of a screw f, or similar device that is adapted to engage both the shafts. The screw f, turns in the timbers A′, A^2, and may be revolved by a chain f', passing over pulley f^2. The screw engages the tapped opening of a slide g, that embraces both shafts c, d, between two pairs of fixed collars c', d'. By revolving the screw in either direction the shafts c, d, will slide either toward the timber A or toward the timber A^2, as will be readily understood.

Upon the shaft c, there is mounted the pulley c^2, around which passes the hand rope c^3. The shaft c is provided with a cog wheel c^4, which when the shaft is moved toward timber A, is adapted to engage and drive cog wheel b^2. But when the shaft is moved toward timber A^2, the cog wheel c^4, becomes disengaged from wheel b^2.

The power shaft e, carries the usual belt pulleys e', and in addition thereto a cog wheel e^2. This cog wheel engages the cog wheel d^2, fast on intermediate shaft d. The teeth of wheel e^2, are considerably longer than the teeth of wheel d^2, so that the engagement of the wheels d^2, e^2, is maintained during either of the positions of the intermediate shaft. The shaft d is furthermore provided with a cog wheel d^3, adapted to engage wheel b^3, when the shaft d, is moved toward the timber A^2.

The operation of the device will be readily understood. When the elevator is to be driven by hand, the screw f, is revolved to move the shafts c, d, toward timber A. The wheel c^4, will now engage wheel b^2, and thus the motion of pulley c^2 will be directly transmitted to the hoisting drum. During this position of the device, the wheel d^3, is out of engagement with wheel b^3. If the elevator is to be driven by power the screw f, is revolved to move the shafts c, d, toward the timber A^2 (Fig. 1). This will cause cog wheel c^4, to become disengaged from wheel b^2. At the same time the wheel d^3 will be moved into engagement with wheel b^3, so that the motion of the power shaft e, is transmitted through wheels e^2 and d^2, to the intermediate shaft d and thus by wheels d^3 and b^3 to the hoisting shaft.

What I claim is—

The combination of a hoisting shaft with a pair of longitudinally slidable shafts, a power shaft geared with one of said shafts, a slide engaging the slidable shafts and means for operating the slide and thereby cause one or the other of the slidable shafts to gear with the hoisting shaft, substantially as specified.

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Witnesses:

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