(No Model.)

A. P. WEBB.

ELEVATOR.

No. 475,834. Patented May 31, 1892.

Fig. 1.

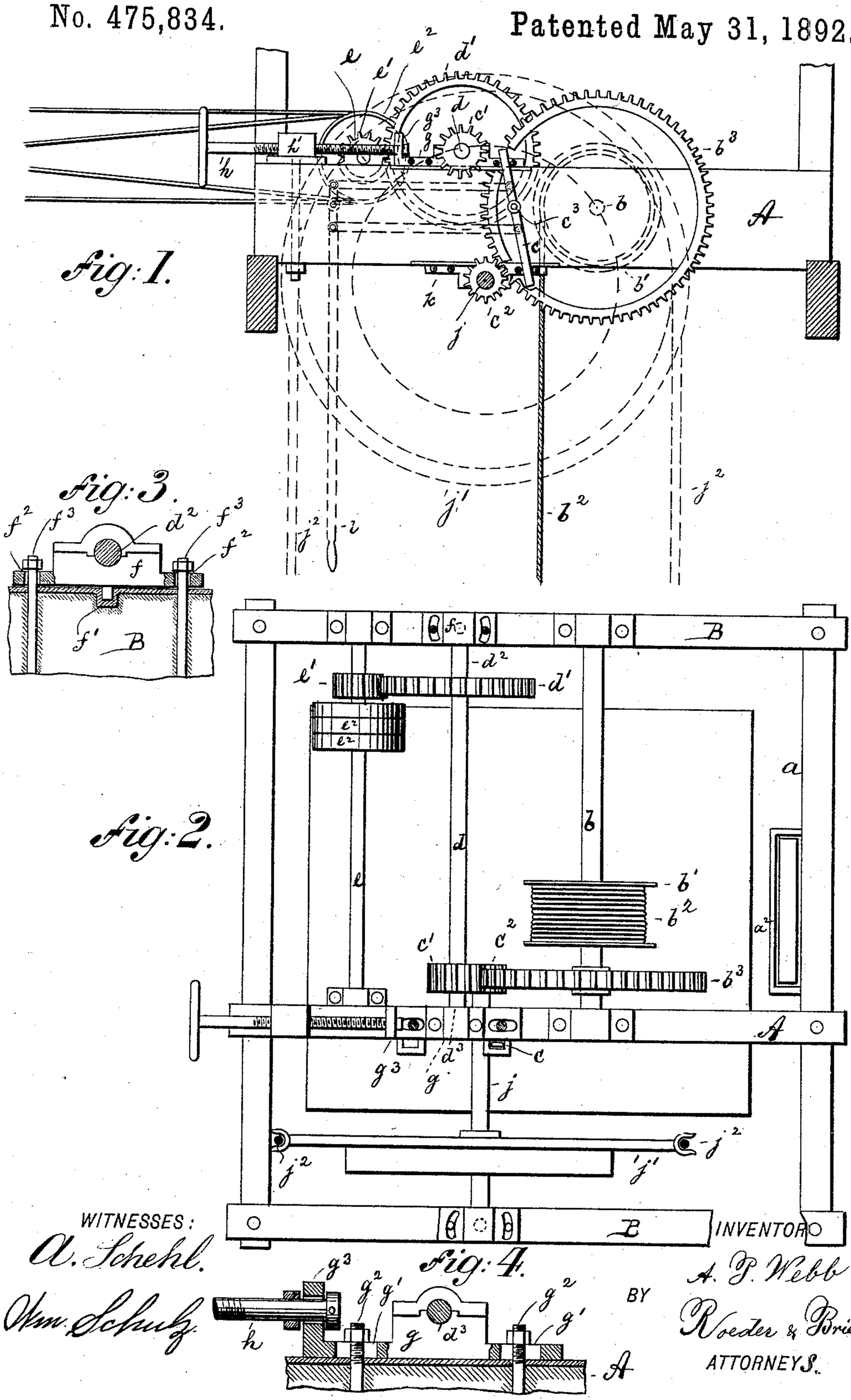

Fig. 3.

Fig. 2.

Fig. 4.

WITNESSES:

A. Schehl.

Wm. Schulz.

INVENTOR

A. P. Webb

BY

Roeder & Briesen

ATTORNEYS.

UNITED STATES PATENT OFFICE.

ARTHUR P. WEBB, OF HOBOKEN, NEW JERSEY.

ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 475,834, dated May 31, 1892.

Application filed March 2, 1892. Serial No. 423,468. (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 an improved hoisting mechanism for freight-elevators, and more particularly to means for intergearing the hoisting-drum either with a power-shaft or with a shaft revolved by a hand-wheel. Thus by a simple turn of a screw or the movement of a lever the elevator is changed from a power-elevator to a hand-elevator, or vice versa, which is a matter of great convenience to firms which have sometimes but little work and sometimes considerable work for their elevators.

In the accompanying drawings, Figure 1 is a side view of my improved hoisting mechanism; Fig. 2, a top view thereof; Fig. 3, a detail longitudinal section through box *f*, and Fig. 4 a similar section through box *g*.

The letter *a* represents the well of an elevator, across which there is hung the shaft *b*, carrying the usual hoisting-drum *b'*. Around this drum there is wound the cable b^2, that suspends the elevator cage or platform.

a^2 is the usual counterbalance-weight box.

Upon the shaft *b* there is keyed a gear-wheel b^3, adapted to engage either one of a pair of smaller gear-wheels c' c^2. These wheels are connected to opposite ends of an arm *c*, pivoted at c^3 to timber A and engaging the sliding bearings *g k*, hereinafter described. The upper gear-wheel c' is mounted upon the end of an intermediate shaft *d*, provided with pinion d', meshing into pinion e' of power-shaft *e*.

Upon the shaft *e* are secured the usual fast and loose pulleys e^2 for operating the machine by a suitable engine. The intermediate shaft *d* is so hung that it can oscillate to a slight extent around its outer end d^2. To this effect the end d^2 is received by a swiveled bearing *f*, pivoted to frame B by pin f'. The bearing *f* is provided with the slots f^2, engaged by bolts f^3, which attach the bearing to the frame. The inner end d^3 of shaft *d* is received by a sliding bearing *g*, secured to the upper side of timber A. The bearing is slotted at g' to engage the attaching-bolts g^2. At one end the bearing *g* is provided with a lug g^3, that receives one end of a hand-screw *h*, passing through the fixed nut *h'*. In lieu of the screw *h* a hand-lever *i* (shown in dotted lines, Fig. 1) may be employed. The lower gear-wheel c^2 is mounted upon the end of shaft *j*, passing through the sliding bearing *k*, secured to lower side of timber A. The shaft *j* carries the grooved wheel *j'*, around which passes the hand-rope j^2. The outer end of shaft *j* is hung in frame B, so as to be able to slightly oscillate around this end.

The operation of the mechanism will be readily understood. When it is desired to run the elevator by power, the screw *h* is revolved to throw the wheel c' into gear and the wheel c^2 out of gear with the shaft *b*. Thus the power from the pulleys e^2 will be properly transmitted to the hoisting-drum *b'*, while the hand-wheel is entirely out of action. When it is desired to run the elevator by hand, the screw is revolved to throw the wheel c^2 into gear and the wheel c' out of gear with the shaft *b*. Thus the power from the hand-rope j^2 will be properly transmitted to the hoisting-drum, while the power-shaft is entirely out of action. In this latter case it will be observed that the power is transmitted directly from the shaft *j* to the shaft *b* without employing the intermediate shaft *d*, and thus considerable hand-labor is saved. When, however, the elevator is run from the power-shaft *e*, the intermediate shaft is at once interposed to produce the proper transmission. It will be seen that a turn of the hand-screw in either direction will cause a movement of arm *c*, and also a corresponding movement of the sliding bearing and a small turn of the shafts *d j* around their outer ends. Thus all the parts work harmoniously to shift the power-transmitting source. The power-shaft and the hand-shaft are in this machine entirely independent, so that when one revolves the other is disconnected and stands still.

What I claim is—

1. The combination of hoisting-shaft *b*, carrying gear-wheel b^3, with a power-shaft *e*, an intermediate vibrating shaft *d*, a vibrating hand-shaft *j*, a pair of gear-wheels c' c^2, a con-

necting-arm c, and an operating-screw, substantially as specified.

2. The combination of hoisting-shaft b, carrying gear-wheel b^3, with power-shaft e, intermediate vibrating shaft d, sliding bearing g, vibrating hand-shaft j, sliding bearing k, a pair of gear-wheels c' c^2, a connecting-arm c, and an operating-screw, substantially as specified.

A. P. WEBB.

Witnesses:
F. v. BRIESEN,
A. JONGHMANS.