W. F. HEALY & J. BEGGS.

BRAKES FOR ELEVATORS.

No. 195,124. Patented Sept. 11, 1877.

Fig. 1.

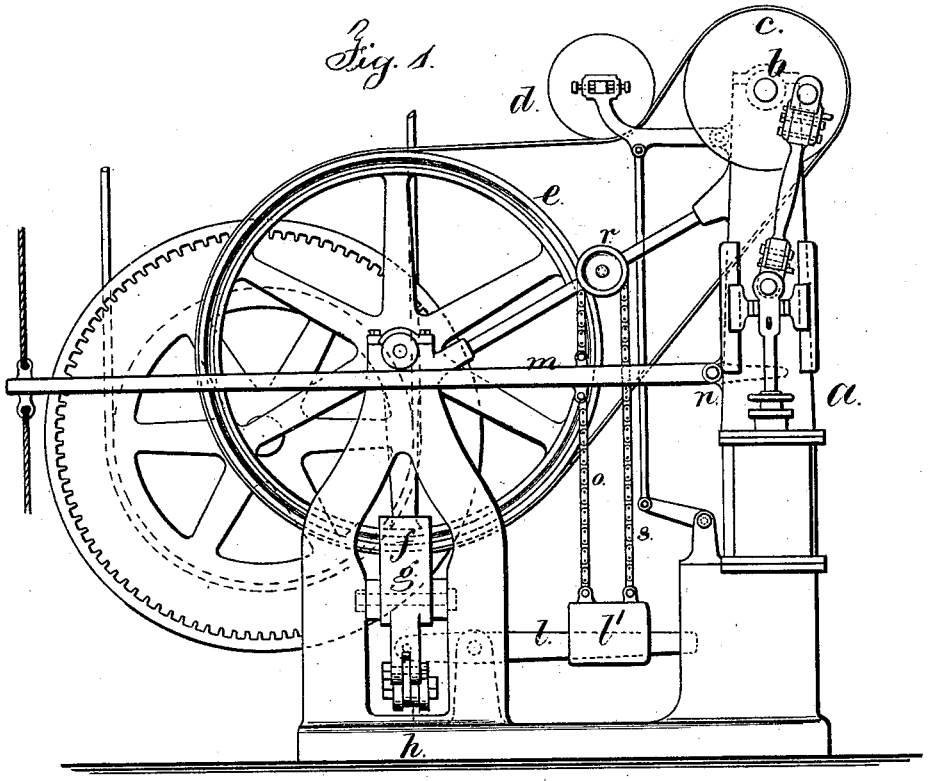
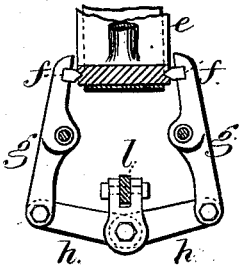


Fig. 2.



Witnesses,

Chas. H. Smith

Harold Serrell

Inventors

James Beggs. 2

William Healy. 1

per Samuel W. Serrell

atty.

UNITED STATES PATENT OFFICE.

WILLIAM F. HEALY AND JAMES BEGGS, OF PATERSON, NEW JERSEY.

IMPROVEMENT IN BRAKES FOR ELEVATORS.

Specification forming part of Letters Patent No. **195,124**, dated September 11, 1877; application filed August 1, 1877.

To all whom it may concern:

Be it known that we, WILLIAM F. HEALY and JAMES BEGGS, of Paterson, in the county of Passaic and State of New Jersey, have invented an Improvement in Brakes for Elevators, of which the following is a specification:

Brakes that are employed with passenger and freight elevator-engines are usually provided with a steel band that passes around a drum or pulley that is of smaller diameter than the main drum; and, in addition to the wear resulting from the contact of the band with the drum, there is a risk of the band becoming loose and inoperative or breaking.

Our improvement relates to a friction-clamp applied at each edge of the main drum, said clamp being composed of levers operated by toggle-bars or other well-known mechanical contrivance, so that a positive holding-force is brought to bear at each edge of the drum, without straining the shaft or bearings; and we also arrange a weighted lever, chain, and pulley, in connection with the main lever and stopping and starting rope, so that the weight will be relieved from the brake when the lever is moved either above or below the horizontal position, and thereby relieve the wheel from the brake, whether the engine is hoisting or lowering the load.

In the drawing, Figure 1 is a side elevation of the hoisting-machinery, and Fig. 2 is a cross-section of the band-wheel and the brake-blocks.

The engine *a*, crank-shaft *b*, band-pulley *c*, tightener *d*, and main band-wheel *e* are of usual character, except that the edges of the band-wheel *e* are adapted to being grasped by the brake-blocks *f*, and for this purpose it is preferable to groove each edge of the band-wheel, and to employ V-shaped ribs upon the faces of the brake-blocks to fit such grooves.

The brake-blocks *f* are upon levers *g*, and at the opposite ends there are toggle-links *h* that are pivoted to the respective levers *g* and connected to the weighted lever *l*, so that when the weight *l'* is allowed to act upon this lever *l* the toggle-links will be drawn or forced, and act through the levers *g* and brake-blocks to grasp both edges of the band-wheel, and hold the same and the load at the required position.

The ordinary hand-rope passing vertically in the elevator-well, and by which the engine is stopped and started, is connected with the main lever *m*, upon the fulcrum *n*, and the said lever serves to stop, start, and reverse the engine in any desired manner, the horizontal position of the lever being that at which the engine is stopped and the brake applied; and when the lever is raised the engine is caused to revolve in one direction, and when this lever *m* is depressed the engine is revolved in the other direction.

From the lever *m* a chain or rope, *o*, passes down to the weight *l'*, so that said weight is raised with the upward movement of this lever *m* as the engine is started, so as to take off the brake from the band-wheel; and there is another chain, *s*, passing up from the lever *m*, over the pulley *r*, and down again to the weight *l'*, so that the weight *l'* is also lifted when the lever *m* is depressed below the horizontal line in reversing the motion of the engine.

A lever might take the place of the pulley *r*, the chain *s* being attached at each end.

We do not claim operating the brake-lever by a connection to the stopping and starting lever; neither do we claim brake-blocks acting at opposite edges of the wheel.

We claim as our invention—

1. The combination, with the band-wheel in the elevating apparatus, of the brake-blocks *f*, acting at opposite edges of the band-wheel, the levers *g*, toggle-bars *h*, lever *l*, and weight *l'*, substantially as set forth.

2. In combination with the main lever *m* and weighted brake-lever *l l'*, the chains *o* and *s* and pulley *r*, arranged and operating substantially as set forth.

Signed by us this 18th day of July, A. D. 1877.

W. F. HEALY.
JAMES BEGGS.

Witnesses:
WM. H. HAYES,
GEO. S. CHISWELL.