

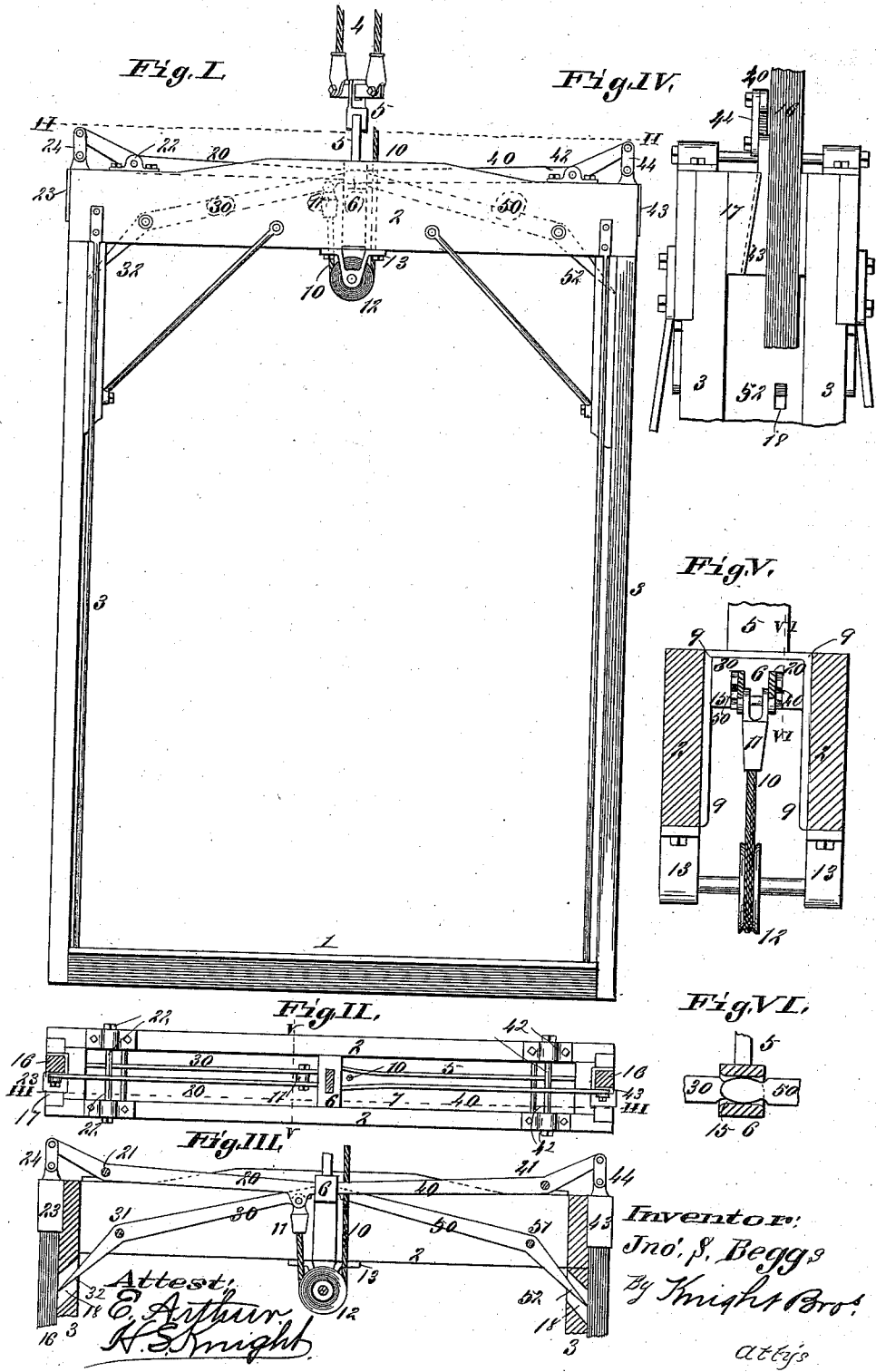
(No Model.)

J. S. BEGGS.

SAFETY DEVICE FOR ELEVATORS.

No. 382,208.

Patented May 1, 1888.



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UNITED STATES PATENT OFFICE.

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SAFETY DEVICE FOR ELEVATORS.

SPECIFICATION forming part of Letters Patent No. 382,208, dated May 1, 1888.

Application filed September 16, 1887. Serial No. 249,802. (No model.)

To all whom it may concern:

Be it known that I, JOHN S. BEGGS, of the city of St. Louis and State of Missouri, have invented a certain new and useful Improvement in Safety Catches or Appliances for Elevators, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, and in which—

Figure I is a side elevation of the cage of a passenger or freight elevator with my improvement applied. Fig. II is a section taken on line II II, Fig. I. Fig. III is a detail vertical section taken on line III III, Fig. II. Fig. IV is an enlarged detail elevation showing the upper portion of one side of the cage. Fig. V is a detail vertical section taken on line V V, Fig. II. Fig. VI is a detail section taken on line VI VI, Fig. V.

My invention relates to certain improvements in safety-catches or appliances which may be applied to either passenger or freight elevators; and my invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Referring to the drawings, 1 represents a cage, which may be of any ordinary form or construction, having the usual top beam, 2, and side posts or uprights, 3.

4 represents the hoisting cable or cables, which are made fast, by suitable connection, 5, to a block, 6, which fits in an opening, 7, of the beam 2. When in use, the block is in the position shown in Figs. III and V—that is, near the top of the beam—and it is held in the beam by means of a suitable casting, 9, secured to the beam in the space 7. As long as the elevator works all right, and the cable or cables 4 do not give way, the block 6 remains in the position shown in Figs. III and V.

10 represents the counterbalance-cable, which is secured to the block 6 by suitable connection, 11, and which passes downward under a pulley or sheave, 12, journaled to the under side of the beam 2 in suitable hangers, 13, and from this pulley the cable passes upward and over the ordinary pulleys at the top of the elevator-shaft and downward to the counter-balance. These last-mentioned sheaves and the counter-balance are not shown, for the

reason that they may be of any ordinary well-known arrangement, and my invention does not relate to them. I have not shown the cable 10 connected directly to the block 6, but to one of a series of levers, 20, 30, 40, and 50, these levers being connected to the block by entering a recess or recesses, 15. (See Figs. V and VI.) The levers 20 and 40 are pivoted at 21 and 41, respectively, to the beam 2, the connection being preferably made by means of boxes and shafts 22 and 42. (See Figs. I and II.) To the outer ends of these levers 20 and 40 are connected wedges 23 and 43 by means of links 24 and 44. These wedges fit and work between the ordinary uprights, 16, (see Figs. II, III, and IV,) of the elevator-shaft and projections 17 on the sides 3 or beam 2 of the cage. The wedges taper upwardly, as shown in Fig. IV, being the smallest at their upper ends. Now, it will be understood that as long as the hoisting-cables 4 remain unbroken these wedges will be held in their lower position, so as not to bind between the projections 17 and the uprights 16, owing to the inner ends of the levers 20 and 40 being held in their upper position; but now, supposing the hoisting cable or cables to break, the counter-balance, through means of the connecting-cable 10, will pull downward on the block 6 and the inner ends of the levers 20 and 40, and in doing so will pull upward on the wedges 23 and 43, forming a frictional contact between the projections 17 of the cage and the uprights 16 of the elevator-shaft, and thus prevent the falling of the cage.

To insure still further safety, I provide the levers 30 and 50, which are pivoted at 31 and 51 to the beam 2, and which have pointed ends 32 and 52 fitting in holes 18 of the sides 3 of the cage, and which fit close up to the uprights 16 of the elevator-shaft. Now, while the hoisting cable or cables 4 remain unbroken, these points 32 are held out of immediate contact with the uprights 16 of the elevator-shaft; but, should these cables be broken, these points will be pulled out into contact with the uprights 16 by means of the counter-balance and the cable 10 pulling downward upon the block 6 and the inner ends of the levers 30 and 50.

With this arrangement a perfect safety ap-

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pliance is provided for preventing the falling of the cage in case the hoisting cable or cables should be broken. There is absolutely no danger of the device getting out of order or becoming fast by the accumulation of dirt and rust, so that it will not operate, as is sometimes the case with appliances depending on springs for their action, for the counterbalance is sure to operate the levers in case of breakage of the hoisting cable or cables.

I claim as my invention—

1. The combination of the cage, movable block secured to the cage, hoisting-cable, and counterbalance-cable connected to the block, a double set of levers connected to the block and pivoted to the cage, wedges on the outer ends of one pair of the levers, prongs or points

on the outer ends of the other set of levers, and uprights of the elevator-shaft, substantially as and for the purpose set forth.

2. The combination of the cage, movable block 6, cables 4 and 10, levers 20, 30, 40, and 50, pivoted to the cage, wedges 23 and 43, connected to the levers 20 and 40, projections 17 on the cage, levers 30 and 50, pivoted to the cage and having points 32 and 52 entering holes 18 in the sides of the cage, and uprights 16 of the elevator-shaft, substantially as and for the purpose set forth.

JOHN S. BEGGS.

In presence of—

GEO. H. KNIGHT,
EDW. S. KNIGHT.