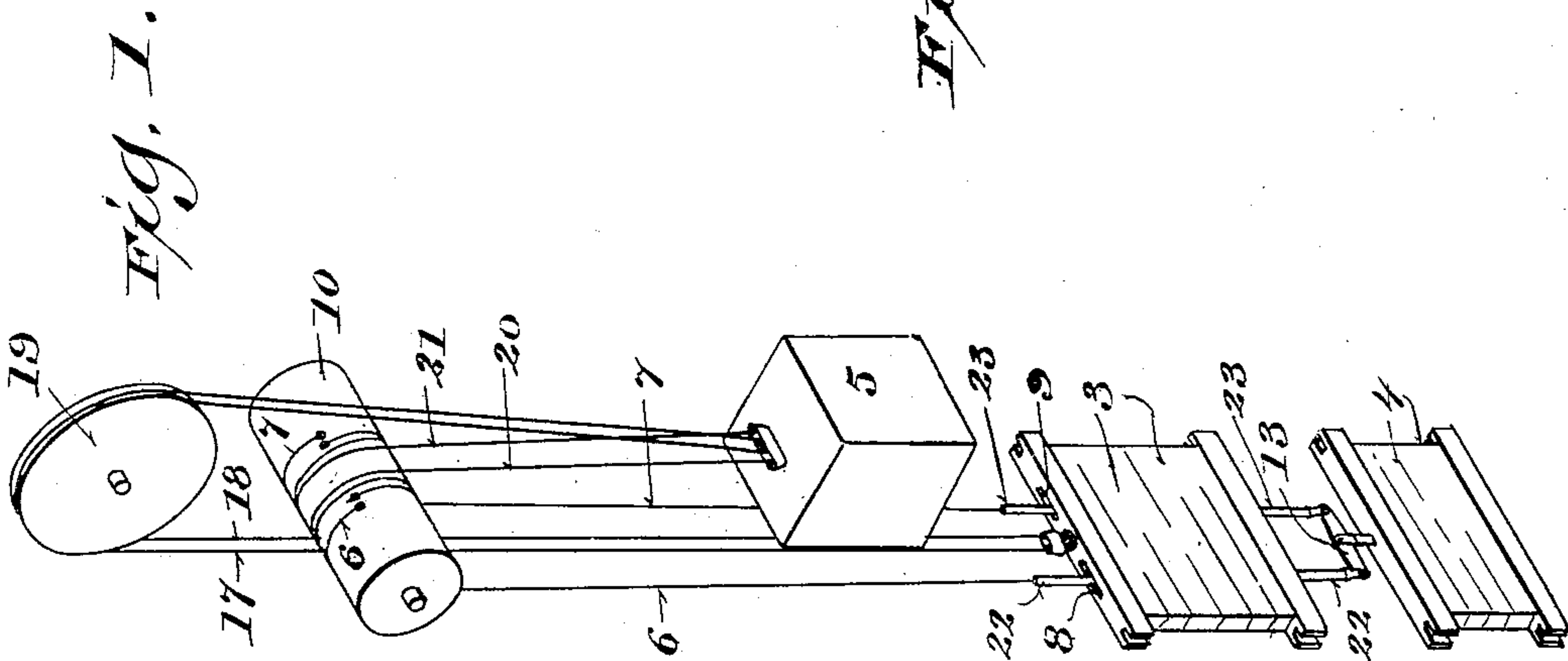
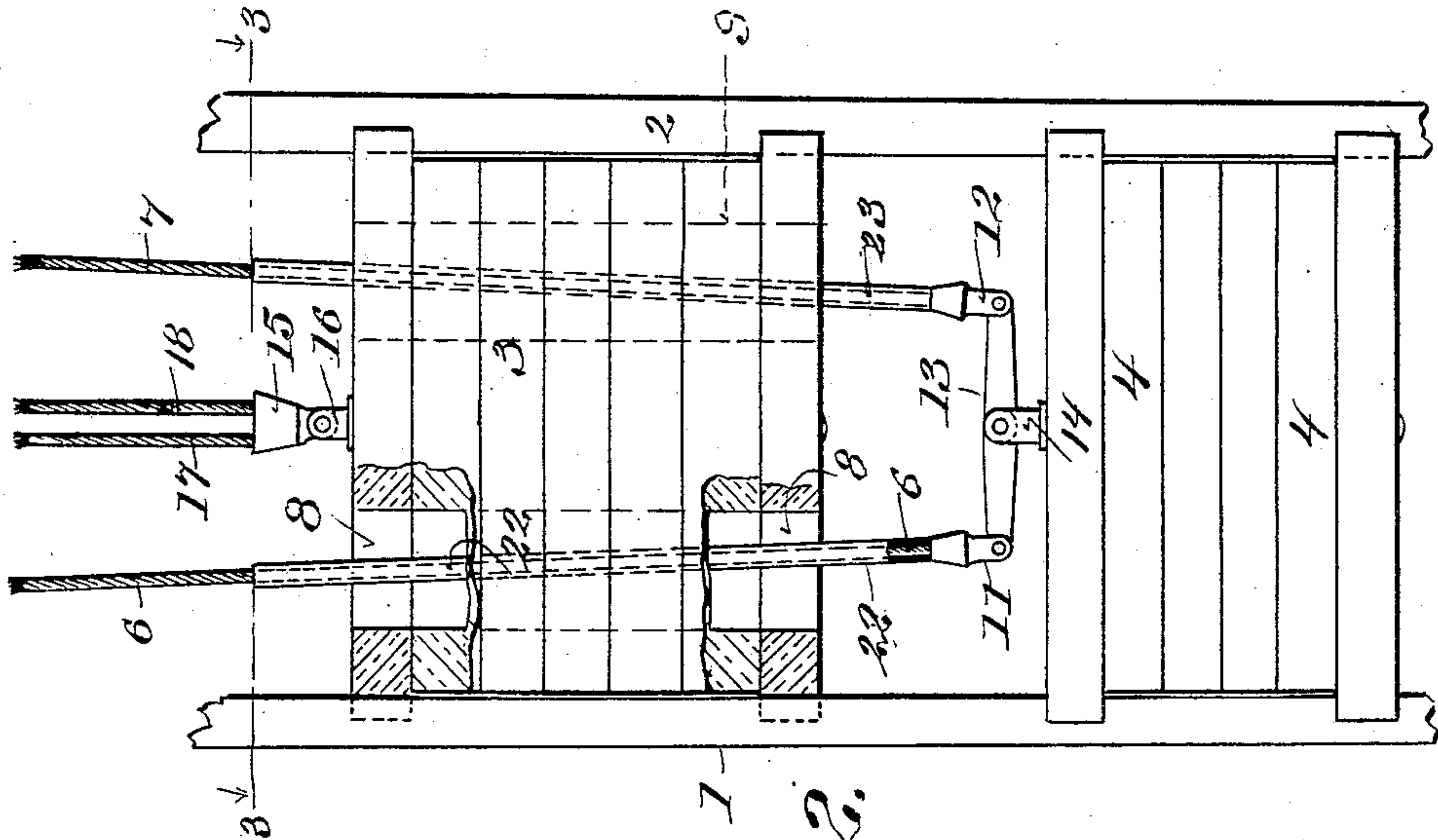


No. 735,093.

PATENTED AUG. 4, 1903.

O. GREENWALD.  
ELEVATOR CABLE GUARD.  
APPLICATION FILED JAN. 31, 1903.

NO MODEL.



Witnesses:  
Geo. W. Young,  
John Roth.

Inventor.  
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Attorney.



# UNITED STATES PATENT OFFICE.

OSCAR GREENWALD, OF MILWAUKEE, WISCONSIN.

## ELEVATOR-CABLE GUARD.

SPECIFICATION forming part of Letters Patent No. 735,093, dated August 4, 1903.

Application filed January 31, 1903. Serial No. 141,326. (No model.)

*To all whom it may concern:*

Be it known that I, OSCAR GREENWALD, a citizen of the United States, and a resident of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Elevator-Cable Guards; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention has especial reference to the protection of the cables which pass through the weights which counterbalance the weight of the elevator-cage and are connected to the weights intended to counterbalance the load; and it consists in the construction and arrangement which will be hereinafter set forth in connection with the accompanying drawings and subsequently claimed.

In the said drawings, Figure 1 is a diagrammatic view illustrating the use of my device. Fig. 2 is a view in elevation and partly in section of the weights and cables connected thereto, and Fig. 3 is a horizontal sectional view taken on the line 3 3 of Fig. 2.

Referring by numerals to the drawings, 1 2 represent the guideways for the assembled sets 3 4 of counterbalancing-weights, the set 3 being to counterbalance the weight of the cage (diagrammatically indicated at 5 in Fig. 1) and the set 4 to counterbalance the estimated average weight of the load in said cage.

6 7 designate the cables which pass through slots 8 9 in the upper set 3 of weights, the upper ends of these cables being carried to the drum 10 and their lower ends secured to the links 11 12, which latter are pivotally connected to the ends of the yoke or evener 13, pivoted at its center to a stud 14 on the upper member of the lower set 4 of weights. The weights in each set 3 4 are secured together in the ordinary way, so that each set shall move as one body.

From a link 15, pivotally secured to a stud 16 at the center of the upper member of the upper set 3 of weights, there extend two cables 17 18 up and over a pulley 19, (said pulley being located above the drum 10,) the said cables thence extending down to the top of the cage 5, where the weight of the latter is counterbalanced by the set 3 of weights, as

already explained, the hoisting-cables 20 21 being also secured to said cage and said hoisting-cables then fastened to the drum 10, around which they wind.

Heretofore the ends of the cables 6 7 which pass through the slots 8 9 in the upper weight set 3 have been subjected to chafing from contact with the walls of the slots and when worn thin by constant use are liable to break and allow the lower weight set 4 to drop down the elevator-shaft, and to guard against this I have provided the protecting-tubes 22 23, through which the said cables pass, and which tubes extend through said slots, as shown. These tubes may be of metal or any other suitable material and in their preferred arrangement are loose upon said cables, so that in the operation of the elevator they may revolve when they come in contact with the slot-walls, and thus guard against being themselves worn through thereby, and thus the cables are protected against wear and breakage.

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

1. In an elevator-shaft, the combination with a set of movable counterbalancing-weights having vertical slots therethrough, of cables extending through said slots, and protecting-tubes surrounding said cables to prevent contact between the cables and the slot-walls.

2. In an elevator-shaft, the combination with an upper set of counterbalancing-weights having vertical slots therethrough, of a pair of cables extending through said slots; a lower set of counterbalancing-weights; a yoke or evener pivotally secured to said lower weight set and to the lower ends of said cables; and rigid tubes surrounding said cable ends, and extending through the slots in the upper weight set.

In testimony that I claim the foregoing I have hereunto set my hand, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

OSCAR GREENWALD.

Witnesses:

H. G. UNDERWOOD,  
JOHN HOTH.