F. A. BOEDTCHER.

ELEVATOR INDICATOR.

APPLICATION FILED APR. 27, 1912.

1,037,113.

Patented Aug. 27, 1912.

Fig. 1.

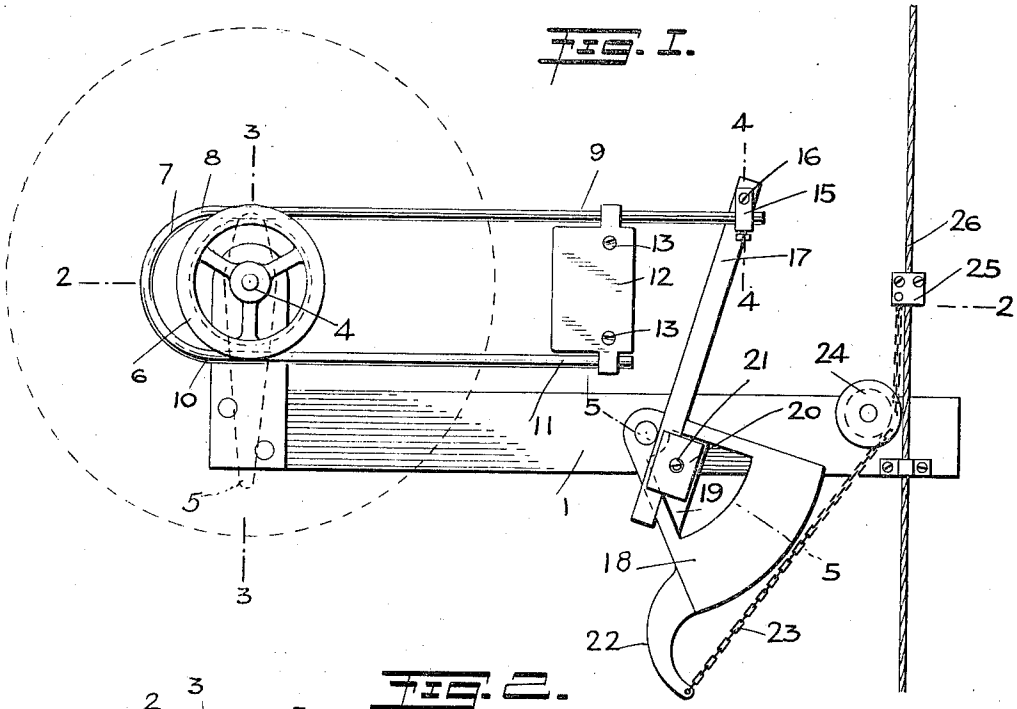
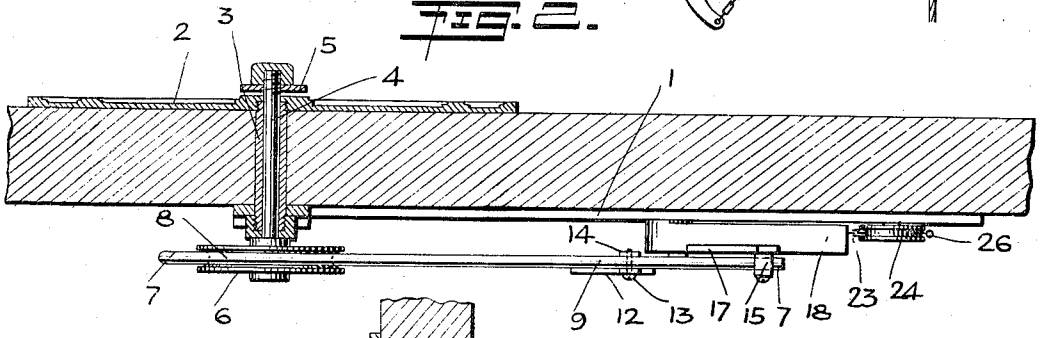


Fig. 2.



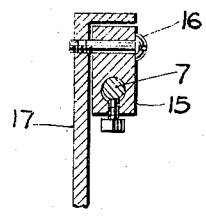


Fig. 4.

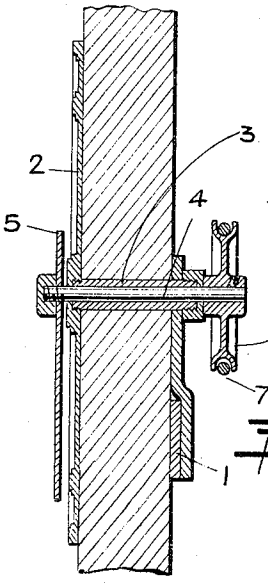


Fig. 3.

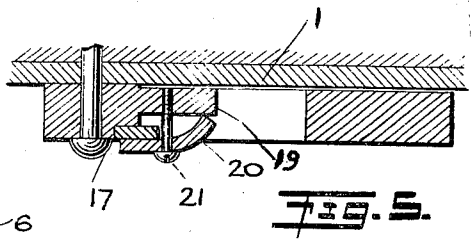


Fig. 5.

WITNESSES

G. Robert Thomas

A. L. Kitchin

INVENTOR

Franz A. Boedtcher

BY Munn & Co.

ATTORNEYS

UNITED STATES PATENT OFFICE.

FRANZ A. BOEDTCHER, OF BERGENFIELD, NEW JERSEY.

ELEVATOR-INDICATOR.

1,037,113. Specification of Letters Patent. Patented Aug. 27, 1912.

Application filed April 27, 1912. Serial No. 693,675.

To all whom it may concern:

Be it known that I, FRANZ A. BOEDTCHER, a citizen of the United States, and a resident of Bergenfield, in the county of Bergen and State of New Jersey, have invented a new and Improved Elevator-Indicator, of which the following is a full, clear, and exact description.

This invention relates to improvements in elevator indicators, and has for an object to provide an improved operating structure therefor.

A further object of the invention is to provide an operating structure for an elevator indicator constructed with a reciprocating operating member designed to engage a friction wheel and to be connected with a vertically moving shaft or cable whereby the indicator is operated in proper timed relationship to the movement of the elevator.

A further object of the invention is to provide in an elevator mechanism a friction drive for operating the pointer of the indicator.

In carrying out the objects of the invention, an indicator is provided which is formed with the usual pointer and the usual supporting axle therefor. Rigidly connected with this axle is a grooved wheel designed to carry a substantially U-shaped bar arranged to be driven back and forth over a pulley, whereby the pulley is rotated. This reciprocating bar is connected with a pivotally mounted lever which in turn is connected by a suitable cable to the usual indicator rod or cable.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of an embodiment of the invention; Fig. 2 is a section through Fig. 1 approximately on the line 2—2; the operating rod and associated parts being shown in full lines; Fig. 3 is a section through Fig. 1 approximately on the line 3—3; Fig. 4 is a detail sectional view approximately on the line 4—4 of Fig. 1, the same being shown on an enlarged scale; and Fig. 5 is a section through Fig. 1 approximately on the line 5—5, the same being shown on an enlarged scale.

Referring to the accompanying drawings by numerals, 1 indicates part of the wall or caging of the elevator, in which the indicator is attached, and may be formed in any desired manner so as to accommodate the usual dial 2, held in place by a sleeve 3. The sleeve 3 carries the usual shaft 4 having connected therewith a pointer 5. Rigidly secured to one end of the shaft 4, preferably the inner end, is a pulley 6 which is grooved so as to accommodate a substantially U-shaped bar 7. The bar 7 is constructed preferably straight from points 8 to 9, and also from 10 to 11. However, it will be evident that the bar could be bowed from these points to a certain extent, the only limitation being that between the points 8 and 9 the bar is adapted to press at different times against the pulley 6 for rotating the same. The bar 7 between the points 10 and 11 is designed to merely engage the sides of the grooved part of the pulley so as to guide the bar 7 in its reciprocatory movement and to hold the bar in proper position. The bar 7 is shown round in cross section, but it will be evident that any other desired shape could be provided, the pulley 6 being correspondingly formed so as to accommodate the same. Secured to the bar 7 near the points 9 and 11, is a spacing plate 12, held in place by suitable screws 13 which preferably pass through the plate 12 and engage oppositely positioned plates or clamping members 14.

To the extreme outer end of the upper part of the bar 7 is rigidly secured a block or arm 15 which is pivotally mounted at 16 to a lever 17. The block or arm 15 is rigidly secured to the bar 7 by any desired means, as for instance a set screw. The lever 17 is adjustably clamped to a pivotally mounted weight 18 which acts also as a lever for swinging the lever 17. The weight 18 is formed with a depressed portion 19 against which presses one end of the plate 20 held in place by a clamping screw 21. The plate 20 also presses against the lever 17 for firmly clamping the same to the weight 18. By loosening the screw 21 the lever 17 may

be adjusted longitudinally to any desired extent and then clamped rigidly in position by again tightening the screw 21. The weight 18 is formed with an extension 22, to which is connected a chain or cable 23 adapted to pass over a guiding pulley 24 and then be secured by any desired means, as for instance a clamp 25, to the indicator rod or cable 26. The indicator rod or cable 26 is of the usual construction and is adapted to operate the mechanism above described as the elevator moves up and down.

In operation as the elevator moves up the same causes the rod or cable 26 to move upwardly, whereupon the chain or cable 23 is pulled longitudinally. This will raise the weight 18 pivotally and will give a pivotal or swinging movement to the lever 17 whereby the bar 7 is pushed or forced longitudinally and as the same moves, the pulley or grooved wheel 6 will be rotated. This will cause the proper rotation or movement of the pointer 5. Upon a reverse movement of the elevator, the indicator bar or cable 26 will be given a reverse movement and as the same moves downwardly the chain or cable 23 is allowed to move downward under gravity, under the action of the weight 18 which will also pull on the lever 17 for reversing the movement of the bar 7 and the associated mechanism. This will restore the pointer 5 to its original position as soon as the elevator has reached its original position. From this construction and arrangement it will be seen that the pulley or grooved wheel 6 is operated by the friction of the bar 7. If it is found desirable the plate 12 could be made comparatively heavy so as to give a proper frictional engagement between the bar 7 and the wheel or pulley 6.

Having thus described my invention I claim as new and desire to secure by Letters Patent:

1. In a device of the character described, the combination with a pointer, of a friction wheel connected therewith, a reciprocating bar resting on said friction wheel for rotating the same the weight of said reciprocating bar causing a sufficient frictional engagement between the same and said friction wheel for causing the friction wheel to rotate upon the movement of the bar, and power transmitting mechanism connected with said reciprocating bar and the indicator rod of an elevator for operating said reciprocating bar.

2. In an elevator indicator, the combination with a pointer, of a friction wheel rigidly connected therewith so that when said friction wheel is rotated said pointer will be correspondingly moved, a driving member frictionally engaging said friction wheel, a pivotally mounted lever for operating said driving member, and means for connecting said pivotally mounted lever with the indicator rod of an elevator whereby when said elevator is moved power will be transmitted to said wheel for moving said pointer.

3. In an indicator for elevators, the combination with an indicating pointer, of a friction wheel connected therewith, a reciprocating bar adapted to engage said friction wheel for rotating the same, a pivotally mounted lever for moving said reciprocating bar, a weight for normally holding said lever in one position, and means for connecting said weight with the indicator rod of an elevator whereby when said elevator is moved said rod and said friction wheel will be correspondingly moved for causing said pointer to properly indicate the position of the elevator.

4. In an elevator indicator, the combination with an indicating pointer, of a friction wheel connected therewith for operating the same, a reciprocating bar contacting with said friction wheel for moving the same, a pivotally mounted lever for operating said bar, a pivotally mounted weighted member for operating said lever, a clamp for adjustably clamping said lever to said pivotally mounted weighted member, and means for connecting said pivotally mounted weighted member to the indicator rod of the elevator with which the indicator is associated whereby when said rod is moved in one direction said weighted member will be raised and the parts connected therewith will be moved for shifting the position of said pointer and when said indicator rod is lowered said weighted member will be permitted to move pivotally downward and move the parts connected therewith in a reverse direction.

5. In an elevator indicator, the combination with an indicating pointer, of a grooved friction wheel connected therewith, a bar engaging said friction wheel in said groove, a pivotally mounted lever connected with said bar for reciprocating the same and thereby rotating said wheel for moving said indicating pointer, and means for connecting said lever with the indicator rod of the elevator for moving the lever and associated parts.

6. In an indicator for elevators, the combination with an indicating pointer, of a grooved wheel connected with said pointer for moving the same, a substantially U-shaped reciprocating bar arranged so that part of the same will rest on said wheel in said groove and part of the same will be loosely positioned in said groove on the opposite side of the wheel whereby the rod is guided in said reciprocatory movement and held properly in place, a lever for moving said bar, means for normally holding

said lever in one position, and means connected with the indicating rod of said elevator for moving said lever to another position whereby said rod is operated and motion is transmitted to said indicating pointer.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRANZ A. BOEDTCHER.

Witnesses:
WALTER CHRISTIE,
GEORGE BRISACHER.