(No Model.) 2 Sheets—Sheet 1.

J. W. ROBERTS.

ELEVATOR.

No. 416,301. Patented Dec. 3, 1889.

Fig. 1.

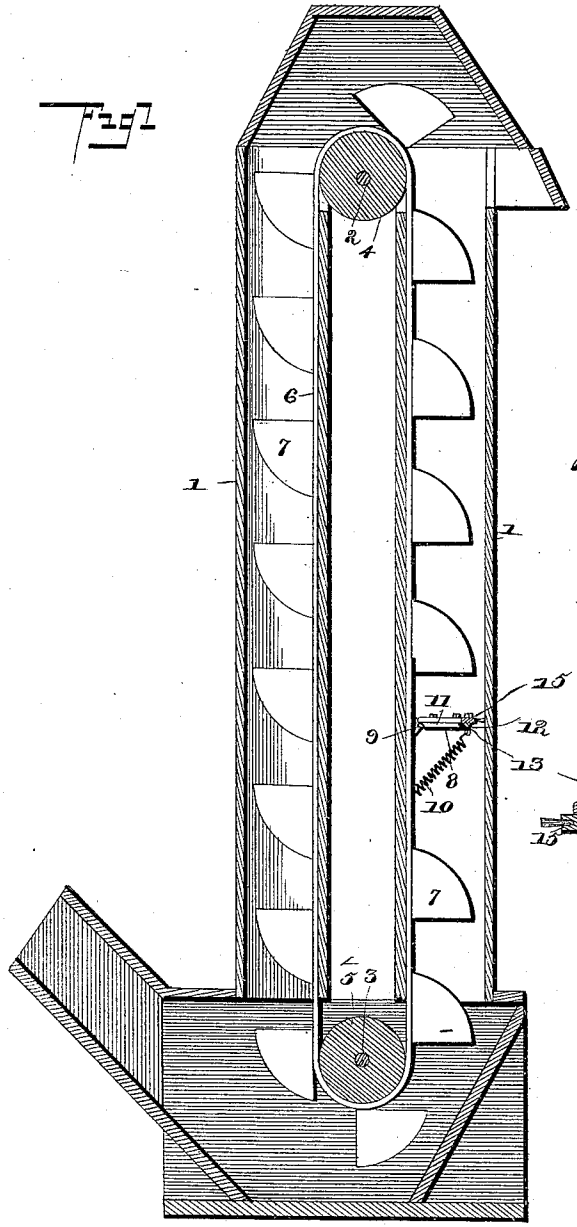


Fig. 4.

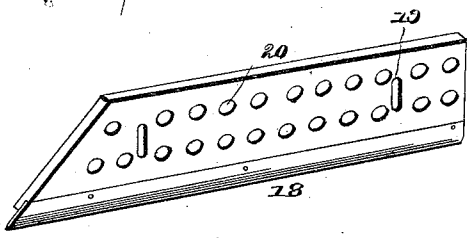


Fig. 5.



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(No Model.)

2 Sheets—Sheet 2.

J. W. ROBERTS.

ELEVATOR.

No. 416,301. Patented Dec. 3, 1889.

Fig 2

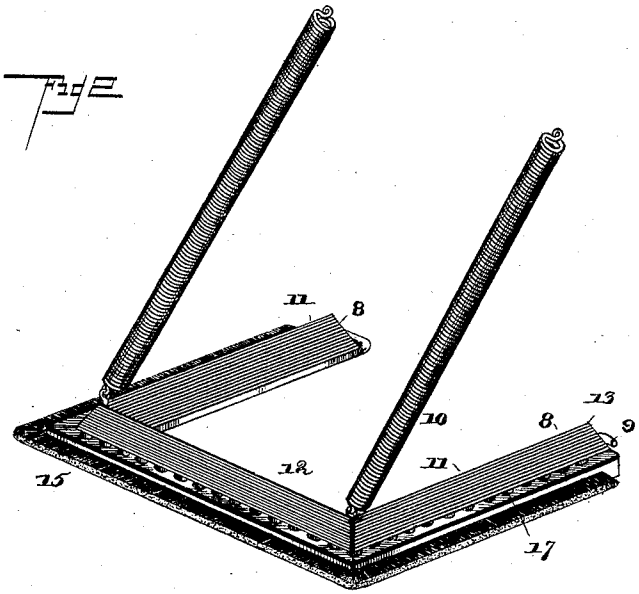
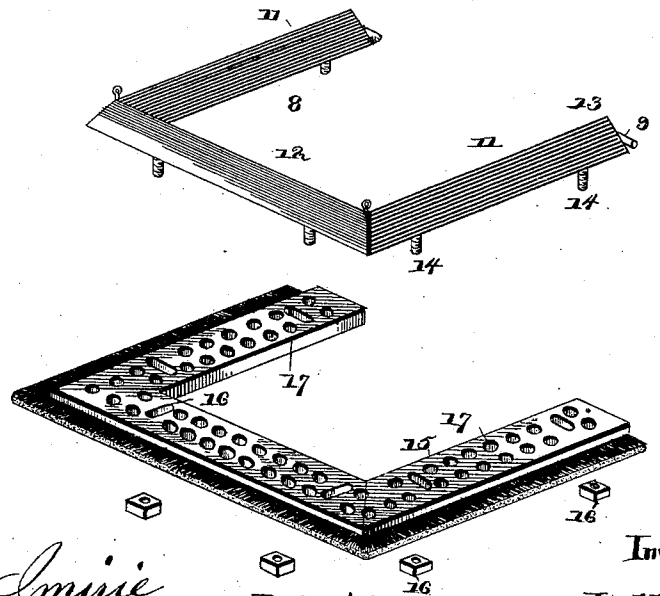


Fig 3



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UNITED STATES PATENT OFFICE.

JOSEPH W. ROBERTS, OF ROGERS, ARKANSAS.

ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 416,301, dated December 3, 1889.

Application filed October 9, 1889. Serial No. 326,505. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH W. ROBERTS, a citizen of the United States, residing at Rogers, in the county of Benton and State of Arkansas, have invented a new and useful Elevator, of which the following is a specification.

This invention relates to elevators; and it has for its object to provide the elevator with a cleaning device in the nature of either a brush or a scraper, whereby the legs of the elevator shall be kept constantly and automatically clean and free from impurities.

The invention consists in a frame hinged to the elevator-bell and kept in position by means of springs, and provided with brushes or scrapers secured thereto detachably, as will be hereinafter more fully described, and particularly pointed out in the claims.

In the drawings hereto annexed, Figure 1 is a vertical sectional view of an elevator equipped with my improvement. Fig. 2 is a perspective view showing the cleaning device detached. Fig. 3 is a perspective view showing the parts constituting the cleaning device separated or detached from each other. Fig. 4 is a view showing the cleaning device equipped with scrapers instead of brushes. Fig. 5 is a transverse sectional view of the cleaning device.

Like numerals of reference indicate like parts in all the figures.

1 1 designate the legs of the elevator, which is of ordinary construction, and which is provided at its upper and lower ends with bearings for the transverse shafts 2 and 3, carrying the upper and lower band-wheels 4 5, which serve to support the endless belt or band 6, upon which the buckets 7 are attached in the usual manner.

8 designates a metallic frame, which is secured to the elevator-belt by means of hinges 9, and the outer end of which is connected with the said elevator-belt by means of springs 10, which serve to retain the said frame normally in a position at right angles to the said belt.

The springs 10 may be ordinary coiled springs, as shown in the drawings hereto annexed; but in lieu thereof flat supporting-springs may be attached to the belt and arranged to bear against the under side of the frame 8, or springs of any other desired construction and arrangement may be employed, in case they shall be found more convenient and efficient.

The frame 8, which, as stated, is constructed of metal, is composed of the side pieces 11 11, the inner ends of which are connected to the elevator-belt by the hinges 9, and the other ends of which are connected by the integral cross-bar 12. The upper side of the cleaner-frame is beveled, as shown at 13, in order to prevent any particles of dust or impurities from settling upon the upper surface, and the under side of said frame is provided with downwardly-extending bolts 14.

15 15 designate brushes, which are provided with slots 16, by means of which they may be mounted adjustably upon the bolts 14, extending downwardly from the frame 8, nuts 16 being employed for the purpose of retaining the said brushes securely in position. The brush-frames, especially that portion of said frames which projects beyond the frame 8, are provided with numerous perforations 17, in order to prevent particles of impurities from lodging thereon.

The operation of this device will be readily understood from the foregoing description, taken in connection with the drawings hereto annexed. The brush-carrying frame, in its passage through the legs of the elevator, will dislodge any impurities which may lodge therein, and thus keep the elevator constantly and automatically clear for the passage of the buckets.

When desired, metallic scrapers such as shown at 18 may be substituted for the brushes. Said scrapers are constructed of metal and are provided with slots 19 to receive the bolts 14, extending downwardly from the frame 8. The scrapers are furthermore provided with perforations 20, to prevent particles of impurities from lodging thereon.

In that class of elevators which are employed in flouring-mills it frequently happens that particles of moist flour will attach themselves to the inner sides of the elevator-legs, where a layer of dough is thus eventually formed, which in the course of time ferments. When this layer grows in thickness, it will become detached by the action of the buck-

ets and become mixed with the flour, to the great injury and detriment of the latter. By my invention this is effectually avoided and the interior of the elevator is continually and automatically kept clean and pure.

While I have herein described the preferred construction of my improved cleaning device for elevators, I desire it to be understood that I do not limit myself to the precise details of construction, but reserve the right to any modifications which properly fall within the spirit and scope of my invention.

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

1. In an elevator, the combination, with the bucket-belt, of a cleaner-frame hinged to the said belt, substantially as and for the purpose set forth.

2. The combination, with an elevator-belt, of a cleaner-frame hinged to the same, and springs arranged to support the same normally in a position at about right angles to the said belt, substantially as set forth.

3. In an elevator, the combination, with the bucket-belt, of the hinged cleaner-frame and cleaning devices—such as brushes or scrapers—attached adjustably to the said frame, substantially as set forth.

4. The combination, with the bucket-belt, of the hinged cleaner-frame, the supporting-springs and cleaning devices—such as brushes or scrapers—attached adjustably to the said frame, substantially as set forth.

5. The combination, with the bucket-belt, of the hinged cleaner-frame having beveled upper side, and the cleaning devices—such as brushes or scrapers—having slots whereby they are mounted adjustably upon bolts depending from the under side of said frame, substantially as set forth.

6. The combination of the bucket-belt, the hinged cleaner-frame having beveled upper side and downwardly-extending bolts, and the cleaners—such as brushes or scrapers—having slots whereby they are mounted detachably upon the said bolts, and provided with vertical perforations, substantially as and for the purpose set forth.

7. The combination of the bucket-belt, the hinged cleaner-frame having beveled upper side and provided with downwardly-extending bolts, the supporting-springs connecting the upper side of said frame with the bucket-belt, and the cleaners—such as brushes or scrapers—mounted adjustably upon the downwardly-extending bolts, and having vertical perforations formed in the portions of said cleaners which project beyond the edge of the frame, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JOSEPH W. ROBERTS.

Witnesses:
W. J. CURRY,
FRED APPLEGATE.