H. W. CALDWELL & W. WATSON.

Elevator-Boot.

No. 203,887. Patented May 21, 1878.

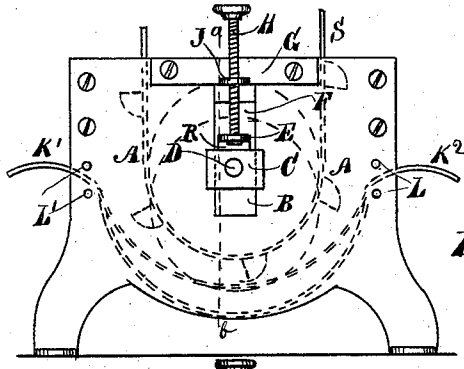


Fig. 1.

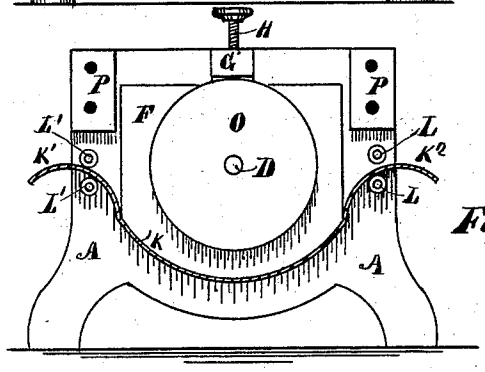


Fig. 2.

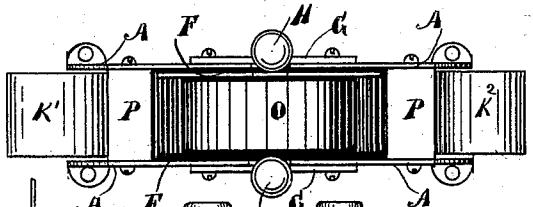
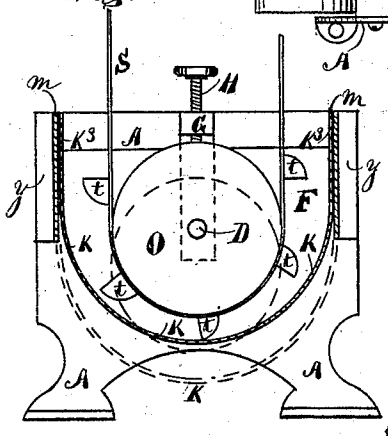


Fig. 3.

Fig. 5.



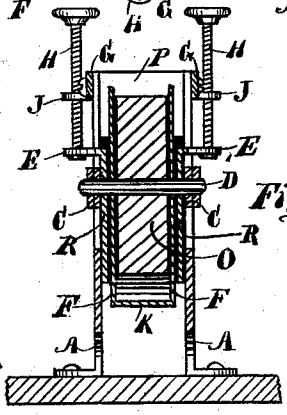


Fig. 4.

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UNITED STATES PATENT OFFICE.

HENRY W. CALDWELL AND WILLIAM WATSON, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN ELEVATOR-BOOTS.

Specification forming part of Letters Patent No. **203,887**, dated May 21, 1878; application filed April 29, 1878.

To all whom it may concern:

Be it known that we, HENRY W. CALDWELL and WILLIAM WATSON, of St. Louis, in the county of St. Louis and State of Missouri, have invented a new and useful Improved Elevator-Boot, of which the following is a description, reference being had to the accompanying drawing.

Our invention relates to an adjustable boot for elevators.

The object of our invention is to provide an elevator-boot with an adjustable bottom that can be drawn up or down with the pulley in the frame of the boot, and at all times maintain an equal distance between the said bottom and pulley for the elevator-buckets that are attached to the belt to pass through, thereby permitting any amount of grain or other material to be fed into the boot without choking it. The sides of the boot, being of metal, act as guides, and prevent friction of the elevator-belt with the wooden parts of the elevator-leg, thereby avoiding the danger of fire, so often produced when the boot chokes, which causes the belt to slip on the pulley in the boot, and run to one side against the wooden part of the leg, setting it afire.

Our invention consists, mainly, in a new construction and arrangement of device, also in a new combination of old elements, all of which, singly or combined, are deemed essential in our newly-organized elevator-boot, whereby new and useful results are produced, as will be hereinafter described and set forth.

In the accompanying drawings, in which like letters of reference in the different figures indicate like parts, Figure 1 represents a side elevation of our improved elevator-boot. Fig. 2 represents the same with one side removed, to show the arrangement of parts more fully. Fig. 3 is a top view. Fig. 4 is a sectional view taken at the line *a b* of Fig. 1; and Fig. 5 is a sectional view, same as Fig. 2, showing a modification of the adjustable bottom.

A A represent the sides of the stationary frame, which are united together by the end plates P P. The sides A A are provided with slots B B, in which operate the gibs C C. The plates G G are secured to the sides A at the top across the slots B, and are provided with nuts J J, in which the tightening-screws H H operate. The lower end of the screws H H are swiveled in the projecting lugs E E of the brackets R R, which are secured to the gibs C C, and rise and fall with them in the slots B B, by means of which the pulley O and adjustable boot F F K are adjusted up and down in the frame A A as it becomes necessary to tighten or loosen the elevator-belt S. The pulley O is provided with a shaft, D, which operates in the adjustable brackets R R and gibs C C, and supports the metallic adjustable boot F F K K^1 K^2. The bottom K of the adjustable boot is firmly secured to the sides F F, with a curve similar to that shown in Figs. 1 and 2, leaving a space between it and the pulley O, to allow the elevator-belt with its buckets to pass freely, and at the same time permit the elevator-buckets *t* to scrape the boot clean of all material deposited therein. The flexible ends K^1 K^2 of the bottom K project beyond the sides F F and pass through between the rollers L L L′ L′, in such a manner that when the pulley O and adjustable boot F F K K^1 K^2 are drawn up by means of the screws H H, the loose projecting ends K^1 K^2 will project farther out between said rollers; and when the pulley O and adjustable boot are lowered the ends K^1 K^2 are drawn inward, thus forming aprons or shields, that prevent the material, in passing through said boot, from scattering or leaking. The space between the pulley O and bottom K always remains the same; and the flexible ends K^1 K^2, as they are drawn inward by forcing the pulley O and adjustable boot F F K downward, form adjustable sides to the moving boot, allowing the elevator-belt S and buckets *t* to pass freely, thus making a self-cleaning boot, which is very desirable, especially where different kinds of grain or other material are alternately run through or into the said boot.

In Fig. 5 we have arranged the adjustable boot K and pulley O so that the sides K^3 of the bottom shall move up and down against rubber cushion *m m*, making a close joint to prevent leakage. This is a modification of the device shown in the other figures, in which we dispense with the rollers L L L′ L′.

We are aware that tightening-screws, used

for the purpose of raising or lowering a pulley to tighten or loosen a belt, are old, and therefore make no broad claim thereto.

What we claim as new, and desire to secure by Letters Patent, is—

1. An adjustable elevator-boot provided with an adjustable bottom, whereby the bottom of the boot follows up and down with the pulley, and remains at all times at the same distance from the bottom of said pulley, in the manner and for the purpose substantially as shown and described.

2. In an elevator-boot, the combination of the adjustable boot, consisting of the sides F F, the fixed bottom K, with flexible projecting ends K^1 K^2, the pulleys L L L′ L′, and the tightening-screws H H, whereby said adjustable boot can be adjusted up and down, and the flexible ends K^1 K^2 of the bottom shall make extension sides to said boot, in the manner and for the purpose substantially as shown and described.

3. In an elevator-boot, the adjustable boot consisting of the sides F F, the curved bottom K, with sides K^3 adapted to move up and down against flexible cushions *m m* of the frame A, combined with the pulley O, in the manner and for the purpose substantially as shown and described.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

HENRY W. CALDWELL.
WILLIAM WATSON.

Witnesses:
EDGAR FLEMING,
T. D. GRAVES.