(No Model.) 2 Sheets—Sheet 1.

C. J. WILLIAMS.

MACHINE FOR DOUBLE SEAMING ELEVATOR BUCKETS.

No. 297,048. Patented Apr. 15, 1884.

Fig. 1.

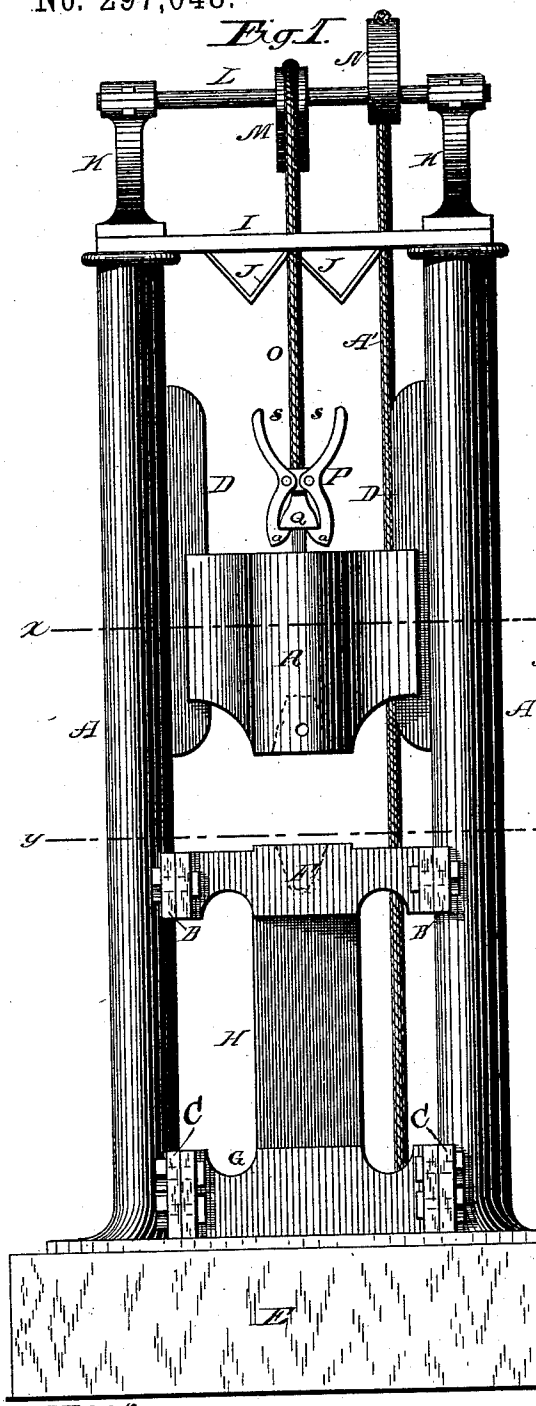


Fig. 2.

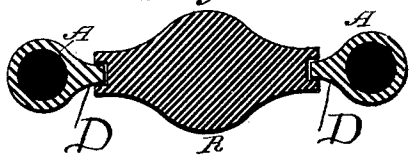


Fig. 3.

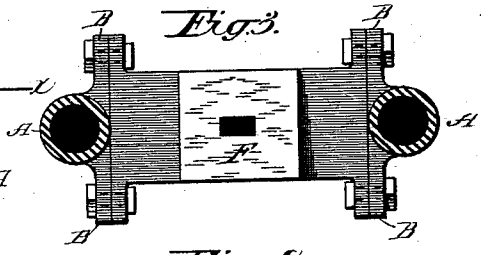


Fig. 8.

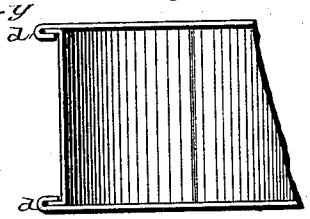
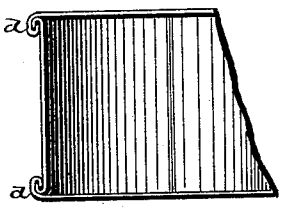


Fig. 9.



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(No Model.) 2 Sheets—Sheet 2.

C. J. WILLIAMS.

MACHINE FOR DOUBLE SEAMING ELEVATOR BUCKETS.

No. 297,048. Patented Apr. 15, 1884.

Fig. 4.

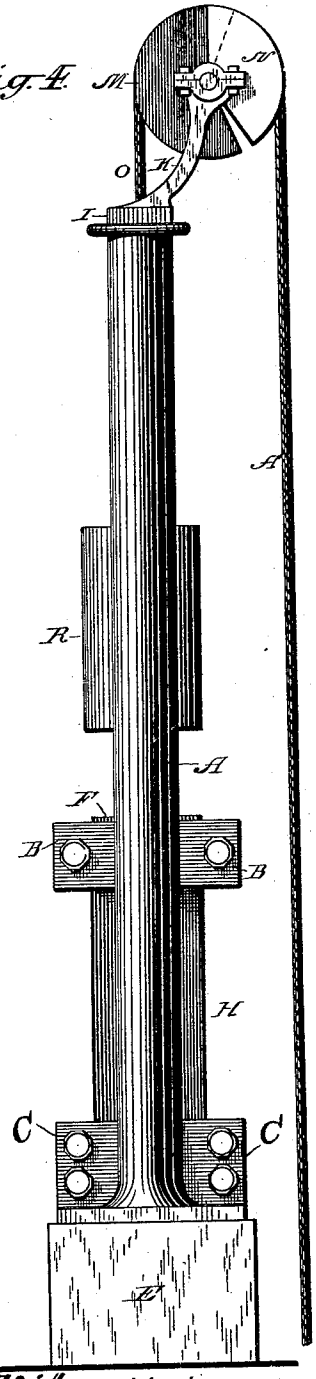


Fig. 5.

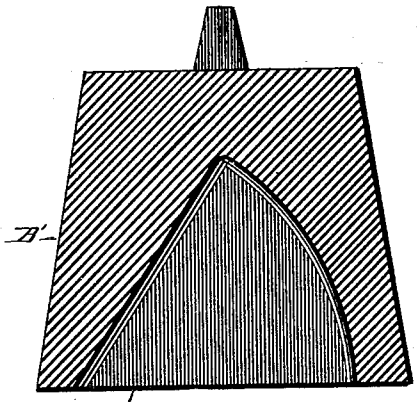


Fig. 6.

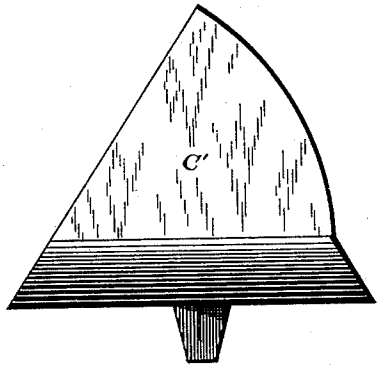
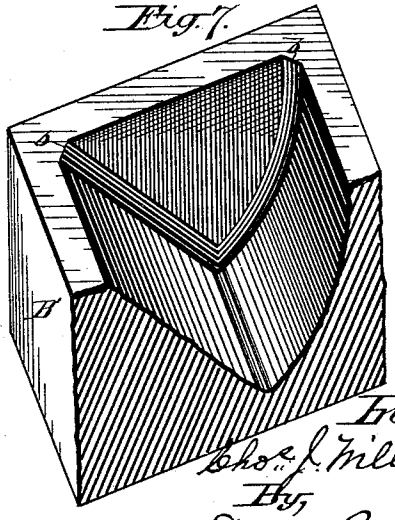


Fig. 7.



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UNITED STATES PATENT OFFICE.

CHARLES J. WILLIAMS, OF MILWAUKEE, WISCONSIN, ASSIGNOR OF ONE-HALF TO JOHN C. IVERSON, OF SAME PLACE.

MACHINE FOR DOUBLE-SEAMING ELEVATOR-BUCKETS.

SPECIFICATION forming part of Letters Patent No. 297,048, dated April 15, 1884.

Application filed February 18, 1884. (No model.)

To all whom it may concern:

Be it known that I, CHARLES J. WILLIAMS, a citizen of the United States residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Machines for Double-Seaming Elevator-Buckets; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in machines for turning and swaging the seams of elevator-buckets.

Preparatory to using my machine, the bucket is cut and bent in proper shape, and the edges to be united are interlocked in position for swaging.

The construction and operation of my machine are further explained by reference to the accompanying drawings, in which—

Figure 1 represents a side view of a drop-press, with which the buckets are adapted to be swaged. Fig. 2 is a cross-section drawn on line *x x* of Fig. 1. Fig. 3 is a cross-section drawn on line *y y* of Fig. 1. Fig. 4 is a side view of Fig. 1. Fig. 5 is a vertical section of the former for turning and swaging the seam. Fig. 6 is a side view of the punch or supporting block, upon which the bucket is held when acted upon by the former. Fig. 7 is a perspective view, part in section, of the former shown in Fig. 5. Fig. 8 represents the form of the joint or seam of the elevator-bucket, as joined, preparatory to being turned over and swaged. Fig. 9 represents the seam turned over and swaged.

Like parts are represented by the same reference-letters throughout the several views.

A A are tubular columns, which are respectively provided with connecting-flanges B B and C C, and guideways D D. The lower ends of the columns rest on a heavy solid base, E.

To the flanges B and C are rigidly bolted the cross-blocks F and G. To give the upper block F greater stability, it is supported at its center by the block H, which rests upon said block G.

Upon the upper ends of the columns A A is mounted a cross-piece, I, which is provided with the cams or angular bearings J J, journal-standards K K, and shaft L, having pulleys M and N.

To the pulley M is attached a rope, O. From the lower end of the rope O are suspended nippers or grappling-tongs P, which are adapted to automatically engage the knob Q of the drop-block R as they are lowered, and to raise said drop-block as they are drawn up by said rope. As the tongs P are drawn upward, the arms S S engage against the inner surface of the cams J J, whereby said arms are pressed toward each other, and the jaws *a a* separated and disengaged from the drop-block, thus permitting the drop-block to fall of its own gravity.

To the lower end of the drop-block R is attached that part of the die known as the "former" B, while the part known as the "punch" C′ is attached to the block F. The four corners of the former, two of which, *b b*, are shown in Fig. 7, are rounded or made at an angle of about forty-five degrees to the sides and ends of the former, whereby, as said former closes down over the punch or block C′ and in contact with the flanges *d d* of the bucket thereon, the angular or curved bearings of the corners *b b* gradually bend over and compress the flanges *d d* until the same are pressed down upon the sides of the bucket, as shown in Fig. 9.

In operating the drop, power is applied to the shaft L in any ordinary manner desired. One method is shown in Fig. 1, in which, by drawing down upon the rope A′, the same acting through the pulley N, shaft L, and rope O, causes the drop-block to be elevated until relieved, as mentioned, by contact of the arms S S with the bearings J J, when said drop-block falls with great force, with the former, upon the bucket. If desired, the rope A′ may be attached at its lower ends to and operated by a treadle, when the drop will be operated by each downward pressure of a per-

son's foot upon the treadle, and the operation repeated with each upward and downward movement of the treadle.

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

1. The combination of the columns A, provided with the flanges B and C, and guideways D D, of the cross-blocks F, H, and G, cap piece I, and journal-standards K K, shaft L, pulleys M and N, ropes O and A′, and drop-block R, all substantially as and for the purpose specified.

2. In a drop-press, the combination of the former B′, having beveled or rounded corners *b b*, and punch or block C′, conforming in shape to the interior surface of the bucket to be swaged, substantially as and for the purpose specified.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES J. WILLIAMS.

Witnesses:
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JAS. B. ERWIN.