(No Model.) 2 Sheets—Sheet 1.

R. N. SANDERSON.

DEVICE FOR ATTACHING HOISTING BUCKETS TO BELTS.

No. 271,743. Patented Feb. 6, 1883.

Fig. 1.

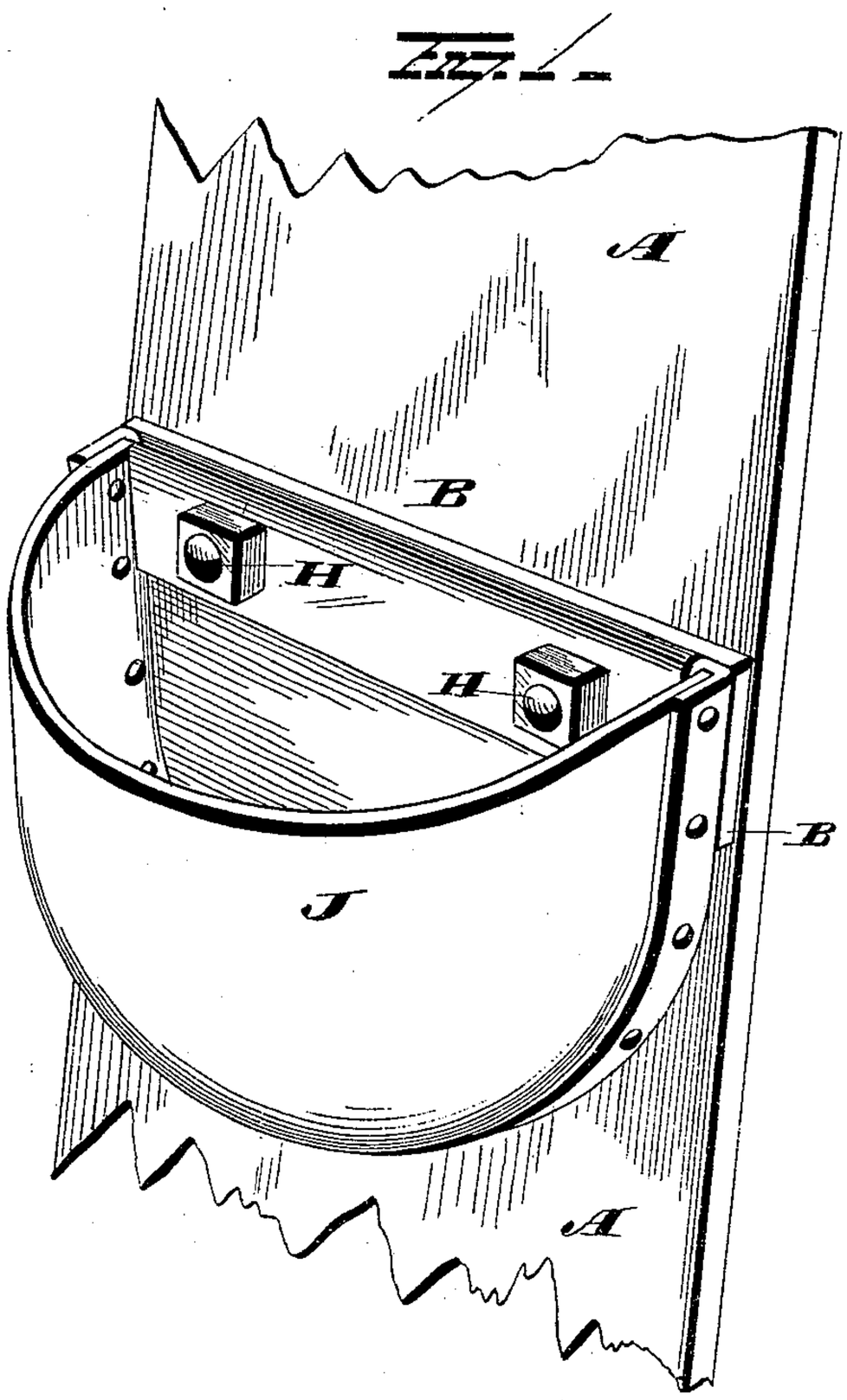
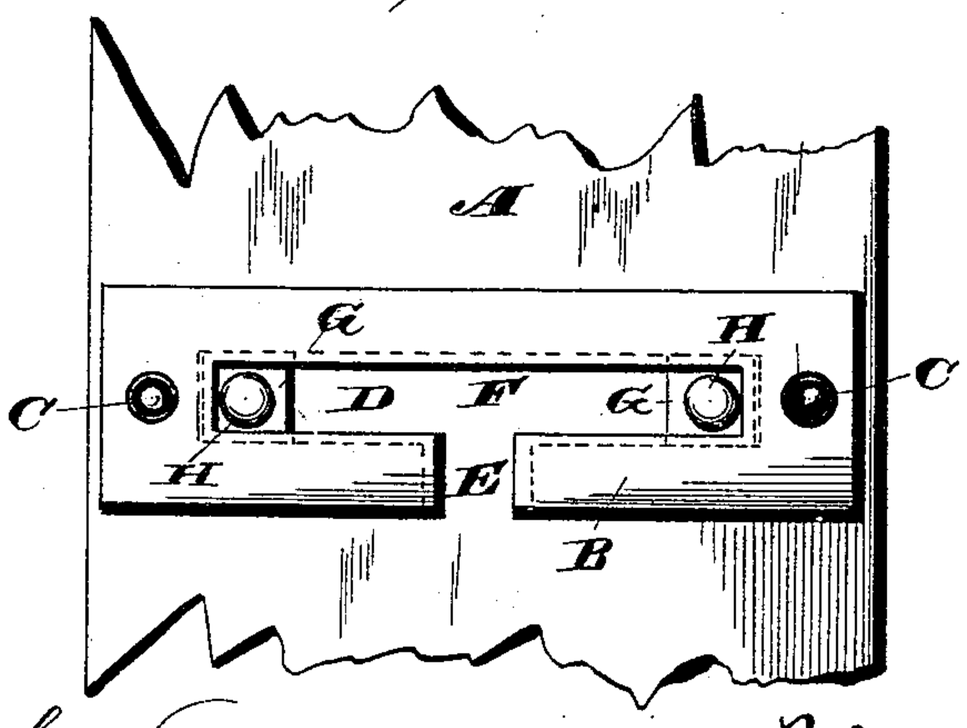


Fig. 2.



WITNESSES

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" George Cook.

INVENTOR

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

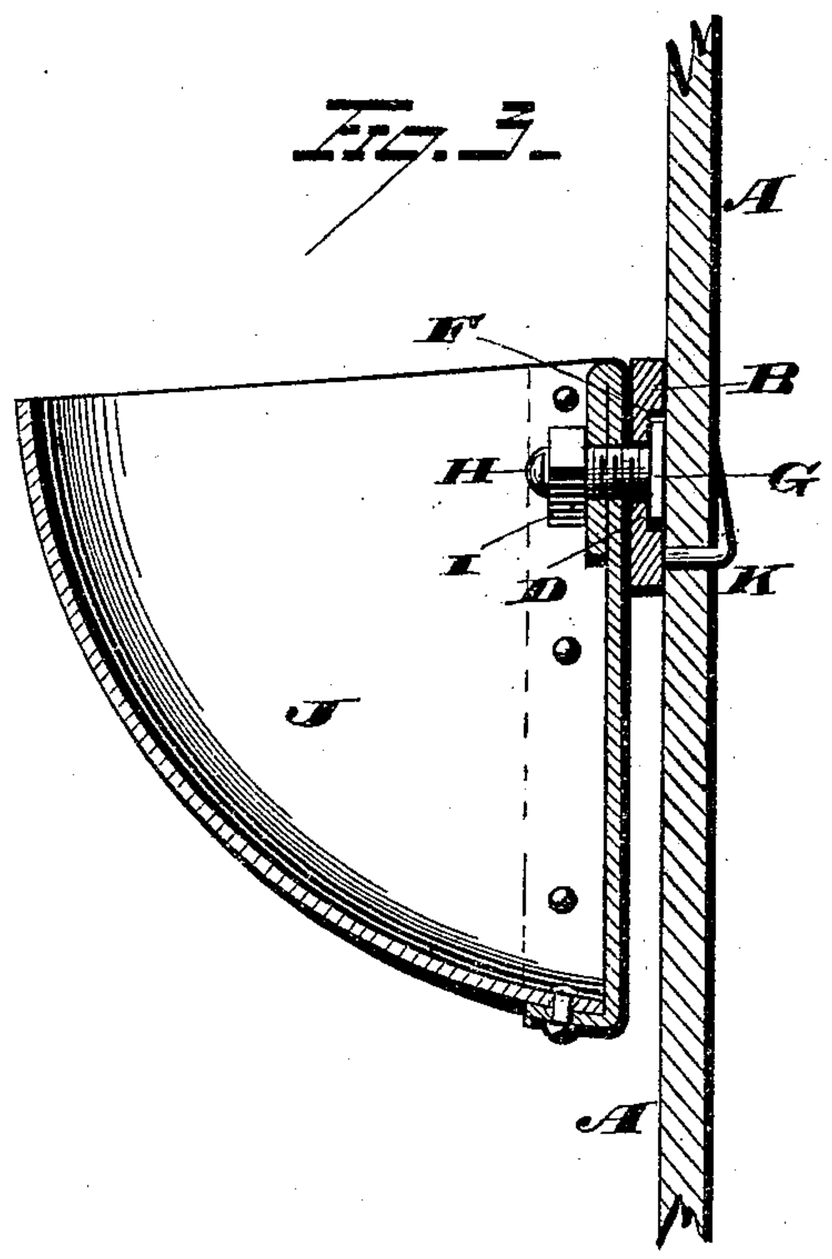


Fig. 4.

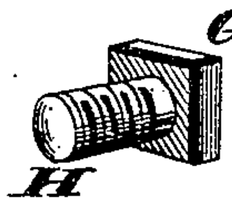
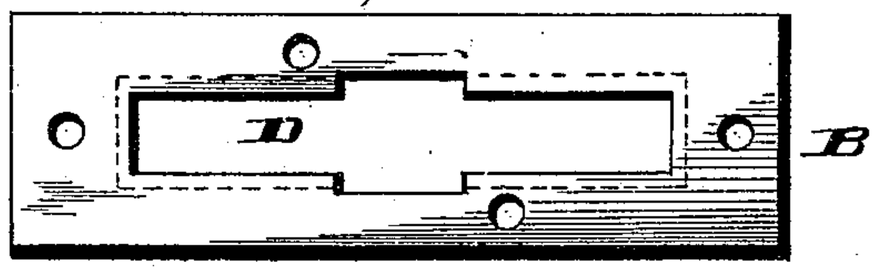


Fig. 5.



WITNESSES

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UNITED STATES PATENT OFFICE.

ROBERT N. SANDERSON, OF ASHTABULA, OHIO.

DEVICE FOR ATTACHING HOISTING-BUCKETS TO BELTS.

SPECIFICATION forming part of Letters Patent No. 271,743, dated February 6, 1883.

Application filed December 14, 1882. (No model.)

To all whom it may concern:

Be it known that I, ROBERT N. SANDERSON, of Ashtabula, in the county of Ashtabula and State of Ohio, have invented certain new and useful Improvements in Devices for Attaching Hoisting-Buckets to Belts; 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 pertains to make and use the same.

My invention relates to improved means for attaching hoisting-buckets to their belts. Heretofore this has been effected by bolts passing through the buckets and belt; but this method is objectionable, for the reason that in replacing the buckets it is often necessary to make new holes in the belt, as the holes in the buckets vary in position, for the reason that as the bolts turn rapidly it is difficult to remove the nuts if rusted, and for the further reason that the operation of replacing buckets secured to the belt by bolts passing through it is both tedious and difficult.

With the end in view of obviating the objections above recited, my invention consists in permanently securing a series of plates to the belt, the said plates being provided with slots in which the bolts for the attachment of the buckets are removably fitted.

My invention further consists in certain details of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of a belt having a bucket attached to it in accordance with my invention. Fig. 2 is a view of the belt in front elevation, the bucket being removed. Fig. 3 is a view in vertical section through the belt and slotted plate. Fig. 4 is a view of one of the bolts, and Fig. 5 is a view showing one of the modified forms which the slotted plate may assume.

The belt A is provided with a series of slotted plates, B, permanently attached to its outer face by means of rivets C or other equivalent devices. These plates are provided with elongated slots D, running longitudinally with respect to the plates, but transversely with respect to the belt, and with slots E, opening into the slots D. The said slots are provided with overhanging edges F, which engage with the squared heads G of the bolts H, retaining them in position and preventing them from turning. The bolts are introduced through the slots E into the elongated slots D, in which they are adjustable toward or from each other in being accommodated in position to the positions of the holes I in the buckets J. As shown in the drawings, the slots E intersect the slots D centrally; but this is not an essential feature of construction, the position of the slots E with respect to the slots D being governed by circumstances. If, for instance, more than two bolts are employed, and it is desired to locate one bolt in the center of the slots D, the slots E must intersect the slots D without the centers thereof. The rivets C employed attach the plates to the belt supplemented by pins K, arranged as shown; but they may be omitted or substituted by other devices, if desired.

In the modified form of plate shown in Fig. 5 of the drawings the slot E is dispensed with, and its place supplied by recessing opposite edges of the slot D, as shown at L, the heads of the bolts being passed through the opening, which will change in location according to circumstances.

Whatever be the peculiar construction of the buckets, the holes formed in their rear walls to receive the bolts are always in line with each other, but frequently vary in the distance of their separation. It often happens, then, under the old methods of attaching the buckets by bolts passing through the belt, that the holes therein must often be made anew to register with the bolt-holes of the buckets, which are frequently replaced, and it is apparent that this operation must weaken the belt. This difficulty is completely surmounted by my improvement, wherein the bolts are themselves laterally adjustable in slotted plates, and can be readily brought into position of registration with the holes in the buckets. Again, under the old method of attaching the buckets there is no way of preventing the bolts from turning. Therefore when the nuts rust, as they almost invariably do, it is very difficult to remove them when it is desired to replace the buckets. Special provision has been made for meeting this objection in my improvement, wherein the bolts are provided with squared heads, which are fitted in suitably-slotted plates

and prevented from turning. It should also be remarked that the operation of replacing a bucket secured to a belt in the old way is very tedious, and consumes considerable time, inasmuch as the belt must be pulled out and a board placed behind it to support it while the holes are being marked and punched, and the tightness of the belt and the confined marking-space combine to make the operation a difficult one, whereas the operation of replacing buckets attached to a belt in accordance with my invention is very easy.

I would have it understood that I do not limit myself to the exact construction herein shown and described, but hold myself at liberty to make such slight changes and alterations as fairly fall within the spirit and scope of my invention.

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

1. The combination, with a belt and a series of slotted plates attached to it, of bolts the heads of which fit in the slots in the plates, and buckets provided with holes to receive the bolts, substantially as set forth.

2. The combination, with a belt and a series of plates provided with elongated slots, as shown, of bolts the heads of which fit and move laterally in said slots, and buckets provided with holes to receive the bolts, substantially as set forth.

3. The combination, with a belt and a series of plates provided with slots having overhanging edges, of bolts the heads of which fit in the said slots, being prevented from turning by them, and buckets provided with holes to receive the bolts, substantially as set forth.

4. The combination, with a belt and a series of plates, provided, as shown, with elongated slots, and short slots opening into them, of bolts the heads of which fit into said slots, and buckets provided with holes to receive the bolts, substantially as set forth.

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

ROBERT N. SANDERSON.

Witnesses:
R. W. CALVIN,
JACOB STRADER.