

O. B. FINN.
ELEVATOR BUCKET.
APPLICATION FILED MAY 9, 1911.

1,060,833.

Patented May 6, 1913.

2 SHEETS—SHEET 1.

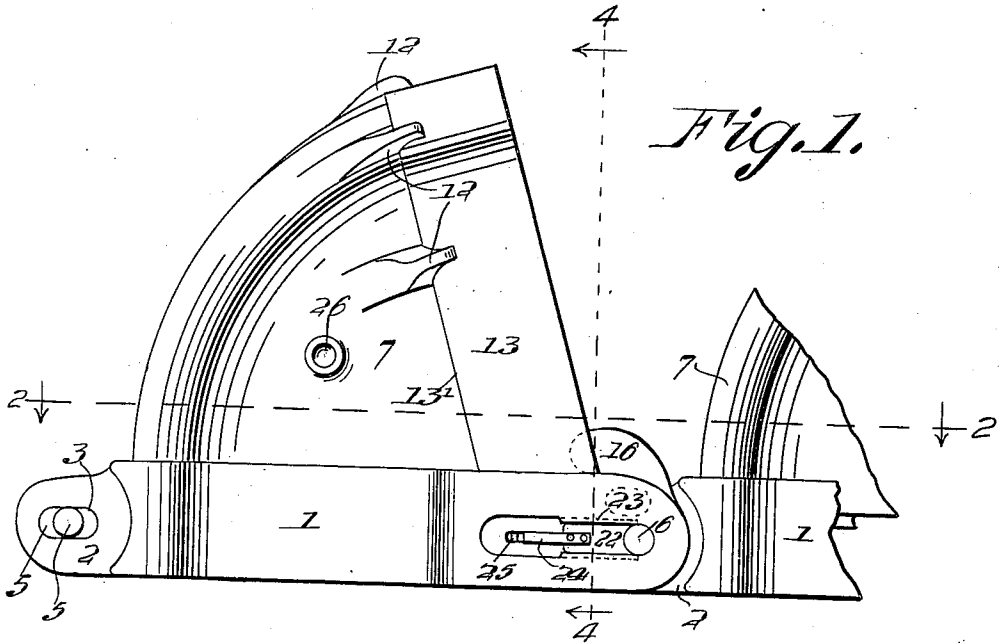


Fig. 1.

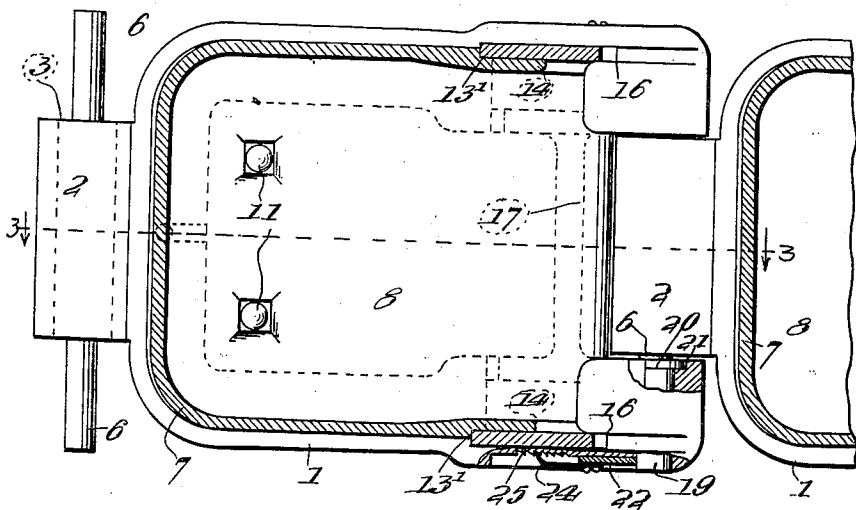


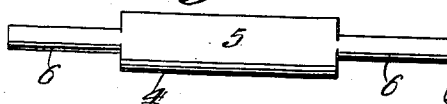
Fig. 2.

Fig. 3.

Fig. 6.

Fig. 7.

Witnesses
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2 SHEETS—SHEET 2.

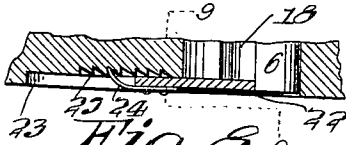


Fig. 8.9

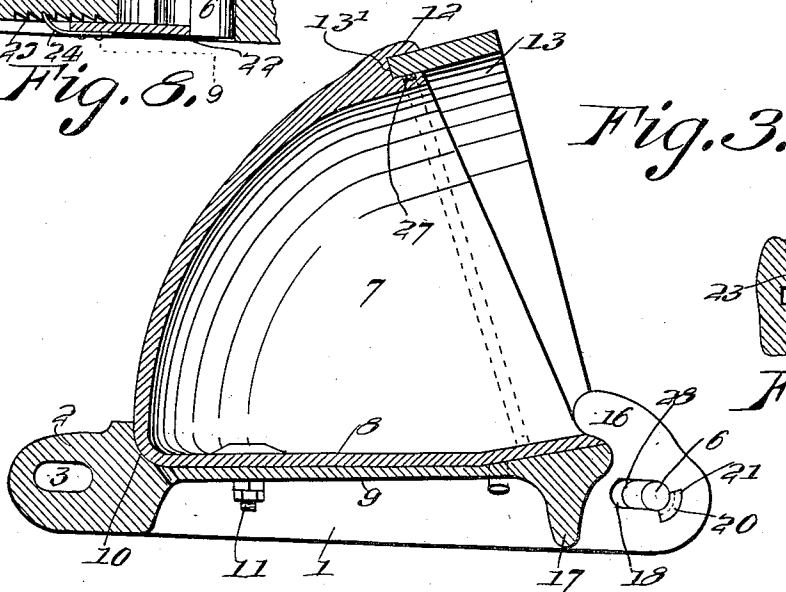


Fig. 3.

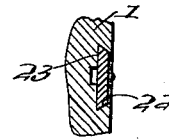


Fig. 9.

Fig. 10.

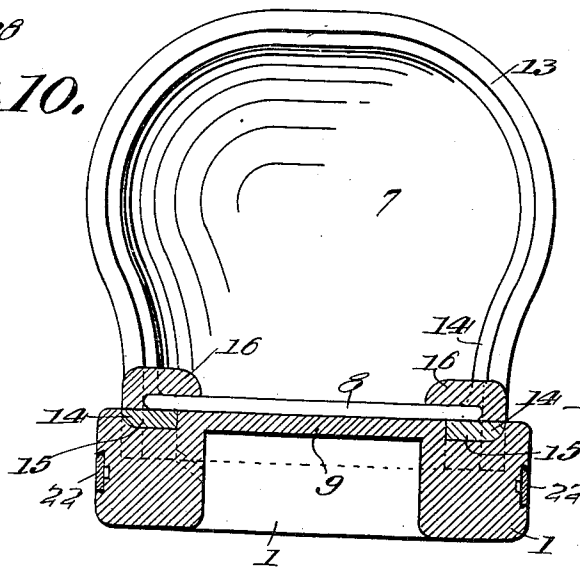


Fig. 11.

Fig. 4.

Fig. 12.

Fig. 13.

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UNITED STATES PATENT OFFICE.

OLIVER B. FINN, OF COLORADO SPRINGS, COLORADO.

ELEVATOR-BUCKET.

1,060,833.

Specification of Letters Patent.

Patented May 6, 1913.

Application filed May 9, 1911. Serial No. 626,084.

To all whom it may concern:

Be it known that I, OLIVER B. FINN, a citizen of the United States, residing at Colorado Springs, in the county of El Paso and State of Colorado, have invented new and useful Improvements in Elevator-Buckets, of which the following is a specification.

This invention relates to certain new and useful improvements in elevator buckets and the object of the invention is to provide a bucket of the type in which the parts are assembled without the use of rivets, and in which the working strains tend to more securely unite the parts.

A further object of the invention is to permit the construction of the parts from cast steel, as distinguished from wrought steel, the latter being more expensive than cast steel, and is necessary in riveting, due to the fact that the steel must have a certain degree of pliability in order to withstand the riveting operation.

A still further object of the present invention is to provide a bucket in which parts may be quickly removed, assembled, or replaced with ease and facility.

Further and other objects will later appear and of themselves be manifested.

In the drawings: Figure 1 is a side elevation, Fig. 2 is a section on the line 2—2 of Fig. 1, Fig. 3 is a section on the line 3—3 of Fig. 2, Fig. 4 is a section on the line 4—4 of Fig. 1, Fig. 5 is an end elevation of the connecting pin, Fig. 6 is a side elevation of the connecting pin, Fig. 7 is an end elevation of a modified form of the connecting pin, Fig. 8 is a detail sectional view of the packing engaging plate, Fig. 9 is a section on the line 9—9 of Fig. 8, Fig. 10 is an end elevation of the pin spacing block, Fig. 11 is a side elevation of the pin spacing block partly in section, Fig. 12 is an end elevation of the bushing, and Fig. 13 is a side elevation of the bushing.

1 designates the link which is of U-shape and which has an integral extension 2 at its rear end formed with a longitudinal oval-shaped opening 3. Pin 4, has a body 5, which is of the same shape as opening 3 and is received in the latter, the pin 4, having reduced ends 6 of circular cross section which extend beyond the ends of extension 2. Extension 2 of a front bucket is received between the arms of the U-shaped

link 1 at the free open end of said link as depicted in Fig. 2.

7 denotes the hood, the bottom 8, of which seats on the plate 9, formed integral with the link 1, the link being hollowed out to form a seat for the hood at the bottom, rear end and sides thereof, as seen in Fig. 3, in which a shoulder 10, acts as a brace for the rear end of the hood. Bolts 11, extend through the link plate 9 and the hood bottom 8, to secure said parts. The front end of the hood is formed with cast fingers 12 which engage the outer face of lip 13, the latter seating in the cut-out or offset shouldered portion 13' of the hood at the free end of the latter, the fingers clamping the lip to the hood and acting as stops or abutments which hold the lip in position.

From the above it will be seen that tightening of the bolts 11, will act to draw the lip against its securing fingers 12, and any pressure exerted on the lip in working will cause the same action. The lip ends are turned inwardly at right angles as at 14 (Fig. 4) and engage in seats 15 provided therefor in the link sides. The bottom 8 of the hood at the front end thereof seats on the right angular ends 14 of the lip, and said front end of the hood bottom is held in place by lugs 16 formed on the link ends, which lugs are of hook-shape to engage over the front end of the hood bottom. A cross bar 17, connects the link sides at the free ends of the latter to strengthen the link. Ends 6, of pin 4 of a front bucket are received in the elongated openings 18, in the free ends of the links of a rear bucket and as the wear of the pins in the openings is in a direction toward the free ends of the links, bushings 19 are provided of segmental form having a flange 20 at their inner ends, which flanges seat in cut-out portions 21 on the inner sides of the links, as seen in Figs. 2 and 3. Waste cotton saturated with a lubricant may be placed in the openings 18, and is held therein by means of plates 22 sliding in a dove-tail guide 23 formed in the outer sides of the links, the plates having spring pawls 24 attached thereto, which engage with ratchet teeth 25, formed on the links, whereby the plates are held against movement. The front ends of the plates 22, are curved to conform to the shape of the pins 6, as seen in Fig. 1.

26 designate sockets formed in bosses on

opposite sides of the hood to allow of the use of tongs in handling the hoods with derricks.

27 designates packing which may be placed between the hood and lip, if desired.

In Fig. 7 a modified form of pin 4' is shown, in which the body 7' is of diamond shape.

The connecting pin of the present invention by reason of the formation thereof in which the wearing surfaces or parts are at the end of the pin, presents the advantage of maintaining the central part of the pin in an unchanged condition, that is to say the middle part is held rigidly in the link extension 2, and the reduced ends 6 by virtue of being comparatively short, are correspondingly strengthened. Furthermore, the invention provides means for automatically locking the pin in place, and the pin may be reversed so as to present all four of its quarter segments to wear, thus imparting longer life to the pin, and at the same time reducing the slack in the chain to a minimum. Further the middle portions of the pin can be rough cast, and the hole in the link extension 2 can be rough cored, saving a great amount of machine finishing work as compared with pins which have their wearing portions in the middle. The angular formation in the central part of the pin as shown in the modification in Fig. 7 effects a saving in metal. The pin is automatically locked in position, since after the same has been inserted through the holes 3 and 18, the forward link is moved to the right in Fig. 1 to bring the pin ends against the outer end walls formed by the openings 18, at which time it will be seen that the ends of the middle part 5 of the pin will lie opposite the outer ends of the link sides, thereby acting as abutments which prevent any lateral movement of the pin. Metal spacing blocks 28, may be used, and same are provided with tapped apertures 29, by means of which a threaded rod may be engaged therewith to permit removal of the blocks. The blocks are placed to the rear of the pin ends 6, as shown in Fig. 3, and when used serve to provide means in addition to the cotton waste to limit the rearward movement of the ends 6, of the connecting pin, so as to prevent disengagement of the pin body 5 from the openings 18.

What is claimed is:

1. In an elevator bucket, a link, said link being formed with a hollowed out seat, a hood having a bottom arranged in said seat, said hood being formed with a circumferential cut-out portion, a lip engaging in said cut-out portion, fingers carried by the hood and engaging over said lip to clamp the latter in said cut-out portion, said lip having

its free ends turned inwardly and underlying the bottom of the hood, and hook-shaped lugs carried by the link and engaging over the bottom of the hood to hold the latter in position.

2. In combination with a link, a hood secured thereto, a lip secured to the forward edge of the hood and having right angular ends which extend beneath the hood bottom and between the latter and the link, and means to secure the hood bottom to the link.

3. In an elevator bucket, a link having a plate formed integral therewith, said plate having its upper face shaped to form a seat and having a shoulder, a hood having its bottom engaging in said seat and having its rear end abutting said shoulder, and lugs formed on the link and engaged on the top face of the bottom of the hood at the front thereof.

4. In combination with a link, a hood secured thereto, said hood having a shouldered portion at its open end, a lip abutting the shouldered portion, said lip having its free ends extending between the link and hood bottom, and being received in cut-away portions provided therefor in the upper face of the link, and means to clamp the hood bottom onto said lip ends.

5. An elevator bucket including a link, a hood secured thereto, a lip secured to the hood and having portions interposed between the link and the bottom of the hood, and means to clamp the hood bottom to the link.

6. An elevator bucket comprising a link having a seat on its top face, a hood having its bottom engaged in said seat, and a lip secured to the open end of the hood and having its ends engaged between the hood bottom and the top face of the link.

7. In an elevator bucket, a link having a shoulder at one end, a hood having its rear end engaged with said shoulder, and lugs formed on the link and engaged on the top face of the bottom of the hood at the front thereof.

8. In an elevator bucket, a link, a hood having its bottom secured to said link, a lip having intumed ends that engage the hood bottom, and means to secure said lip ends rigidly in position.

9. In combination with a hood having an offset shouldered portion, a lip engaging with said portion, and fingers at the free end of the hood clamped down on top of the lip.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

OLIVER B. FINN.

Witnesses:

G. M. BORDEN,
H. B. LANDERS.