

L. CALLAHAN.

SKIP.

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1,033,670.

Patented July 23, 1912.

Fig. 1

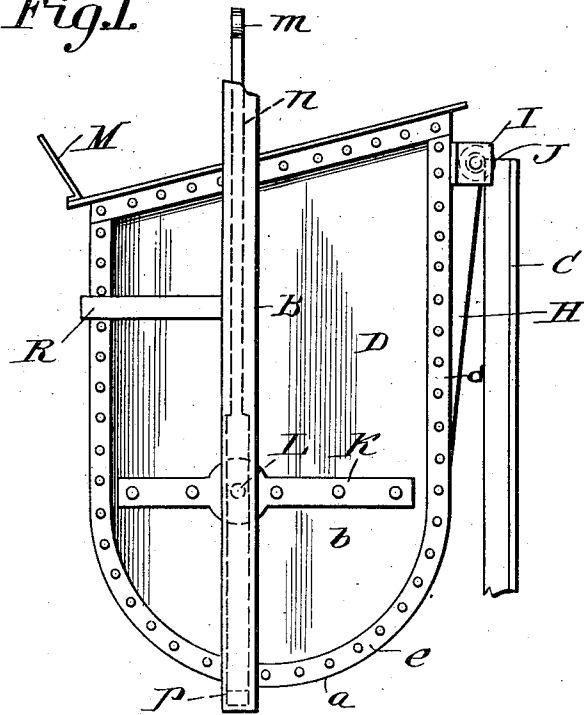


Fig. 2.

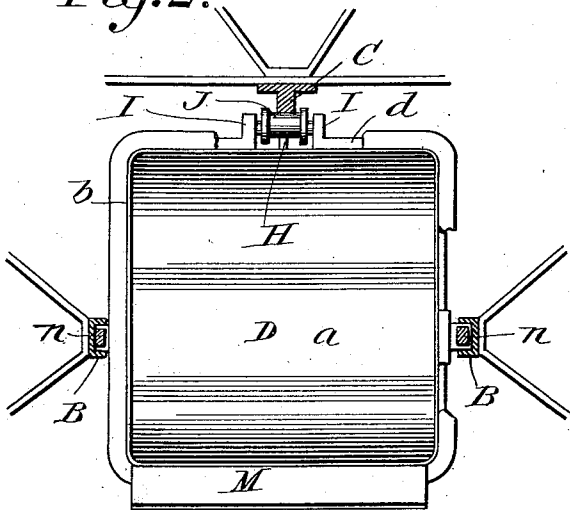
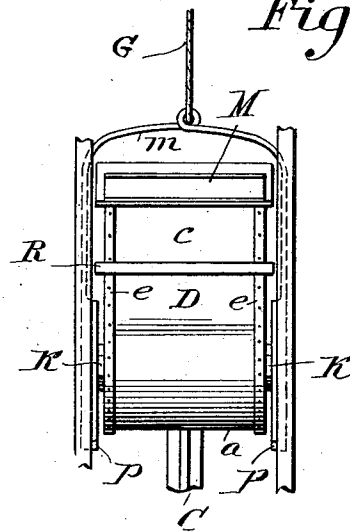


Fig. 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

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SKIP.

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Specification of Letters Patent.

Patented July 23, 1912.

Original application filed March 8, 1911, Serial No. 613,052. Divided and this application filed August 7, 1911. Serial No. 642,721.

To all whom it may concern:

Be it known that I, LEE CALLAHAN, citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Skips, of which the following is a specification.

My invention relates to skips or buckets; and it consists in the stiff and strong skip, hereinafter described and claimed, designed more particularly for use in the self-dumping hoist disclosed in my contemporary application, filed March 8, 1911, Serial No. 613,052, of which this application is a division.

In the drawings, which are hereby made a part hereof: Figure 1 is a side elevation showing my novel skip, the frame in which it is carried, and the guides for said frame. Fig. 2 is a horizontal section taken in a plane above the skip. Fig. 3 is a rear elevation showing the skip, its frame and the guides therefor.

Similar letters designate corresponding parts in all of the views of the drawings, referring to which:

B B are upright channel guides.

C is an upright skip-sustaining rail, of T-form in cross section, arranged in front of the channel guides, Figs. 1 and 2, and having its upper end disposed in a horizontal plane considerably below the upper ends of the guides B, Fig. 1.

D is the skip.

G is a hoisting cable, to which the skip-carrying frame is connected as shown in Fig. 3.

The skip D comprises a concavo-convex bottom *a*, vertical and parallel side walls *b*, a vertical back wall *c* disposed at right angles to the side walls, a vertical front wall *d* also disposed at right angles to the side walls, and continuous angle-iron straps *e*, one at each side of the bucket, straddling and riveted to the edge portions of the side walls *b* and the adjacent edge portions of the bottom, back and front walls. From this it follows that the skip is possessed of great stiffness and strength and therefore is not liable to be bulged by a load of concrete therein or be injured in the event of a fall.

On its front side and in the vertical center thereof the skip is provided with a downwardly tapered shoe H, and adjacent the upper and larger end of the shoe bearings I

are provided between which a circumferentially-grooved roller J is mounted, this roller being arranged immediately above the shoe H and being designed to bear against and travel on the sustaining-rail C incidental to the upward and downward traverses of the skip. At its sides the skip is provided with fixed plates K that carry trunnions L, and at the rear side of its upper end the skip is preferably, though not necessarily, equipped with a guard flange M, designed to prevent upward splashing of the concrete when the skip is dumped.

The trunnions L are located considerably below the horizontal center of the skip and slightly in rear of the vertical center thereof, Fig. 1, and hence it will be manifest that when on the upward movement of the skip, the roller J overruns or passes beyond the upper end of the sustaining rail C, the skip will of itself and by reason of gravity commence to swing toward the right in Fig. 1 and dump; also, that immediately after the roller J passes out of engagement with the upper end of rail C, the tapered shoe H will bear and slide on the said end, and by so doing will render the tilting of the skip gradual and smooth and at the same time will preclude injury to the front wall *d* of the skip. Again it will be observed that when the skip is moved downward from the dumped position, the shoe H will bear on the upper end of the rail C and gradually "right" the skip until the roller J comes into engagement with the tread of rail C and the skip is in upright position.

The frame by which the skip D is carried has at its upper end a bail *m* to the middle of which one end of the cable G is connected and from the ends of the said bail, side bars *n* depend, which side bars are arranged in the channel guides B. The lower portions of the side bars *n* of the skip-carrying frame are shaped to form runners *p*, and these runners extend below the bottom of the skip D as shown.

In addition to the elements named, the skip-carrying frame comprises a combined back brace and stop R. This latter is bail-shaped and connected at its ends in fixed manner to the side bars *n*, and it serves to brace the said side bars and thereby lend increased strength to the skip-carrying frame, and at the same time serves to limit the forward movement of the skip D when

the latter is dumped, and backward movement of said skip when the same is "righted".

The hereinbefore referred to stiffness and strength of the skip is further materially advantageous inasmuch as it precludes the possibility of a load of concrete or the like bulging the side walls of the skip and thereby binding the frame sides against the channel guides and causing undue friction.

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

1. A skip having on its opposite sides trunnions located considerably below the horizontal center of the skip and slightly in rear of the vertical center thereof, and also having on its front and in the vertical center thereof a downwardly tapered shoe, and further having on its front, above and in vertical alinement with said shoe, a verti-

cally-disposed, circumferentially-grooved roller.

2. A skip having a rearwardly and upwardly extending guard flange at the rear of its upper end, and trunnions on its opposite sides located considerably below the horizontal center of the skip and slightly in rear of the vertical center thereof, and also having on its front and in the vertical center thereof a downwardly tapered shoe, and further having on its front, above and in vertical alinement with said shoe, a vertically-disposed, circumferentially-grooved roller.

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

LEE CALLAHAN.

Witnesses:

H. P. REQUA,
R. EASOM.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."