Oct. 29, 1968 C. W. GARDNER 3,407,952

LOADER BUCKET WITH POSITIVE SIDE EJECTOR

Filed Dec. 16, 1966 2 Sheets-Sheet 1

Fig. 1.

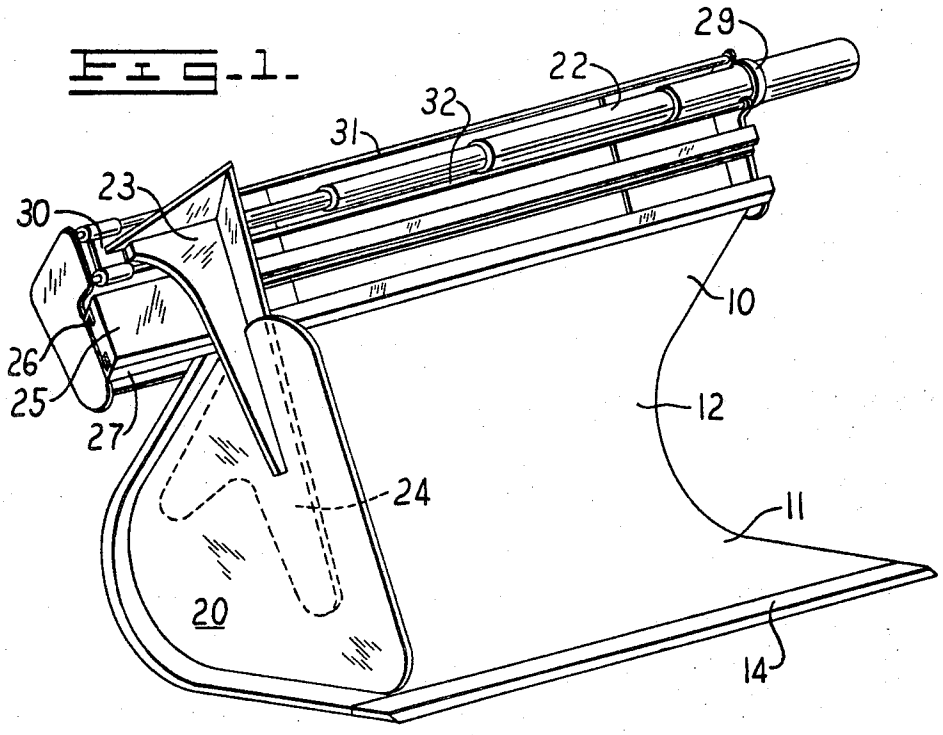
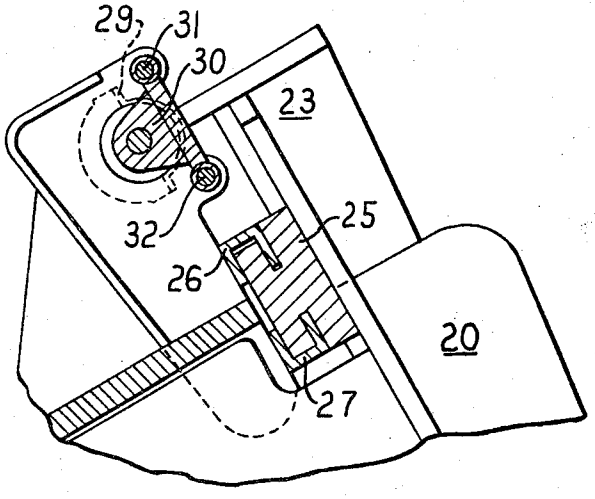


Fig. 2.



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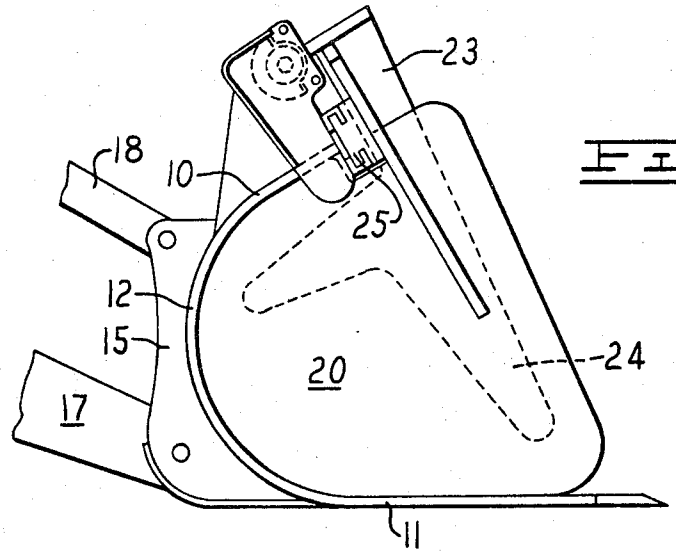


FIG. 3.

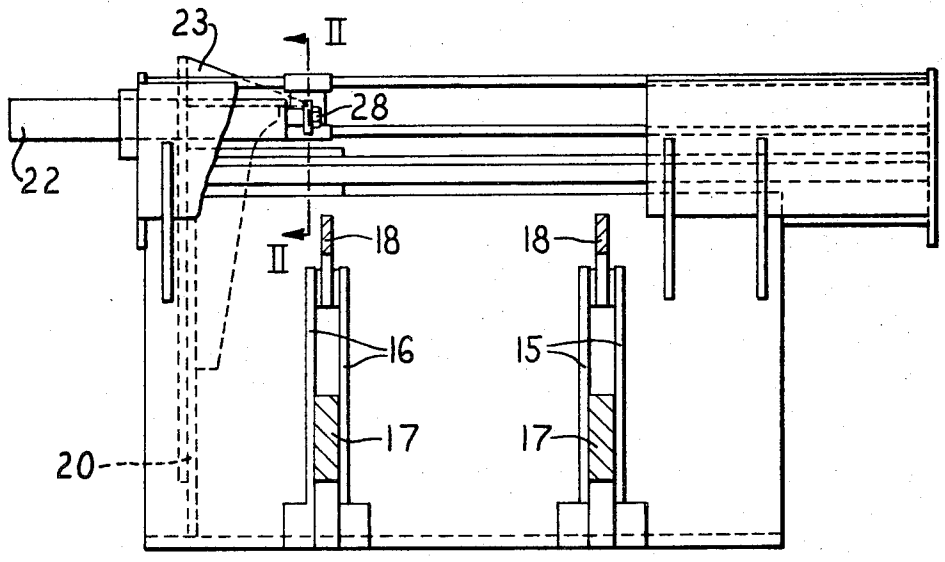


FIG. 4.

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LOADER BUCKET WITH POSITIVE SIDE EJECTOR

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2 Claims. (Cl. 214—767)

ABSTRACT OF THE DISCLOSURE

A tractor mounted loader bucket having a bottom wall and a back wall but no end walls, and an ejector plate disposed perpendicularly to said walls and moveable from a position near either end of the walls toward the other end to eject the contents of the bucket.

Background of the invention

This invention is in the field of tractor mounted bucket loaders of the kind which discharge to one side rather than to the front to reduce the necessity of turning the tractor to dump the contents of the bucket after a load cycle.

The prior art includes buckets which tip toward one side to discharge their contents such for example as shown in U.S. Letters Patents to Warner 2,821,313; Gardner 3,198,598 and Keskitalo 3,203,565.

Summary of the invention

Steps have been taken generally to shorten the time and increase the efficiency of the cycle of operation of loaders. Side dumping has been found desirable in many types of operations. It is desirable to raise a bucket to a high level for dumping into a vehicle or bin but since the side dumping bucket requires greater vertical space when it is being dumped, it is often not useable in mines, tunnels and other places with limited vertical clearance.

It is the object and purpose of this invention to provide a bucket which discharges its contents to one or either side without requiring more vertical clearance than is required for its carry position.

In the accompanying drawings:

FIG. 1 is a perspective view of a loader bucket embodying the present invention;

FIG. 2 is an enlarged sectional view taken on the line II—II of FIG. 4;

FIG. 3 is a view in side elevation of the same bucket; and

FIG. 4 is a rear elevation thereof.

As most clearly shown in FIG. 1, the bucket has a back wall **10** and a bottom wall **11**, which may be joined as by a curved area **12**, and the bottom wall is preferably provided with a hardened cutting edge **14**.

As best shown in FIGS. 3 and 4, brackets **15** and **16** lend rigidity to the bucket and provide means for pivotally connecting lift arms **17** and tilt linkage, a part of which is shown at **18**. The lift and tilt mechanism is of conventional and well known construction, the purpose of the lift arms being to raise the bucket from the ground and the tilt linkage to vary the attitude of the bucket. The tilt linkage is generally used for the purpose of dumping the bucket but is not required for side dumping. As is well known, however, the tilt linkage is designed in such a manner that the bucket when loaded is racked back to a position for retaining the load and then raised to a carry position. As it is raised to the carry position, the lift and

tilt mechanism act in cooperation with each other to maintain it in a load sustaining position. This is desirable with the present bucket and also provides the advantage of enabling front dumping as well as side dumping.

As shown in FIGS. 1 to 3, the bucket is without end plates but has a single plate **20** resembling an end plate and capable of being moved from either end of the bucket toward the other by means of a hydraulic jack here illustrated at **22** as being of the extensible telescoping type. The jack is connected with the plate by bracket means shown at **23** and reinforcing means indicated at **24**. The ejector plate **20**, as shown in FIG. 2, has a grooved slide block **25** slidable between a pair of spaced channels **26** and **27** which form a track. One end of the jack is clamped in place as by a bracket shown at **29** in FIGS. 1 and 2 and the opposite end or rod of the jack carries a bracket **30** which is slidable on spaced guide bars **31** and **32**. The track and guide bars extend beyond an end of the bucket to enable the ejector plate **20** to move very close to the end for complete ejection. Also, as shown in FIG. 3, the jack is connected by a nut **28** to bracket **23** at a point which enables the plate to be moved close to the other end of the bucket.

The bucket is loaded with the ejector plate **20** disposed at one end thereof as is shown in FIG. 1 though it may be disposed at the other end if desired. When loaded, the bucket is raised to its carry position transported to the point of discharge and the jack **22** is then actuated to move the ejector plate to the opposite end and discharge the contents of the bucket. Since this does not require raising of the bucket to any height greater than its normal carry position, side dumping may be accomplished with a minimum overhead clearance and as has heretofore been indicated, the bucket may be dumped forwardly as well where it is in the interest of efficiency to do so.

What is claimed is:

1. A loader bucket comprising a bottom wall and a back wall in material sustaining relationship to each other, said bucket being without end walls and having no obstructions throughout its length, an ejector plate conforming generally to the space between the bottom and back walls and disposed at approximately a right angle to both walls, means to move the ejector plate between the ends of the bucket to eject a load therefrom, said means being a hydraulic jack, said ejector plate being guided by a track which extends tranversely of the bucket and is disposed above the back wall, and said jack being of the telescoping type with one end fixed relative to the bucket and the other end slidable on track means extending transversely of and disposed above the bucket.

2. The combination of claim **1** with the track extending beyond the end of the bucket sufficiently to enable the plate to be moved substantially the full length of the bucket.

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