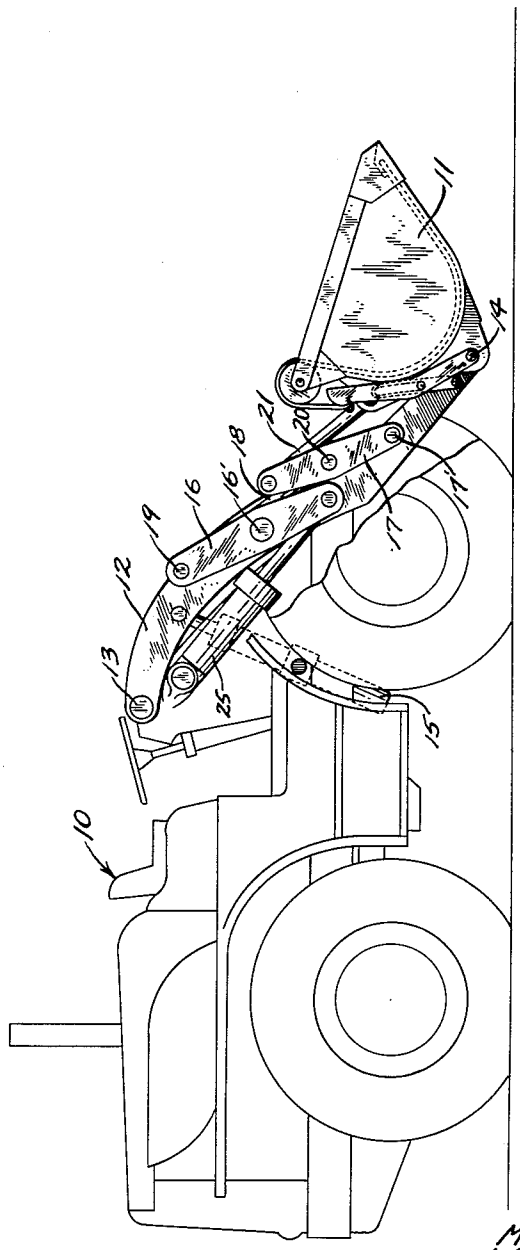
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EJECTOR FOR LOADER BUCKETS

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Fig. 1



INVENTORS
MURL W. CLARK
WAYNE E. ROBERTS

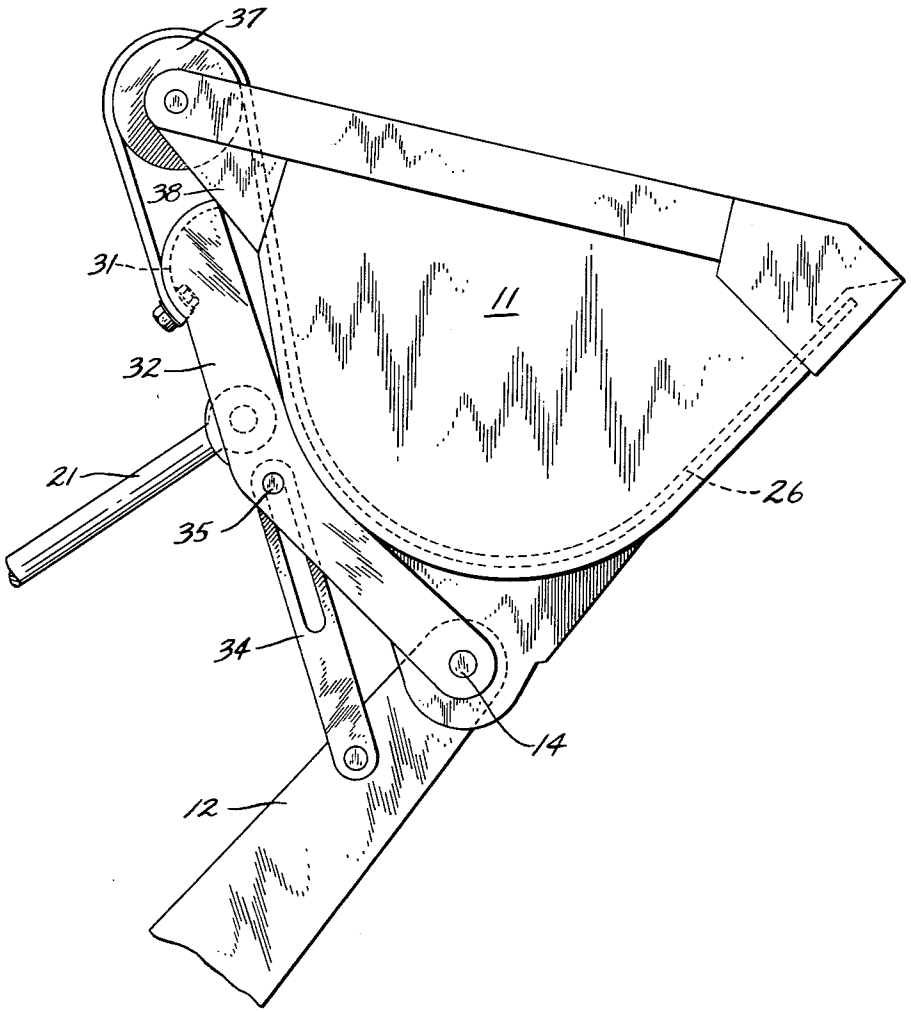
BY
Charles M. Fryer
ATTORNEY

May 22, 1962 M. W. CLARK ETAL 3,035,724

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Fig. 2.



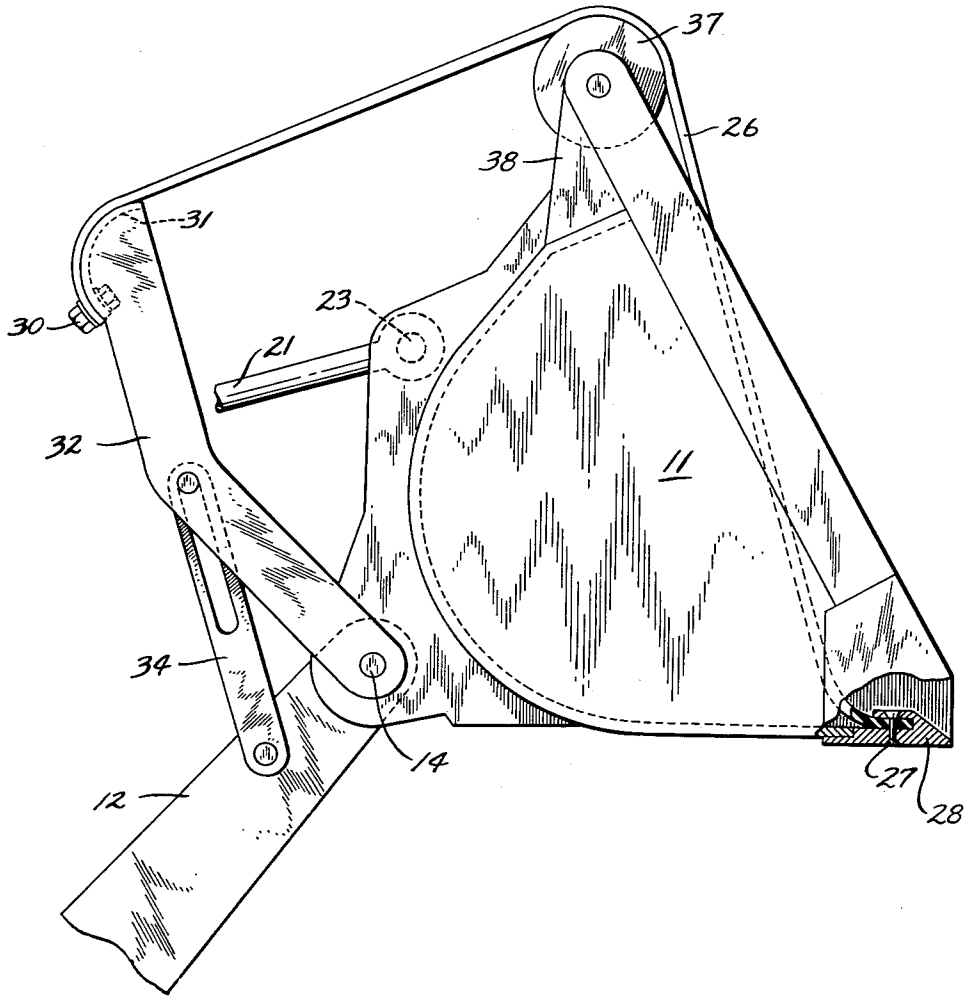
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MURL W. CLARK
WAYNE E. ROBERTS
BY
Charles M. Fryer
ATTORNEY

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Fig. 3.



INVENTORS
MURL W. CLARK
WAYNE E. ROBERTS
BY Charles M. Fryer
ATTORNEY

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EJECTOR FOR LOADER BUCKETS

Murl W. Clark, Morton, and Wayne E. Roberts, Peoria, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California

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5 Claims. (Cl. 214—140)

This invention relates to power loaders and particularly to means for positively ejecting material from the buckets of such loaders when they are moved toward their discharge or dump position.

Various atempts have been made to provide an ejector or clean-out device to effect positive discharge of the contents of a loader bucket which is particularly desirable when the loader is working in sticky material which does not gravitate readily when the bucket is moved to its dump position. Most such devices have been heavy and, therefore, costly and many have required manipulation by the operator of the loader of power actuated operating means in addition to the means already necessary for control of the bucket through its digging, lifting and dumping cycle.

It is the object of the present invention to provide an ejector of simple and inexpensive design which insures automatic ejection of the contents of a loader bucket upon its movement toward dump position.

A further object of the invention is to provide an ejector for the purpose described which effects rapid discharge of the contents of the bucket and so forcefully ejects the contents that it is unnecessary to tilt the bucket to the steep angle required for discharging its contents by gravity thus enabling discharge at a higher level which is an advantage in loading earth into high bodied trucks.

Further and more specific objects and advantages of the invention are made apparent in the following specification wherein reference is made to the accompanying drawings.

In the drawings:

FIG. 1 is a view in side elevation of a typical tractor mounted bucket loader equipped with an ejector embodying the present invention with the bucket illustrated in its low carry position;

FIG. 2 is an enlarged fragmentary view illustrating the bucket in its high carry position; and

FIG. 3 is a view like FIG. 2 with the bucket shown in its dump position.

In FIG. 1 of the drawings, a conventional tractor is indicated at **10** as equipped with a bucket **11** also of conventional design. The bucket is supported by a lift arm **12** pivoted to a fixed member on the tractor as indicated at **13** and to the bucket as at **14**. A pair of lift jacks, one of which is shown at **15**, is connected between the tractor and the lift arm **12** to elevate the bucket. Suitable tilt linkage is provided to hold the bucket in its carry position as it is being elevated and also to adjust the bucket to and from its dig position and its dump position. This linkage comprises two levers **16** and **17**, the first pivoted to the lift arm as at **16'** and the second as at **17'**. A link **18** is pivotally connected between these levers by pivots **19** and **20** and a link **21** is pivotally connected between the lever **17** and a frame which supports the bucket as illustrated at **23** in FIG. 3. All of these links and levers are usually provided in pairs and a pair of tilt jacks, one of which is shown at **25**, are connected between the tractor and the levers **16** and are employed in a suitable hydraulic circuit to effect adjustment of the bucket with respect to the lift arm **12** as for example between the two positions illustrated in FIGS. 2 and 3.

The ejecting mechanism of the present invention is

best illustrated in FIGS. 2 and 3 wherein a web of reinforced rubber, or other resilient material, is illustrated at **26** as disposed within the bucket and extending throughout the entire length of the interior of the bucket. It covers the front, bottom and back walls of the bucket and its edges lie close to the end walls. One end of the web **26** is anchored as shown in FIG. 3 as by rivets **27** in a slot formed in the rear portion of a cutting edge **28** which extends along the front of the bucket. The opposite end of the web **26** is anchored as by bolts **30** to a frame member shown in dotted lines at **31** extending between and supported by legs **32** pivotally connected with respect to the bucket on the same pins **14** which connect the bucket to the lift arms **12**. A pair of slotted links **34** are pivoted to the lift arms and embrace pins **35** in the legs **32** to limit forward swinging movement of the anchor frame to the position shown in FIGS. 2 and 3 but to permit rearward tilting of the bucket to its low carry position shown in FIG. 1 in which position the pin **35** slides downwardly in the slotted links. Chain or other flexible members could be substituted for the links **34**.

When the bucket is in its carry position, the web **26** forms a lining for all but the side walls of the bucket and is trained over a roller **37** journaled between brackets **38** at opposite corners of the top rear edge of the bucket. When the bucket is manipulated by the tilt linkage toward its dump position as illustrated in FIG. 3, the roller **37** serves to pull the web away from the bottom of the bucket so that the contents of the bucket are ejected. Thus the ejector operates automatically upon movement of the bucket toward its dump position. Furthermore if the movement of the bucket toward dump position is performed quickly, the load is propelled from within the bucket and therefore expelled more completely and satisfactorily than with sliding type ejectors of known design. A further advantage of the construction herein disclosed is that it decreases the dumping angle of the bucket which, without the ejector, has to be moved forwardly considerably beyond the position illustrated in FIG. 3 so that the front wall thereof is inclined downwardly at a sharp angle. This not only saves time but it provides a higher dump position, retaining the forward upper edge of the bucket at an elevation where it may be passed over the side wall of a high body truck and removed from over the truck without the necessity of bringing the bucket up toward its carry position to avoid engaging the truck wall after dumping. Furthermore the operation of loading is accelerated because the contents of the bucket are expelled outwardly therefrom and it is less difficult to properly position a bucket for loading a truck or the like than it is without the ejector when the bucket must be disposed directly above the truck before its load is discharged.

We claim:

1. Ejector mechanism for the contents of a loader bucket capable of movement from an upright carry position to an inclined dump position which comprises a web of flexible material lining the bucket, means anchoring one edge of said web adjacent one edge of the bucket, means anchoring the opposite edge of the web to a relatively fixed member outside the bucket, and means carried by the bucket and engageable beneath the web upon movement of the bucket toward dump position to raise the web and eject the contents of the bucket.

2. Ejector mechanism for the contents of a loader bucket capable of movement from an upright carry position to an inclined dump position which comprises a web of flexible material lining the bucket, means anchoring one edge of said web adjacent one edge of the

bucket, means anchoring the opposite edge of the web to a relatively fixed member outside the bucket, and roller means carried by the bucket and engageable beneath the web upon movement of the bucket toward dump position to raise the web and eject the contents of the bucket.

3. Ejector mechanism for the contents of a loader bucket capable of movement from an upright carry position to an inclined dump position which comprises a web of flexible material lining the bucket, means anchoring one edge of said web adjacent one edge of the bucket, means anchoring the opposite edge of the web to a relatively fixed member outside the bucket, and means carried by the bucket and engageable beneath the web and upon movement of the bucket toward dump position to raise the web and eject the contents of the bucket, said bucket being supported on pivoted lift arms and having a low carry position wherein it is pivoted toward said arms, and a pivotal connection between said relatively fixed member and said lift arms to permit limited movement of the member away from the bucket.

4. In a tractor mounted loader which comprises a bucket carried at the end of lift mechanism pivoted to the tractor and having tilt mechanism for tilting the bucket between dig, carry and dump positions at the end of the lift mechanism, said bucket having front, bottom, rear and end walls, the improvement which comprises

ejector mechanism having a web of flexible material secured adjacent the upper edge of said front wall and covering the front, bottom and rear walls, and means operable automatically to raise said web toward the top of the bucket when it is tilted toward its dump position.

5. In a tractor mounted loader which comprises a bucket carried at the end of lift mechanism pivoted to the tractor and having tilt mechanism for tilting the bucket between dig, carry and dump positions at the end of the lift mechanism, said bucket having front, bottom, rear and end walls, the improvement which comprises ejector mechanism having a web of flexible material secured adjacent the upper edge of said front wall and covering the front, bottom and rear walls, means securing the web outside of the bucket behind the rear wall, and means adjacent the upper rear edge of the bucket underlying the web and raising it in the bucket as the bucket is moved toward its dump position.

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