United States Patent [19]

Shovick

[11] **3,807,589**

[45] **Apr. 30, 1974**

[54] **BUCKET ATTACHMENT FOR A BACKHOE**

[76] Inventor: **Robert C. Shovick,** 111 Eagle Nest Ln., West Palm Beach, Fla. 33494

[22] Filed: **Jan. 28, 1972**

[21] Appl. No.: **221,764**

[52] **U.S. Cl.** ..... **214/147 R,** 214/138 R, 37/2 R, 37/117.5, 37/183 R

[51] **Int. Cl.** **B66c 3/02**

[58] **Field of Search** 294/50.9, 104, 51, 59; 214/147, 138; 37/2, 117.5, 118, 183–188

[56] **References Cited**

UNITED STATES PATENTS

3,275,172	9/1966	Smith	214/147 R X
3,252,606	5/1966	Pryor	37/184 X R
3,353,285	11/1967	Murray	37/2 R
226,118	3/1880	Scheidler	294/50.9
1,773,478	8/1930	Dovel	214/147 R
2,639,826	5/1953	Welden	214/147 R
2,908,409	10/1959	Hinders et al	37/2 R X
3,003,265	10/1961	Lutjens	37/117.5 X
3,139,299	6/1964	Bowen	294/104 X

FOREIGN PATENTS OR APPLICATIONS

105,490	1/1965	Norway	37/2

Primary Examiner—Robert E. Pulfrey
Assistant Examiner—Clifford D. Crowder
Attorney, Agent, or Firm—Harvey B. Jacobson

[57] **ABSTRACT**

An auxiliary bucket mounted on a backhoe immediately adjacent the movable bucket for cooperation therewith in gripping and moving materials, such as rocks, dirt, underbrush and the like. The auxiliary attachment mounts on the dipper stick immediately rearward of the movable bucket and is rigidly positioned, having a configuration quite closely approaching that of the movable bucket which is selectively engageable directly thereagainst so as to define a material holding chamber.

1 Claim, 3 Drawing Figures

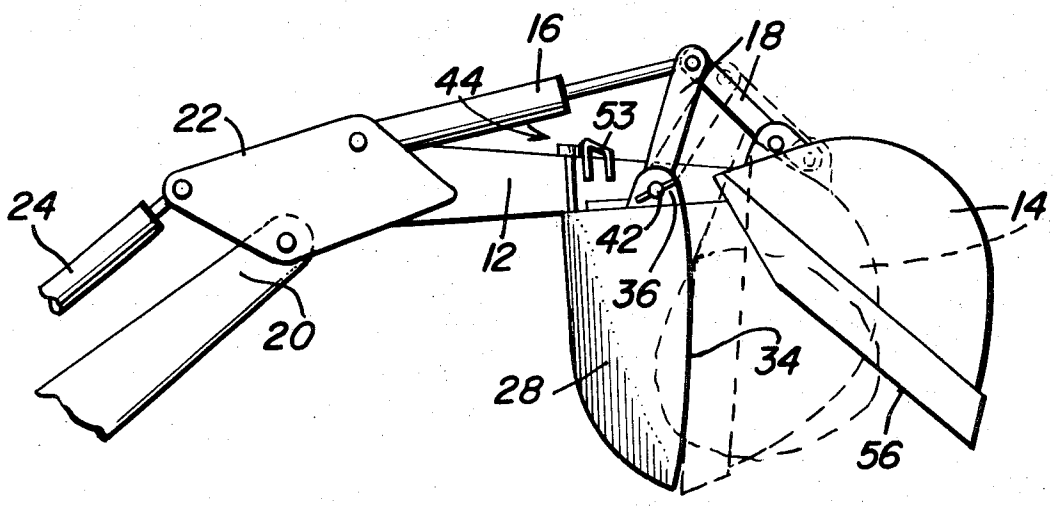


Fig. 1

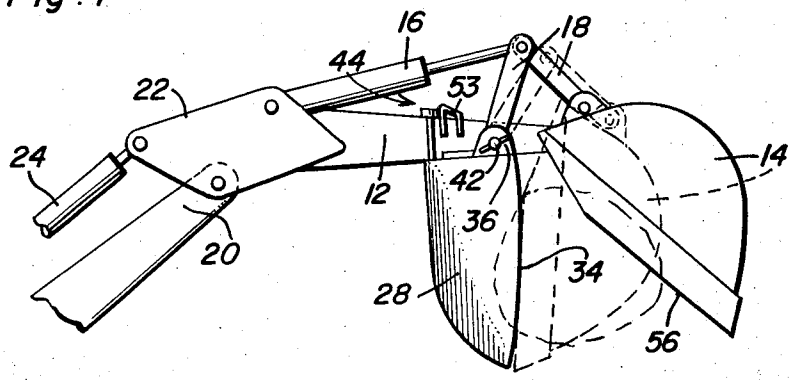


Fig. 2

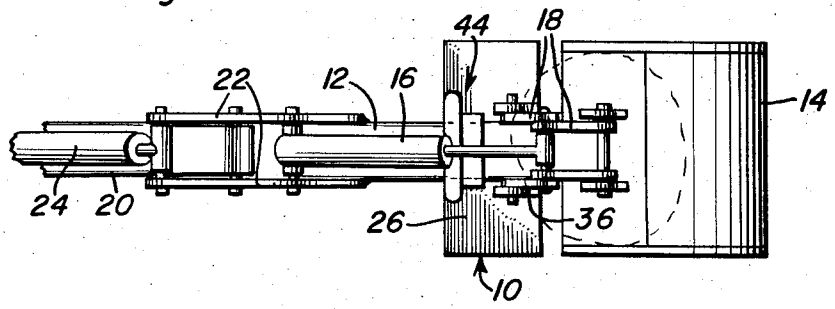
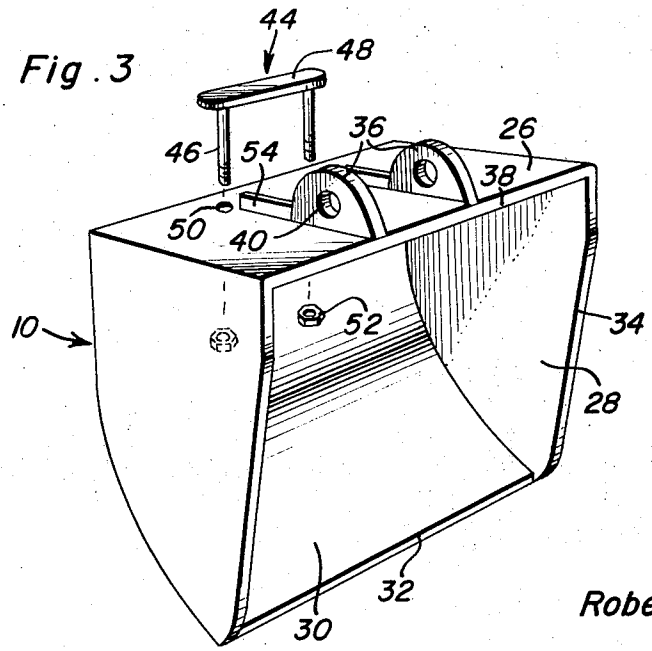


Fig. 3



Robert C. Shovick
INVENTOR.

BY Clarence A. O'Brien and Harvey B. Jacobson
Attorneys

BUCKET ATTACHMENT FOR A BACKHOE

BACKGROUND OF THE INVENTION

The present invention generally relates to backhoes, and is more particularly concerned with an attachment therefor which is utilized in conjunction with the conventionally provided movable bucket for effecting a positive grasping and containing of materials to be moved.

SUMMARY OF THE INVENTION

It is a primary object of the present invention to provide an attachment in the form of an auxiliary bucket which is mounted on the backhoe dipper stick immediately rearward of the movable bucket so as to cooperate therewith, upon a manipulation of the movable bucket, in grasping and holding rock, and the like.

Another significant object of the present invention is to provide an attachment which can be quickly and easily mounted on any conventional backhoe so as to convert the backhoe into a machine capable of effecting a positive grasping of material to be moved, whether this be rocks, fallen trees, or underbrush.

In addition, a significant object of the present invention resides in the provision of an auxiliary bucket which generally conforms to the shape of the movable bucket so as to cooperate closely therewith, and which is in addition of a highly rigid construction.

Basically, the above objects are achieved through the provision of a bucket which, through specific mounting means, is capable of being quickly mounted on the dipper stick of a backhoe immediately inward or reardward of the movable bucket for cooperation therewith.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a side elevational view of the dipper stick and of a backhoe having the auxiliary bucket of the instant invention mounted thereon;

FIG. 2 is a top plan view of the structure shown in FIG. 1; and

FIG. 3 is a perspective view of the auxiliary bucket and the mounting means therefor.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring now more specifically to the drawings, reference numeral **10** is used to generally designate the backhoe attachment of the instant invention. This attachment, being in the nature of an enlarged bucket, is to be mounted on a dip or dipper stick **12** rearward of a conventionally provided, pivotally mounted bucket **14** having an opening and normally actuated by a fluid cylinder and piston unit **16** through appropriate links **18.** The dipper stick **12** is itself pivotally affixed to the end of a backhoe boom or mast **20** by mounting plates **22** through which an angular adjustment of dipper stick **12** is effected by a second fluid cylinder and piston unit **24,** all of this backhoe construction being of a generally conventional nature common to most forms of backhoes.

The bucket attachment **10** of the instant invention has a flat top panel or wall **26,** a pair of depending sidewalls **28** and an arcuate or curved rear wall **30** all integrally connected along the adjoining edges thereof so as to define a forwardly opening bucket unit. As will possibly be best appreciated from FIGS. **1** and **3,** the rear wall **30** curves inwardly toward the bottom thereof so as to position the forward edge **32** thereof in substantially a common vertical plane with the generally perpendicular forward abutment edges **34** of the two sidewalls **28.**

The bucket **10** is to be mounted on the dipper stick **12** immediately rearward of the movable bucket **14.** As such, a pair of vertically extending mounting ears **36** are provided centrally on the top panel or wall **26** toward the forward edge **38** thereof. These ears **36,** having mounting holes **40** therein, are positioned adjacent each side of the dipper stick **12** and receive a mounting pin or shaft **42** therethrough. This pin or shaft **42** will, in most instances, be that shaft utilized to pivotally mount some of the bucket links **18,** however, a separate shaft can be extended through the dipper stick **12** should such be necessary. The rear end of the bucket **10** is also rigidly affixed to the dipper stick **12,** such being done through the utilization of a saddle **44** which includes a pair of depending bolts or threaded rods **46** interconnected by a rigid transverse member **48** which seats over the top of the dipper stick. The two bolts **46** depend from the cross plate or member **48** to the opposite sides of the dipper stick **12** and are received through a pair of holes **50** in the top panel **26** with the lower ends of the bolts **46,** which are received within the bucket **40** below the top panel **26,** having suitable locknuts **52** threaded thereon so as to rigidly bolt the bucket upwardly against the dipper stick **12** and thus complete the mounting of the bucket **10.** It will of course be appreciated that the height of the ears **36** and their relation to the mounting pin **42** associated therewith is such so as to effect a firm seating of the top panel **26** against the bottom of the dipper stick **12,** the mounted bucket **10** presenting a unit rigid with the dipper stick **12.**

If so desired, for additional stability, a cross member **53** can be welded on the dipper stick **12** for the saddle **44** to engage behind. In addition, a pair of upstanding plates **54** can be welded or otherwise affixed to the top panel **26** in general alignment with the mounting ears **36** for engagement with the opposite sides of the dipper stick **12.** These side plates **54** can, should a permanent mounting of the bucket **10** be desired, actually be welded to the dipper stick **12.**

With reference to FIG. **1,** and the phantom line showing of the movable bucket **14** therein, it will be appreciated that the auxiliary bucket **10** is so mounted and of such a configuration as to enable a substantial portion of the periphery of bucket **14** about the opening therein, and particularly the front edges **56** of the sides of bucket **14** to engage against the front edges **34** of the sides **28** of the bucket **10,** the auxiliary bucket **10** also being of the same height and width as the movable bucket **14,** thereby providing for a cooperation between the facing edges in a manner which effects, upon a pivoting of the movable bucket **14** from forwardly and upwardly pivoted unloading position (full line position in FIG. **1**) to a substantially vertical loaded position (broken line position in FIG. **1**) the forming of a complete enclosure. Such a complete enclosure, as will

be appreciated, will be highly desirable when picking up piles of smaller rocks in that the rocks can be completely contained without any danger of discharge from the closed buckets. The fact that the forward edges **32** and **34** of the bucket **10** will actually align with the corresponding movable bucket edges as the movable bucket **14** approaches a vertical position, is also of significance in providing for a positive grasp of materials which will not necessarily be completely received within the two buckets **10** and **14.** Finally, while not specifically illustrated, the back wall or panel **30** of the bucket **10** can be provided with dirt releasing openings therein should such be deemed desirable when, as an example, it becomes desirable to move rocks, the rocks being effectively retained between the buckets, while the soil or dirt falls therefrom.

From the foregoing, it will be appreciated that a highly unique auxiliary bucket attachment for a backhoe has been defined. This attachment, in the nature of a bucket which substantially duplicates the size and configuration of the movable bucket, cooperates therewith in providing for a positive means against which the movable bucket can operate so as to either clamp material therebetween or enclose material therein in a positive manner so as to enable a movement of the material without danger of discharge.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. In combination with a backhoe including a dipper stick and a pivotally mounted bucket on the outer end of said dipper stick movable by a fluid motor between a substantially vertical loaded position and a forwardly and upwardly pivoted unloading position, an auxiliary bucket, mounting means mounting said auxiliary bucket on said dipper stick immediately rearward of said movable bucket, said mounting means rigidly although releasably affixing said auxiliary bucket to said dipper stick, said buckets opening toward each other and being of generally the same height and width, a substantial portion of the periphery of said movable bucket about the opening therein being positionable in engagement with the corresponding portion of the periphery of the auxiliary bucket upon a movement of the movable bucket to its generally vertical position, said mounting means including a mounting pin, a pair of laterally spaced upwardly projecting ears rigid with said top panel adjacent a forward edge thereof, said ears including pin receiving openings therethrough for the reception of the mounting pin, two pairs of links, one pair pivotally connected to a piston rod of said fluid motor and to the mounting pin, while the other pair is pivotally connected to the piston rod and the movable bucket, and said mounting means further including a mounting saddle, said mounting saddle comprising a transverse rigid plate overlying said top panel adjacent and generally parallel to the rear edge thereof, and a pair of depending bolts rigid with said plate and depending therefrom through a pair of apertures defined through said top panel, and fastener nut means engaged with the lower ends of said bolts below said top panel, and upstanding parallel plates mounted on the top panel and arranged in general alignment with the ears and extending toward the apertures for engagement with the opposite sides of said dipper stick.

* * * * *