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(54) **ACCESSORY FOR A WHEEL LOADER**

WERKZEUGGERÄT FÜR RADLADER

ACCESSOIRE POUR CHARGEUSE SUR ROUES

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Description

The object of the invention is an accessory for a wheel loader, this accessory consists of a support equipped with fastening devices for fastening the accessory removably to the arms of the wheel loader, a set of booms fixed to the support, a bucket fixed so that it can be turned at the end of the set of booms and a hydraulic cylinder for moving the bucket.

Wheel loaders generally have an ordinary bucket fixed to the arms of the vehicle. This bucket removes soil at building sites and/or loads it on to vehicles, but this type of bucket cannot be used for excavating. There exist wheel loaders with different kinds of removably fastened accessories, for example, smoothers, forks, dericks or other such equipment. There also exist solutions where a dredger ladle has been fastened on to a wheel loader or similar working appliance. Accessories are special appliances, they are complicated in structure, they are often large in size and they require additions or changes in the structure of a wheel loader. One disadvantage is also the fact that fastening and unfastening of accessories is awkward and time consuming, another that accessories cannot be transported from one workplace to another on a wheel loader together with other kinds of accessories.

The aim of the invention is to bring forward an accessory for a wheel loader, such that, by the use of this accessory, the above mentioned disadvantages may be avoided. In particular, one aim of the invention is to bring forward an accessory for a wheel loader such that with its assistance, the wheel loader can be quickly converted for different purposes. Besides, the aim of the invention is to bring forward such an accessory for a wheel loader which has a simple structure, is easily and quickly installed and removed and which can be carried attached onto the wheel loader. Furthermore, the aim of the invention is to bring forward an accessory, the use of which requires no alterations or additions to the structure of the wheel loader.

The aim of the invention is achieved with the wheel loader characterized in the following claims.

In the accessory for the wheel loader according to this invention, the set of booms consists of a supporting beam which has been fastened at one end to the support and at the other end of which a removable bucket has been fastened and after unfastening, the bucket can be turned to another position. Since there is only one supporting beam in the appliance it has a simple structure and is small in size and it does not consist of many parts, making it favourable for manufacturing. The present-day accessories consist of two or more supporting beams or similar constructions and two or more hydraulic cylinders, which makes them large in size and complicated in structure. The accessory according to this invention can be easily and quickly removed and fastened in place. The bucket has been fastened to the end of the supporting beam so that it can be turned into another

working position. In this way, the same accessory can be used both as a dredger ladle and, after unfastening and turning it, in a dipper position as a bucket loader for removing and/or loading of earth.

In the following, the invention will be explained in more detail by referring to the attached drawings in which

fig. 1 shows a side view of an embodiment of the accessory according to the invention fastened to a wheel loader,

fig. 2 shows a side view of a wheel loader with its accessories according to fig. 1 in an excavating position, and

fig. 3 shows an elevated side view of the accessory according to figures 1 and 2.

In the embodiment shown in the figures, the accessory consists of a support 2, set of booms 5 and a bucket 6. The support 2 can be removably fastened to a fastener 9 between the arms 4 of the wheel loader 1 by using fastening devices 3. In this embodiment, the fastening devices consist of shoulders which have been placed at the top part of the support and pivot holes placed at the lower part of the support, by means of which the support and the whole accessory can be easily and simply fastened in its place resting on the fastener. In other embodiments, also other kinds of fastening devices may be used.

The set of booms 5 consists of a supporting beam 8 which has been fastened at one end to the support, and a hydraulic cylinder 7 which has been fastened at one end to the supporting beam. The bucket has been fastened reversibly to the end of the supporting beam 8. The hydraulic cylinder 7 has been articulated at one end to shafts 10, 11. The shaft 10 has been articulated at one end to the bucket and the shaft 11 has been fixed at one end to the supporting beam. The bucket can be unfastened and it can be turned to another working position by rotating it 180° relative to the longitudinal axis of the bucket. In this way, the bucket can be turned from the excavating position shown in the figures, to its second position, the dipper position. The hydraulic cylinder 7 has been arranged through shafts to turn the bucket during actual work.

The hydraulic hoses (not shown in the figures) of the hydraulic cylinder have been connected with quick-attachment devices to the hydraulic system of the wheel loader, in which case the accessory can be steered from inside the cab of the wheel loader. By using the quick-attachment devices, the accessory can be quickly connected to the hydraulic system of the wheel loader or disconnected from it.

The accessory can be turned into different positions by using the hydraulic cylinders of the arms of the wheel loader. When working with the accessory, the hydraulic cylinders of both the wheel loader and the accessory itself are being put to use so that the accessory can be

turned, for example, from the basic position shown in figure 1 to the excavating position shown in figure 2. The accessory is easy to install and it requires no changes to be done in the structure of the wheel loader.

The invention will not be limited to the described favourable embodiment but it may vary within the frame of the inventional idea formed by the claims.

Claims

1. An accessory for a wheel loader (1) which consists a support (2) equipped with fastening devices (3) for fastening the accessory removably to the arms (4) of the wheel loader, a set of booms (5) fastened to the support and consisting one support beam (8) fastened to the support at one end, a bucket (6) fastened turnable to one end of the set of booms and a hydraulic cylinder (7) for moving the bucket, which hydraulic cylinder is at one end attached to the support beam and at the other end articulated to shafts (10, 11), of which one (10) has been fastened to the bucket (6) and the other (11) to the supporting beam (8), **characterized** in that the bucket (6) has been fastened removably at the other end of supporting beam (8) and is turnable from the excavating position to a dipper position after unfastening and vice versa, whereby the same accessory can be used both as a dredger ladle and as a bucket loader.
2. An accessory for a wheel loader according to claim 1, **characterized** in that the hydraulic hoses of the hydraulic cylinder (7) have been fastened with quick-attachment devices to the hydraulic system of the wheel loader.

Patentansprüche

1. Werkzeuggerät für einen Radlader (1) bestehend aus einem Träger (2), der mit Befestigungsmitteln (3) zum abnehmbaren Befestigen des Gerätes an den Armen (4) des Radladers ausgestattet ist, einem Satz Ausleger (5), die am Träger befestigt sind und aus einem Stützbalken (8) bestehen, der an einem Ende des Trägers befestigt ist, einer schwenkbar an einem Ende des Auslegersatzes befestigten Schaufel (6) und einem hydraulischen Zylinder (7) zum Bewegen der Schaufel, welcher hydraulische Zylinder an einem Ende des Stützbalkens befestigt ist und an dem anderen Ende an Schäften (10, 11) schwenkbar angelenkt ist, von denen einer (10) an der Schaufel (6) und der andere (11) an dem Stützbalken (8) befestigt ist, **dadurch gekennzeichnet, dass** die Schaufel (6) an dem anderen Ende des Stützbalkens (8) abnehmbar befestigt ist sowie schwenkbar ist von der Baggerlage in eine Kipplage nach Lösen und umgekehrt,

wobei dasselbe Werkzeug benutzbar ist sowohl als Baggerschaufel wie als Schaufellader.

2. Werkzeuggerät für einen Radlader nach Anspruch 1, **dadurch gekennzeichnet, dass** die hydraulischen Leitungen des hydraulischen Zylinders (7) mittels Schnellbefestigungsorganen am hydraulischen System des Radladers befestigt sind.

Revendications

1. Accessoire pour chargeuse sur roues comprenant un support (2) équipé d'un moyen de fixation (3) pour fixer l'accessoire de façon amovible au bras (4) de la chargeuse sur roues, un jeu de membrures fixé au support et comprenant un bras de support (8) fixé audit support à une extrémité, un godet (6) fixé de façon à pouvoir basculer à une extrémité du jeu de membrures et un cylindre hydraulique (7) pour déplacer le godet, ledit cylindre hydraulique étant fixé à une extrémité au bras de support et à l'autre extrémité de façon articulée à des tiges (10,11) dont l'une (10) est fixée audit godet (6) et l'autre (11) est fixée au bras de support (8), caractérisé en ce que le godet a été fixé de façon amovible à l'autre extrémité du bras de support (8) et peut être basculé d'une position d'excavation vers une position de drague après avoir été défait et vice-versa, de sorte que le même accessoire peut être utilisé aussi bien comme drague à cuillère ou comme chargeur à godet.
2. Accessoire pour une chargeuse sur roues selon la revendication 1, caractérisé en ce que les tubes hydrauliques des cylindres hydrauliques (7) ont été fixés avec des moyens de fixation rapide au système hydraulique de la chargeuse sur roues.

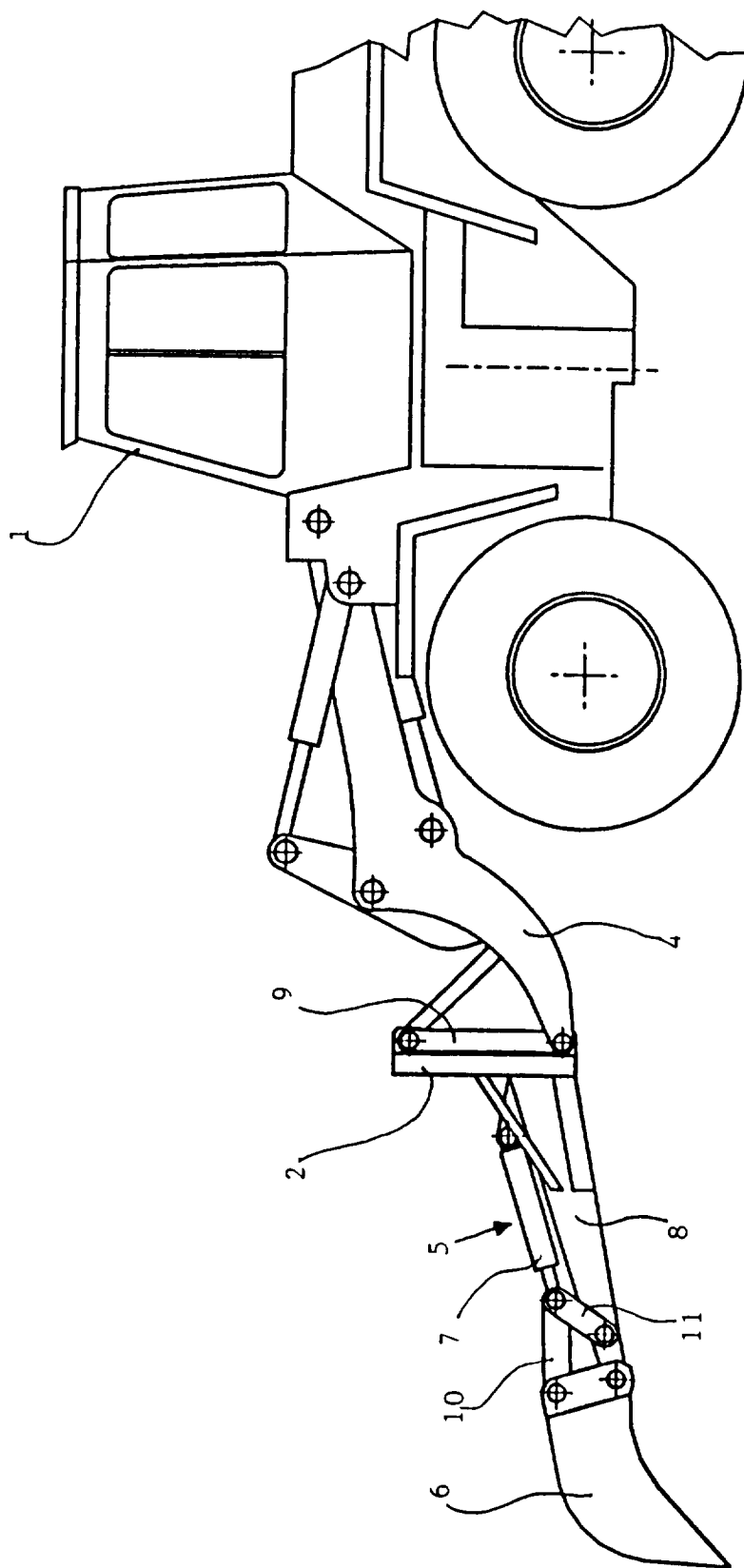


FIG. 1

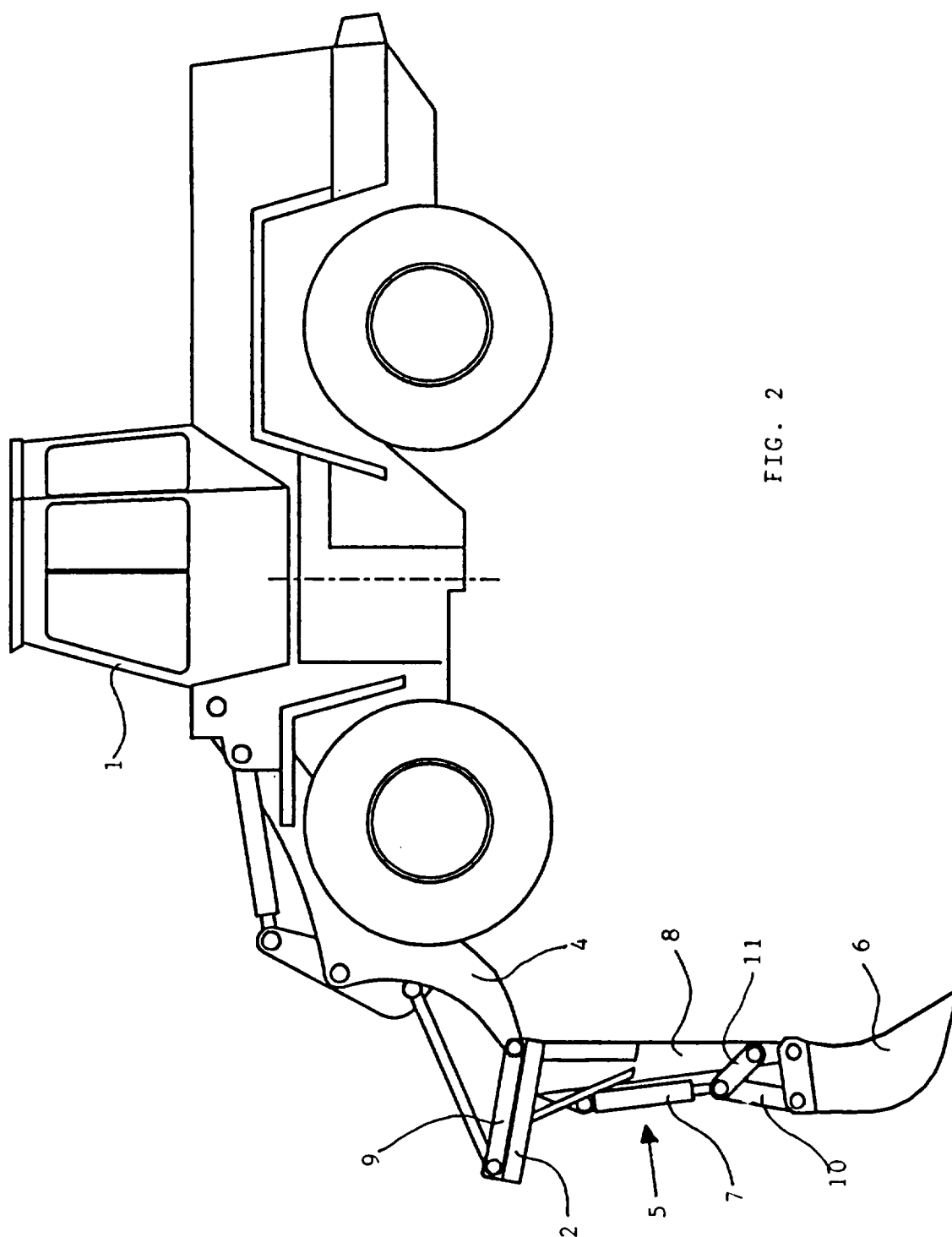


FIG. 2

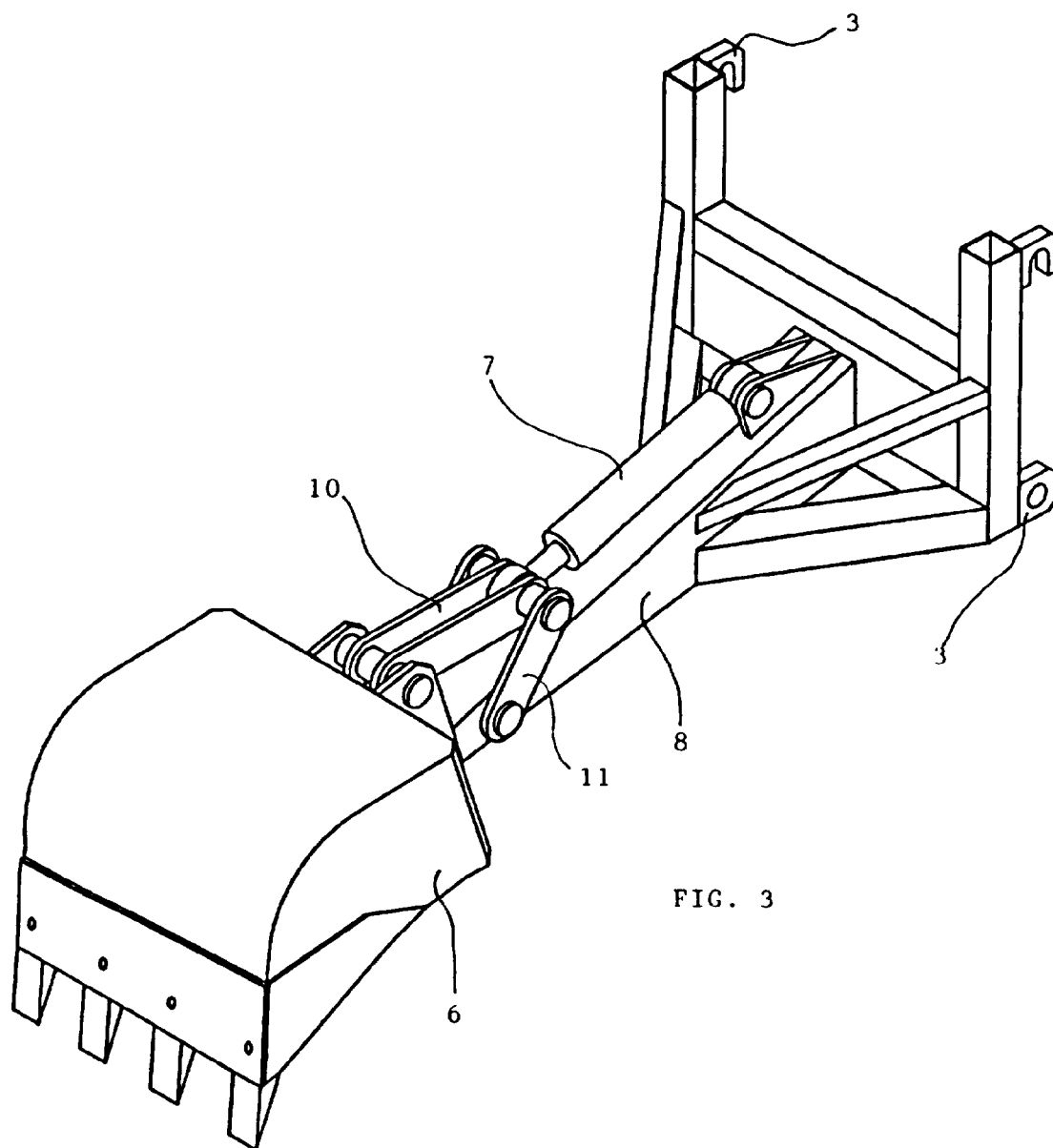


FIG. 3