(54) Title: LOCKING ARRANGEMENT FOR ESPECIALLY BALL-COUPINGS

(57) Abstract: Locking arrangement specially used for trailers and other vehicles or like, with a ball coupling arrangement around the pull arrangement for these. Where the locking arrangement generally can consist of a U-frame, which essential can be blocked or locked of one in this generally through going sliding tongue or cross pawl which in addition to cover and block/lock the top for the "ad hoc" mounted coupling house for the trailer or like, further has one to the locking arrangement extern fixed mounted coupling ball or like arrangement for fixing of the coupling house. And further in itself have other integrated means or arrangements for one with this further extern locking, as here an ideal stationary fixing.
Description.

Title
Locking arrangement for especially ball – couplings.

The using area of the invention
The invention concern an extern locking arrangement especially for trailers and other vehicles or like, with an arrangement of ball-coupling around the drawing arrangement of these.

Known technique
Hitherto have one known locking arrangements as an example mentioned in the English PCT application no. PCT/GB94/02678, where one have mentioned a more hands operated locking system, with a locking house and with a separate belonging coupling stanchion or column, with an extern knob for fixing of the house on the pull of the trailer to the extern coupling column. The disadvantages of this system is that the system is partly difficult to serve. That will say that it is clumsy and heavy to couple and mount mutual with each other, beside that the mentioned construction for that matter also is relatively expensive to get.

Hitherto have one also known locking arrangement as an example mentioned in US patent no. 1350085. Where the system generally only exist of an open bow, with a through going pawl or tongue, where one then outer can couple a padlock on. The disadvantages of this system is that it is very easy to break or open, as one only can clip over or cut over the pawl on the padlock.

The technical problem there must be solved
With the invention one want to produce or make an extern locking arrangement of the mentioned sort, where one both can use it direct on the arrangement of the pulling rod, and with the same system or arrangement can couple it to extern steady stationary arrangements with different means.
The new technique

The new is that the locking arrangement, which generally consist of an U-frame, in its essential exist of one in this generally through going and movable tongue or cross pawl, which in addition cover and block/lock the house of coupling for the trailer or like, qua one for the locking arrangement extern mounted coupling ball or like arrangement, here furthermore in it self has other integrated means or arrangements for an extern locking, as respectively a securing or fixing to generally, as an example, ideal extern stationary fixing arrangements as columns, walls an like fixing points or places.

The invention and specially favourable embodiments has to be explained nearer into details in the following under reference to the figures on the drawing.

The list of figures

Fig.1 shows in perspective a locking arrangement for specially ball-couplings on trailers and like. Where the locking pawl is drawn out from the locking arrangement for an unlocking and a mounting of a coupling house on a pull.

The locking arrangement has in itself integrated a ball for position fixing of the trailer arrangement. The locking pawl can be pulled or drawn over the ball and the house on the trailer coupling, by which the arrangements has to be locked. The locking pawl has to be pulled down to the bottom for automatic stop at a secured covered. As this in the same time have a traversing locking bead mounting holes for a padlock. The end of the locking pawl has a similar hole, so that the locking bow or clamp can go through both holes.

On the head of the locking bow, which for that matter has an angle bent flap, then is this equipped with a locking pin, which can go into a hole on the side of the trailer mount. The pin can perhaps be used for possibly extra chain fixing.

Fig.2 shows as into Fig.2 a locking arrangement gather and locked, where there here also can be seen the drawing arrangement itself on the trailer. As the cross pawl here can be seen pushed over this with the ball locked pulling arrangement. And where the cross pawl now lock the whole system. This can be locked for third man by mounting a padlock for the end of the inserted locking pawl, and lock it to the locking bawl itself.

Fig.3 shows the same arrangement as shown in Fig.1, but seen direct from the end. There are also shown, how one fixed the trailer with the locking mountings to a column, by mounting a chain into the fix-pin of the locking mountings, and couple it over a column or like.
Fig. 4 shows as in Fig. 3 an arrangement, where one has fixed the locked trailer to a coupling mountings, and this has here also been done via locking pin on the locking bowl. The mounting of the coupling could either been fixed on the wall, or if only the locking arrangement do not shall be used, then on the side of the trailer or like.

The locking arrangement could also be fixed together with a trailer or like to a column, where the mounting of the coupling could be fixed as an example welded to the end of a column, which so again possibly ideal could be concreted.
Claim 1. Locking arrangement specially used for trailers and other vehicles or like, with a ball coupling arrangement around the pull arrangement for these, characteristic of, that the locking arrangement consist of an U-frame, which essential can be closed or locked of one in this generally through going movable tongue or pawl, which in addition to cover and block / lock in the top for the "ad hoc" mounted coupling house for the trailer or like, further has one to the locking arrangement extern fixed mounted coupling ball or a like arrangement for fixing of the coupling house, and further in it self and in the same time has other integrated means or arrangement for one with this further extern locking and stationary fixing.

Claim 2. Locking arrangement according to claim 1, characteristic of, that the through going and movable locking pawl is shaped as a L with a long neck, generally ideal with a locking hole in the tip of the tongue, which mounted goes out of the sides of the locking frame end according to the position fit with the belonging locking hole on or in an extern covered locking bead, and that there on the angle plate of the locking pawl further is mounted a locking pin, which according to the position fit with a hole in the opposite other generally vertical outer side on the U-frame of the locking arrangement.

Claim 3. Locking arrangement according to claim 1, characteristic of, that it inner side of the secured cover of the locking bulb ideal indirect made bottom stop for the mounted locking pawl.

Claim 4. Locking arrangement according to claim 1, characteristic of, that an ideal shaped specially stationary secondary binding for the locking arrangement ideal can be shaped as a L, there fit in size outer on the side and in the bottom of the locking arrangement, where the vertical butt-strap on the secondary binding has been coupled with the locking arrangement, then have a fixing hole, which ideal fit over the locking tap of the locking pawl.

Claim 5. Locking arrangement according to claim 1 as 4, characteristic of, that the mount binding can have means for optimum fixing of the trailer.
6. Locking arrangement according to claim 1 as 4, characteristic of, that the mounting binding can be the upper part of a generally stationary column arrangement.
AMENDED CLAIMS
[received by the International Bureau on 28 June 2001 (28.06.01);
original claims 1-6 replaced by new claims 1-7 (2 pages)]

5

1. Method for integrated fix-locking of especially a trailer lock (1) for
a trailer pull (10) and like, characteristic of, that the trailer lock
(1) in itself has integrated means (2 as 7) for an extern fix- locking (7,11,12,
13 as 14), and that this extern fixing (7, 11 as 13) in the same time via other
means (11,13 and 15) than kept in the trailer lock itself (1).

10

2. Trailer lock (1) for a trailer pull (10) or like, characteristic of, that the trailer lock (1) has a loos and a moveable through going
arrangement of pawl/ butt-strap (2) or lock , as arrangement of cover (2),
which is designed as a angel especially a right angel, where the one side is
the one angle side, placed or mounted, is placed outer on the trailer lock (1)
and is supplied with a locking pawl (7) or a pin (7), there is going into a pilot
hole (8) on the side-flange on the trailer lock itself, and where the pin (7) in
the same time further made a sort of extern locking bow arrangement (7) or a
pin arrangement (7), which further is integrated and fix-locked (8) in the
whole system (1) itself, but which in the same time by these mean(s) (7)
gives possibility for , or make, a further extern fixing via other means (11,13
as 15).

15

3. Trailer lock (1) for a trailer pull (10) or like according to claim 2,
characteristic of, that the locking tongue (2) or pawl / butt-strap
arrangement (2) with the integrated locking bawl arrangement (7) in the
trailer lock itself (1) has means (5) for a fixed or steady position, where the
position as an example has been established as a bottom stop or end stop
on/at the inner side of the house (5) of the trailer lock (1), and where the pawl
/butt-strap arrangement (2) has means integrated in such a way that it can be
fixed in its position, as an example by corresponding locking holes in
respectively the pawl / butt-strap (2), as insert or mounted in the house of the trailer lock (1), in the house (4) itself.

4. Apparatus (13) for extern fixing of the trailer lock itself (1) according to claim 2, characteristic of, that the apparatus (13) is shaped or designed as an extra extern fixing mount or binding (13), as an example could be shaped or designed as a right angle arrangement, where the vertical angle has a hole the fit the locking-bowl (7) or the pin (7) of the trailer lock.

5. Apparatus (13) for extern fixing of the trailer lock (1) itself according to claim 2, characteristic of, that the fixing mount or binding (13) in its horizontal plan has locking - and leading pins (15), there fit to lead – as fixing holes in the bottom or opposite of the trailer lock (1) itself.

6. Apparatus (13) for extern fixing of the trailer lock (1) itself according to above-mentioned claims, characteristic of, that the mount or binding of fixing (13) has means integrated in its construction in such a way that it can be mounted on horizontal as vertical plan or like, as an example on a column or post (14) , as on a house wall (16) or a camping wagon (16).

7. Apparatus (13) for extern fixing of the trailer lock (1) itself according to above-mentioned claims, characteristic of, that the arrangement of locking bawl (7) or pin-arrangement (7) on the trailer lock itself (1) is shaped or designed in such a way, with an arrangement of a shut or closed bawl or lock, that the arrangement (1) mounted can be locked to different other means as columns (12), bindings (13) or like, with other extern means (11), as an example a chain (11) or like arrangement, which has to be coupled into this arrangement of bawl (7).
Fig. 1

(5) Securing guard

(4) Locking bulb with locking eye

(1) Trailer-lock (mounting)

(9) Hole for fix of locking pin

(2) Locking pin (cross pin)

(8) Guiding hole

(7) Locking pin

(3) Coupling ball

(6) Padlock

Fig. 2

(10) Coupling arr. from the trailer

(2) Placed locking tongue/pin

(6) Placed padlock

(1) Locking bawl (bow)
### A. CLASSIFICATION OF SUBJECT MATTER

**IPC7:** B60D 1/60, B60R 25/00  
According to International Patent Classification (IPC) or to both national classification and IPC

### B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

**IPC7:** B60D, B60R  
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
SE, DK, FI, NO classes as above  
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

### C. DOCUMENTS CONSIDERED TO BE RELEVANT

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*Further documents are listed in the continuation of Box C.*  
*See patent family annex.*

**Date of the actual completion of the international search:** 11 June 2001  
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