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(54) Store arrangement

(57) This invention concerns a store arrangement secured against breaking open for use by theft protection of large objects, for example motorcycles, at its normal place of stay.

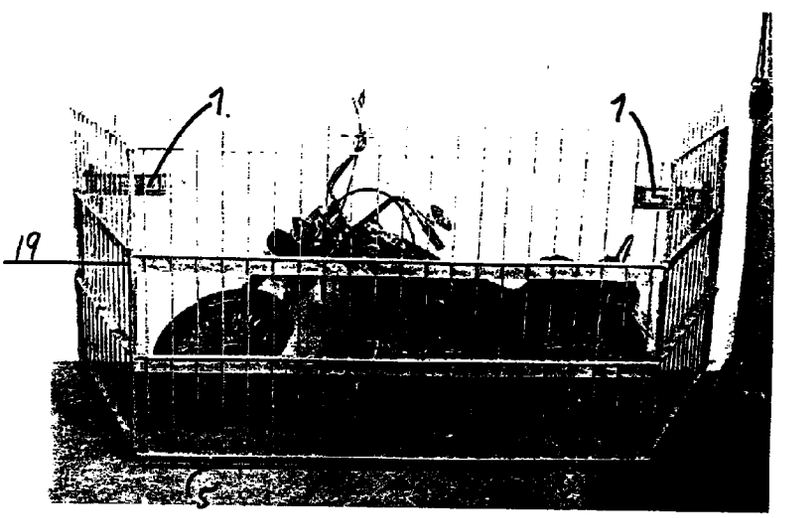
The new by the invention consists of an articulated securing of lock system against breaking open (1) which is used together with a shutting system constructed as an articulated or linked grid cage (19) in which the object, for example motorcycles desired to be protected against theft, is placed within.

The grid cage and the securing of lock system against breaking open is constructed in such a way that it is secured against being broken open, as all links and mounting screw bolts are fixed when the securing of the lock system is locked.

In order to function, the invention only has to use wall for erection and mounting. The invention has a height preventing the object desied to be protected against theft to be lifted over the grid cage.

The invention as a whole is made in a very hard steel material, which only can be broken through with a special cutting tool.

FIGUR 1



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Description

[0001] This invention relates to a store arrangement comprising a shutting and locking system secured against breaking open for use as securing large objects against theft, for example motorcycles, at its normal place of stay.

[0002] The arrangement consist of a closed movable grid cage and a locking system belonging to it, which, seen as a whole, with its design and way of mounting has the purpose of preventing inadvertent breaking open of the grid cage for stealing the object, e.g. motorcycles, placed inside the grid cage.

[0003] According to a special embodiment, the invention concerns a grid box secured against breaking open by securing valuable goods against theft which are desired to be transported to/from or stored on the place of use.

[0004] The arrangement consists of a closed grid cage, preferably with area as a Euro-pallet, and locking system belonging to it, which seen as a whole with its design and way of mounting has the purpose of preventing unintentional breaking open for stealing the contained valuable goods, which is desired secured by transport to/from or on the place of use.

[0005] Protection against theft, for example for motorcycles, are known in several variations. As example can be mentioned electronic/mechanical start blocking, chain/wire passed through wheel and frame and locked with traditional padlock/wirelock, frame or steering wheel lock, acoustic alarm, and locking in closed and secured compartment.

[0006] Valuable goods as cigarettes, liquor, AV-equipment and other easily negotiable products desired to be protected against theft during transport from producers to central stores, wholesalers, or to the final user, are nowadays freighted via closed container or other closed loading system. From wholesaler or central store to customers, the transport typically occurs in a closed loading system (lorry).

[0007] Transport of goods from central store to wholesaler is often impossible to secure against theft with the transport system available today, as there is typically used open/unlocked grid cages etc. Valuable goods desired to the secured against theft have to be transported in locked containers. But these containers are heavy and space demanding and difficult to handle. Furthermore, they are not always fit for the maybe lesser volume desired to the transported.

[0008] As some transport of goods to shops and other firms often takes place at night, and the valuable goods are unloaded in locked storage yards, the valuable goods are only protected against theft via the locking of the storage yard. This is dissatisfying as the storage yard is often situated in a deserted and out-of-the-way place, giving peace to work for burglars who may force the barrier of the storage yard and take out goods as they like, or by crane simply lift the containers over the wall of the storage yard.

[0009] The known theft protections are all known by the fact, that the object desired to be protected against theft, e.g. motorcycles, may be removed from its place of residence, as cables etc. can be shorn, or the motorcycle may simply be lifted away and transported away in/on another vehicle. If this is to be prevented, the motorcycle or the like desired to be protected against theft should be placed in a closed compartment/room with a specially secured, locked door.

[0010] As many do not have such a compartment/room, theft is, as mentioned before, unavoidable. With the invention it is not necessary with a secured compartment/room, as the invention, in order to operate, only need a wall for erecting and mounting against and a firm floor, as the design and way of mounting of the invention prevent the object, for example motorcycles, placed inside the invention, cannot be removed unwantedly when the invention is locked.

[0011] With a special embodiment for the arrangement, transport/freight and storage of valuable goods is a secure method, as the grid cage becomes locked with a system lock at the forwarding of the goods and furthermore becomes locked to a wall in the storage yard via a shutting and locking system securing against breaking open, which prevents that the grid cage unintentionally may be lifted out of the storage yard.

[0012] The new features of the invention consist of a store arrangement for securing large objects, for example motorcycles, and which comprises a closed movable grid cage and a locking system belonging to it, which is peculiar in that the arrangement comprises a mounting frame for mounting on a wall, and that the grid cage comprises a locking arm pivotably mounted on the grid cage, and which has a pin arranged for interacting with holes in the mounting frame, and that the grid cage has several sides being mutually fastened in non-demountable way, at least when the grid cage is fastened to the wall.

[0013] The securing of the locking system may be articulated or linked; one link is for locking the grid cage and the other link is fitted on the wall of erection in a security system so that unintentional demounting and breaking open is impossible.

[0014] The arrangement which is an articulated grid cage construction is fitted with wheels on the floor (so the grid cage easily may be opened and closed for insertion and taking out the secured object) is, like the securing of the locking system, constructed in such a way that when it is locked off, all links are fixed in such a way that they cannot be separated from the place of mounting.

[0015] The arrangement is furthermore resistant against blows and breaking open, as it is made of a hard steel material and all immovable parts are welded together.

[0016] The padlock in the securing of the locking system is secured against cutting or breaking up, since the

padlock is placed in a protected lock housing. The grid cage itself is made with a height ensuring that the object desired to be theft-protected cannot be lifted over the grid cage.

[0017] By using the new technique, the object desired to be protected against theft, for example motorcycles, can be placed inside the arrangement to be secured against breaking open, and thereby the object cannot be removed by being lifted from the secured place, and the locking of the grid cage with the securing of the locking system causes the locking to be secured against unintentional breaking open.

[0018] The grid cage is designed with its length corresponding to object desired to be secured against theft may be contained. The height of the grid cage is constructed according to wish; however, with a height ensuring that the object desired to be secured against theft cannot be lifted out of the grid cage. Alternatively, the grid cage can be constructed with a roof fastened to the sides and possibly also to the wall by using a securing of the locking system.

[0019] Since the arrangement secured against breaking open is constructed in such a way and in a steel material which is very hard, breaking through and breaking open is impossible without special cuffing tools.

[0020] According to a special embodiment, the arrangement comprises a grid cage secured against breaking open with area possibly as a Euro-pallet with securing of the locking system belonging to it. The bottom on the grid cage is furthermore reinforced and designed with feet as a Euro-pallet (made of steel), so that the grid cage may be lifted and transported with truck or traditional pallet loader. Top and bottom and the three sides of the grid cage are welded together in such a way that only the opening side is hinged for taking in and out of the goods desired to be transported. The height on the grid cage is adjusted for system freight.

[0021] The sides of the grid cage and the four sides together with top and bottom of the grid box consist of SKAFOR approved security net and welded together on steel frames.

[0022] The opening side is locked via securing against breaking open locking system welded on. The padlock or alternative built-in locking mechanism of known make in the securing of the locking system is secured against shearing or breaking up, as the padlock or alternative locking mechanism is placed in a protecting lock housing. The hinges of the opening side are fastened via pins and eyes in the top of the wicket in such a way that they cannot be separated when the securing of the lock system is locked.

[0023] When the grid cage arrives to the storage yard or to the place of use, the grid box is fastened to a wall via wall mounted securing of the lock system. Hence it is ensured that the grid box is not unintentionally removed from the place of arrival. The key to the wall or floor mounted securing of the locking system is only possessed by the receiver. The lock in the firmly mounted securing of the lock system to the opening side of the grid cage may be a system lock so that sender and receiver has the same lock system.

[0024] The invention and specially advantageous forms of embodiment and mounting are explained in details in the following with reference to the figures on the drawings.

[0025] Table of figures:

Fig. 1	shows a perspective view of the whole invention,
Fig. 2	shows articulation of a closed grid cage,
Fig. 3	shows a securing of lock system against breaking open with a pivotal member (locking arm) locked on a closed grid cage and stationary part mounted on wall in security system,
Fig. 4	shows securing of lock system against breaking open with locking arm opened by closed grid cage,
Fig. 5	shows securing of lock system against breaking open with u-iron section screwbolted on wall, pin on u-iron section for mounting of profiled locking plate,
Fig. 6	shows securing of lock system against breaking open mounted on wall with locking plate for covering mounting parts and how the locking plate becomes fixed by the locking arm (pivotable part),
Fig. 7	shows the invention in a plane, but as a version mounted on an angular wall, and
Figs. 8-12	show the different sides of an embodiment of the grid cage as a closed grid box.

[0026] On Fig. 1 one may see all of the invention in perspective view containing a motorcycle. The two securings of lock system against breaking open 1 with stationary part mounted and secured on wall act, besides as secure locking, also as mounting units secured against breaking open, which hold the grid cage against the wall which the grid cage is erected against. Furthermore, the wheels 5 against floor are seen, making the grid cage easy to open and close.

[0027] On Fig. 2 the articulation of the grid cage is shown, which by its way of mounting, with downward directed pins 3 welded on the side of the grid cage locked on the wall, makes the front side of the grid cage impossible to lift off, as the eyes 4 welded on the front side where the pins are passed through prevent this.

[0028] On Figs. 3 - 6 the securing of lock system against breaking open is shown, where the mounting frame 6 consisting of a u-iron section is mounted with screwbolts 7 in order to hold this against wall and the pin 8 welded on, whereafter the profiled locking plate 9 having an eye 10 welded on is mounted on causes the locking plate, when this is locked into the U-section of

the mounting frame, to cover the mounting screwbolts.

[0029] As the locking plate has a bent section 11, the pivotable locking arm 12 with pin 13 welded on may be mounted in the holes 14 on the mounting frame, whereby the locking plate in bent section 11 becomes fixed behind the pin of the locking arm.

[0030] The pin of the locking arm having a thread in the upper half is mounted with two bolts 15, that are check tightened, only have the purpose of holding the locking arm 12 in an open state.

[0031] The lock housing 16 protects the padlock for locking (see Fig. 3) against blows and shearing. On the back side of the locking arm 12 there is punched a groove 17, where the locking eye 18 can be when the locking arm is swung inward against the grid cage.

[0032] The locking eye is then passed through the locking arm and into the lock housing welded on, so that the lock brace of the padlock is passed through the locking eye and is locked.

[0033] The grid cage itself can be made in another version with two sides. See Fig. 7 for erection in a corner against an angular wall.

[0034] On Fig. 8 one may see the front of the grid box with the opening side. 21 shows the securing of lock system against breaking open for locking the opening side of the grid cage. 22 shows hinges for the opening side in the grid box. 23 shows pins going through eyes welded on in the wicket (the opening side) for fixing the hinges of the opening side. The fixing via 23 prevents that the hinges 22 cannot be lifted off when the wicket is closed and locked. 24 shows steel frame on which the security net is welded on. 25 show feet on the bottom of the grid box designed as a Euro-pallet. 26 illustrates floor. 27 shows security net consisting of round bar iron welded together.

[0035] On Fig. 9 one may see the back side of the grid box placed against wall.

[0036] On Fig. 10 one may see the bottom of the grid box, formed as a Euro-pallet with security net welded on, preventing unintentional access from the bottom.

[0037] On Fig. 11 one may see the side of the grid box. 1 shows the securing of lock system against breaking open mounted on a wall, which the grid box is locked to. 28 shows access for unlocking the securing of lock system against breaking open on the grid box. 29 illustrates section of a wall on which the securing of lock system against breaking open is mounted. As alternative, 1 may be mounted in the floor and lock the grid box at the bottom, if desired.

[0038] On Fig. 12 one may see the top of the grid box, which also is secured against unintentional access via security net welded on.

[0039] The locking plate 9 has a bent profile 11, which, when the locking arm 12 having a pin 13 welded on, is mounted in the holes 14 of the mounting frame, causes the locking plate 9 with its bent section to be fixed behind the pin 13 of the locking arm 12, which, when the locking arm 12 is locked with padlock in the lock housing 16 to the grid cage having mounted a locking eye 18 fitting in a cut-out 17 on the back side of the locking arm 12 through which the locking brace of the padlock is passed and locked, cause the mounting frame 6 to be secured against unintentional demounting, as the locking plate 9 has covered the mounting screwbolts through the mounting frame. Hereby the securing of the lock system, which is new with the said details and embodiment, becomes impossible to break open, since the mounting screw bolts 7 screwed into the erection wall are not accessible in the locked condition.

[0040] The store arrangement can be articulated and comprise a stationary part consisting of the mounting frame and the locking plate is mounted on wall and a swinging part the locking arm 12, which only may swing inward. As the locking arm with its section 20 causes that this acts as a check for reversed swinging. The pivotable function of the locking arm 12 is achieved in that the pin 13 welded on the locking arm has a thread in the upper half and is passed through the holes 14 on the mounting frame and is locked with two bolts 15, which are check tightened so that these are not tightened down against the mounting frame 6.

[0041] Thereby no fastening is created and the locking arm is made pivotable. The two check nuts 15 only has the function of holding the locking arm 12 when this is swinging inward against the grid cage (see Fig. 3) for locking, or oppositely by unlocking and taking out of the secured object in the grid cage, as the bolts are without any security importance when the locking arm is locked against the grid cage, because the locking arm cannot be taken out of the mounting frame 6, as the padlock in the locking housing 16 is passed through the locking eye 18 welded on the grid cage 19, and thereby the locking arm is secured against the grid cage and cannot be removed without unlocking the padlock in the lock housing 16. The lock housing 16 has the purpose of protecting the padlock against blows and breaking open/shearing, as the padlock is only accessible at the underside of the lock housing.

[0042] The store arrangement can be used for locking a closed grid cage 19. The grid cage is mounted with a securing of lock system against breaking open 1 at both sides for partly making possible opening of the grid cage arbitrarily in the side which the secured object is wished to be taken out at, but at the same time the two securings of lock system against breaking open 1 function as mounting units secured against breaking open, which hold the grid cage against the wall which the grid cage is desired to be erected against.

[0043] A securing of lock system against breaking open 1, being articulated 2, is used for the grid cage, so that the three sides of the grid cage are movable when the securing of lock system against breaking open is unlocked for taking out the object, e.g. motorcycles, which is desired to be secured against theft. The link 2 of the grid cage, partly consisting of pins 3 welded on the two sides of the grid cage has eyes 4 inserted,

which are welded on the front side of the grid cage.

[0044] This embodiment and construction implies that when the two mounted securings of lock system against breaking open 1 are locked on the sides of the grid cage, the links of the grid cage are fixed in such a way that separation of the links 2 cannot take place by lifting off, as the pins 3 at the sides of face the floor; thereby the links become totally fixed.

[0045] As the grid cage 19 and the shutting and the securing of lock system against breaking open 1 is made in a steel quality, which is very hard, breaking through without any special cutting tool is impossible.

[0046] The grid cage may be constructed with a length corresponding to the object, which is desired to be secured against theft, e.g. motorcycles, can be contained in the grid cage 19. The height of the grid cage is constructed according to wish; however at least with a height ensuring that the object desired to be protected against theft cannot be lifted out of the grid cage.

Claims

1. A store arrangement for securing large objects, for example motorcycles, and which comprises a closed movable grid cage (19) and a locking system (1) belonging to it, **characterised** in that the arrangement comprises a mounting frame (6) for mounting on a wall, and that the grid cage (19) comprises a locking arm (12) pivotably mounted on the grid cage (19), and which has a pin (13) arranged for interacting with holes (14) in the mounting frame (6), and that the grid cage (19) has several sides being mutually fastened in non-demountable way, at least when the grid cage (19) is fastened to the wall.

2. A store arrangement according to claim 1, **characterised** in that the mounting frame comprises a U-section which by means of mounting means (7) is fastened to the wall, and which comprises a pivotably suspended locking plate (9) that may be pivoted into the U-section and cover the mounting means (7), and that the locking plate (9) is fixed when the pin (13) has been inserted into the holes.

3. A store arrangement according to claim 1 or 2, **characterised** in that the pin (13) is mounted on the locking arm (12) via a bracket (20) extending perpendicularly to the locking arm (12), so that this only can pivot to a desired angle out from the mounting frame (6).

4. A store arrangement according to any preceding claim and where the grid cage (19) together with the wall form an enclosure for the object, **characterised** in that there is provided a mounting frame (6) and an interacting locking arm (12) at each end of the grid cage (19) for making possible an arbitrary opening of the grid cage (19) at each end.

5. A store arrangement according to any preceding claim, **characterised** in that the sides of the grid cage (19) preferably are provided in a number of three and are linked to each other so that they are mutually movable when opening.

6. A store arrangement according to claim 5, **characterised** in that the sides of the grid cage (19) are linked to each other, as the sides mounted on the wall have downward directed pins (3) interacting with eyes (4) on this or the other sides.

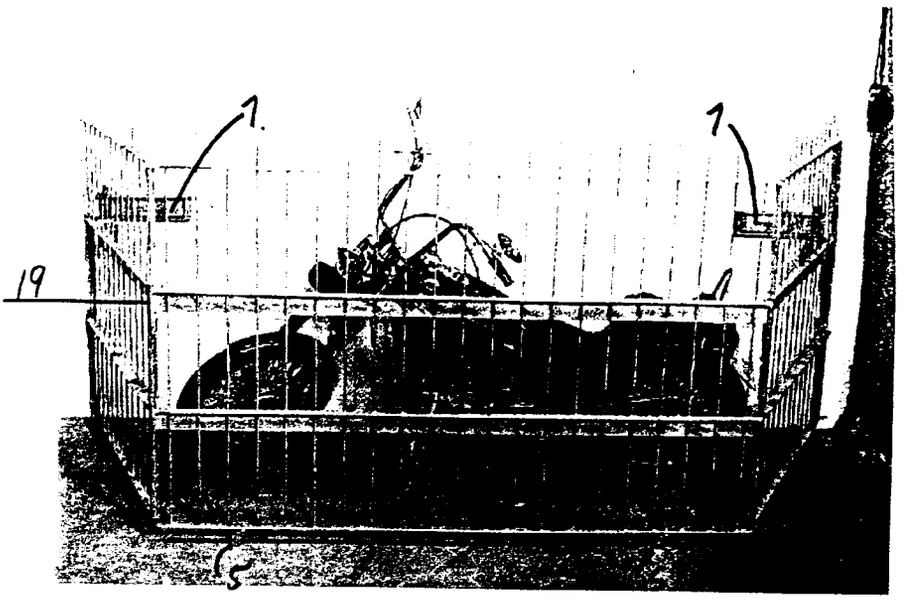
7. A store arrangement according to any preceding claim, **characterised** in that the grid cage is open upwards and has a height preventing the object being lifted out.

8. A store arrangement according to any preceding claim, **characterised** in that that the side walls of the grid cage are provided with wheels (5) for facilitating opening and closing of the grid cage (19).

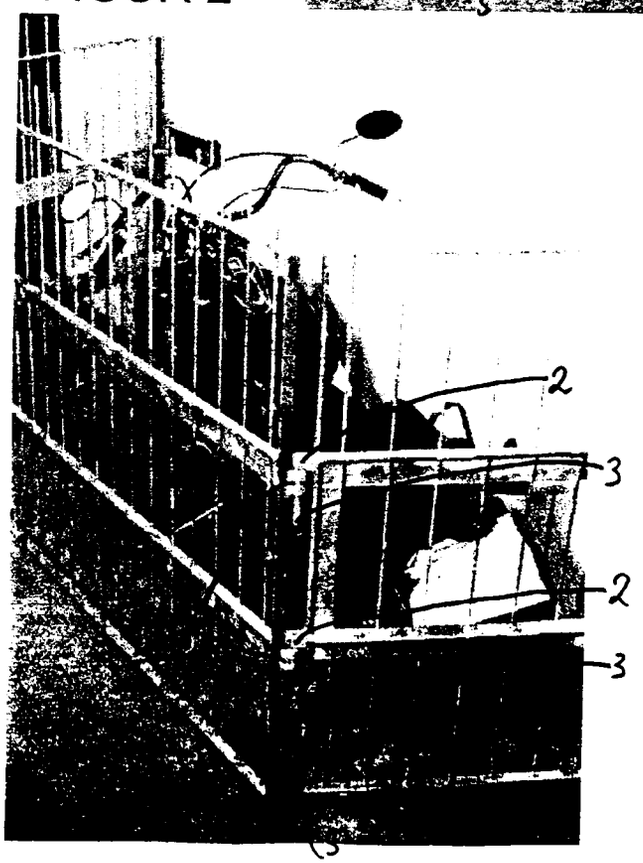
9. A store arrangement according to any of the claims 1 -6, **characterised** in that the grid cage is closed at all sides and arranged to be used for transporting the object, that at least one side is arranged for opening, and that at least at one side of the cage there is provided locking arms (12) for interacting with mounting frames (6).

10. A store arrangement according to claim 9, **characterised** in that the grid cage (19') is provided with feet (21) at its underside.

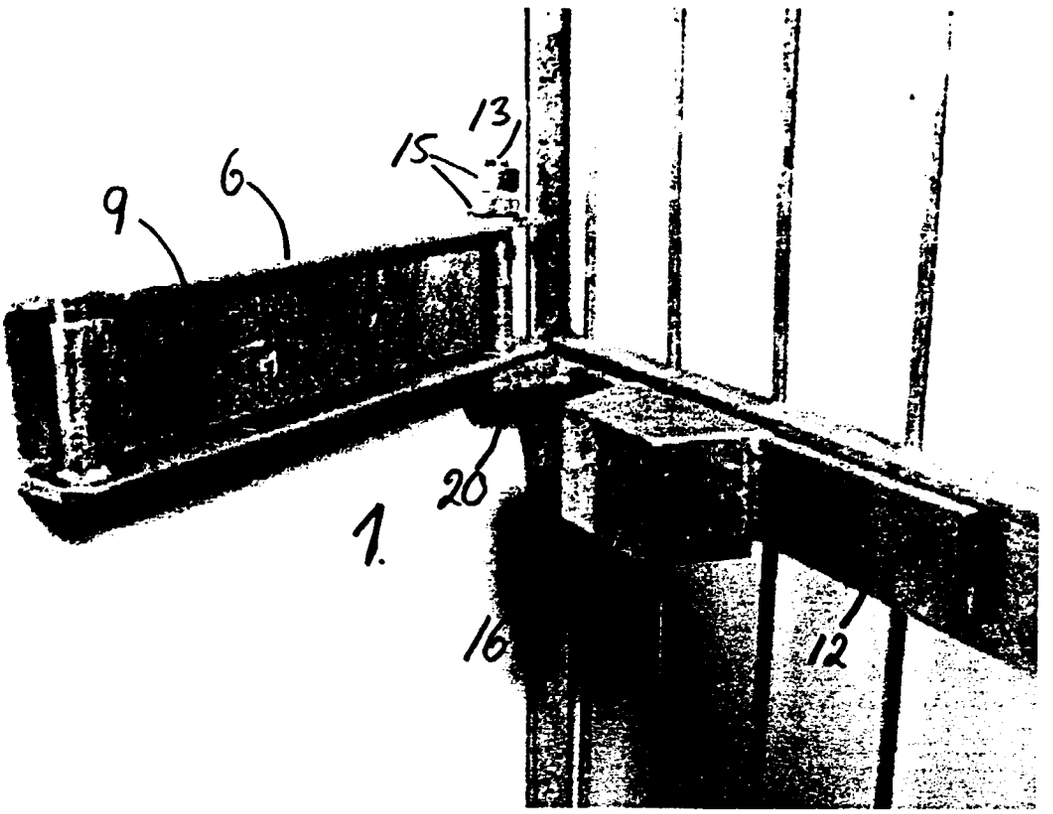
FIGUR 1



FIGUR 2



FIGUR 3



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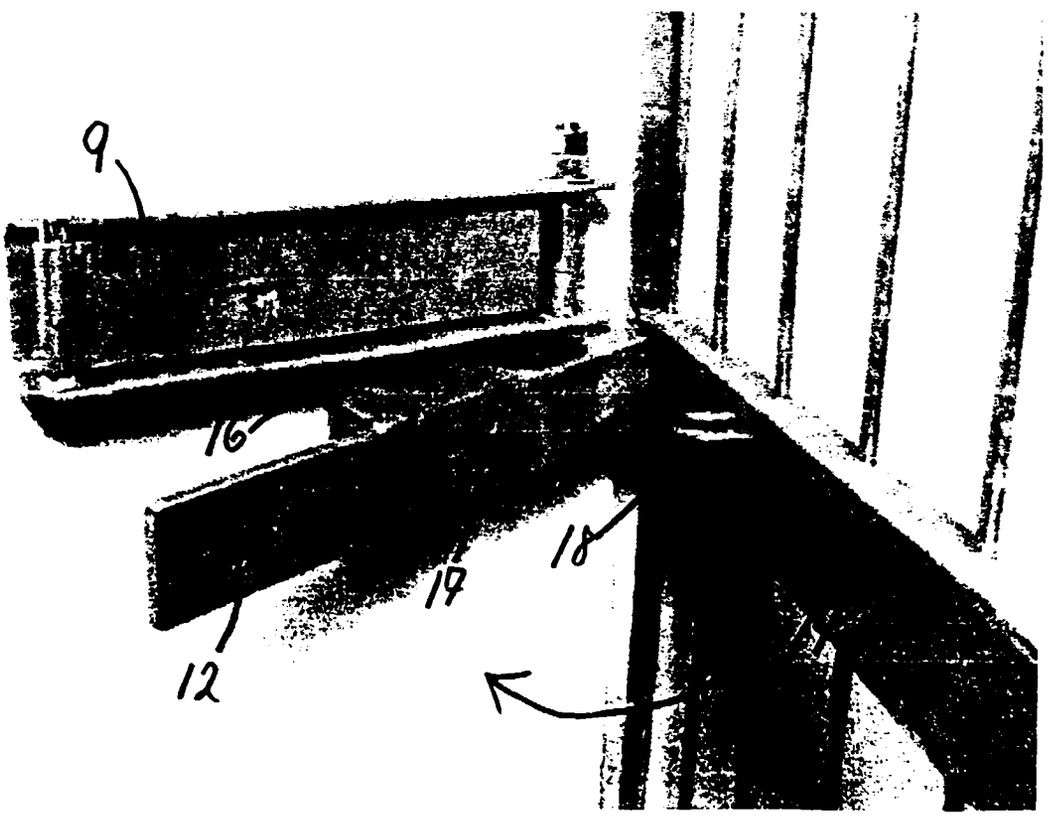
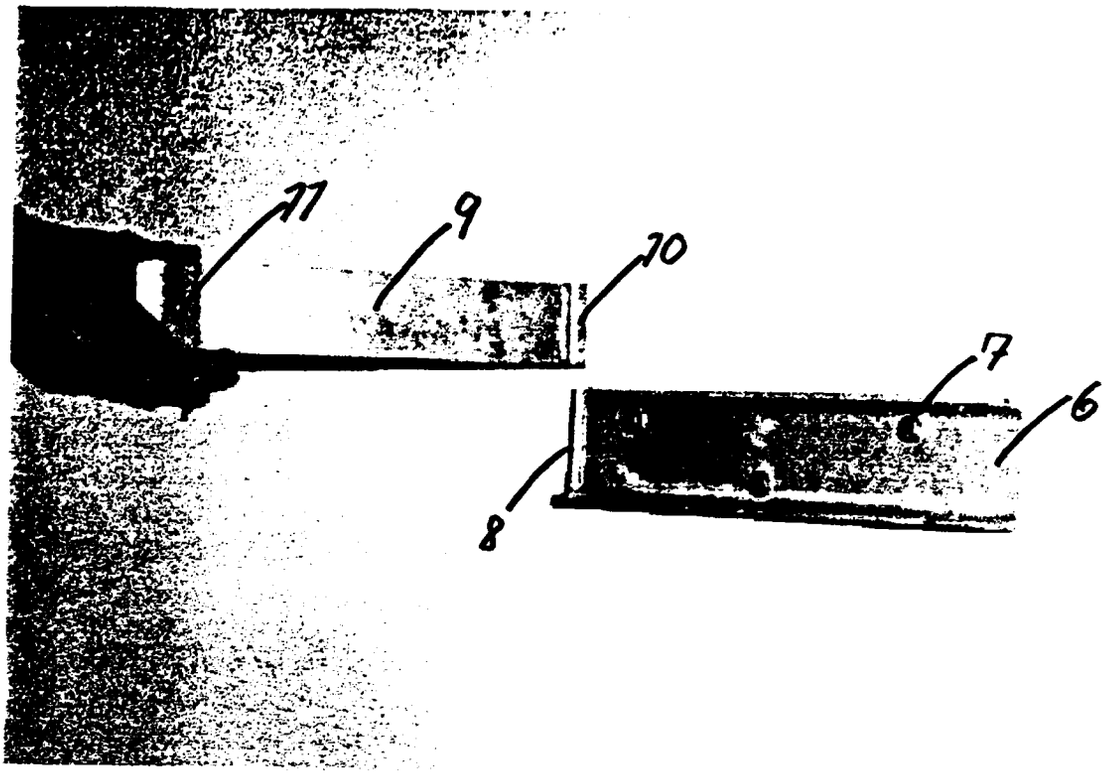
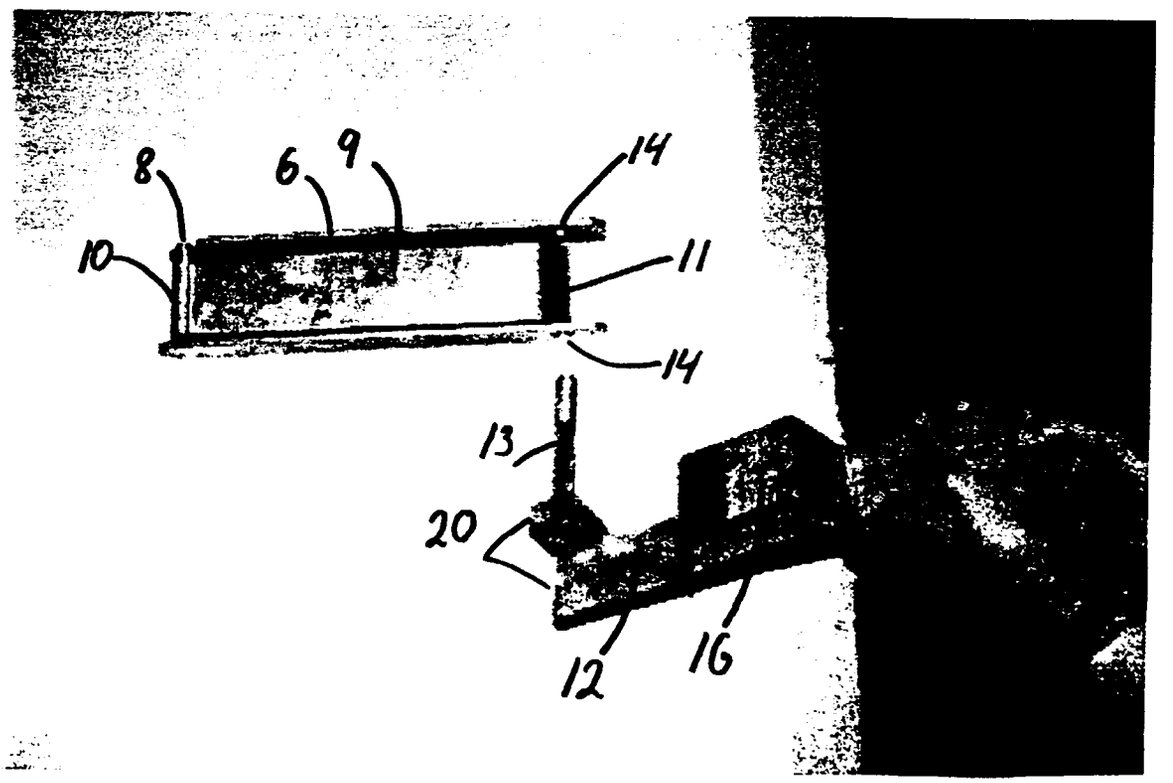


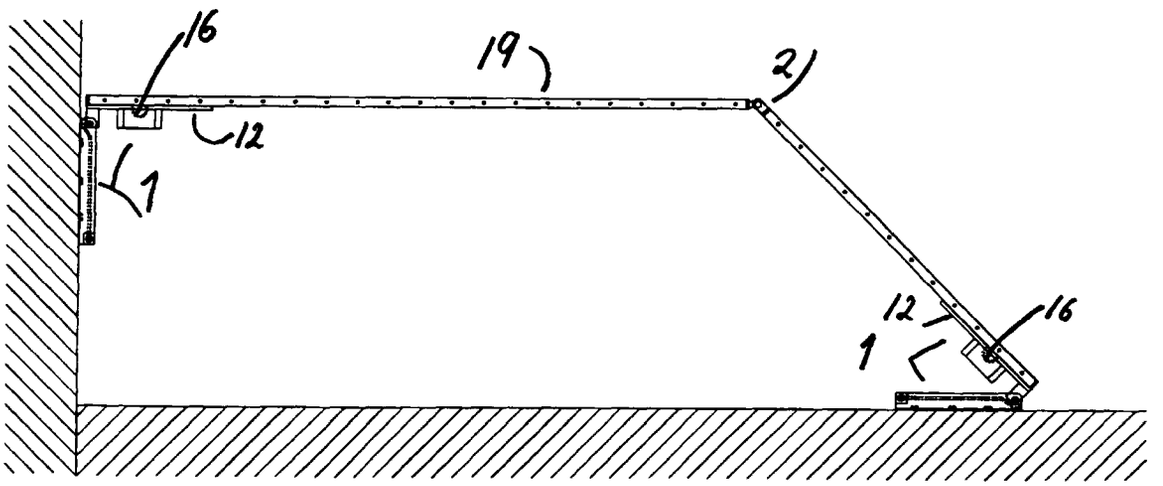
FIGUR 5



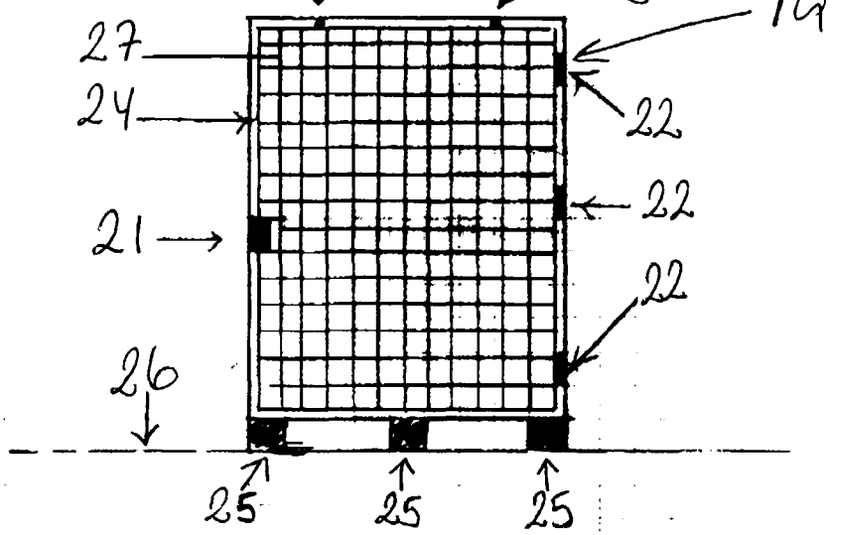
FIGUR 6



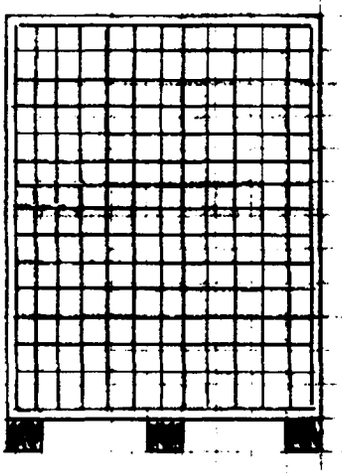
FIGUR 7



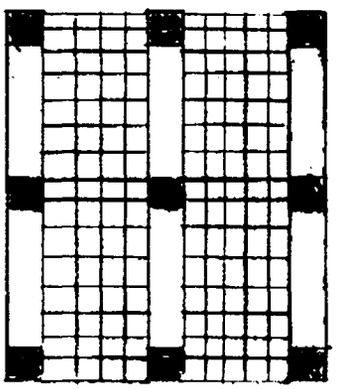
FIGUR 8



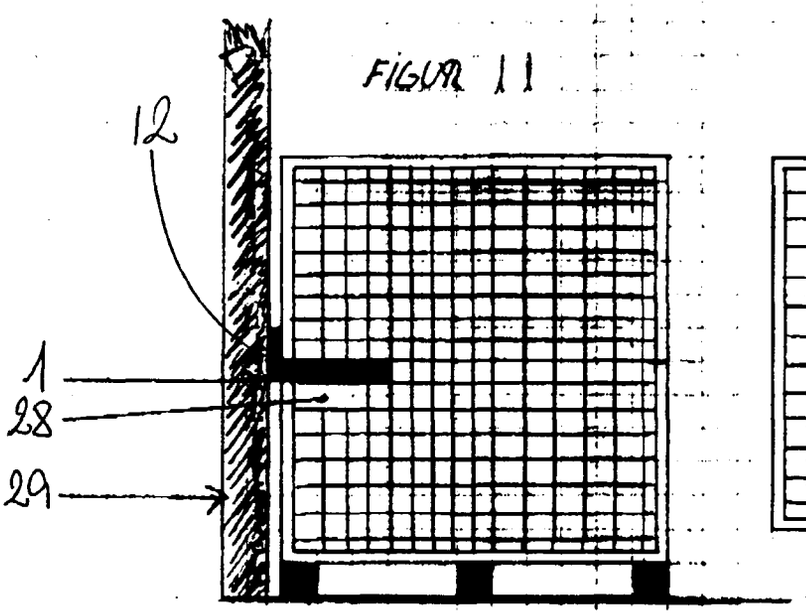
FIGUR 9



FIGUR 10



FIGUR 11



FIGUR 12