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Inventor(s)	BRINKMANN; Franciscus Jozef Leonardus Hubertus

ANTI-LIFT SYSTEM, FLOOR PART, SCAFFOLD, AND USE

Abstract

Anti-lift system for a floor part for a scaffold, comprising: an end piece provided with one or more hook elements with which the floor part can be hooked to a transverse ledger of the scaffold so as to be supported on that transverse ledger, wherein the hook elements define a ledger receiving space for the transverse ledger; and a stiff bolt couplable with the end piece, which in coupled condition is movable relative to the end piece along a bolt movement path between a releasing position and a locking position, wherein the bolt in the locking position extends along the ledger receiving space to block movement of a received transverse ledger out of the ledger receiving space, wherein the bolt in the releasing position extends less or not along the ledger receiving space to release movement of the received transverse ledger out of the ledger receiving space. The system is configured to have the bolt automatically move to the locking position when the bolt is between the locking position and the releasing position. A resistance element can stabilize the releasing position.

Inventors: **BRINKMANN; Franciscus Jozef Leonardus Hubertus (Lierop, NL)**

Applicant: **Scafom Holding B.V.** (Budel, NL)

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Background/Summary

FIELD

[0001] The invention relates to an anti-lift system for a floor part for a scaffold, as well as to a floor part provided with such an anti-lift system, a scaffold provided with such a floor part, and a use.

BACKGROUND

[0002] Anti-lift systems for a floor part for a scaffold are known in various forms, for example from WO00/61891A1. An anti-lift system is generally configured to counteract a floor part getting unintentionally detached from a scaffold, in particular due to an upward force of wind to which the floor part is exposed.

[0003] There is an ongoing need for further improvement of such systems, it being desired in particular that reliable anti-lift protection is combined with a high measure of ease of use and durability.

[0004] GB2127086A and FR2781534A1 disclose systems according to the pre-characterizing portion of claim **1**.

SUMMARY

[0005] An object of the invention is to improve anti-lift protection for a floor part for a scaffold, in particular as regards reliability of the protection, ease of use, and/or durability. An object is to at least partly remedy one or more disadvantages of known systems, in particular while retaining advantages presented. An object is to provide at least an alternative anti-lift system.

[0006] To this end, according to an aspect, an anti-lift system according to claim **1** for a floor part for a scaffold is provided. The anti-lift system, herein also referred to as ‘system’ for short, comprises an end piece configured to form a longitudinal end of a floor part for a scaffold, provided with one or more hook elements with which the floor part at the longitudinal end can be hooked to a transverse ledger of the scaffold so as to be supported on that transverse ledger. The hook elements define a ledger receiving space for the transverse ledger. The transverse ledger is received in the ledger receiving space when the floor part is hooked to the transverse ledger with the hook elements. Such hook elements are known per se for floor parts for scaffolds.

[0007] The system comprises a stiff bolt couplable with the end piece, which in coupled condition is movable relative to the end piece along a bolt movement path between a releasing position and a locking position. In the locking position, the bolt extends along the ledger receiving space to block movement of a received transverse ledger out of the ledger receiving space. In the releasing position, the bolt extends less or not along the ledger receiving space to release movement of the received transverse ledger out of the ledger receiving space.

[0008] The anti-lift system is configured to have the bolt in coupled condition automatically move to the locking position when the bolt is between the locking position and the releasing position, at least when the transverse ledger is received in the ledger receiving space.

[0009] Having the bolt thus move automatically to the locking position can counteract the bolt remaining unintentionally and/or unnoticed in an intermediate position between the locking position and the releasing position when the transverse ledger is received in the ledger receiving space. Such an intermediate position could otherwise result in insufficient or at least reduced anti-lift protection. A further advantage is that a user, in this way, needs to displace the bolt from its

releasing position only a little at the most, to have the bolt reach the locking position.
[0010] Having the bolt automatically move to the locking position can be driven in various ways, for instance through a bias toward the locking position. In a particularly robust embodiment, having the bolt automatically move to the locking position is driven by the bolt's own weight, as is further explained in the detailed description.
[0011] A further aspect provides a floor part for a scaffold, provided with at least one anti-lift system as herein described, with the end piece of each anti-lift system forming a respective longitudinal end of the floor part.
[0012] A further aspect provides a scaffold provided with a floor part as herein described, wherein the floor part at the longitudinal end is hooked with the hook elements to a respective transverse ledger of the scaffold so that the transverse ledger is received in the ledger receiving space.
[0013] With such a floor part and such a scaffold the above-mentioned advantages can be achieved.
[0014] A further aspect provides a use of an anti-lift system as herein described for anti-lift protection of a floor part which at a longitudinal end of the floor part is hooked with hook elements to a transverse ledger of a scaffold, so that the transverse ledger is received in the ledger receiving space, wherein the bolt is coupled with the end piece and is automatically moved to the locking position when the bolt is between the locking position and the releasing position.
[0015] Such a use provides above-mentioned advantages.
[0016] Optional further advantageous elaborations of the invention are provided by the features of the dependent claims, as is further explained in the detailed description given hereinbelow.

Description

DETAILED DESCRIPTION
[0017] In the following, the invention will be further explained on the basis of examples of embodiments and drawings. The drawings are schematic and show only examples. In the drawings, corresponding elements are indicated with corresponding reference signs. In the drawings:
[0018] FIG. **1** shows a cutaway front view of a scaffold with floor parts with anti-lift systems;
[0019] FIGS. **2**A-B each show a cutaway front view of an anti-lift system with the bolt in coupled condition, where the bolt in FIG. **2**A is in the locking position and in FIG. **2**B in the releasing position;
[0020] FIGS. **3**A-B each show a perspective view of the system of FIGS. **2**A-B with the bolt in corresponding positions;
[0021] FIGS. **4**A-B each show a further perspective view of the system of FIGS. **2**A-B with the bolt in corresponding positions;
[0022] FIGS. **5**A-D each show a cutaway front view of the system of FIGS. **2**A-B, with different successive positions of the bolt and the transverse ledger when the transverse ledger is moved into the ledger receiving space;
[0023] FIGS. **6**A-B each show a cutaway front view of the system of FIGS. **2**A-B, with different successive positions of the bolt when the bolt is coupled to the end piece;
[0024] FIG. **7** shows a detail of FIG. **2**B; and
[0025] FIG. **8** shows a detail according to FIG. **7**, wherein the bolt, compared with FIG. **7**, has been moved up slightly.
[0026] The figures show an example of an anti-lift system **2** for a floor part **4** for a scaffold **6**. The system **2** comprises an end piece **8** configured to form a longitudinal end **10** of a floor part **4** for a scaffold **6**, provided with one or more hook elements **12** with which the floor part **4** at the longitudinal end **10** can be hooked to a transverse ledger **14** of the scaffold **6** so as to be supported on that transverse ledger **14**. The hook elements **12** define a ledger receiving space **16** for the transverse ledger **14**. The transverse ledger **14** is received in the ledger receiving space **16** when the

floor part **4** is hooked with the hook elements **12** to the transverse ledger **14**.
[0027] FIG. **1** further shows two mutually identically configured floor parts **4** for a scaffold **6**, each provided with two specimens of the anti-lift system **2**, where the end piece **8** of each anti-lift system **2** forms a respective longitudinal end **10** of the respective floor part **4**.
[0028] FIG. **1** further shows a scaffold **6** provided with the two floor parts **4**, where each floor part **4** at the longitudinal ends **10** is hooked with its hook elements **12** to a respective transverse ledger **14** of the scaffold **6** so that the transverse ledger **14** is received in the ledger receiving space **16**. In the example shown, transverse ledgers **14** located above each other are mutually connected by standards **40** of the scaffold **6**.
[0029] The system **2** comprises a stiff bolt **18** couplable with the end piece **8**, which, in coupled condition, is movable relative to the end piece **8** along a bolt movement path P, between a releasing position and a locking position. FIGS. **1**, **2**A, **3**A, **4**A, **5**A and **5**F show the bolt **18** of the example shown in the locking position. FIGS. **2**B, **3**B, **4**B and **7** show the bolt **18** of the example shown in the releasing position.
[0030] In embodiments, the bolt **18** in coupled condition is manually operable both from an upper side of the floor part **4** and from an underside of the floor part **4**, in particular both from the releasing position to the locking position and vice versa. Thus, the anti-lift system **2** can be operated as desired and/or depending on the situation by a user who is present, for instance, on the relevant floor part **4** itself or on a floor part **4** below that or on a base ground of the scaffold **6**.
[0031] In the locking position, the bolt **18** extends along the ledger receiving space **16** to block movement of a received transverse ledger **14** out of the ledger receiving space **16**. In the releasing position, the bolt **18** extends less, or does not extend, along the ledger receiving space **16** to release (unblock) movement of the received transverse ledger **14** out of the ledger receiving space **16**.
[0032] In FIGS. **5**B-E, it can be seen that between the locking position and the releasing position, various intermediate positions of the bolt **18** are possible.
[0033] According to claim **1**, the anti-lift system **2** is configured to have the bolt **18**, in coupled condition, automatically move to the locking position when the bolt **18** is between the locking position and the releasing position, at least when the transverse ledger **14** is received in the ledger receiving space **16**.
[0034] During use, the bolt **18** can thus be automatically moved to the locking position when the bolt **18** is between the locking position and the releasing position. As set out in the summary hereinabove, the anti-lift protection is thereby rendered more reliable and easier to use.
[0035] In embodiments, the anti-lift system **2** is configured to have the bolt **18** in coupled condition automatically move to the locking position under its own weight when the bolt **18** is between the locking position and the releasing position, at least when the transverse ledger **14** is received in the ledger receiving space **16**.
[0036] Thus, the automatic moving of the bolt **18** can be realized in a particularly robust manner, using the fact that the orientation of the floor part **4** and hence the relative direction of gravity during normal use is known in advance. To that end, the locking position, during normal use, preferably has a lower level than the releasing position, at least as regards a mass center of the bolt **18**, as can be understood from the example shown.
[0037] It will be clear that the orientation of the bolt **18** in the locking position could nonetheless be different with respect to the releasing position. In the depicted example, such an orientation change is substantially achieved by an opening **24** through which the bolt **18** extends and an underside of which works as a guide to at least partly convert a downward force of gravity exerted on the bolt **18** into an orientation change of the bolt **18**, in particular in combination with a further opening **22** which counteracts a sideward movement of the bolt **18** at that opening **22**. Such openings **22**, **24** may thus be regarded together as a converting and guiding mechanism that is configured to convert a downward force on the bolt **18** into a guided orientation and/or position change of the bolt **18**. More generally, the system **2** preferably comprises such a converting and

guiding mechanism, with the advantage that the automatic moving to the locking position under the influence of gravity can be combined with an at least partly sideward locking movement of the bolt **18** along an underside of the ledger receiving space **16**, which underside is normally left open by the hook elements **12**. The converting and guiding mechanism can advantageously define the bolt movement path P, which can thus extend at least partly sideways.

[0038] In embodiments, the bolt **18**, at least a main section **20** thereof, extends in circular-arcuate form along a circular arc which in the coupled condition corresponds to the bolt movement path P.

[0039] In contrast to other types of curves, a circular arc has a same curvature at any position along the curve. This makes it possible to have the main section **20** extend consistently in accordance with the same bolt movement path P at different positions of the bolt **18** along the bolt movement path P. Thus, in a relatively simple manner, an effective guiding of the bolt **18** between the releasing position and the locking position can be provided, whereby in particular the openings **22**, **24** mentioned can work together with the main section **20** to provide the guiding. Alternatively, the main section **20** of the bolt **18** could possibly extend rectilinearly, since a straight line also has a constant (viz., zero) curvature along its length. More generally, however, a nonzero curvature of the main section **20** has as an advantage that a substantially sideward bolt movement along the ledger receiving space **16** can be effectively and compactly combined with a substantially up-and-down bolt movement at the upper side **26** of the end piece **8** and floor part **4**.

[0040] In embodiments, the bolt movement path P is defined by openings **22**, **24** in the end piece **8**, including a first opening **22** in an upper side **26** of the end piece **8** and a second opening **24** in a side **28** of the end piece **8** facing the ledger receiving space **16**.

[0041] As has already been explained hereinabove, such openings **22**, **24** can advantageously form a converting and guiding mechanism for the bolt **18**. By providing the openings **22**, **24** in the end piece **8**, a separate guiding structure can be dispensed with, so that a relatively simple and compact construction of the system **2** is possible. By providing the first opening **22** in the upper side **26**, a portion of the bolt **18** can extend at and/or above that upper side **26** for easy operation of the bolt **18** from above. By providing the second opening **24** in the side **28** facing the ledger receiving space **16**, a portion of the bolt **18** can extend at the ledger receiving space **16**, at least in the locking position.

[0042] In embodiments, the bolt **18** extends between a blocking end **30** and an operating end **32**, with the blocking end **30** in the coupled condition being movable along the ledger receiving space **16** by moving the bolt **18** along the bolt movement path P between the locking position and the releasing position.

[0043] The blocking end **30** can thus, together with ends of the hook elements **12**, determine a size of a passage from and to the ledger receiving space **16**, such opening, with respect to the diameter of transverse ledger **14**, being narrow when the bolt **18** is in the locking condition and wide when the bolt **18** is in the releasing position, as can be seen, for instance, in FIGS. **2**A-B.

[0044] In embodiments, the operating end **32** in the coupled condition is at and/or above an upper side **26** of the end piece **8** so as to be accessible at that upper side **26** for operation, in particular both in the locking position and in the releasing position.

[0045] Thus, a user who is present on the relevant floor part **4** can operate the bolt **18** relatively easily, for instance by foot or by hand. For that matter, the bolt **18** is preferably operable from below as well, as has been mentioned elsewhere herein. Operation from below can for instance be done by moving the main section **20** and/or the blocking end **30** by hand along the bolt movement path P, for instance from an underside of the ledger receiving space **16** and/or from an inner side of the end piece **8**.

[0046] In embodiments, the bolt **18** comprises at the blocking end **30** a blocking end section **34** which extends inwards with respect to the circular-arcuate form of the main section **20**.

[0047] This can effectively counteract the bolt **18** being moved out of the locking position by a transverse ledger **14** present in the ledger receiving space **16** in case of an upward force on the floor

part **4**, for instance by wind, while at the same time the distance between the locking position and the releasing position along the path P can be relatively short for an easy-to-operate and compact system **2**. Due to the inwards extending blocking end section **34**, such an upward force on the floor part **4** will actually lead advantageously to the bolt **18** getting itself in a clamping manner fixed in the locking position. More generally, the above-mentioned unwanted-movement prevention and the clamped fixation of the bolt **18** can be achieved in that, at the blocking end **30**, on the inner side of the arcuate form of the bolt, a contact surface **42** for contact with the transverse ledger **14** is provided, which contact surface **42** has a normal direction corresponding to a direction of movement of the bolt **18** from the locking position to the releasing position. When the transverse ledger **14**, as a result of the upward force on the floor part **4**, comes into contact with that contact surface **42**, the force exerted by the transverse ledger **14** on the bolt **18** is directed by the normal direction, such that the bolt **18** is fixed in the locking position, in particular when the system **2**, as in the example shown, is configured to counteract movement beyond the locking position.

[0048] Alternatively to or additionally to the feature of the blocking end section **34** extending inwards relative to the arcuate form, a length of the main section **20** of the bolt **18** may be increased with respect to the example shown, such that, as a result, the bolt **18** in the locking position extends at least partly upwards at the blocking end **30**. Further, it is alternatively or additionally possible that on the bolt **18**, at the blocking end **30**, on the inner side of the arcuate form, a thickening is provided which is formed to provide the contact surface with normal direction.

[0049] In the example shown, the blocking end section **34** is relatively short, in particular having a length in the same order of magnitude as the thickness of the bolt **18**. Nonetheless it can be seen, for instance in FIG. **2**B, that the blocking end section **34** extends slightly inwards with respect to the circular-arcuate form of the main section **20** and the bolt movement path P.

[0050] In embodiments, the bolt **18** comprises at the operating end **32** an operating end section **36** which extends inwards with respect to the circular-arcuate form of the main section **20**.

[0051] In this way, the operating end **32** and/or the operating end section **36** can be particularly easily accessible for operation by a user. The operating end section **36** preferably extends beyond an end of the end piece **8** which is here formed by the side **28** of end piece **8** facing the ledger receiving space **16**, in particular in the locking position, so that manual engagement of the operating end **32** is not hindered by the end piece **8**. The operating end section **36** can thus form a lug which, in the locking position, can be engaged by a user, as can for instance be seen in FIG. **3**A.

[0052] When the operating end section **36**, more generally, extends in a deviating manner compared with the main section **20**, it can additionally be counteracted that the operating end section **36** can move downwards through the opening **22** when the bolt **18** is being moved along the bolt movement path P, so that it can be counteracted that the bolt moves from the releasing position beyond the locking position. Thus, it holds that, in embodiments, the operating end **32** is formed so as, by interaction with the end piece **8**, in particular with the upper side **26** in which the opening **22** is formed, to counteract the bolt **18** being moved from the releasing position beyond the blocking position.

[0053] In embodiments, the operating end section **36** extends from the main section **20** toward the ledger receiving space **16**, in particular in the locking position.

[0054] In this way, it is made possible that the bolt **18** in the locking position constitutes practically no obstacle at the upper side **26** of the end piece **8**, so that in the locking position a relatively even and unhindered walking surface of the floor part **4** can be provided, while the operating end **32** can yet remain properly accessible for operation.

[0055] In embodiments, the operating end section **36** in the releasing position extends downwards in order for a part of the main section **20** extending above the upper side **26** of the end piece **8** to be screened on an inner side of the circular-arcuate form from contact with a foot of a user.

[0056] In itself, foot contact with the bolt **18** in the releasing position is not unwanted. On the contrary: in embodiments as in the example shown, the bolt **18** is formed to be operable by such

foot contact in order to move the bolt **18** from the releasing position to the locking position. Such foot contact can for instance be substantially downwardly directed, but may also be directed more sideways, while a relevant contact surface of the bolt **18** can have a bevel which allows the sideward foot contact to be converted into a downward movement of the bolt **18**. Foot contact with the inner side of the circular-arcuate form of the main section **20**, however, is unwanted, not only because this would not contribute to the bolt moving to the locking position, but also because the foot might then get caught on the arcuate form. The above-mentioned screening by the operating end section **36** offers in this context, in particular in combination with the circular-arcuate form of the main section **20**, a simple and robust solution, which, moreover, as regards the arrangement of operating end section **36**, can be well combined with one or more other functions of the operating end section **36** such as the above-mentioned operation of the bolt **18** from the locking position to the releasing position.

[0057] According to the invention, the system **2** further comprises a resistance element **38** configured to provide a resilient resistance to counteract movement of the coupled bolt **18** from the releasing position to the locking position so as to at least selectively stabilize the releasing position, wherein the resilient resistance can be overcome when the bolt **18** is actively moved to the locking position by a user by hand or by foot.

[0058] In this way, the bolt **18**, if desired, can be held in the releasing position without continuous operation, so that the floor part **4** can be taken off the transverse ledger **14**, for instance in the event of disassembly or adaptation of the scaffold **6**. The resistance element **38** is preferably configured to counteract the movement to the locking position only at the releasing position. This is to say that when the bolt **18** has been moved from the releasing position to some extent toward the locking position, for instance through active operation by a user, the resistance element **38** preferably does not counteract further movement of the bolt **18** to the locking position, so that the bolt **18** can for instance reach the locking position under its own weight as described elsewhere herein.

[0059] In embodiments, the resistance element **38** comprises a leaf spring. In embodiments, the resistance element **38** is made of spring steel.

[0060] Thus, the resistance element **38** can be realized in a relatively simple yet effective manner. In FIG. **7**, the resistance element **38** shown in the example can be seen particularly well. The resistance element **38** is formed here, and may be formed so more generally, as a folded strip of spring steel which, with a fastener **44** such as a fastening bolt or a nail, is attached to the bolt **18**, and which extends from the fastener **44** as a leaf spring downwards along and spaced from an inner side **48** of the bolt **18** and through an opening **46** in the bolt **18** to outside an outer side **50** of the bolt **18**.

[0061] More generally, it holds that, in embodiments, the resistance element **38** is fixedly connected with one of the bolt **18** and the end piece **8**, and is configured for engagement with the other one of the bolt **18** and the end piece **8**, depending on the position of the bolt **18** with respect to the end piece **8**. In this way, therefore, it is for instance possible, as an alternative to the resistance element **38** shown in FIG. **7** and fixedly connected with the bolt **18**, that the resistance element is fixedly connected with the end piece **8**, for instance at the opening **22**.

[0062] In the situation shown in FIG. **7**, the resistance element **38**, in particular the portion extending along and spaced from the inner side **48** of the bolt **18**, gives resilient resistance to moving down of the bolt **18**, in particular through interaction with an edge of the opening **22**. When a user actively moves the bolt **18** down, that resistance can be overcome, whereby the leaf spring of the resistance element **38** is deformed so as to pass through the opening **22**, whereby in particular the above-mentioned distance between the leaf spring and the inner side **48** of the bolt **18** is reduced or is even removed. While not necessarily desired, a comparable working of the resistance element **38** may find application when the bolt **18** is moved in the opposite direction from the locking position to the releasing position, for instance by a user: the resistance element **38**, then too, gives a resilient resistance upon passage of the opening **22** in the upper side **26** of the end piece

8. Such resistance can for instance provide haptic feedback. Furthermore, such a resistance can help counteract the bolt **18** being unintendedly brought into the releasing position, for instance when hooking the floor part **4** to the transverse ledger **14**.
[0063] In embodiments, the system **2**, in particular the resistance element **38**, is configured so as, in the coupled condition, to counteract uncoupling of the bolt **18** with respect to the end piece **8**.
[0064] In FIG. **8**, it can be seen, by way of example, that an end **52** of the resistance element **38** counteracts such uncoupling, by engagement with an inner side of the end piece **8** at the opening **22**, as a result of which the bolt **18**, from the releasing position, can normally be hardly, if at all, moved up any further. In this way, unintended uncoupling can be counteracted.
[0065] Possibly, uncoupling of the bolt **18** can, if desired, be made possible still, in particular by moving the end **52** by hand into the opening **46**. In this way, the bolt **18** can for instance be easily replaced or cleaned.
[0066] In the example shown, the resistance element **38** is so configured that coupling (for instance a first coupling as an assembly step, and/or a recoupling after maintenance) of the bolt **18** to the end piece **8** is not counteracted, at least not more than by a resilient resistance that can be overcome by a user by actively moving the bolt **18** down. In FIG. **6**A it can be seen that the bolt **18** upon such a coupling can be moved from above through the opening **22**, then proceed to follow the bolt movement path P, whereby the resistance element **38**, in particular a portion at the end **52**, can give some resilient resistance in the situation as shown in FIG. **6**B. After that resistance has been overcome, the bolt **18** is effectively in the releasing position coupled to the end piece **8**. More generally, FIGS. **6**A and **6**B show in this way that coupling of the bolt **18** can be particularly easy, while the resistance element **38**, for instance, may already have been assembled to the bolt **18** beforehand.
[0067] In embodiments, the bolt **18** is coupled with the end piece **8**. Such a coupling is preferably detachable, for instance as set out hereinabove, but may also be a fixed coupling. When the bolt **18** is coupled with the end piece **8**, the system **2** is ready for use, at least in embodiments including the example shown. Moreover, in this way, the bolt **18** can be easily kept with the floor part **4**, for instance during transport.
[0068] In embodiments, the bolt **18** in the coupled condition is configured to be moved from the locking position toward the releasing position by interaction with the transverse ledger **14** when the floor part **4** is being hooked with the hook elements **12** to the transverse ledger **14**, such that the transverse ledger **14** during hooking-on can be received in the ledger receiving space **16** without operation of the bolt **18**.
[0069] In this way, ease of use of the system **2** can be considerably increased. Preferably, the releasing position itself is therewith almost but not quite reached, so that the bolt **18** can then automatically move to the locking position when the transverse ledger **14** has been received in the ledger receiving space **16**. As an alternative, possibly, the releasing position might in fact be reached, so that thereupon a manual operation may be needed to have the bolt return to the locking position.
[0070] In FIGS. **5**A-D, it is stepwise shown how the bolt **18** can thus be moved from the locking position toward the releasing position. The releasing position itself is therewith nearly but not quite reached (see FIG. **5**D, for instance compared with FIG. **2**B where the releasing position is shown), due to the transverse ledger **14** being able to enter the ledger receiving space **16** just before the releasing position would be reached, and possibly due to the resistance element **38** giving some resilient resistance to the reaching of the releasing position, as explained elsewhere herein.
[0071] Unlike what happens preferably in the releasing position itself, the resistance element **38** here does not counteract movement of the bolt **18** to the locking position, so that the bolt **18**, as mentioned, can automatically move to the locking position after the floor part **4** has been hooked with the hook elements **12** to the transverse ledger **14**.
[0072] While the position of the bolt **18** shown in FIG. **5**D, strictly speaking, could be regarded as a

releasing position because movement of the transverse ledger **14** out of the ledger receiving space **16** in this position of the bolt is just possible, it will be clear that this position is yet unlike the releasing position as intended in the context of the present description, at least there where the present description refers to stabilizing of the releasing position using the resistance element **38**. That stabilizable releasing position is preferably such that the transverse ledger **14** can exit the ledger receiving space **16** with some play or freedom of movement, hence unlike the position of FIG. **5**D where the transverse ledger **14** makes contact with hook elements **12** on one side and the blocking end **30** of the bolt **18** on the other.

[0073] For that matter, the herein described possibilities with respect to moving the bolt **18** toward the releasing position by interaction with the transverse ledger **14** are advantageously applicable in a more general sense as well, possibly even without the anti-lift system being configured, as described, to have the bolt in coupled condition automatically move to the locking position when the bolt is between the locking position and the releasing position. Thus, the current disclosure furthermore comprises an anti-lift system according to claim **17**. With such a system, ease of use and efficiency can be increased, in particular in that the bolt **18** does not counteract the floor part **4** being hooked with the hook elements to the transverse ledger **14**, not even when the bolt **18** upon approach of the transverse ledger **14** is in the locking position.

[0074] In embodiments, the bolt **18**, at the blocking end **30** thereof, is provided with a bevel or rounding on the outer side of the bolt **18**, the bevel or rounding forming a guiding contact surface **44** (see FIGS. **2**A-B and **5**B) to guide the transverse ledger **14** and the blocking end **30** along each other when the floor part **4**, as described hereinbefore, is being hooked with the hook elements **12** to the transverse ledger **14**, as can be seen stepwise in FIGS. **5**A-D.

[0075] In FIGS. **5**E-F it can be seen stepwise how the bolt **18** thereupon automatically moves back to the locking position as soon as the transverse ledger **14** has been received in the ledger receiving space **16**, in particular under its own weight, as has been explained elsewhere herein.

[0076] While the invention has herein been explained on the basis of examples of embodiments and drawings, these do not constitute any limitation of the scope of the invention as defined with the claims. The skilled person will directly appreciate on the basis of the current disclosure that within that scope many variations, combinations and extensions are possible. Examples thereof have been mentioned in the description.

LIST OF REFERENCE SIGNS

[0077] **2**. Anti-lift system [0078] **4**. Floor part [0079] **6**. Scaffold [0080] **8**. End piece [0081] **10**. Longitudinal end of floor part [0082] **12**. Hook element [0083] **14**. Transverse ledger [0084] **16**. Ledger receiving space [0085] **18**. Bolt [0086] **20**. Main section [0087] **22**. First opening in end piece [0088] **24**. Second opening in end piece [0089] **26**. Upper side of end piece [0090] **28**. Side of end piece facing ledger receiving space [0091] **30**. Blocking end [0092] **32**. Operating end [0093] **34**. Blocking end section [0094] **36**. Operating end section [0095] **38**. Resistance element [0096] **40**. Standard [0097] **42**. Contact surface on inner side of bolt [0098] **44**. Contact surface on outer side of bolt [0099] **46**. Opening in bolt [0100] **48**. Inner side of bolt [0101] **50**. Outer side of bolt [0102] **52**. End of resistance element [0103] P. Bolt movement path

Claims

1. An Anti-lift system for a floor part for a scaffold, comprising: an end piece configured to form a longitudinal end of a floor part for a scaffold, provided with one or more hook elements with which the floor part at the longitudinal end can be hooked to a transverse ledger of the scaffold so as to be supported on that transverse ledger, wherein the hook elements define a ledger receiving space for the transverse ledger, in which ledger receiving space the transverse ledger is received when the floor part is hooked with the hook elements to the transverse ledger; and a stiff bolt couplable with the end piece, which in coupled condition is movable relative to the end piece along a bolt

movement path between a releasing position and a locking position, wherein the bolt in the locking position extends along the ledger receiving space to block movement of a received transverse ledger out of the ledger receiving space, wherein the bolt in the releasing position extends less or not along the ledger receiving space to release movement of the received transverse ledger out of the ledger receiving space, wherein the anti-lift system is configured to have the bolt in coupled condition automatically move to the locking position when the bolt is between the locking position and the releasing position, at least when the transverse ledger is received in the ledger receiving space, wherein the anti-lift system further comprises a resistance element which is configured to provide a resilient resistance to counteract movement of the coupled bolt from the releasing position to the locking position so as to at least selectively stabilize the releasing position, wherein the resilient resistance can be overcome when the bolt is actively moved to the locking position by a user with a hand or a foot, wherein the resistance element comprises a leaf spring, wherein the bolt extends between a blocking end and an operating end, wherein the blocking end in the coupled condition is movable along the ledger receiving space by moving the bolt along the bolt movement path between the locking position and the releasing position, and wherein the operating end in the coupled condition is at and/or above an upper side of the end piece so as to be accessible at that upper side for operation, both in the locking position and in the releasing position.

2. The anti-lift system according to claim 1, wherein the bolt, at least a main section thereof, extends in circular-arcuate form along a circular arc which in the coupled condition corresponds to the bolt movement path.

3. The anti-lift system according to claim 1, wherein the bolt movement path is defined by openings in the end piece including a first opening in an upper side of the end piece and a second opening in a side of the end piece facing the ledger receiving space.

4-**5**. (canceled)

6. The anti-lift system according to claim 2, wherein the bolt at the blocking end comprises a blocking end section which extends inwards with respect to the circular-arcuate form of the main section.

7. The anti-lift system according to claim 2, wherein the bolt at the operating end comprises an operating end section which extends inwards with respect to the circular-arcuate form of the main section.

8. The anti-lift system according to claim 7, wherein the operating end section extends from the main section toward the ledger receiving space.

9. The anti-lift system according to claim 7, wherein the operating end section in the releasing position extends downwards to screen a part of the main section extending above the upper side of the end piece on an inner side of the circular-arcuate form from contact with a foot of a user.

10. The anti-lift system according to claim 1, wherein the operating end is formed so as, by interaction with the end piece, to counteract the bolt being moved from the releasing position beyond the blocking position.

11. The anti-lift system according to claim 1, wherein the resistance element is made of spring steel.

12. The anti-lift system according to claim 1, wherein the resistance element is fixedly connected with one of the bolt and the end piece and is configured for engagement with the other one of the bolt and the end piece depending on the position of the bolt with respect to the end piece.

13. The anti-lift system according to claim 12, wherein the resistance element is formed as a folded strip of spring steel, which is attached to the bolt with a fastener such as a fastening bolt or a nail, and which extends from the fastener as a leaf spring downwards along and spaced from an inner side of the bolt and through an opening in the bolt to outside of an outer side of the bolt.

14. The anti-lift system according to claim 1, wherein the resistance element is configured to counteract the movement to the locking position only at the releasing position.

15. The anti-lift system according to claim 1, configured, in the coupled condition, to counteract

uncoupling of the bolt with respect to the end piece, wherein the resistance element is furthermore configured, in the coupled condition, to counteract the uncoupling of the bolt with respect to the end piece.

16. The anti-lift system according to claim 1, wherein the anti-lift system is configured to have the bolt in coupled condition automatically move under its own weight to the locking position when the bolt is between the locking position and the releasing position, at least when the transverse ledger is received in the ledger receiving space.

17. The anti-lift system according to claim 1, wherein the bolt in the coupled condition is configured to be moved from the locking position toward the releasing position, preferably close to but not into the releasing position, by interaction with the transverse ledger when the floor part is being hooked with the hook elements to the transverse ledger, such that the transverse ledger during hooking-on can be received in the ledger receiving space without operation of the bolt.

18. The anti-lift system according to claim 1, wherein the bolt is coupled with the end piece.

19. A floor part for a scaffold, provided with at least one anti-lift system according to claim 1, wherein the end piece of each anti-lift system forms a respective longitudinal end of the floor part.

20. The floor part according to claim 19, wherein the bolt in coupled condition is manually operable both from an upper side of the floor part and from an underside of the floor part.

21. A scaffold provided with the floor part according to claim 19, wherein the floor part at the longitudinal end is hooked with the hook elements to a respective transverse ledger of the scaffold, so that the transverse ledger is received in the ledger receiving space.

22. Use of the anti-lift system according to claim 1 for anti-lift protection of a floor part which at a longitudinal end of the floor part is hooked with hook elements to a transverse ledger of a scaffold, so that the transverse ledger is received in the ledger receiving space, wherein the bolt is coupled with the end piece and is preferably automatically moved to the locking position when the bolt is between the locking position and the releasing position.