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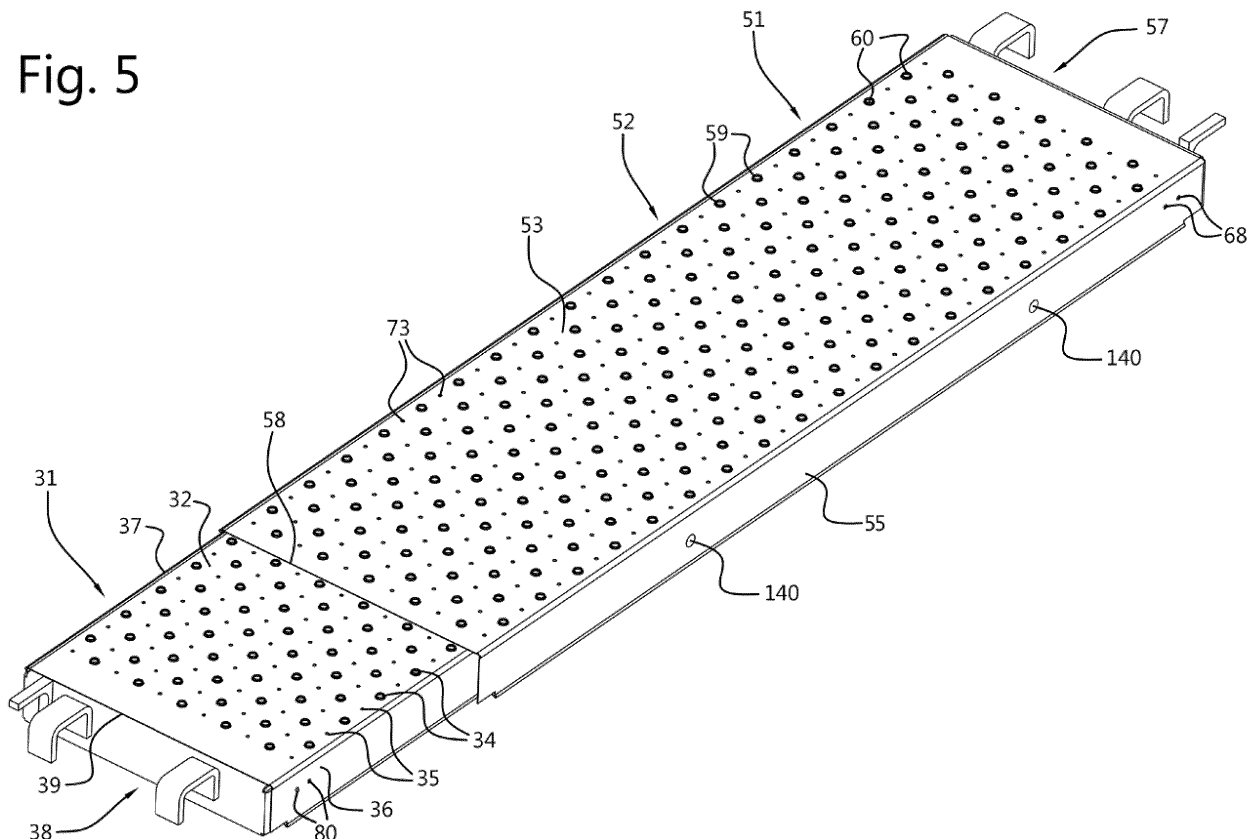
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(54) **SCAFFOLDING FLOOR AND METHODS FOR PRODUCING AND REPAIRING A SCAFFOLDING FLOOR**

(57) The invention relates to a scaffolding floor (51) in which a first floor plate (52) and a second floor plate (31) of the scaffolding floor (51) are borne such that they can be extended relative to one another. The invention further relates to a scaffolding floor (1) in which a perfo-

rated floor plate (2) of the scaffolding floor (1) is provided with one or more perforation-free zones (29) each extending transversely to said longitudinal axis (28) over the floor plate (2). The invention also relates to methods for producing and repairing a scaffolding floor.

Fig. 5



Description

TECHNICAL FIELD

[0001] The invention relates to scaffolding floors and to methods for producing and repairing scaffolding floors.

PRIOR ART

[0002] Scaffolding is generally known as a pipe frame consisting of lying elements or ledgers, upright elements or standards, railings and scaffolding floors which are mutually connected with the necessary connecting means. Scaffolding is used to perform work at height in a relatively simple and safe way. Scaffolding is subject to wear and tear from intensive use and from external factors such as weather conditions, for example excessive rainfall.

[0003] One of said scaffold connecting means is an end cap. An end cap is placed on an end edge of a scaffolding floor in order to be able to hang the scaffolding floor, whether or not reversibly, from a ledger by means of the end cap.

[0004] US 4,331,218 describes an embodiment of a scaffolding floor. In particular, US 4,331,218 discloses a scaffold plank having a horizontal metal walkway provided with a plurality of perforations with selectively upwardly and downwardly extending collars, two side flange members each extending along one side edge of the walkway and formed by a side portion of the latter, and two end profiles each extending beneath the walkway along one end edge of the latter and connected with the walkway and the side flange members, wherein each end profile is provided with an element for suspending the plank.

[0005] The scaffolding floor according to US 4,331,218 has the problem that the floor is not suitable for simple repair in case of wear or damage. As a result, in the event of wear or damage, the entire floor is quickly no longer suitable for further use, which is not sustainable and also material-intensive because a completely new floor must be provided each time.

[0006] The present invention aims to find a solution to at least the above-mentioned problem.

SUMMARY OF THE INVENTION

[0007] In a first aspect, the invention relates to a scaffolding floor according to claim 1. In particular, the scaffolding floor according to the first aspect of the invention comprises a first floor plate with a plurality of perforations extending longitudinally along a longitudinal axis and having a walking surface and an opposite lower surface, two side flanges each facing away from the walking surface and transverse to the first floor plate extending along a side edge of the first floor plate and each formed by a side portion of the latter, and wherein the scaffolding floor further comprises a first end cap connectable to an end

edge of the first floor plate, which first end cap is provided with at least one suspension element suitable for suspending the scaffolding floor from a ledger of a scaffold, the scaffolding floor further comprising a second floor plate with a plurality of perforations extending longitudinally along a longitudinal axis and provided with a walking surface and an opposite lower surface, two side flanges each extending away from the walking surface and transversely to the second floor plate along a side edge of the second floor plate and each formed by a side portion of the latter, and wherein the second floor plate can be telescopically borne within the first floor plate, and is preferably borne, and wherein the scaffolding floor comprises a second end cap which is connectable to an end edge of the second floor plate which, in the borne position, faces away from the first floor plate.

[0008] Such an extendable arrangement of floor plates is a practical and material-saving measure in the event of repair in case of damage to the scaffolding floor. A damaged scaffolding floor can be shortened to remove a damaged section. An undamaged portion of the scaffolding floor can then serve as a first floor plate of a newly assembled scaffolding floor, in which first floor plate a second floor plate is telescopically borne. The whole is finished by ensuring that end caps are provided at both ends of the extendable scaffolding floor. In this way, a portion of the scaffolding floor can be reused when it is repaired. This also limits the amount of stock required at a site. Another advantage of the extendable scaffolding floor is that it is adjustable in length. This flexibility in length adjustment is an advantage when using the scaffolding floor in a scaffold.

[0009] In a second aspect, the invention relates to a scaffolding floor according to claim 10. In particular, the scaffolding floor according to the second aspect of the invention comprises a floor plate extending longitudinally according to a longitudinal axis and which is provided with a walking surface, an opposite lower surface and a plurality of perforations, two side flanges each extending away from the walking surface and transversely to the floor plate along a side edge of the floor plate and each formed by a side portion of the latter, and two end caps each at least indirectly connectable to an end edge of the floor plate, wherein each end cap is provided with at least one suspension element suitable for suspending the scaffolding floor from a ledger of a scaffold, wherein the perforated floor plate is provided with one or more perforation-free zones each extending transversely to said longitudinal axis over the floor plate.

[0010] Due to the measure of the perforation-free zones, a damaged scaffolding floor can easily be shortened to one or more scaffolding floors of a desired smaller size. This allows material to be saved. This also offers an economic advantage. Another advantage is that a required stock of scaffolding floor material can be reduced by said intelligent repair and reuse of the scaffolding floor. In the case of a damaged section of the scaffolding floor located along a perforation-free zone or between two per-

foration-free zones, said damaged section can be easily removed from the scaffolding floor by cutting through the relevant perforation-free zones. Thus, one or more undamaged sections are obtained, each of a desired smaller size compared to the original scaffolding floor. When the undamaged sections of desired smaller size do not comprise end caps at each of the newly formed end edges, where absent, new end caps can be simply attached to said end edges. In the case of classic perforated scaffolding floors (without the aforementioned perforation-free zones), a repair is laborious, because a local repair of a scaffolding floor entails a risk of instability of the entire scaffolding floor, as a result of which the scaffolding floor is usually completely replaced, and because moreover in classic perforated scaffolding floors the end caps are welded to the scaffolding floor.

[0011] In a third aspect, the invention relates to a method for producing a scaffolding floor according to claim 11. In particular, the method according to the third aspect of the invention comprises the steps of providing a first floor plate having a walking surface and an opposing lower surface, punching the first floor plate to form a first floor plate comprising perforations, forming two side flanges out of the floor plate by folding back side portions of the floor plate facing away from the walking surface and along side edges of the first floor plate, and at least indirectly attaching a first end cap to the floor plate wherein the end cap is placed in such a way that the end cap extends under the floor plate along an end edge of the floor plate, which first end cap is provided with at least one suspension element suitable for suspending the scaffolding floor from a ledger of a scaffold, wherein the method further comprises the steps of providing a second floor plate having a walking surface and an opposing lower surface, punching the second floor plate to form a second floor plate comprising perforations, forming two side flanges out of the second floor plate by folding back side portions of the floor plate facing away from the walking surface and along side edges of the floor plate, and at least indirectly attaching a second end cap to the second floor plate such that the second end cap extends below the second floor plate along an end edge of the second floor plate, which second end cap is provided with at least one suspension element suitable for suspending the scaffolding floor from a ledger of a scaffold, and wherein in a step the second floor plate is telescopically borne in the first floor plate in such a way that the second end cap in the borne position faces away from the first floor plate.

[0012] In a fourth aspect, the invention relates to a method for producing a scaffolding floor according to claim 12. In particular, the method according to the fourth aspect of the invention comprises the steps of providing a floor plate having a walking surface and an opposing lower surface, forming two side flanges out of the floor plate by folding back side portions of the floor plate facing away from the walking surface and along side edges of the floor plate, and at least indirectly attaching two end caps to the floor plate, wherein each end cap is positioned

such that the end cap extends below the floor plate along an end edge of the floor plate, said end cap being provided with at least one suspension element suitable for suspending the scaffolding floor from a ledger of a scaffold, the method further comprising the step of punching the floor plate to form a perforated floor plate, wherein during punching certain sections of the floor plate are skipped in a manner such that perforation-free zones are formed each extending transversely to said longitudinal axis over the floor plate.

[0013] In a fifth aspect, the invention relates to a method for repairing a scaffolding floor upon damage to a section of the scaffolding floor, according to claim 13. In particular, the scaffolding floor in the method according to the fifth aspect of the invention comprises a floor plate extending longitudinally according to a longitudinal axis and which is provided with a walking surface, an opposite lower surface and a plurality of perforations, two side flanges each extending away from the walking surface and transversely to the floor plate along a side edge of the floor plate and each formed by a side portion of the latter, and two end caps each at least indirectly connectable to an end edge of the floor plate, wherein each end cap is provided with at least one suspension element suitable for suspending the scaffolding floor from a ledger of a scaffold, wherein in the event of damage to one or both end caps the method comprises the step of replacing each damaged end cap with a new end cap and that in the event of damage to the floor plate the method comprises the step of cutting through the floor plate at one or more locations so that an undamaged section of the floor plate with one or two newly formed end edges remains, and following which a new end cap is attached to each free end edge.

[0014] In a sixth aspect, the invention relates to a use of a scaffolding floor according to the first aspect of the invention in a scaffold. In particular, this relates to a use of a scaffolding floor according to the first aspect of the invention in a scaffold used in construction, renovation, stage construction, for providing a flat ground surface on uneven ground, for supporting an object, for temporary roofs, bridges, buildings, for reinforcing river banks, slopes and/or as racks for storage.

[0015] In a seventh aspect, the invention relates to a use of a scaffolding floor according to the second aspect of the invention in a scaffold. In particular, this relates to a use of a scaffolding floor according to the second aspect of the invention in a scaffold used in construction, renovation, stage construction, for providing a flat ground surface on uneven ground, for supporting an object, for temporary roofs, bridges, buildings, for reinforcing river banks, slopes and/or as racks for storage.

DESCRIPTION OF THE DRAWINGS

[0016]

Fig. 1 shows an exploded perspective drawing of a

scaffolding floor according to preferred embodiments of the invention.

Fig. 2 shows a top view of a scaffolding floor according to preferred embodiments of the invention.

Fig. 3 shows a cross-sectional view according to axis III-III of a scaffolding floor according to preferred embodiments of the invention.

Fig. 4 shows a cross-sectional view according to axis IV-IV of a scaffolding floor according to preferred embodiments of the invention.

Fig. 5 shows a perspective drawing of a scaffolding floor according to preferred embodiments of the invention.

Fig. 6 shows a top view of a scaffolding floor according to preferred embodiments of the invention.

Fig. 7 shows a cross-sectional view of a scaffolding floor according to preferred embodiments of the invention.

Fig. 8 shows a perspective drawing of a scaffolding floor according to preferred embodiments of the invention.

Fig. 9 shows a detail of a scaffolding floor according to preferred embodiments of the invention.

Fig. 10 shows a perspective drawing of a scaffolding floor according to preferred embodiments of the invention.

Fig. 11 shows a detail of a scaffolding floor according to preferred embodiments of the invention.

Fig. 12-13 show perspective drawings of scaffolding floors according to preferred embodiments of the invention.

Fig. 14 shows a detail of a scaffolding floor according to preferred embodiments of the invention.

DETAILED DESCRIPTION

[0017] Unless otherwise defined, all terms used in the description of the invention, including technical and scientific terms, have the meaning as commonly understood by a person skilled in the art to which the invention pertains. For a better understanding of the description of the invention, the following terms are explained explicitly.

[0018] The term 'standard' refers to a longitudinal rod, preferably in the form of a cylindrical, preferably hollow, tube with at the bottom features which are complementary to features at the top of a second standard, identical

to the standard. Thus, said standard is suitable to be positioned on a second, identical standard. At two or more heights, the standard is equipped with facilities to connect ledgers to the standards.

[0019] The term 'ledger' refers to a longitudinal rod, preferably in the form of a cylindrical, preferably hollow, tube with facilities at both ends to connect the ledger to the standards.

[0020] The term 'railing' is synonymous with 'guard rail' and refers to one or more tubes which are provided in the longitudinal direction of the cells so that an operator working on the floor is prevented from moving outside the cell of the scaffold.

[0021] The term 'punching', used in this text, is used in its generally known meaning of punching holes in a sheet material.

[0022] In the present text, the term 'point connection' refers to a connection that is made at a specific point location.

[0023] Quoting numerical intervals by endpoints comprises all integers, fractions and/or real numbers between the endpoints, these endpoints included.

[0024] In a first aspect, the invention relates to a scaffolding floor comprising a first floor plate with a plurality of perforations extending longitudinally along a longitudinal axis and having a walking surface and an opposite lower surface, two side flanges each facing away from the walking surface and transverse to the first floor plate extending along a side edge of the first floor plate and each formed by a side portion of the latter, and wherein the scaffolding floor further comprises a first end cap connectable, and preferably connected, to an end edge of the first floor plate, which first end cap is provided with at least one suspension element suitable for suspending the scaffolding floor from a ledger of a scaffold, the scaffolding floor further comprising a second floor plate with a plurality of perforations extending longitudinally along a longitudinal axis and provided with a walking surface and an opposite lower surface, two side flanges each extending away from the walking surface and transversely to the second floor plate along a side edge of the second floor plate and each formed by a side portion of the latter, and wherein the second floor plate can be telescopically borne within the first floor plate, and is preferably borne, and wherein the scaffolding floor comprises a second end cap which is connectable, and preferably connected, to an end edge of the second floor plate which, in the borne position, faces away from the first floor plate.

[0025] Such an extendable arrangement of floor plates is a practical and material-saving measure in the event of repair in case of damage to the scaffolding floor. A damaged scaffolding floor can be shortened to remove a damaged section. An undamaged portion of the scaffolding floor can then serve as a first floor plate of a newly assembled scaffolding floor, in which first floor plate a second floor plate is telescopically borne. The whole is finished by ensuring that end caps are provided at both

ends of the extendable scaffolding floor. In this way, a portion of the scaffolding floor can be reused when it is repaired. This also limits the amount of stock required at a site. Another advantage of the extendable scaffolding floor is that it is adjustable in length. This flexibility in length adjustment is an advantage when using the scaffolding floor in a scaffold.

[0026] The scaffolding floor according to the first aspect of the invention can be made of any suitable materials as known in the prior art. According to embodiments, the scaffolding floor is made of a plastic or a composite material. Non-limiting examples of a plastic are polyester, polyamide, polycarbonate, polyethylene, polytetrafluoroethylene, polypropylene, polyoxymethylene, polyvinyl chloride or any combination thereof. A non-limiting example of a composite material is made of polyamide, polycarbonate, polyoxymethylene, polypropylene, polybutylene terephthalate. The composite material may be a fibre reinforced composite material, wherein the fibre is selected from a group comprising: carbon fibre, glass fibre, aramid fibre and metal fibre, or a combination of two or more of the aforementioned fibres. A plastic or a composite material has a lower weight than metal and is therefore an option for weight reduction. A suitable example of a fibre reinforced composite material is a glass fibre reinforced polypropylene, and in particular a glass fibre reinforced polypropylene with impact modifier. According to preferred embodiments, the scaffolding floor is made of a metal. Non-limiting examples of suitable metals are steel, stainless steel and aluminium. According to preferred embodiments, the scaffolding floor is made of a metal, preferably steel, which is coated with a material having rust resistance. A non-limiting example of this is hot-dip galvanised steel. An advantage of a coating with a material having rust resistance is that newly formed end edges do not need to be treated against rust after cutting a floor plate of a scaffolding floor. An optimally suitable coating for a scaffolding floor is described in the Belgian patent application with application number 2019/5676, filed on 11 October 2019 on behalf of AFIX Group NV, which is incorporated herein by reference in its entirety.

[0027] The perforations act as drainage points for rainwater or other occurring liquids. This has the advantage that accumulation of liquids on the floor plates is avoided, which also reduces the risk of slipping or tripping on the scaffolding floor. Preferably, at least some of said perforations are provided with collars extending away from the lower surface. The extending collars of the perforations provide increased grip to the shoe soles of workers setting foot on the floor plates. This greatly reduces the risk of slipping or tripping on the scaffolding floor due to factors such as a slippery surface after rainfall or a high slope.

[0028] In a preferred embodiment, the invention provides a scaffolding floor according to the first aspect of the invention, wherein facing away from the side edges of the first floor plate, the side flanges of the first floor

plate end in perpendicularly oriented lower edges, said lower edges being positioned such that they support at least a portion of the second floor plate in the borne position of the floor plates.

[0029] Consequently, the lower edges act as guides for the second floor plate to be telescopically borne. The lower edges as guides have the important advantage of their simplicity of construction. Namely, the lower edges can each be obtained simply by bending or folding an end portion of a side flange of a first floor plate.

[0030] In a preferred embodiment, the invention provides a scaffolding floor according to the first aspect of the invention, wherein facing away from the side edges of the second floor plate, the side flanges of the second floor plate end in perpendicularly oriented lower edges, said lower edges being positioned such that they are supported at least in part by the lower edges of the first floor plate in the borne position of the floor plates.

[0031] Such a combination of lower edges provides a particularly good support of the second floor plate by the first floor plate, the lower edge of the first floor plate acting as a guide for the lower edge of the second floor plate. Here again is the advantage of simplicity of construction: the lower edges can each be obtained simply by bending or folding an end portion of a side flange of a second floor plate.

[0032] In a preferred embodiment, the invention provides a scaffolding floor according to the first aspect of the invention, wherein the side flanges of the first floor plate are internally connected to one another by one or more handles, wherein the handles are held by said side flanges of the first floor plate and supported by said lower edges of the first floor plate, and wherein the handles support the lower edges of the second floor plate at least partially.

[0033] Scaffolding floors with a handle are easier to assemble and are sturdier than floors without a handle. Preferably, the handles are removable. Consequently, they can be replaced after damage. Preferably, said side flanges are internally connected to one another by two or more handles, for example by two handles. Using two or more handles provides extra reinforcement of the floor plate and prevents the scaffolding floor from bending.

[0034] Said placement of one or more handles in the first floor plate ensures that the handles act as a guide for the second floor plate to be telescopically borne, while the handles are also supported by said lower edges, which provides additional strength. Said placement of the handles also ensures that the handles can be gripped in an accessible manner by an employee. Furthermore, the handles also ensure that the second floor plate is held in place within the first floor plate.

[0035] The handles thus transcend their usual function as handles to be gripped. In summary, it can be emphasised that the handles function to hold the second floor plate in place within the first floor plate, and to guide the second floor plate within the first floor plate when sliding in or out of the second floor plate relative to the first floor

plate. Furthermore, the handles, in combination with a blocking mechanism, specific embodiments of which are described further in the text, can serve a safety function, since the second floor plate can be blocked relative to the first floor plate for safety reasons when a blocking mechanism gets stuck behind a handle.

[0036] In a preferred embodiment, the invention provides a scaffolding floor according to the first aspect of the invention, wherein the one or more handles are made of a plastic.

[0037] A plastic handle is lighter than a metal handle and does not feel cold in cold weather conditions. In addition, a handle in itself provides the scaffolding floor with extra strength. As a result, a plastic handle is really an advantageous innovation in the scaffolding construction sector. Any suitable material as known in the prior art can be used as the plastic. Non-limiting examples of a plastic material for a plastic handle are polyvinyl chloride, polyurethane, acrylonitrile-butadiene-styrene, acrylic, polystyrene, polytetrafluoroethylene, polycarbonate, polyethylene, polyethylene terephthalate glycol, polyethylene terephthalate and polypropylene.

[0038] In a preferred embodiment, the invention provides a scaffolding floor according to the first aspect of the invention, wherein the scaffolding floor is provided with one or more blocking mechanisms which, when the second floor plate is telescopically borne within the first floor plate, at least partially block the sliding out of the second floor plate relative to the first floor plate.

[0039] In a more preferred embodiment, a hinged bracket is selected as a blocking mechanism, which hinged bracket is a three-part element, comprising a first, preferably plate-shaped, member which can be hingedly fastened by means of a connection, for example a nut-bolt connection, and is preferably fastened to an inside of a side flange of the second floor plate, and comprising a second member which extends perpendicularly with respect to the first member and this in the direction of the other side flange of the second floor plate, and comprising a third member which extends perpendicularly with respect to the second member, on one side of the second member which is opposite to one side of the latter which is connected to the first member, the third member extending parallel to and in an opposite direction to the first member. Preferably, the first member of the hinged bracket is received in a space between the lower surface of the second floor plate and the lower edge of the side flange of the second floor plate. Preferably, the third member is provided at its end with an all-around folded strip. Said all-around folded strip is preferably made of steel or lead and serves as a reinforcement of the third member of the hinged bracket.

[0040] When the scaffolding floor is held upside down, i.e. with the walking surfaces facing downwards, the hinged bracket will rotate by gravity and lie such that the third member of the hinged bracket lies on the lower surface of the second floor plate. This can also be seen as a flat position of the hinged bracket. When the scaffolding

floor is held upside down, the second floor plate can be slid out of the first floor plate and even removed, because the hinged bracket in this orientation does not block this sliding out.

[0041] When the scaffolding floor is held with the walking surfaces facing upwards, the third member of the hinged bracket falls downwards by gravity. During this falling motion, the hinged bracket rotates its first member until the latter is stopped by the lower surface of the second floor plate. In this way, the third member is directed obliquely downwards. When the second floor plate is slid out of the first floor plate, the hinged bracket, and in particular the third member (preferably with all-around folded strip), will come to rest against a handle, which serves as a safeguard that ensures that the scaffolding floor cannot be inadvertently slid out. This ensures that no unsafe situation is created when placing a scaffolding floor.

[0042] In another more preferred embodiment, a fixed bracket is selected as the locking mechanism, which fixed bracket is formed as a plate-shaped L-shaped element, and which fixed bracket comprises a first plate-shaped leg that is oriented along the side flange of the second floor plate and is attachable to, and preferably attached to, the latter by means of a connection, preferably by means of a nut-bolt connection, and which fixed bracket comprises a second plate-shaped leg which is perpendicular to the first leg and which extends away from the lower surface of the second floor plate, wherein in the transition to the second leg, the first leg is provided with an inwardly bent section that causes the second leg to be outside the lower edge of the side flange of the second floor plate, and wherein facing away from the first leg, the second leg at its end is provided with a bent section that under the underlying edge of the first floor plate has its side flange bent against this side flange.

[0043] When the scaffolding floor is extended, the fixed bracket will encounter and touch a handle during the extension. Due to the physical contact between the fixed bracket and the handle, the second floor plate cannot be slid further out of the first floor plate. This serves as a safeguard that ensures that the scaffolding floor cannot be accidentally extended. This ensures that no unsafe situation is created when placing a scaffolding floor. In order to extend the second floor plate further, the handles must first be removed. Afterwards, the handles can be put back.

[0044] In an additional, more preferred embodiment, a resilient bracket is selected as the blocking mechanism, wherein the second floor plate is provided with an end flange which is attachable and preferably attached to the end edge of the second floor plate which is not provided with the second end cap, wherein the head flange extends perpendicularly with respect to the lower surface of the second floor plate and this in a direction which faces away from the walking surface of the second floor plate, wherein the resilient bracket is designed as a three-part element, comprising a second member which is connected on one side to a first member and is connected

on an opposite side to a third member, wherein the first member can be connected, and is preferably connected, preferably by means of a bolt, to the end flange's outer side, and wherein the second member of the resilient bracket is oriented at an obtuse angle with respect to the first member, wherein the second member extends under the lower surface of the second floor plate, and wherein the third member is oriented at an acute angle with respect to the second member and faces the lower surface of the second floor plate, and wherein the transition between the second member and the third member forms a pleated edge, and wherein in the non-compressed condition of the resilient bracket, and in a borne state of the second floor plate in the first floor plate, the third member is in abutting contact with a handle when the second floor plate is shifted to a relevant handle. The resilient bracket is preferably made of spring steel, which spring steel is well known as a low-alloy steel with nickel and a relatively high carbon content (0.80-0.95% carbon) and which material has a high structural strength compared to other steels, or in other words, has a high resistance to permanent deformation.

[0045] In a non-extended borne configuration of the scaffolding floor, the resilient bracket is hereby preferably in contact with a handle located close to the first end cap of the first floor plate. The resilient bracket thus ensures that sliding out of the second floor plate is not possible in situations where this is not desired, such as for instance during transport of the scaffolding floor. By pressing the resilient bracket, for example by exerting pressure on the second member, towards the lower surface of the second floor plate, the second member and the third member will be bent closer together until a situation arises where the resilient bracket is fully above said handle and is no longer in contact with the latter, after which the second floor plate can then be extended further beyond the handle concerned. In the same way, the second floor plate can also be slid past any additional handles.

[0046] In most preferred embodiments, two or more of the preferred blocking mechanisms are combined with one another in a scaffolding floor according to the first aspect of the invention. Most preferably, the hinged bracket is combined with the resilient bracket or the fixed bracket is combined with the resilient bracket.

[0047] In a second aspect, the invention relates to a scaffolding floor comprising a floor plate extending longitudinally according to a longitudinal axis and which is provided with a walking surface, an opposite lower surface and a plurality of perforations, two side flanges each extending away from the walking surface and transversely to the floor plate along a side edge of the floor plate and each formed by a side portion of the latter, and two end caps each at least indirectly connectable, and preferably connected, to an end edge of the floor plate, wherein each end cap is provided with at least one suspension element suitable for suspending the scaffolding floor from a ledger of a scaffold, wherein the perforated floor plate is provided with one or more perforation-free

zones each extending transversely to said longitudinal axis over the floor plate.

[0048] Due to the measure of the perforation-free zones, a damaged scaffolding floor can easily be shortened to one or more scaffolding floors of a desired smaller size. This allows material to be saved. This also offers an economic advantage. Another advantage is that a required stock of scaffolding floor material can be reduced by said intelligent repair and reuse of the scaffolding floor. In the case of a damaged section of the scaffolding floor located along a perforation-free zone or between two perforation-free zones, said damaged section can be easily removed from the scaffolding floor by cutting through the relevant perforation-free zones. Thus, one or more undamaged sections are obtained, each of a desired smaller size compared to the original scaffolding floor. When the undamaged sections of desired smaller size do not comprise end caps at each of the newly formed end edges, where absent, new end caps can be simply attached to said end edges. In the case of classic perforated scaffolding floors (without the aforementioned perforation-free zones), a repair is laborious, because a local repair of a scaffolding floor entails a risk of instability of the entire scaffolding floor, as a result of which the scaffolding floor is usually completely replaced, and because moreover in classic perforated scaffolding floors the end caps are welded to the scaffolding floor.

[0049] The perforation-free zones are each preferably positioned at a location of the scaffolding floor that corresponds to a smaller standard length of the scaffolding floor.

[0050] The scaffolding floor according to the second aspect of the invention can be made of any suitable materials as known in the prior art. According to embodiments, the scaffolding floor is made of a plastic or a composite material. Non-limiting examples of a plastic are polyester, polyamide, polycarbonate, polyethylene, polytetrafluoroethylene, polypropylene, polyoxymethylene, polyvinyl chloride or any combination thereof. A non-limiting example of a composite material is made of polyamide, polycarbonate, polyoxymethylene, polypropylene, polybutylene terephthalate. The composite material may be a fibre reinforced composite material, wherein the fibre is selected from a group comprising: carbon fibre, glass fibre, aramid fibre and metal fibre, or a combination of two or more of the aforementioned fibres. A plastic or a composite material has a lower weight than metal and is therefore an option for weight reduction. A suitable example of a fibre reinforced composite material is a glass fibre reinforced polypropylene, and in particular a glass fibre reinforced polypropylene with impact modifier. According to preferred embodiments, the scaffolding floor is made of a metal. Non-limiting examples of suitable metals are steel, stainless steel and aluminium. According to preferred embodiments, the scaffolding floor is made of a metal, preferably steel, which is coated with a material having rust resistance. A non-limiting example of this is hot-dip galvanised steel. An advantage of a coat-

ing with a material having rust resistance is that newly formed end edges do not need to be treated against rust after cutting a floor plate of a scaffolding floor. An optimally suitable coating for a scaffolding floor is described in the Belgian patent application with application number 2019/5676, filed on 11 October 2019 on behalf of AFIX Group NV, which is incorporated herein by reference in its entirety.

[0051] The perforations act as drainage points for rainwater or other occurring liquids. This has the advantage that accumulation of liquids on the floor plate is avoided, which also reduces the risk of slipping or tripping on the scaffolding floor. Preferably, at least some of said perforations are provided with collars extending away from the lower surface. The extending collars of the perforations provide increased grip to the shoe soles of workers setting foot on the floor plate. This greatly reduces the risk of slipping or tripping on the scaffolding floor due to factors such as a slippery surface after rainfall or a high slope.

[0052] In a preferred embodiment, the invention provides a scaffolding floor according to the second aspect of the invention, said one or more perforation-free zones each extending from a side edge of the floor plate to an opposite side edge.

[0053] This improves the visual clarity of the desired place of cutting a floor plate. Moreover, it is thus avoided that perforations are present at the level of a cutting face, so that cut perforations on newly formed end edges are avoided.

[0054] In a preferred embodiment, the invention provides a scaffolding floor according to the second aspect of the invention, wherein one or more perforation-free zones are carried out as rectangular strips.

[0055] Rectangular strips extending transversely to said longitudinal axis over the floor plate offer the advantage that their straight shape visually assists in cutting the floor plate straight according to said transverse direction. This provides straight cut undamaged sections, which is desirable. Compared to irregular shapes, a rectangular strip also offers the advantage that a rectilinear pattern of surrounding perforations is not disturbed.

[0056] In a preferred embodiment, the invention provides a scaffolding floor according to the second aspect of the invention, wherein the perforation-free zones each comprise a length, which length corresponds to the dimension of a perforation-free zone according to said longitudinal axis, and which length of a perforation-free zone is between 2 times and 20 times, more preferably between 3 times and 12 times, and even more preferably between 4 times and 9 times smaller than a width of the floor plate defined as the distance between opposite side edges of the floor plate.

[0057] In a preferred embodiment, the invention provides a scaffolding floor according to the second aspect of the invention, wherein the perforation-free zones each comprise a length, which length corresponds to the dimension of a perforation-free zone according to said lon-

gitudinal axis, and which length of a perforation-free zone is between 1.2 times and 20 times, more preferably between 1.5 times and 8 times, and even more preferably between 2 times and 4.5 times larger than a diameter of a largest perforation located along a perforation-free zone.

[0058] Due to such relative dimensions, a puncture-free zone is large enough to be visually distinguishable. The perforation-free zone is also large enough to be easily cut without contact with surrounding perforations. However, limiting the length according to the above limits prevents the formation of too large newly formed end edges and consequently material waste when cutting through a perforation-free zone. Limiting the said length is also intended to limit the risk of slipping or tripping on the scaffolding floor.

[0059] In a preferred embodiment, the invention provides a scaffolding floor according to the second aspect of the invention, wherein the side flanges are internally connected to one another by one or more handles.

[0060] Scaffolding floors with a handle are easier to assemble and are sturdier than floors without a handle. Preferably, the handles are removable. Consequently, they can be replaced after damage. Preferably, the side flanges are internally connected to one another by two or more handles, for example by two handles. Using two or more handles provides extra reinforcement of the floor plate and prevents the scaffolding floor from bending.

[0061] In a preferred embodiment, the invention provides a scaffolding floor according to the second aspect of the invention, wherein the one or more handles are made of a plastic.

[0062] A plastic handle is lighter than a metal handle and does not feel cold in cold weather conditions. As a result, a plastic handle is really an advantageous innovation in the scaffolding construction sector. Any suitable material as known in the prior art can be used as the plastic. Non-limiting examples of a plastic material for a plastic handle are polyvinyl chloride, polyurethane, acrylonitrile-butadiene-styrene, acrylic, polystyrene, polytetrafluoroethylene, polycarbonate, polyethylene, polyethylene terephthalate glycol, polyethylene terephthalate and polypropylene.

[0063] In a third aspect, the invention relates to a method for producing a scaffolding floor, comprising the steps of providing a first floor plate having a walking surface and an opposing lower surface, punching the first floor plate to form a first floor plate comprising perforations, forming two side flanges out of the floor plate by folding back side portions of the floor plate facing away from the walking surface and along side edges of the first floor plate, and at least indirectly attaching a first end cap to the floor plate wherein the end cap is placed in such a way that the end cap extends under the floor plate along an end edge of the floor plate, which first end cap is provided with at least one suspension element suitable for suspending the scaffolding floor from a ledger of a scaffold, wherein the method further comprises the steps of

providing a second floor plate having a walking surface and an opposing lower surface, punching the second floor plate to form a second floor plate comprising perforations, forming two side flanges out of the second floor plate by folding back side portions of the floor plate facing away from the walking surface and along side edges of the floor plate, and at least indirectly attaching a second end cap to the second floor plate such that the second end cap extends below the second floor plate along an end edge of the second floor plate, which second end cap is provided with at least one suspension element suitable for suspending the scaffolding floor from a ledger of a scaffold, and wherein in a step the second floor plate is telescopically borne in the first floor plate in such a way that the second end cap in the borne position faces away from the first floor plate.

[0064] In this way, two floor plates can be placed in one another in a borne manner, so that the scaffolding floor can be extended and that end caps are provided at the same time for attachment to ledgers of a scaffold. For the other advantages of an extendable scaffolding floor as obtained according to the method, reference is made to the above description of a scaffolding floor according to the first aspect of the invention. For material preferences for the scaffolding floor, reference is also made to the above description of the first aspect of the invention.

[0065] In a preferred embodiment, the invention provides a method for producing a scaffolding floor according to the third aspect of the invention, the method further comprising the step of perpendicularly folding back free ends of the side flanges of the first floor plate, wherein the folded back portions form lower edges. Consequently, the lower edges act as guides for the second floor plate to be telescopically borne. The lower edges as guides have the important advantage of their simplicity of construction. Namely, the lower edges can be obtained simply by bending back or folding back an end portion of a side flange of a first floor plate.

[0066] In a preferred embodiment, the invention provides a method for producing a scaffolding floor according to the third aspect of the invention, wherein in a further step one or more handles, more preferably two or more handles, are placed between the side flanges of the first floor plate in such a way that the handles are held by said side flanges and supported by said lower edges.

[0067] In particular, said placement of handles in the first floor plate ensures that the handles function as a guide for the second floor plate to be telescopically borne, while the handles are also supported by said lower edges and wherein furthermore the handles can be gripped in an accessible manner by a person. For the advantages and technical effects of handles per se, reference is made to the above description of the scaffolding floor according to the first aspect of the invention.

[0068] In a fourth aspect, the invention relates to a method for producing a scaffolding floor, comprising the steps of providing a floor plate having a walking surface

and an opposing lower surface, forming two side flanges out of the floor plate by folding back side portions of the floor plate facing away from the walking surface and along side edges of the floor plate, and at least indirectly attaching two end caps to the floor plate, wherein each end cap is positioned such that the end cap extends below the floor plate along an end edge of the floor plate, said end cap being provided with at least one suspension element suitable for suspending the scaffolding floor from a ledger of a scaffold, the method further comprising the step of punching the floor plate to form a perforated floor plate, wherein during punching certain sections of the floor plate are skipped in a manner such that perforation-free zones are formed each extending transversely to said longitudinal axis over the floor plate.

[0069] Skipping certain sections during punching is a simple and efficient way to obtain perforation-free zones. For the technical effects and advantages of the scaffolding floor as well as of the perforation-free zones in particular, reference is made to the above description of the second aspect of the invention. For material preferences for the scaffolding floor, reference is also made to the above description of the second aspect of the invention. The perforation-free zones obtained according to the method are each preferably positioned at a location of the produced scaffolding floor that corresponds to a smaller standard length of the scaffolding floor.

[0070] In a preferred embodiment, the invention provides a method for producing a scaffolding floor according to the fourth aspect of the invention, said sections of the floor plate which are skipped during punching being of equal size.

[0071] This has the advantage that the perforation-free zones thus obtained are of the same size, so that irrespective of the location of damage to the scaffolding floor, the floor plate can be cut through via one or two of the same standard perforation-free zones, so that an undamaged perforated section is obtained which can be reused. In a fifth aspect, the invention relates to a method for repairing a scaffolding floor upon damage to a section of the scaffolding floor, the scaffolding floor comprising a floor plate extending longitudinally according to a longitudinal axis and which is provided with a walking surface, an opposite lower surface and a plurality of perforations, two side flanges each extending away from the walking surface and transversely to the floor plate along a side edge of the floor plate and each formed by a side portion of the latter, and two end caps each at least indirectly connectable, and preferably connected, to an end edge of the floor plate, wherein each end cap is provided with at least one suspension element suitable for suspending the scaffolding floor from a ledger of a scaffold, wherein in the event of damage to one or both end caps the method comprises the step of replacing each damaged end cap with a new end cap and that in the event of damage to the floor plate the method comprises the step of cutting through, and preferably cutting through transversely to said longitudinal axis, the floor plate at one or more lo-

cations so that an undamaged section of the floor plate with one or two newly formed end edges remains, and following which a new end cap is attached to each free end edge.

[0072] By means of the method, a scaffolding floor is repaired in the event of damage in such a way that at least a portion of the scaffolding floor can be reused. In the event of damage to the floor plate, the undamaged sections obtained by the method can be used as a new floor plate of a smaller size. This saves material compared to completely replacing the scaffolding floor in the event of damage. This is also economically advantageous and is also less harmful to the environment. Another advantage is that a required stock of scaffolding floor material can be reduced by said intelligent repair and reuse of the scaffolding floor.

[0073] In a preferred embodiment, the invention provides a method according to the fifth aspect of the invention, wherein the scaffolding floor is provided with one or more perforation-free zones each extending transversely to said longitudinal axis over the floor plate, and wherein when cutting through the floor plate, the floor plate is cut through through one or more of said perforation-free zones.

[0074] The presence of perforation-free zones clearly indicates where a scaffolding floor can be cut through to obtain a new undamaged scaffolding floor of a smaller size. This also prevents the floor plate from being cut through perforations, which would result in end edges with dangerously sharp serrated edges.

[0075] In a preferred embodiment, the invention provides a method according to the fifth aspect of the invention, wherein in the event of damage to the floor plate, said remaining undamaged section of the floor plate acts as a first floor plate, wherein a second floor plate, which is similar to the first floor plate but dimensioned cross-sectionally smaller, is borne and extendably placed in the first floor plate in a further step, and following which a new end cap is attached to each free end edge.

[0076] It should be understood that in the latter embodiment, a free end edge of a floor plate is to be interpreted as an end edge that does not end in an end cap and that does not overlap with the other borne floor plate.

[0077] Such an extendable arrangement of floor plates is a practical and material-saving measure in the event of repair in case of damage to the scaffolding floor. In this way, a portion of the scaffolding floor can be reused when it is repaired, while an original or adapted length of the scaffolding floor can be obtained by extending the scaffolding floor. This flexibility in length adjustment is an advantage when using the scaffolding floor in a scaffold obtained.

[0078] For such an extendable arrangement of floor plates in a repair of a scaffolding floor according to the fifth aspect of the invention, in a preferred embodiment, the side flanges of the former floor plate are internally connected to one another by one or more handles, wherein the handles are held by said side flanges of the

former floor plate and supported by lower edges of the former floor plate, and wherein the handles support lower edges of a said second floor plate at least partially.

[0079] The handles thus transcend their usual function as handles to be gripped. The handles function to hold the second floor plate in place within the first floor plate, and to guide the second floor plate within the first floor plate when sliding in or out of the second floor plate relative to the first floor plate. Furthermore, the handles, in combination with a blocking mechanism, specific embodiments of which are described above in the text when discussing the first aspect of the invention, can serve a safety function, since the second floor plate can be blocked relative to the first floor plate for safety reasons when a blocking mechanism gets stuck behind a handle.

[0080] In a sixth aspect, the invention relates to a use of a scaffolding floor according to the first aspect of the invention in a scaffold used in construction, renovation, stage construction, for providing a flat ground surface on uneven ground, for supporting an object, for temporary roofs, bridges, buildings, for reinforcing river banks, slopes and/or as racks for storage.

[0081] In a seventh aspect, the invention relates to a use of a scaffolding floor according to the second aspect of the invention in a scaffold used in construction, renovation, stage construction, for providing a flat ground surface on uneven ground, for supporting an object, for temporary roofs, bridges, buildings, for reinforcing river banks, slopes and/or as racks for storage.

[0082] In what follows, the invention is described by way of non-limiting examples illustrating the invention, and which are not intended to and should not be interpreted as limiting the scope of the invention.

EXAMPLES

EXAMPLE 1

[0083] Example 1 relates to a scaffolding floor according to preferred embodiments of the second aspect of the invention.

[0084] A scaffolding floor according to Example 1 is shown in Figs. 1-4. For clarification, Fig. 3 is a cross-section of the scaffolding floor 1 shown in Fig. 1 and along the axis III-III, and Fig. 4 is a cross-section of the scaffolding floor shown in Fig. 1 and along the axis IV-IV. The scaffolding floor 1 has a floor plate 2 which consists of a perforated plate which forms a walking surface 3. The floor plate 2 extends longitudinally along a longitudinal axis 28. Opposite the walking surface 3, the floor plate 2 has a lower surface 4. The floor plate 2 has a number of perforations 9, 23, some of which perforations 9 are delimited by collars 10 which extend away from the lower surface 4. The perforations 9, 23 are made by punching the floor plate 2.

[0085] For circumferential bending of an area on the circumference of a perforation 9, to form said collar 10, use can be made of an upper and lower die formed for

this purpose, which can be placed in a punching machine. Said collars 10 each end in an arris 19. The extending collars 10 of the perforations 9 provide increased grip to the shoe soles of workers setting foot on the floor plate 2. This greatly reduces the risk of slipping or tripping on the scaffolding floor 1 due to factors such as a slippery surface after rainfall or a high slope. Cavities in the floor plate defined by the perforations 9, 23 provide drainage points for rainwater or other occurring liquids, so that the risk of slippage due to a slippery surface is also greatly reduced.

[0086] The floor plate 2 has two end edges 8. Two end caps 7 are each arranged extending under the floor plate 2 under an end edge 8 of the floor plate 2. The end cap 7 is formed by a U-shaped element 11 with two legs 12 which are connected to each other by a body 13. The legs 12 of the U-shaped element 11 extend into the interior of the floor plate 2. The U-shaped element 11 is provided on both sides with a side cap 15 which is placed transversely against the body 13. The side cap 15 extends into the interior of the floor plate 2. On one side of the body 13 facing away from the side carrying the side caps 15, two hooks 14 are placed transversely as suspension elements 14. The hooks 14 serve to be able to suspend the scaffolding floor 1 from a ledger of a scaffold. Furthermore, on said side of the body 13, a projection 20 is provided next to the hooks 14. This projection 20 provides additional stability when the scaffolding floor 1 is used in a scaffold.

[0087] Two side flanges 5 each extend away from the walking surface 3 and transversely to the floor plate 2 along a side edge 6 of the floor plate 2. Each side flange 5 is formed by bending down a side portion of the floor plate 2. Each side flange 5 ends in a lower edge 22. Each U-shaped element 11, together with the floor plate 2 and the side flanges 5, forms a rigid frame. This rigid frame prevents the scaffolding floor 1 from bending.

[0088] As base materials for the production of a scaffolding floor 1 according to Example 1, said floor plate 1 is made of steel coated with a material having rust resistance. According to Example 1, the end caps 7 are also made of steel coated with a material having rust resistance.

[0089] Fig. 1 clearly shows in exploded perspective how by applying self-drilling rivets 18 at point locations 17 and along a direction 21 from side flange 5 to side cap 15, the floor plate 2 and the end caps 7 are mechanically connected to each other via point connections. The self-drilling rivets 18 are applied by pressing them from the outside inwardly through both the side cap 15 and the side flange 5. In particular, each time a self-drilling rivet 18 is pressed through a side flange 5, after which the self-drilling rivets 18 forms an undercut in a side cap 15, as a result of which a characteristic locking head is produced. The self-drilling rivets 18 are made of steel coated with a material having rust resistance. By using these point connections at point locations 17, a quick connection of the end caps 7 and consequently a quick

assembly of the scaffolding floor 1 is made possible. In addition, the self-drilling rivets 18 can be applied directly without the need for drilling beforehand, in contrast to, for example, conventional bolts or blind rivets. Another advantage is that the application of the self-drilling rivets 18 can be carried out relatively silently. An additional advantage is that a self-drilling rivet performs better at dynamic load compared to a blind rivet in combination with pre-drilled holes. In addition, only a limited use of material and energy is necessary for said connections which are applied only at a point location 17. This is in contrast to classic weld seams, which require a large amount of energy. Welding also entails risks in terms of material deformation due to heat input during welding, which risk is avoided by the aforementioned point connections. In addition, a corrosion-protective action is also required after welding, in order to protect the weld seams against corrosion, such as a thermal galvanising process. An additional advantage is that a self-drilling rivet performs better at dynamic load compared to a blind rivet in combination with pre-drilled holes.

[0090] The perforated floor plate 2 is provided with perforation-free zones 29 each extending transversely to said longitudinal axis 28 as rectangular strips over the floor plate 2 from a side edge 6 of the floor plate 2 to an opposite side edge 6. The floor plate 2 has perforated sections 40 next to the perforation-free zones 29. The perforation-free zones 29 are obtained by skipping certain sections when punching the floor plate 2. As shown in Fig. 1, the perforation-free zones 29 are preferably of the same size. Via the perforation-free zones 29, a damaged scaffolding floor 1 can easily be shortened to one or more scaffolding floors of a desired smaller size. According to Example 1, the perforation-free zones 29 are namely positioned at a location of the scaffolding floor 1 that corresponds to a smaller standard length of the scaffolding floor 1. This allows material to be saved. This also offers an economic advantage. Another advantage is that a required stock of scaffolding floor material can be reduced by said intelligent repair and reuse of the scaffolding floor. In the case of a damaged section of the scaffolding floor 1 located along a perforation-free zone 29 or between two perforation-free zones 29, said damaged section can be easily removed from the scaffolding floor 1 by cutting through the relevant perforation-free zones 29. Preferably, the perforation-free zones 29 are cut through via a direction transverse to the longitudinal axis 28. Cutting through via such a transverse direction is simplified by the rectangular shape of the perforation-free zones 29, in which case it is possible to cut through parallel to the long sides of the rectangular shape. Thus, one or more undamaged sections are obtained, each of a desired smaller size compared to the original scaffolding floor. When the undamaged sections of desired smaller size do not comprise end caps 7 at each of the newly formed end edges 8, where absent, new end caps can be simply attached to said end edges. In the case of classic perforated scaffolding floors (without the afore-

mentioned perforation-free zones), a repair is laborious, because a local repair of a scaffolding floor entails a risk of instability of the entire scaffolding floor, as a result of which the scaffolding floor is usually completely replaced, and because moreover in classic perforated scaffolding floors the end caps are welded to the scaffolding floor.

[0091] The perforation-free zones 29 each have a length X1, which length X1 corresponds to the dimension of a perforation-free zone 29 according to said longitudinal axis 28. Transverse to said length X1, each perforation-free zone has a width Y1 as its dimension. Fig. 2 further shows a length X2 and width Y2 of the floor plate 2, and also a length X3 and width Y3 for each perforated section 40. A diameter D1 of a perforation 9 with collar 10 as well as a diameter D2 of a perforation 23 without collar are also shown. According to Example 1, the length X1 of each perforation-free zone 29 is between 6 times and 7 times smaller than the width Y2 of the floor plate 2. According to Example 1, the length X1 of each perforation-free zone 29 is also between 2 times and 4.5 times larger than the diameter D1 of the largest perforation 9 which is located along the perforation-free zone 29. Due to these relative dimensions, a perforation-free zone 29 is large enough to be visually distinguishable from perforated sections 40. The perforation-free zone 29 is also large enough to be easily cut through without contact with surrounding perforations 9, 23. However, limiting the length according to the above limits prevents the formation of too large newly formed end edges and consequently material waste when cutting through a perforation-free zone 29. Limiting said length is also intended to limit the risk of slipping or tripping on the scaffolding floor 1.

[0092] The above-mentioned connection of side flanges 5 and end caps 7 via point connections, according to this example in particular via self-drilling rivets 18, also offers an advantage in the repair of a scaffolding floor 1. After cutting through a scaffolding floor 1, via a perforation-free zone 29, an end cap 7 can be mechanically connected easily and quickly by means of such point connections to the side flanges 5 at the level of the end edges of the floor plate 2 newly formed by cutting.

[0093] As clearly shown in Fig. 1 and Fig. 4, the side flanges 5 of the floor plate 2 are internally connected to one another by means of plastic handles 30. The handles 30 are attached by means of bolts 130 and can be disassembled. Scaffolding floors 1 with a handle 30 are easier to assemble and are sturdier than scaffolding floors without a handle. Because the handles 30 are detachable, they can be easily replaced after damage. As shown in Fig. 4, each handle 30 is held by said side flanges 5 and supported by the lower edges 22 of the side flanges 5. Said placement of handles 30 ensures that the handles 30 are supported by the lower edges 22, which provides additional strength. Said placement of the handles 30 also ensures that the handles 30 can be gripped in an accessible manner by an employee.

EXAMPLE 2

[0094] Example 2 relates to a scaffolding floor according to preferred embodiments of the first aspect of the invention.

[0095] A scaffolding floor according to Example 2 is shown in Figs. 5-7. The scaffolding floor 51 comprises a second floor plate 31 with a second end cap 38 and a first floor plate 52 with a first end cap 57, wherein the second floor plate 31 is telescopically borne within the first floor plate 52. As base materials for the production of a scaffolding floor 51 according to Example 2, said floor plates 31, 57 are made of steel coated with a material having rust resistance. According to Example 2, the end caps 38, 57 are made of steel coated with a material having rust resistance.

[0096] An extendable arrangement of floor plates 31, 52 is a practical and material-saving measure in the event of repair in case of damage to the scaffolding floor. A damaged scaffolding floor can be shortened to remove a damaged section. An undamaged portion of the scaffolding floor can then serve as a first floor plate of a newly assembled scaffolding floor, in which first floor plate a second floor plate is telescopically borne. As undamaged portion, a perforated section 40 obtained after cutting through one or two perforation-free zones 29 can be used according to Example 1. The whole is finished by ensuring that end caps 38, 57 are provided at both ends of the extendable scaffolding floor. In this way, a portion of the scaffolding floor can be reused when it is repaired. This also limits the amount of stock required at a site. Another advantage of the extendable scaffolding floor 51 according to Example 2 is that it is adjustable in length. This flexibility in length adjustment is an advantage when using the scaffolding floor 51 in a scaffold.

[0097] The first floor plate 52 comprises a perforated plate which forms a walking surface 53. The first floor plate 52 extends longitudinally along a longitudinal axis 78. Opposite the walking surface 53, the first floor plate 52 has a lower surface 54. The first floor plate 52 has a number of perforations 59, 73, some of which perforations 59 are delimited by collars 60 which extend away from the lower surface 54. The perforations 59, 73 are made by punching the first floor plate 52. For circumferential bending of an area on the circumference of a perforation 59, to form said collar 60, use can be made of an upper and lower die formed for this purpose, which can be placed in a punching machine. Said collars 60 each end in an arris 69. The extending collars 60 of the perforations 59 provide increased grip to the shoe soles of workers setting foot on the first floor plate 52. This greatly reduces the risk of slipping or tripping on the scaffolding floor 51 due to factors such as a slippery surface after rainfall or a high slope. Cavities in the floor plate defined by the perforations 59, 73 provide drainage points for rainwater or other occurring liquids, so that the risk of slippage due to a slippery surface is also greatly reduced.

[0098] The first floor plate 52 has two end edges 58. A first end cap 57 is disposed extending under the first floor plate 52 under an end edge 58 of the first floor plate 52. The first end cap 57 is formed by a U-shaped element with two legs which are connected to each other by a body. The legs of the U-shaped element extend into the interior of the floor plate. The U-shaped element is provided on both sides with a side cap which is placed transversely against the body. The side cap extends into the interior of the first floor plate 52. For an illustration of the U-shaped element and its components, reference is made to Fig. 1, which shows an identical embodiment of the U-shaped element (part 11 in Fig. 1). In Fig. 5-6, it can be seen that the first end cap 57 terminates in two hooks 74 which act as suspension elements 74. In particular, the hooks 74 serve to be able to suspend the scaffolding floor 51 from a ledger of a scaffold. Furthermore, beside the hooks 74, a projection 75 is provided. This projection 70 provides additional stability when the scaffolding floor 51 is used in a scaffold.

[0099] Two side flanges 55 each extend away from the walking surface 53 and transversely to the floor plate 52 along a side edge 56 of the first floor plate 52. Each side flange 55 is formed by bending down a side portion of the first floor plate 52. Each side flange 55 ends in a lower edge 72. The first end cap 57, together with the first floor plate 52 and the side flanges 55, forms a rigid frame. This rigid frame prevents the scaffolding floor 51 from bending.

[0100] The first end cap 57 is attached to the side flanges 55 of the first floor plate 52 by means of point connections at the level of point locations. In particular, self-drilling rivets 68 are provided through the first end cap 57 and side flanges 55 on either side of the first floor plate 52. For the technical effects and advantages of such point connections, reference is made to the above description of Example 1.

[0101] As shown in Fig. 5, the second floor plate 31 comprises a perforated plate which forms a walking surface 32. The second floor plate 31 extends longitudinally along a longitudinal axis 78. Opposite the walking surface 32, the second floor plate 31 has a lower surface 33. The second floor plate 31 has a number of perforations 34, 35, some of which perforations 34 are delimited by collars 44 which extend away from the lower surface 33. The perforations 34, 35 are made by punching the second floor plate 31. For circumferential bending of an area on the circumference of a perforation 34, to form said collar 44, use can be made of an upper and lower die formed for this purpose, which can be placed in a punching machine. Said collars 44 each end in an arris 45. The extending collars 44 of the perforations 34 provide increased grip to the shoe soles of workers setting foot on the second floor plate 31. This greatly reduces the risk of slipping or tripping on the scaffolding floor 51 due to factors such as a slippery surface after rainfall or a high slope. Cavities in the floor plate defined by the perforations 34, 35 provide drainage points for rainwater or other

occurring liquids, so that the risk of slippage due to a slippery surface is also greatly reduced.

[0102] The second floor plate 31 has two end edges 39. A second end cap 38 is disposed extending under the second floor plate 31 under an end edge 39 of the second floor plate 31. The second end cap 38 is formed by a U-shaped element with two legs which are connected to each other by a body. The legs of the U-shaped element extend into the interior of the second floor plate 31. The U-shaped element is provided on both sides with a side cap which is placed transversely against the body. The side cap extends into the interior of the second floor plate 31. For an illustration of the U-shaped element and its components, reference is made to Fig. 1, which shows an identical embodiment of the U-shaped element (part 11 in Fig. 1). In Fig. 5-6, it can be seen that the second end cap 38 ends in two hooks 42 acting as suspension elements 42. In particular, the hooks 42 serve to be able to suspend the scaffolding floor 51 from a ledger of a scaffold. Furthermore, beside the hooks 42, a projection 43 is provided. This projection 43 provides additional stability when the scaffolding floor 51 is used in a scaffold.

[0103] Two side flanges 36 each extend away from the walking surface 32 and transversely to the floor plate 31 along a side edge 37 of the second floor plate 31. Each side flange 36 is formed by bending down a side portion of the second floor plate 31. Each side flange 36 ends in a lower edge 81. The second end cap 38, together with the second floor plate 31 and the side flanges 36, forms a rigid frame. This rigid frame prevents the scaffolding floor 51 from bending.

[0104] The second end cap 38 is attached to the side flanges 36 of the second floor plate 31 by means of point connections at the level of point locations. In particular, self-drilling rivets 80 are provided through the second end cap 38 and side flanges 36 on either side of the second floor plate 31. For the technical effects and advantages of such point connections, reference is made to the above description of Example 1.

[0105] As clearly shown in Fig. 5 and Fig. 7, the side flanges 55 of the first floor plate 52 are internally connected to one another by means of plastic handles 41. The handles 41 are attached by means of bolts 140 and can be disassembled. Scaffolding floors 51 with a handle 41 are easier to assemble and are sturdier than scaffolding floors without a handle. Because the handles 41 are detachable, they can be easily replaced after damage. As shown in Fig. 7, each handle 41 is held by said side flanges 55 and supported by the lower edges 72 of the side flanges 55 of the first floor plate 52. Said placement of handles 41 ensures that the handles 41 are supported by the lower edges 72, which provides additional strength. Said placement of the handles 41 also ensures that the handles 41 can be gripped in an accessible manner by an employee.

[0106] In addition, Fig. 7 shows that the handles 41 are positioned so that they are held by the side flanges 55 of the first floor plate 52 and supported by the lower edges

72 of said side flanges 55. In this way, the handles 41 act as a guide for the second floor plate to be telescopically borne, while the handles are also supported by said lower edges, which provides additional strength.

EXAMPLE 3

[0107] Example 3 relates to a method for repairing a scaffolding floor, according to preferred embodiments of the fifth aspect of the invention. Example 3 is explained with reference to the figures already discussed in previous Examples 1 and 2.

[0108] According to Example 3, damage has occurred to a scaffolding floor 1 as shown in Fig. 1, the damage being located at the level of the leftmost perforated section 40. To initiate the repair, the leftmost perforation-free zone 29 is cut through along a direction transverse to the longitudinal axis 28 shown. Preferably, the perforation-free zone 29 is cut through the middle. Thus, an undamaged section with shortened length is obtained, comprising an end cap 7 on the right side and a newly formed end edge on the left side. The presence of perforation-free zones clearly indicates where a scaffolding floor can be cut through to obtain a new undamaged scaffolding floor of a smaller size. This also prevents the floor plate from being cut through perforations, which would result in end edges with dangerously sharp serrated edges. The undamaged section, subject to the steps discussed below, can be used as a new floor plate with a smaller size. This saves material compared to completely replacing the scaffolding floor in the event of damage. This is also economically advantageous and is also less harmful to the environment. Another advantage is that a required stock of scaffolding floor material can be reduced by said intelligent repair and reuse of the scaffolding floor. Furthermore, the undamaged section in Example 3 acts as a new first floor plate 52.

[0109] In a subsequent step, a second floor plate 31, which is dimensioned to be borne in said new first floor plate, is borne and extendable in the new first floor plate 52 along said newly formed end edge 58 of the new first floor plate. In a subsequent step, an end edge 39 of the second floor plate 31 facing away from the new first floor plate 52 is provided with an end cap 38. Thus, an extendable arrangement analogous to Fig. 5 is obtained, with the only difference that the extendable arrangement according to Example 3 still has a perforation-free zone 29 on the walking surface 53 of the first floor plate 52. The resulting extendable arrangement of the floor plates 31, 52 of the scaffolding floor thus repaired is a practical and material-saving measure in the event of repair in case of damage to the scaffolding floor. In this way, a portion of the scaffolding floor can be reused when it is repaired, while an original or adapted length of the scaffolding floor can be obtained by extending the scaffolding floor. This flexibility in length adjustment is an advantage when using the scaffolding floor in a scaffold obtained.

EXAMPLE 4

[0110] Example 4 relates to a scaffolding floor according to preferred embodiments of the first aspect of the invention.

[0111] A scaffolding floor according to Example 4 is shown in Figs. 8-11. The scaffolding floor according to Example 4 comprises additions with respect to the scaffolding floor according to Example 2. For the corresponding elements with respect to Example 2, as shown in Figs. 5-7, reference is made to the above description of Example 2.

[0112] The scaffolding floor 51 according to Example 4 comprises a resilient bracket 88 and a hinged bracket 95 which are attached to the second floor plate 31 (Fig. 8).

[0113] The second floor plate 31 of the scaffolding floor 51 according to Example 4 is provided with an end flange 89 (Figs. 8-9). This end flange 89 is attached to the end edge 39 of the second floor plate 31 which is not provided with a second end cap 38. The end flange 38 extends perpendicular to the lower surface 33 of the second floor plate 31, and this in a direction away from the running surface 32 of the second floor plate 31. The resilient bracket 88 is a three-part element, with a second member 92 which is connected on one side to a first member 90 and is connected on an opposite side to a third member 93 (Fig. 9). The first member 90 is connected by means of a bolt 91 to the outside of the end flange 38. The second member 92 of the resilient bracket 88 is oriented at an obtuse angle with respect to the first member 90, the second member 92 extending under the lower surface 33 of the second floor plate 31. Finally, the third member 93 is oriented at an acute angle with respect to the second member 92 and is directed towards the lower surface 33 of the second floor plate 31. A pleated edge 94 is present at the transition between the second member 92 and the third member 93. The resilient bracket 88 is preferably made of spring steel. Furthermore, Fig. 8 shows a handle-shaped bracket 102 which is attached by means of a bolt 103 to the underside of the first end cap 57. Furthermore, the scaffolding floor 51 shown in Fig. 8 features a handle 104 which is fixed transversely with a bolt 105 to the second end cap 38, and which handle 104 ends against the lower surface 33 of the second floor plate 31.

[0114] Figs. 8-9 show a non-extended or retracted condition of the second floor plate 31 with respect to the first floor plate 52. In particular, the resilient bracket 88, its second limb 92 and third limb 93, extend to the level of a handle 41, and in the case of the non-extended configuration of Fig. 8-9 to the handle 41 closest to the first end cap 57 of the first floor plate 52. The resilient bracket 88 thus ensures that sliding out of the second floor plate 31 is not possible in situations in which this is not desired, such as for instance during transport of the scaffolding floor 51. By pressing the resilient bracket 88, for example by exerting pressure on the second member 92, towards the lower surface 33 of the second floor plate 31, the second member 92 and the third member 93 will be bent

closer together until a situation arises where the resilient bracket 88 is fully above said handle 41 and is no longer in contact with the latter, after which the second floor plate 31 can then be extended further beyond the handle 41 concerned.

[0115] As indicated above, the scaffolding floor 51 according to Example 4 comprises a hinged bracket 95 (Fig. 8; Fig. 10-11). The hinged bracket 95 is a three-part element. A first member 96 of the hinged bracket 95 is hingedly attached to an inner side of a side flange 36 of the second floor plate 31 by means of a nut 97 / bolt 98 connection. A second member 99 extends perpendicular to the first member 96 and this in the direction of the other side flange 36 of the second floor plate 31. A third member 100 extends perpendicular to the second member 99 on one side of the second member 99 which is opposite to one side of the latter which is connected to the first member 96, the third member 100 extending in particular parallel to and in an opposite direction to the first member 96. The third member 100 is provided at its end with an all-around folded strip 101. This folded strip 101 is preferably made of steel or lead and serves as a reinforcement of the third member 100 of the hinged bracket 95.

[0116] The first member 96 of the hinged bracket 95 is received in a space between the lower surface 33 of the second floor plate 31 and the lower edge 81 of the side flange 36 of the second floor plate 31.

[0117] When the scaffolding floor 51 is held upside down, i.e. with walking surfaces 32, 53 facing downwards, the hinged bracket 95 will rotate by gravity and lie such that the third member of the hinged bracket 95 lies on the lower surface 33 of the second floor plate 31. This can also be seen as a flat position of the hinged bracket 95, and this is shown in Fig. 8. When the scaffolding floor 51 is held upside down, the second floor plate 31 may be removed from the first floor plate 52. For this, it is moreover necessary for the resilient bracket 88 (at least when displacing along the handles 41) to be compressed.

[0118] When the scaffolding floor 51 is held with the walking surfaces 32, 53 facing upwards, the third member 100 of the hinged bracket 95 falls downwards by gravity. During this falling motion, the hinged bracket 95 rotates its first member 96 until the latter is stopped by the lower surface 33 of the second floor plate 31. In this way, the third member 100 is directed obliquely downwards. When the second floor plate 31 is slid out of the first floor plate 52, the hinged bracket 95, and in particular the third member 100 (with all-around folded strip 101), will come to rest against a handle 41, which serves as a safeguard that ensures that the scaffolding floor 51 cannot be inadvertently slid out. This principle is shown in Fig. 10 and Fig. 11.

EXAMPLE 5

[0119] Example 5 relates to a scaffolding floor according to preferred embodiments of the first aspect of the

invention.

[0120] A scaffolding floor according to Example 5 is shown in Figs. 12-14. The scaffolding floor according to Example 5 comprises additions with respect to the scaffolding floor according to Example 2. For the corresponding elements with respect to Example 2, as shown in Figs. 5-7, reference is made to the above description of Example 2. In addition, the scaffolding floor according to Example 5 also exhibits the resilient bracket 88 and related measures as discussed above in Example 4.

[0121] The scaffolding floor 51 according to Example 5 thus comprises a resilient bracket 88 and additionally a fixed bracket 82, both of which are attached to the second floor plate 31 (Fig. 12). For the description of the resilient bracket 88, reference is made to the above description of Example 4. The fixed bracket 82 is formed as a plate-shaped L-shaped element. The fixed bracket 82 comprises a first plate-shaped leg 83 which is oriented along the side flange 55 of the second floor plate 31 and is fixed to the latter by means of a nut 84-bolt 85 connection, and additionally comprises a second plate-shaped leg 86 which is perpendicular to the first leg 83 and which extends away from the lower surface 33 of the second floor plate 31. In the transition to the second leg 86, the first leg 83 is provided with an inwardly bent section 87 that causes the second leg to be outside the lower edge 81 of the side flange 36 of the second floor plate 31. Facing away from the first leg 83, the second leg 86 is provided at the end with a bent section 106 that is bent under the lower edge 81 of the first floor plate 52 with its side flange 55 against this side flange 55.

[0122] A scaffolding floor 51 according to Example 5 in the non-extended position is shown in Fig. 12. When the scaffolding floor 51 is extended (after compressing the resilient bracket 88), the fixed bracket 82 will encounter and touch a handle 41 during the extension. Due to the physical contact between the fixed bracket 82 and the handle 41, the second floor plate 31 cannot be slid further out of the first floor plate 52. This serves as a safeguard that ensures that the scaffolding floor 51 cannot be accidentally extended. This principle is shown in Fig. 13 and Fig. 14. In order to extend the second floor plate 31 further, the handles 41 must first be removed.

Claims

1. Scaffolding floor (51) comprising a first floor plate (52) with a plurality of perforations (59, 73) extending longitudinally according to a longitudinal axis (78) and which is provided with a walking surface (53) and an opposite lower surface (54), two side flanges (55) each extending away from the walking surface (53) and transversely to the first floor plate (52) along a side edge (56) of the first floor plate (52) and each formed by a side portion of the latter, and wherein the scaffolding floor (51) further comprises a first end cap (57) connectable to an end edge (58) of the first

- floor plate (52), which first end cap (57) is provided with at least one suspension element (74) suitable for suspending the scaffolding floor (51) from a ledger of a scaffold, **characterised in that** the scaffolding floor (51) further comprises a second floor plate (31) having a plurality of perforations (34, 35) extending longitudinally according to a longitudinal axis (78) and provided with a walking surface (53) and an opposite lower surface (33), two side flanges (36) each extending away from the walking surface (32) and transversely to the second floor plate (31) along a side edge (37) of the second floor plate (31) and each formed by a side portion of the latter, and wherein the second floor plate (31) can be telescopically borne within the first floor plate (52), and wherein the scaffolding floor (51) comprises a second end cap (38) connectable to an end edge (39) of the second floor plate (31) which in the borne position faces away from the first floor plate (52).
2. Scaffolding floor (1) according to claim 1, wherein facing away from the side edges (56) of the first floor plate (52), the side flanges (55) of the first floor plate (52) end in perpendicularly oriented lower edges (72), said lower edges (72) being positioned such that they support at least a portion of the second floor plate (31) in the borne position of the floor plates (31, 52).
 3. Scaffolding floor (1) according to claim 2, wherein facing away from the side edges (37) of the second floor plate (31), the side flanges (36) of the second floor plate (31) end in perpendicularly oriented lower edges (81), said lower edges (81) being positioned such that they are supported at least in part by the lower edges (72) of the first floor plate (52) in the borne position of the floor plates (31, 52).
 4. Scaffolding floor (1) according to claim 3, wherein the side flanges (55) of the first floor plate (52) are internally connected to one another by one or more handles (41), wherein the handles (41) are held by said side flanges (55) of the first floor plate (52) and supported by said lower edges (72) of the first floor plate (52), and wherein the handles (41) support the lower edges (81) of the second floor plate (31) at least partially.
 5. Scaffolding floor (1) according to claim 4, wherein the one or more handles (41) are made of a plastic.
 6. Scaffolding floor (51) according to claim 4 or 5, wherein the scaffolding floor (51) is provided with one or more blocking mechanisms (82, 88, 95) which, when the second floor plate (31) is telescopically borne within the first floor plate (52), at least partially block the sliding out of the second floor plate (31) relative to the first floor plate (52).
 7. Scaffolding floor (51) according to claim 6, wherein a hinged bracket (95) is selected as a blocking mechanism, which hinged bracket (95) is a three-part element, comprising a first member (96) which can be hingedly fastened by means of a connection (97, 98) to an inside of a side flange (36) of the second floor plate (31), and comprising a second member (99) which extends perpendicularly to the first member (96) and this in the direction of the other side flange (36) of the second floor plate (31), and comprising a third member (100) which extends perpendicularly to the second member (99), on one side of the second member (99) which is opposite to one side of the latter which is connected to the first member (96), the third member (100) extending parallel to and in an opposite direction to the first member (96).
 8. Scaffolding floor (51) according to claim 6 or 7, wherein a fixed bracket (82) selected as locking mechanism, which fixed bracket (82) is formed as a plate-shaped L-shaped element, and which fixed bracket (82) comprises a first plate-shaped leg (83) which is oriented along the side flange (55) of the second floor plate (31) and is attachable to the latter by means of a connection (84, 85), and which fixed bracket comprises a second plate-shaped leg (86) perpendicular to the first leg (83) and which extends away from the lower surface (33) of the second floor plate (31), wherein in the transition to the second leg (86), the first leg (83) is provided with an inwardly bent section (87) which causes the second leg (86) to be outside the lower edge (81) of the side flange (36) of the second floor plate (31), and wherein facing away from the first leg (83), the second leg (86) at its end is provided with a bent section (106) which under the lower edge (81) of the first floor plate has its side flange (55) bent against this side flange (55).
 9. Scaffolding floor (51) according to any of claims 6 to 8, wherein a resilient bracket (88) is selected as blocking mechanism, wherein the second floor plate (31) is provided with an end flange (89) which can be attached to the end edge (39) of the second floor plate (31) which is not provided with the second end cap (38), wherein the end flange (38) extends perpendicularly to the lower surface (33) of the second floor plate (31) and this in a direction which faces away from the walking surface (32) of the second floor plate (31), wherein the resilient bracket (88) is designed as a three-part element, comprising a second member (92) which is connected on one side to a first member (90) and is connected on an opposite side to a third member (93), wherein the first member (90) can be connected to the outer side of the end flange (89), and wherein the second member (92) of the resilient bracket (88) is oriented at an obtuse angle with respect to the first member (90), wherein the second member (92) extends under the lower sur-

face (33) of the second floor plate (31), and wherein the third member (93) is oriented at an acute angle with respect to the second member (92) and faces the lower surface (33) of the second floor plate (31), and wherein the transition between the second member (92) and the third member (93) forms a pleated edge (94), and wherein in the non-compressed state of the resilient bracket (88), and in a borne state of the second floor plate (31) in the first floor plate (52), the third member (93) is in abutting contact with a handle (41) when the second floor plate (31) is shifted to a relevant handle (41).

10. Scaffolding floor (1) comprising a floor plate (2) extending longitudinally according to a longitudinal axis (28) and provided with a walking surface (3), an opposite lower surface (4) and a plurality of perforations (9, 23), two side flanges (5) each extending away from the walking surface (3) and transversely to the floor plate (2) along a side edge (6) of the floor plate (2) and each formed by a side portion of the latter, and two end caps (7) each at least indirectly connectable to an end edge (8) of the floor plate (2), wherein each end cap (7) is provided with at least one suspension element (14) suitable for suspending the scaffolding floor (1) from a ledger of a scaffold, **characterised in that** the perforated floor plate (2) is provided with one or more perforation-free zones (29) each extending transversely to said longitudinal axis (28) over the floor plate (2).
11. A method for producing a scaffolding floor (51), comprising the steps of providing a first floor plate (52) having a walking surface (53) and an opposing lower surface (54), punching the first floor plate (52) to form a first floor plate (52) comprising perforations (59, 73), forming two side flanges (55) out of the floor plate (52) by folding back side portions of the floor plate (52) facing away from the walking surface (53) and along side edges (56) of the first floor plate (52), and at least indirectly attaching a first end cap (57) to the floor plate (52), wherein the end cap (57) is placed such that the end cap (57) extends under the floor plate (52) along an end edge (58) of the floor plate (52), which first end cap (57) is provided with at least one suspension element (74) suitable for suspending the scaffolding floor (51) from a ledger of a scaffold, **characterised in that** the method further comprises the steps of providing a second floor plate (31) having a walking surface (32) and an opposing lower surface (33), punching the second floor plate (31) to form a second floor plate (31) comprising perforations (34, 35), forming two side flanges (36) out of the second floor plate (31) by folding back side portions of the floor plate (31) facing away from the walking surface (32) and along side edges (37) of the floor plate (31), and at least indirectly attaching a second end cap (38) to the second floor plate (31)

such that the second end cap (38) extends below the second floor plate (31) along an end edge (39) of the second floor plate (31), which second end cap (38) is provided with at least one suspension element (42) suitable for suspending the scaffolding floor (51) from a ledger of a scaffold, and wherein in a step the second floor plate (31) is telescopically borne in the first floor plate (52) in such a way that the second end cap (38) in the borne position faces away from the first floor plate (52).

12. A method for producing a scaffolding floor (1), comprising the steps of providing a floor plate (2) having a walking surface (3) and an opposing lower surface (4), forming two side flanges (5) out of the floor plate (2) by folding back side portions of the floor plate (2) facing away from the walking surface (3) and along side edges (6) of the floor plate (2), and at least indirectly attaching two end caps (7) to the floor plate (2), wherein each end cap (7) is positioned such that the end cap (7) extends below the floor plate (2) along an end edge (8) of the floor plate (2), which end cap (7) is provided with at least one suspension element (14) suitable for suspending the scaffolding floor (1) from a ledger of a scaffold, **characterised in that** the method further comprises the step of punching the floor plate (2) to form a perforated floor plate (2), wherein during punching certain sections of the floor plate (2) are skipped in a manner such that perforation-free zones (29) are formed each extending transversely to said longitudinal axis (28) over the floor plate (2).
13. Method for repairing a scaffolding floor (1) in the event of damage to a section of the scaffolding floor (1), the scaffolding floor (1) comprising a floor plate (2) extending longitudinally according to a longitudinal axis (28) and provided with a walking surface (3), an opposite lower surface (4) and a plurality of perforations (9, 23), two side flanges (5) each extending away from the walking surface (3) and transversely to the floor plate (2) along a side edge (6) of the floor plate (2) and each formed by a side portion of the latter, and two end caps (7) each at least indirectly connectable to an end edge (8) of the floor plate (2), wherein each end cap (7) is provided with at least one suspension element (14) suitable for suspending the scaffolding floor (1) from a ledger of a scaffold, **characterised in that** in the event of damage to one or both end caps (7) the method comprises the step of replacing each damaged end cap with a new end cap and that in the event of damage to the floor plate (2) the method comprises the step of cutting through the floor plate (2) at one or more locations so that an undamaged section of the floor plate (2) with one or two newly formed end edges remains, and following which a new end cap is attached to each free end edge.

14. A method according to claim 13, wherein the scaffolding floor (1) is provided with one or more perforation-free zones (29) each extending transversely to said longitudinal axis (28) over the floor plate (2), and wherein when cutting through the floor plate, the floor plate is cut through through one or more of said perforation-free zones (29). 5
15. A method according to claim 13 or 14, wherein in the event of damage to the floor plate (2), said remaining undamaged section of the floor plate acts as a first floor plate, wherein a second floor plate (31), which is similar to the first floor plate but dimensioned cross-sectionally smaller, is borne and extendably placed in the first floor plate in a further step, and following which a new end cap is attached to each free end edge. 10 15

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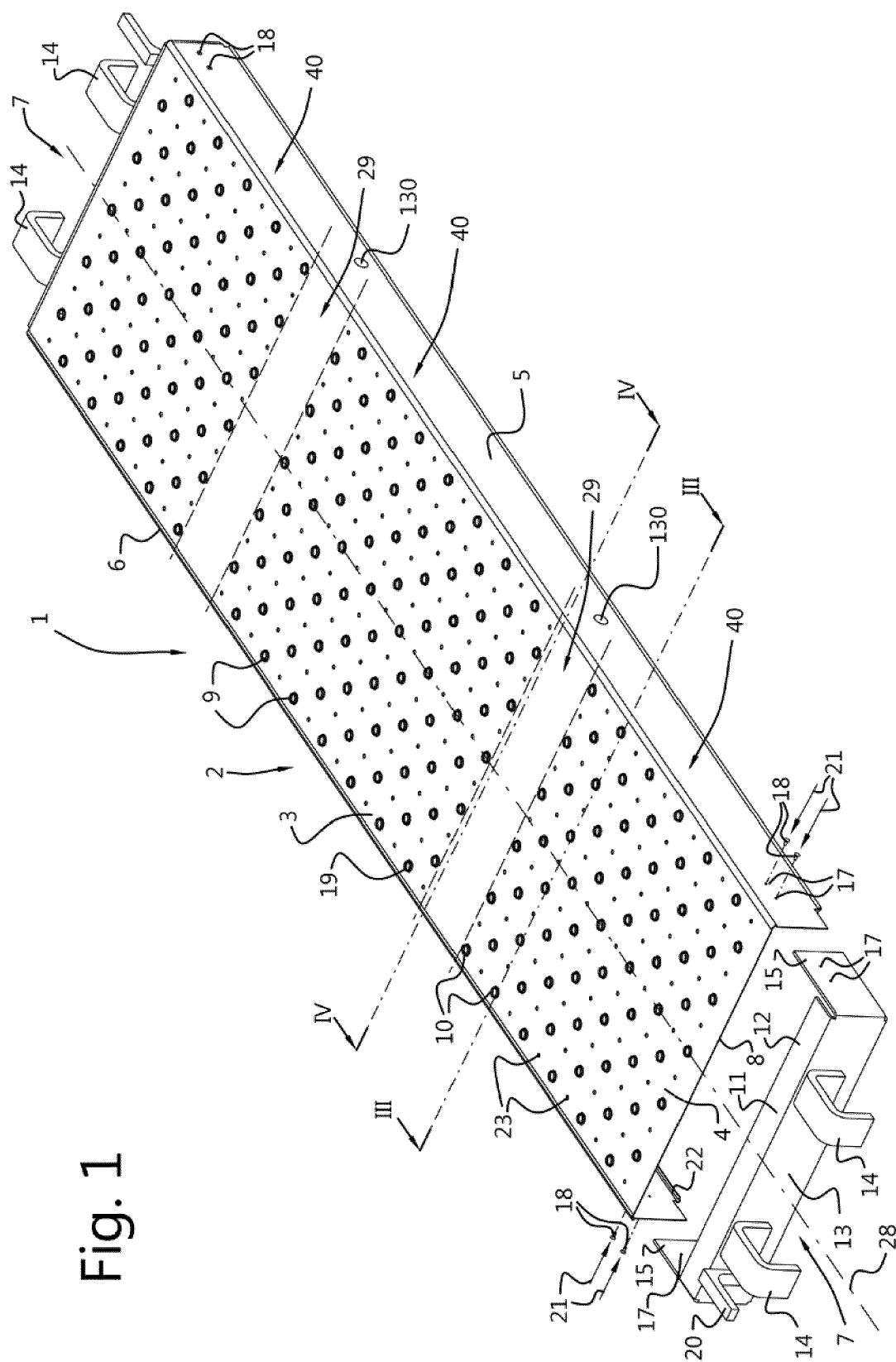
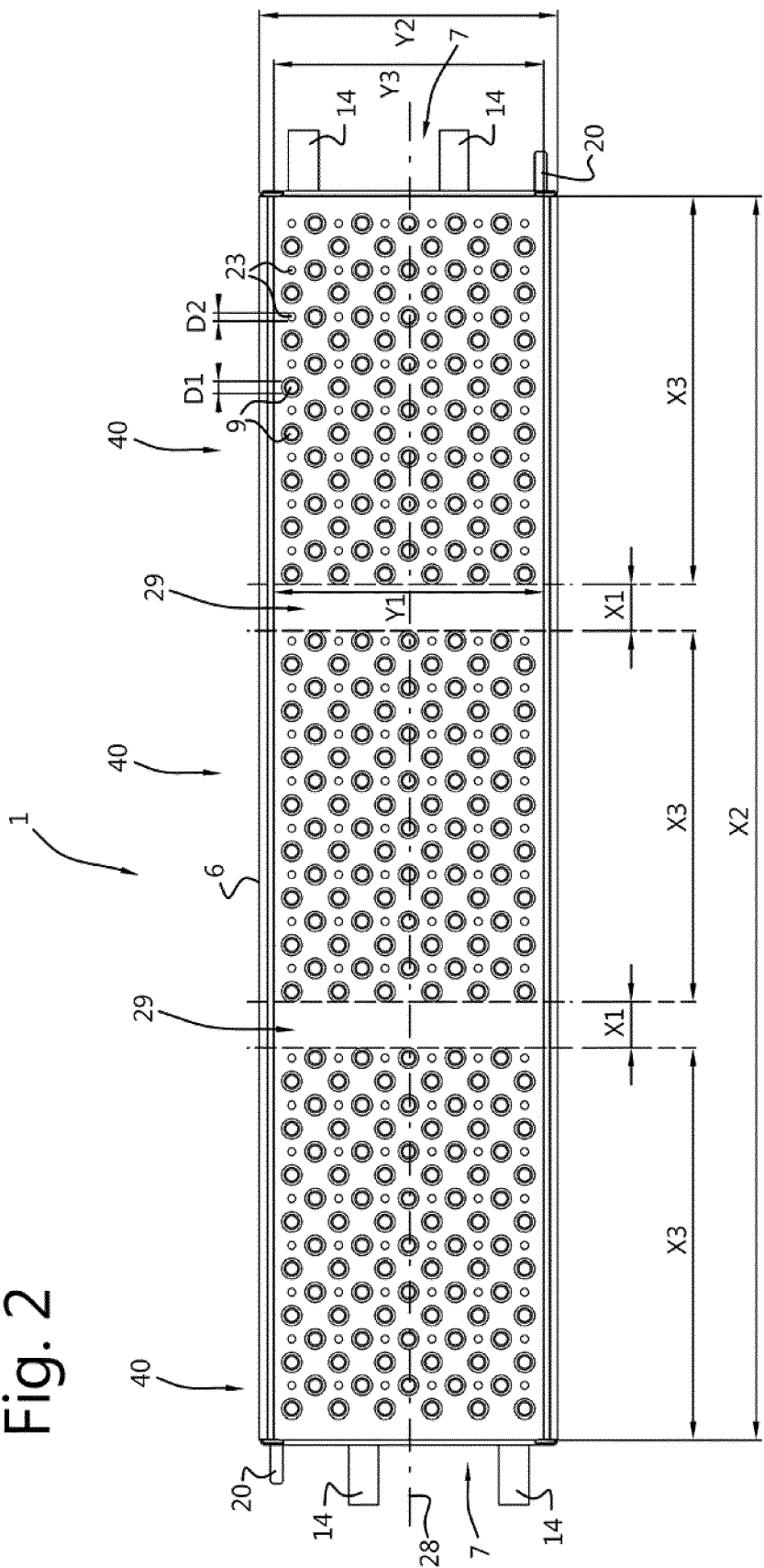


Fig. 1

Fig. 2



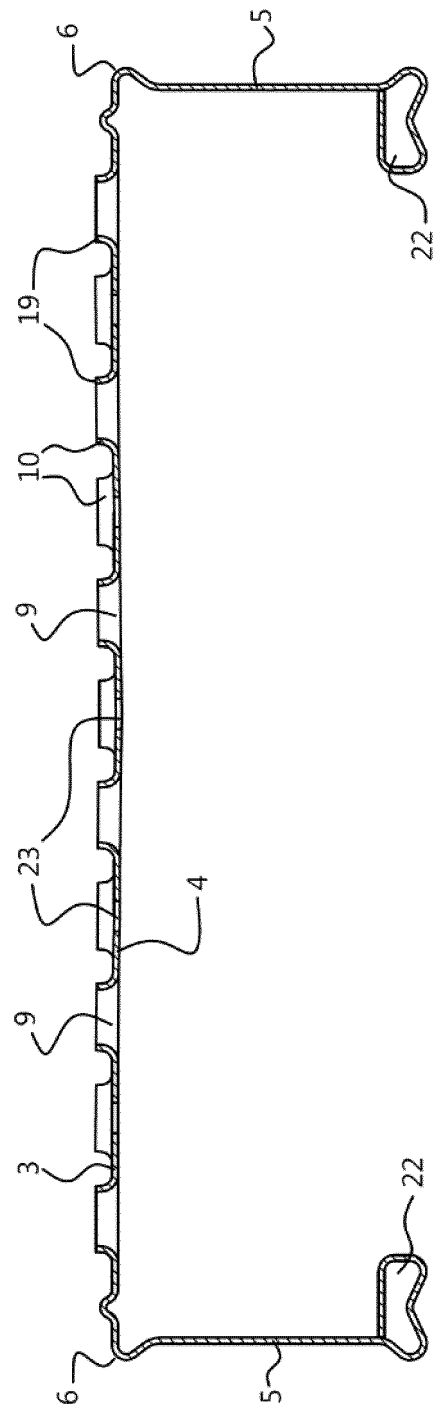


Fig. 3

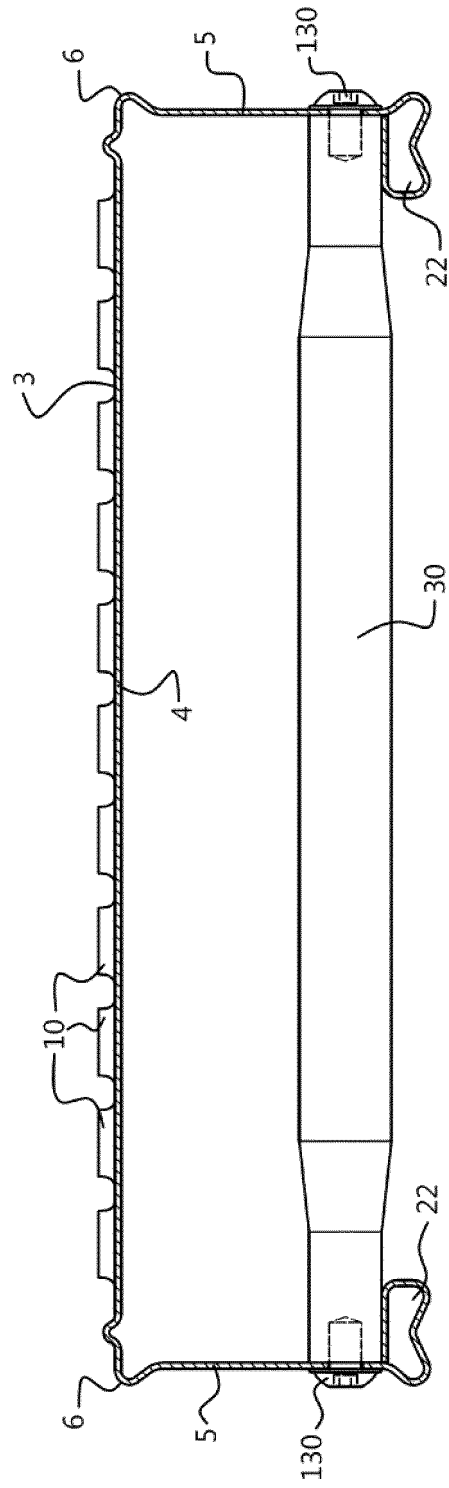


Fig. 4

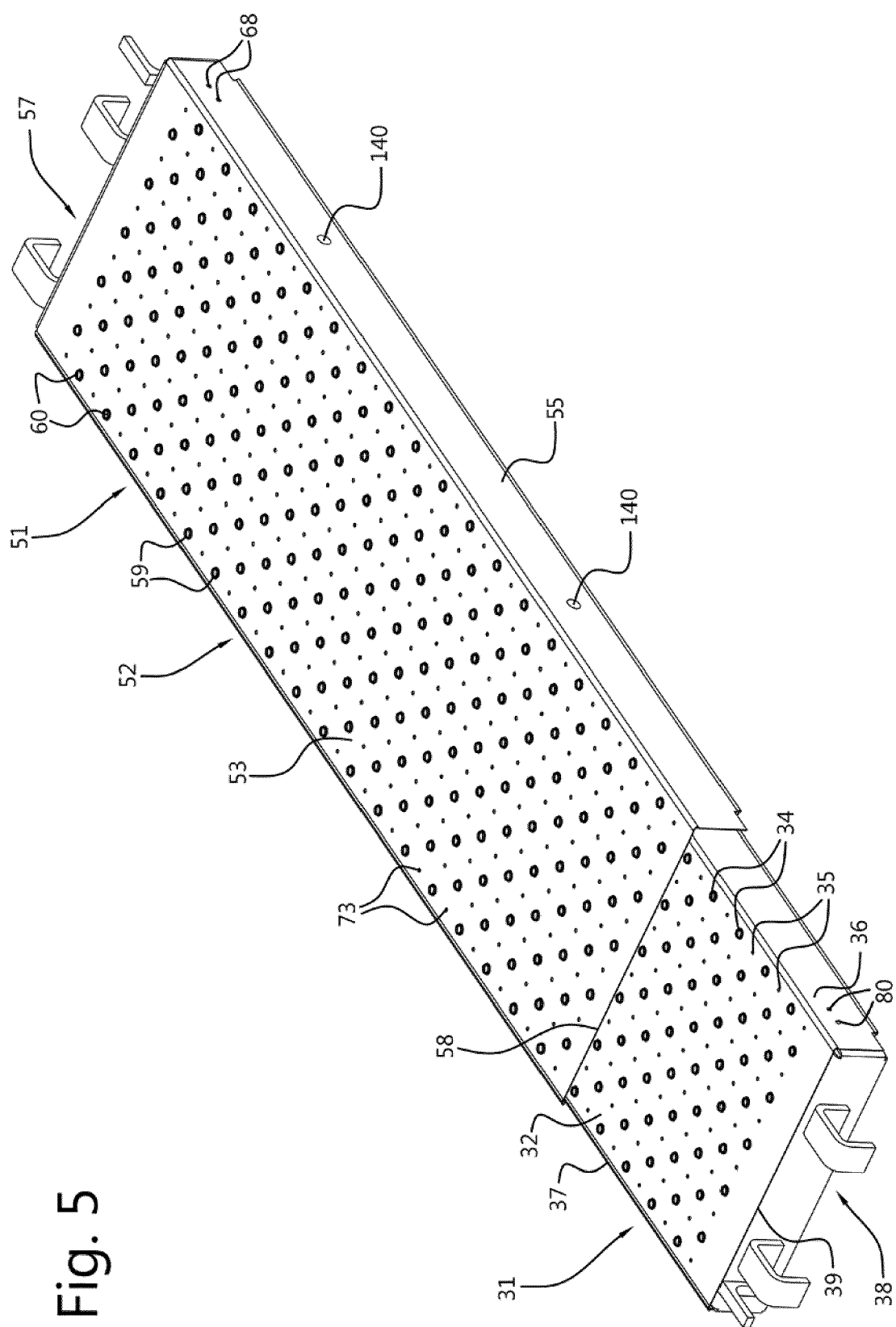
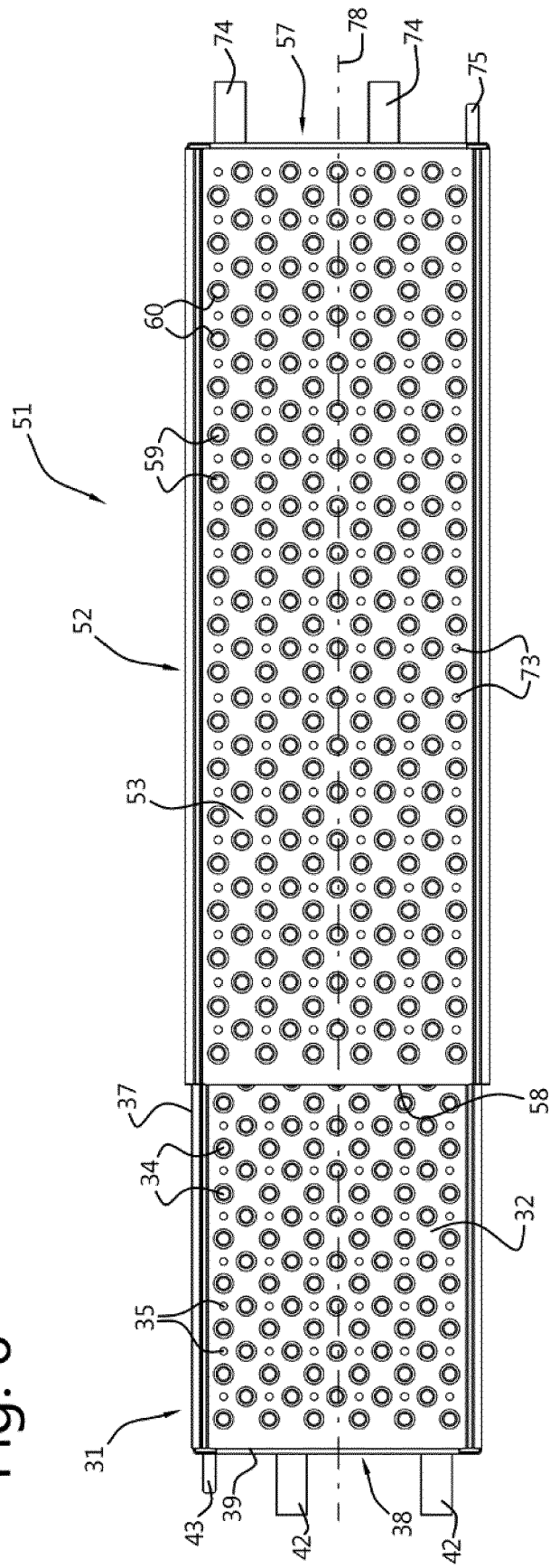


Fig. 5

Fig. 6



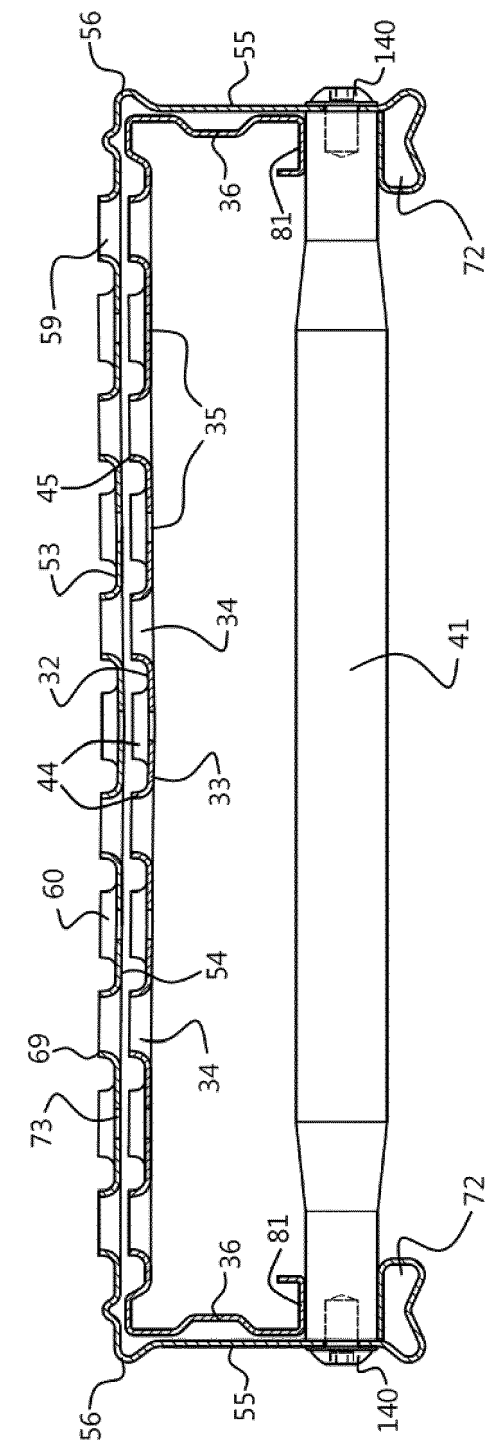


Fig. 7

Fig. 8

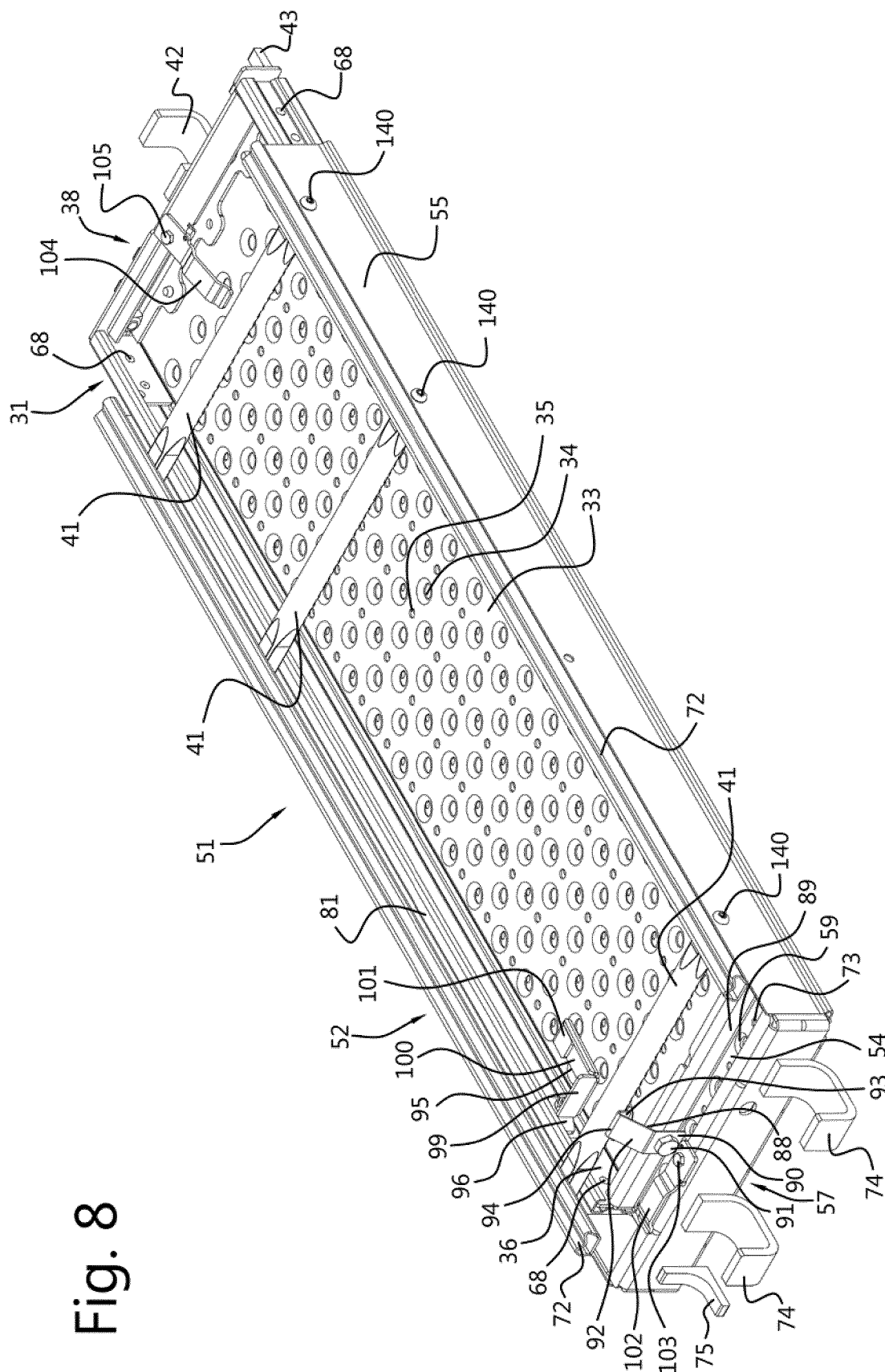


Fig. 9

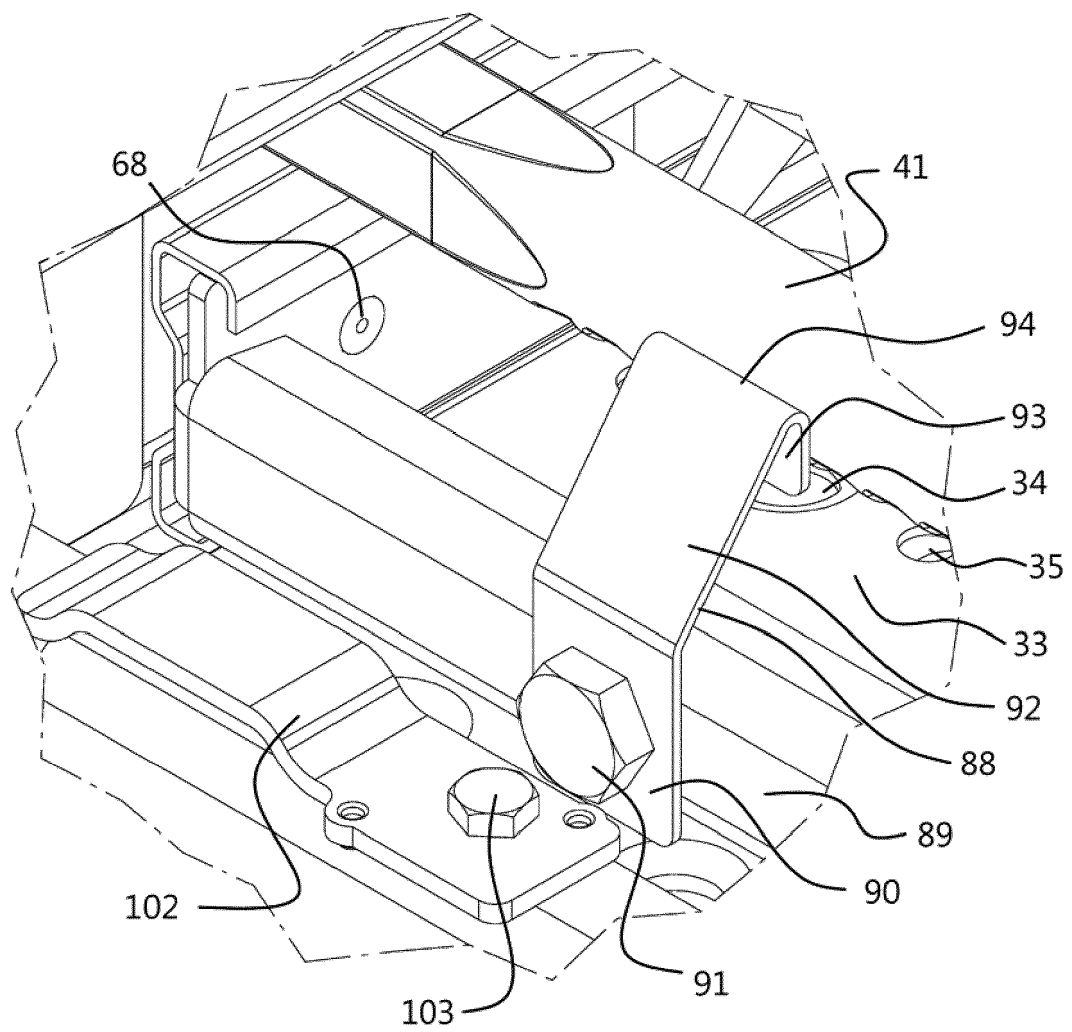


Fig. 10

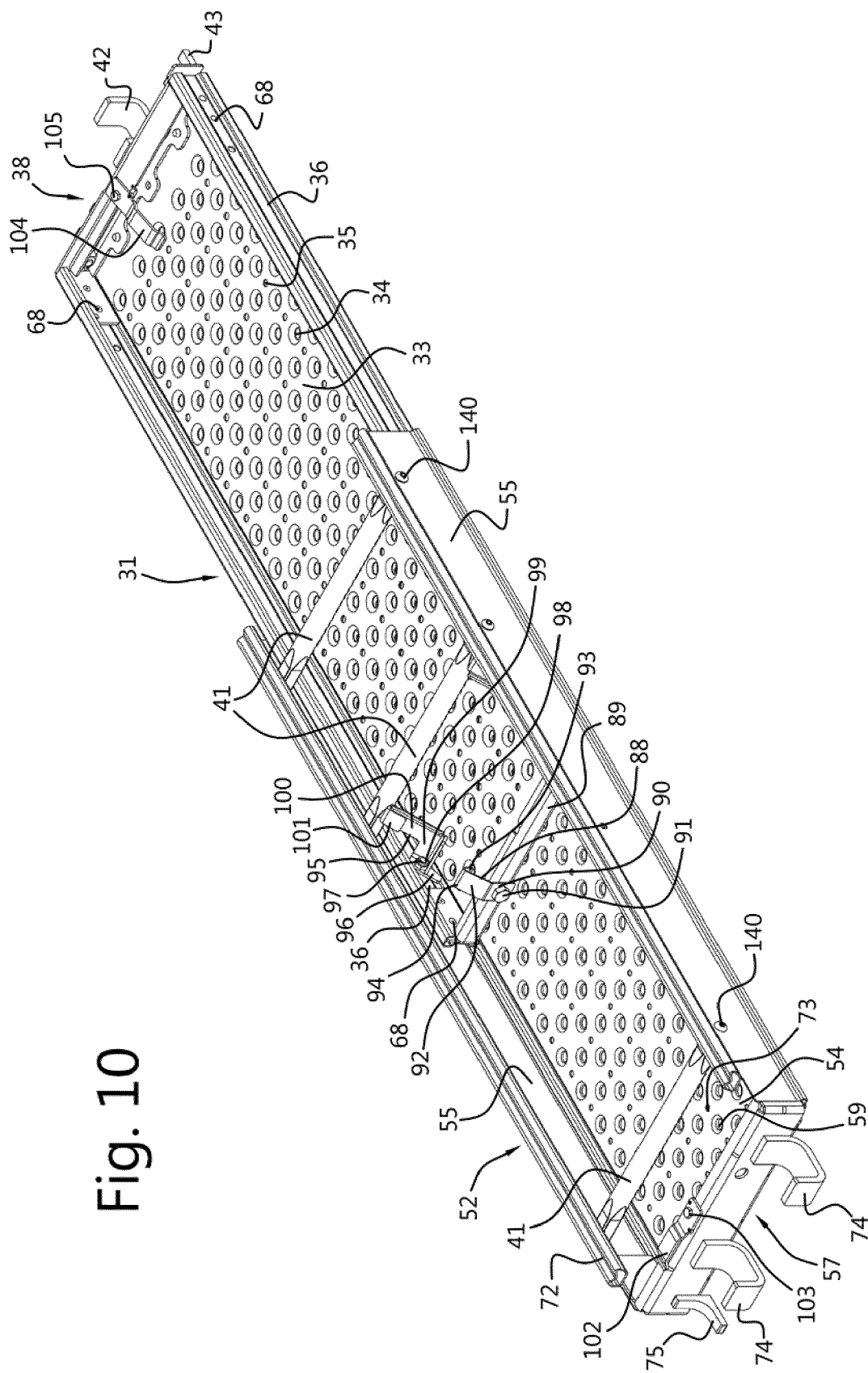
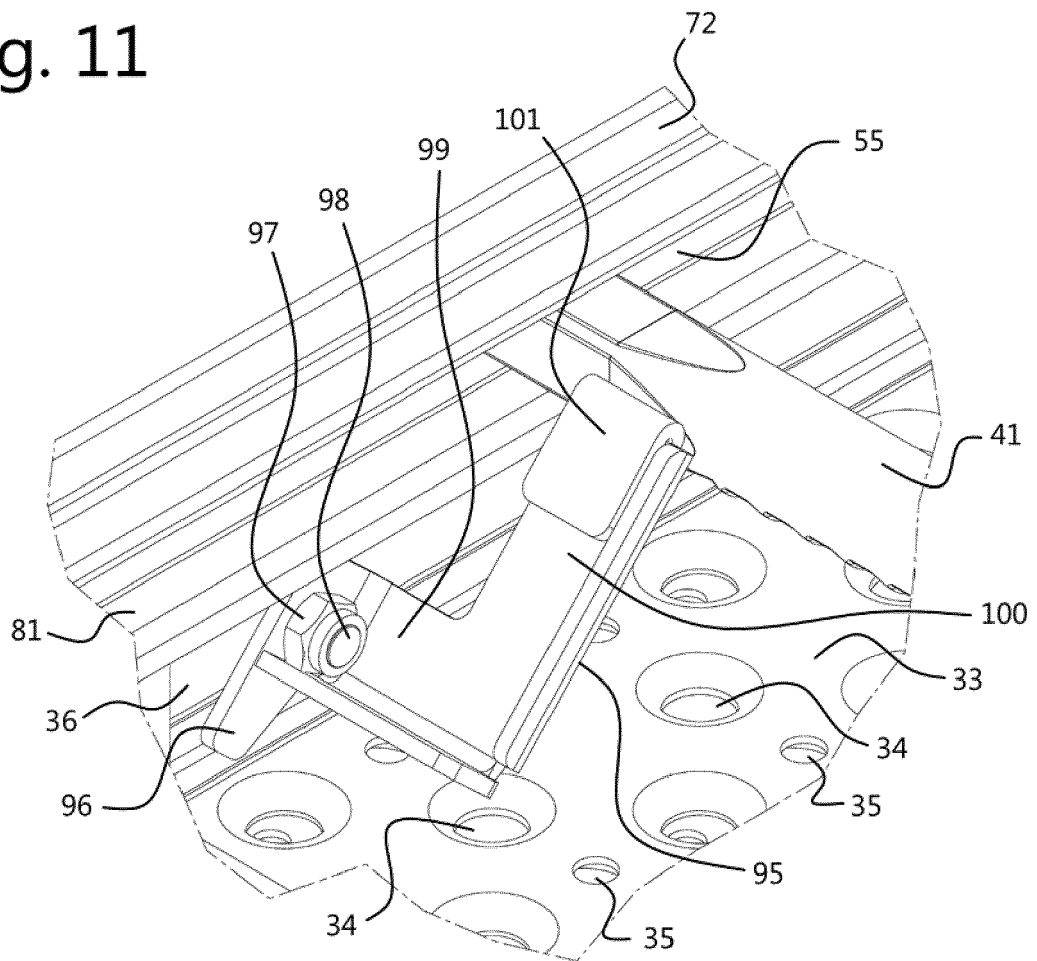


Fig. 11



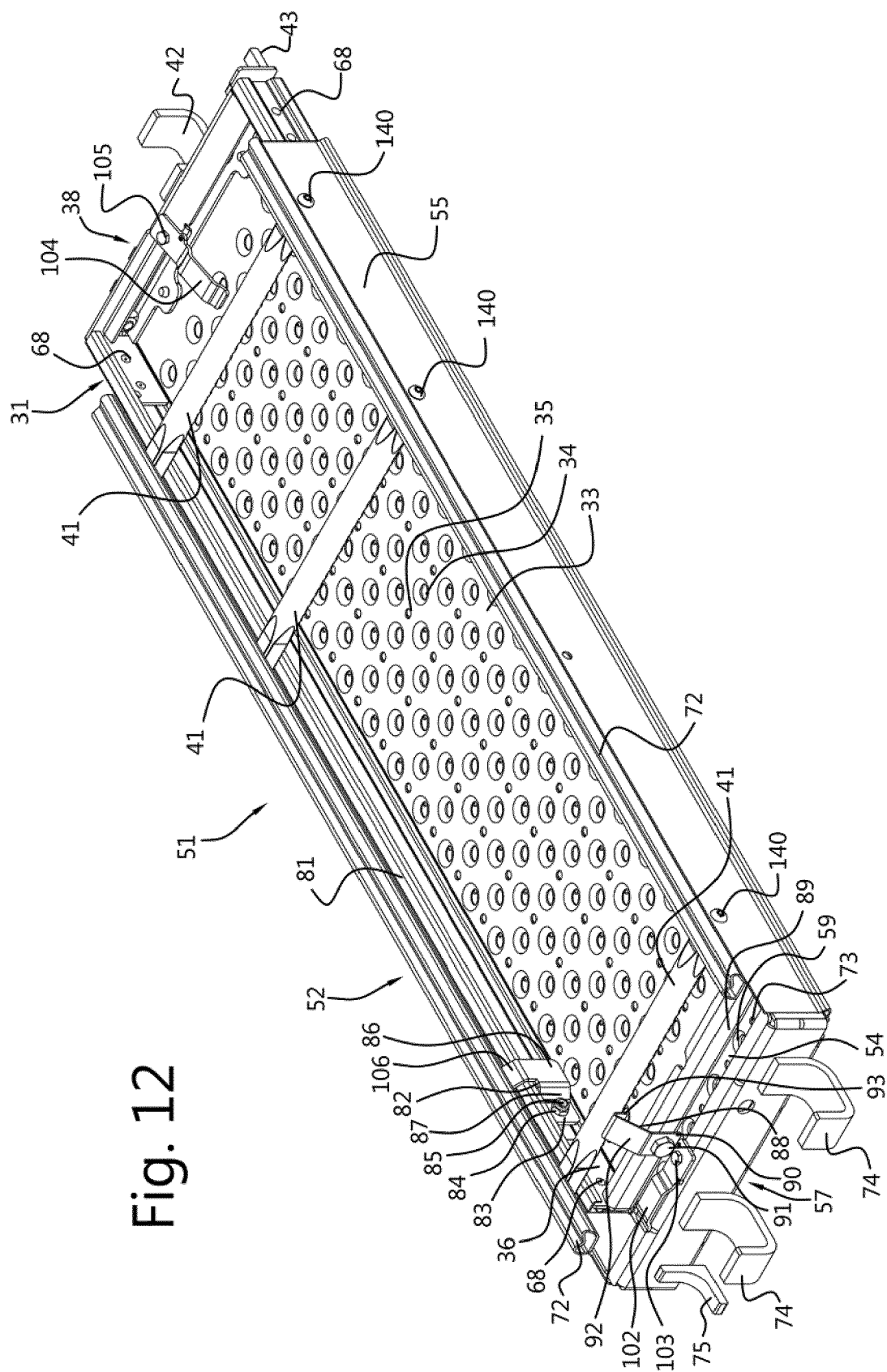


Fig. 12

Fig. 13

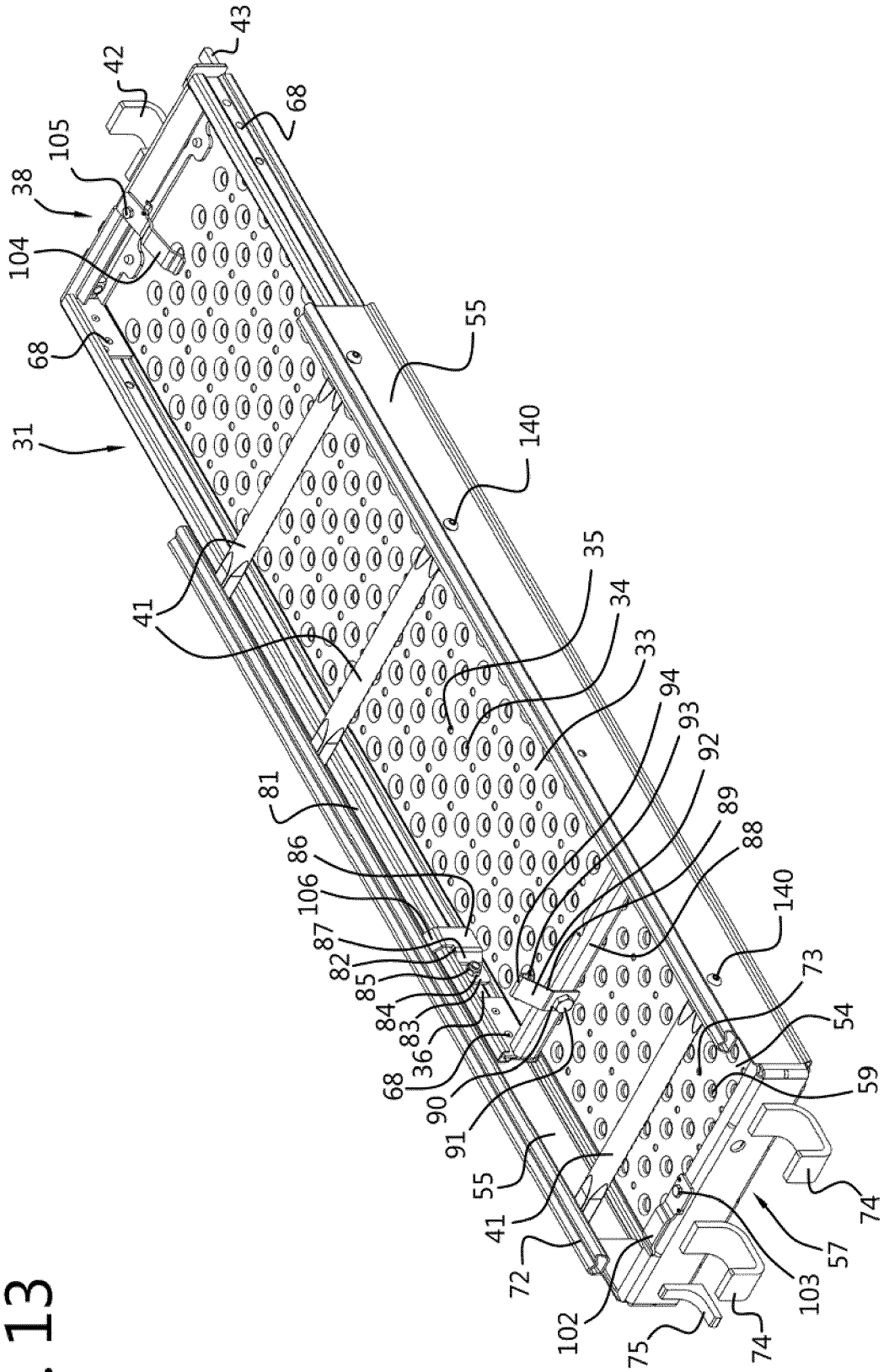
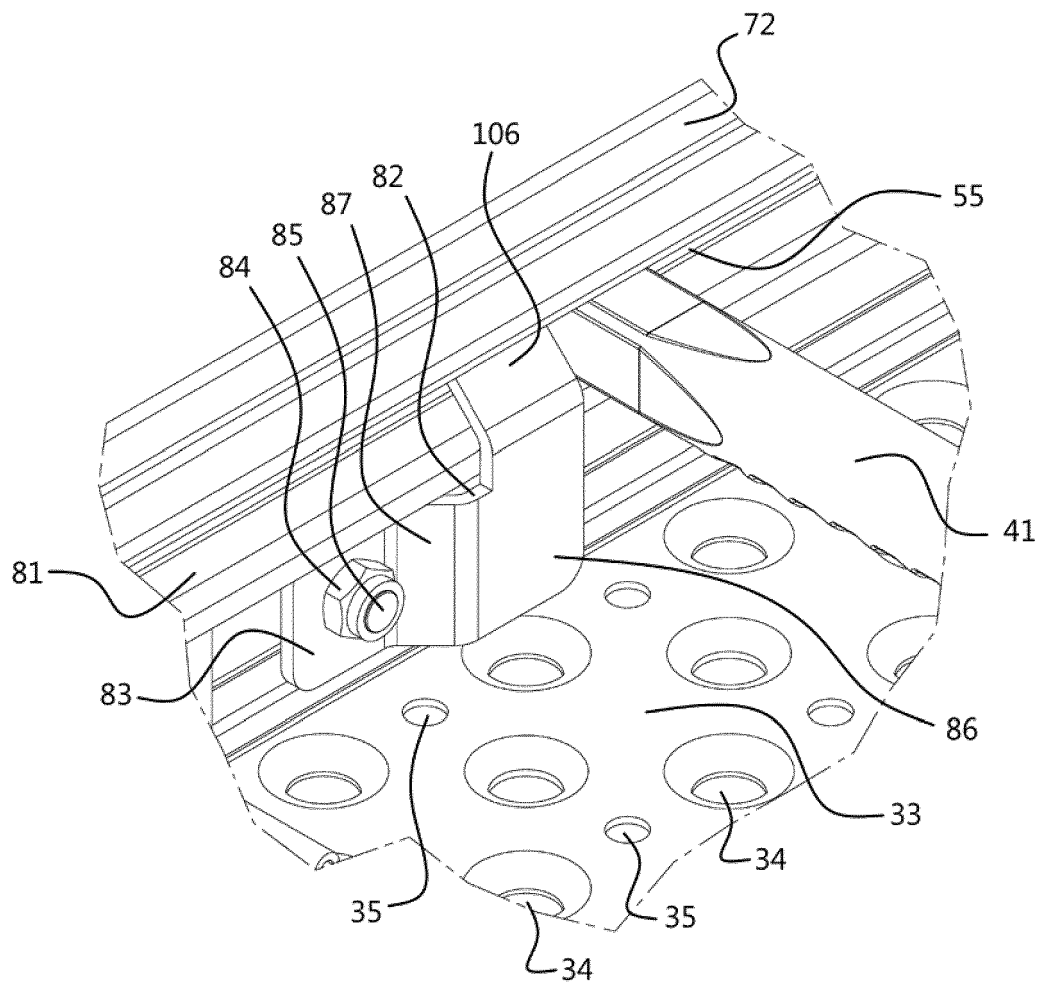


Fig. 14



REFERENCES CITED IN THE DESCRIPTION

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