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(54) PLATFORM FOR SUSPENDED SCAFFOLDINGS

(71) We, N.V. WESTERN GEAR EUROP S.A., a body corporate organized and existing under the laws of Belgium, of Transvaalstraat, 7 2600 Berchem (Antwerp-Belgium), do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

The present invention relates to a platform for suspended scaffoldings.

An aim of the invention is to provide such a platform of simple, yet sturdy construction. A further aim is to provide platforms which can be stacked.

Accordingly, the invention provides a platform for a suspended scaffolding, comprising two pairs of tubular longitudinal members, the axes of which are located in two parallel planes, a connecting structure or element mounted between the longitudinal members of each pair, a series of cross-members mounted between said two pairs of tubular longitudinal members, a floor fitted on said cross-members, and removable railings each comprising two separable parts, the height of each of which is smaller than the distance between said pairs of tubular longitudinal members.

Advantageously, the construction and the dimensions of accessories, such as suspension stirrups and railings, are chosen in such a way that they can be stowed away between the pairs of longitudinal members as well as on the floor.

Examples of the invention will now be described with reference to the accompanying drawings, in which:

Figure 1 is a perspective and partially exploded view of a suspended scaffolding;

Figure 2 shows, in perspective, how two platforms like that shown in Figure 1 may be connected end to end;

Figure 3 shows a cross-section of two superposed platforms;

Figure 4 shows two platforms connected in the manner illustrated with respect to Figure 2, whereby one of the platforms is

equipped with an in-and-out rolling extension;

Figure 5 is a view in the direction of arrow F, of Figure 4;

Figure 6 shows a complex suspended scaffolding made up of various platforms like that shown in Figure 1, for slanting columns, pillars and suchlike;

Figure 7 is a view in the direction of arrow E, of Figure 6;

Figure 8 is a complex suspended scaffolding for vertical columns, pillars or suchlike; and

Figure 9 is a view in the direction of arrow F, of Figure 8.

As represented in the drawings, a platform according to the present invention comprises two pairs of tubular longitudinal members 1, 2 and 3, 4 respectively, of which the axes are located in two parallel planes. The two longitudinal members of each pair are mutually joined together by plates 5 and 6 which are welded to the members. These plates could be replaced by any suitable steel structures. The lower longitudinal members 2 and 4 are joined together by a series of cross-members 7 with angle supports 8. A floor 9 is supported on these cross-members.

The platform can be suspended by means of two stirrups 10 each formed from two bent rods 11, 12 which are made of sheet iron, a partition 13 and a tube 14. Adjacent to their free end, the sheet iron rods are each provided with an oblong hole 15 and 16 respectively. The greatest width of these stirrups is somewhat smaller than the distance between longitudinal members 1 and 3, or 2 and 4.

Each of the stirrups 10 is intended to be fitted between longitudinal members 1 and 3, in such a manner that the holes 15 and 16 line up with holes 17 and 18 in plates 5 and 6, after which a bolt 19 can be passed through these holes and secured therein by means of a nut 20.

Due to the oblong shape of holes 15 and 16, a small vertical movement of stirrup 10

[Price 25p]

is permitted, whereby the free ends of the sheet iron rods 11 and 12 come to rest on the floor 9 when the platform is not suspended, thus preventing tipping and folding of the stirrups. When the platform is hauled up by means of the stirrups, these extremities are free from the platform, thus permitting limited rotation of the stirrups around bolts 19.

The platform is further equipped with railings 21 each made up of two detachable parts 22 and 23. Part 22 consists of a series of tubular posts 24, mutually joined together at their upper ends by means of intermediate rail parts 25, whilst part 23 includes the actual railing 26 and a series of tubular posts 27 perpendicularly thereto. Each of the posts 27 can be inserted into one of the corresponding posts 24. Part 22 is secured by means of bolts 28 to either side plate 5 or 6.

Parts 22 and 23 are mutually secured to each other by means of bolts 29. The height of each part 22 and 23 is smaller than the distance between longitudinal members 1 and 3, in such a manner that, detached from each other, they can be deposited upon the floor 9 and between plates 5 and 6.

Two or several platforms like that shown in Figure 1 can be assembled end to end by means of intermediate elements 30 and bolts 31 with nuts 32, as shown in Figure 2. The intermediate elements are each first partially introduced into an extremity of one of the longitudinal members 1-4 and fixed there by means of bolts 31 and nuts 32, after which the two platforms are moved towards each other in such a manner that the protruding parts of the intermediate elements enter the corresponding longitudinal members of the other platform, to which they are subsequently secured by the remaining bolts and nuts.

When such an assembly exceeds a certain length, the structure must be doubled as shown in Figure 3, so as to present a sufficient flexing and twisting resistance. For this purpose it will suffice to mutually connect the superposed platforms by means of struts 33 in co-operation with some of the aforementioned intermediate elements 30 and the corresponding bolts 31 and nuts 32. For some jobs it is desirable to be able to extend the platform somewhat, so as not to have to displace it. For this purpose the platform may be equipped with an in-and-out rolling extension 34. The latter is built in a similar manner as that previously described for the platform, but with a larger width and height and a smaller length. It consequently consists of four tubular longitudinal members 35, 36, 37 and 38, two side plates 39 and 40, cross members 41 and a floor 42. Two steel rails 43, 44 are welded

on the floor 42 parallel to the longitudinal members, each rail having a U-shaped cross-section with their flange extremities bent over toward each other. Pairs of rollers 45 fitted for free rotation around a shaft 46 run freely in each of these rails, the shaft being welded perpendicularly to the extremity of a bar 47. The other screw-threaded extremity of each bar 47 is secured by means of nuts 48 to the floor 9 and/or to the cross-members 7 of the platform. A series of clevises 49 are attached along the underside of the floor 9, each clevis bearing the shaft of a running wheel 50. These wheels are intended to roll over the floor 42 when extension 34 is shifted in or out. The latter is further provided with railings 51 and 52. Both ends of extension 34 are fitted with stops which are not shown.

In order to facilitate the assembly of various types of suspended scaffoldings, the elementary platform described above is fabricated in two or more lengths. This permits, for example, the construction of temporary square or rectangular scaffoldings, as shown in Figures 6 to 9.

In order to maintain a scaffolding horizontal whilst moving it up and down around a slanting column or pillar, frames 53 with rollers 54 disposed in correspondingly inclined planes can be fitted at appropriate locations of the scaffolding, as shown in Figures 6 and 7.

For vertical columns or pillars it will be sufficient to fit rollers 55 at one side of some of the elementary platforms (Figures 8 and 9).

Numerous other possibilities and applications can be taken into consideration, in accordance with the work to be performed; for example, floating scaffoldings can be built by fitting floating chambers under the platform.

WHAT WE CLAIM IS:—

1. A platform for a suspended scaffolding, comprising two pairs of tubular longitudinal members, the axes of which are located in two parallel planes, a connecting structure or element mounted between the longitudinal members of each pair, a series of cross-members mounted between said two pairs of tubular longitudinal members, a floor fitted on said cross-members, and removable railings each comprising two separable parts, the height of each of which is smaller than the distance between said pairs of tubular longitudinal members.

2. A platform according to claim 1, wherein each said connecting element is a metal plate.

3. A platform according to claim 1 or 2, further comprising an in-and-out rolling extension of a construction similar to that of the platform, but with greater width and



is permitted, whereby the free ends of the sheet iron rods 11 and 12 come to rest on the floor 9 when the platform is not suspended, thus preventing tipping and folding of the stirrups. When the platform is hauled up by means of the stirrups, these extremities are free from the platform, thus permitting limited rotation of the stirrups around bolts 19.

The platform is further equipped with railings 21 each made up of two detachable parts 22 and 23. Part 22 consists of a series of tubular posts 24, mutually joined together at their upper ends by means of intermediate rail parts 25, whilst part 23 includes the actual railing 26 and a series of tubular posts 27 perpendicularly thereto. Each of the posts 27 can be inserted into one of the corresponding posts 24. Part 22 is secured by means of bolts 28 to either side plate 5 or 6.

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Two or several platforms like that shown in Figure 1 can be assembled end to end by means of intermediate elements 30 and bolts 31 with nuts 32, as shown in Figure 2. The intermediate elements are each first partially introduced into an extremity of one of the longitudinal members 1-4 and fixed there by means of bolts 31 and nuts 32, after which the two platforms are moved towards each other in such a manner that the protruding parts of the intermediate elements enter the corresponding longitudinal members of the other platform, to which they are subsequently secured by the remaining bolts and nuts.

When such an assembly exceeds a certain length, the structure must be doubled as shown in Figure 3, so as to present a sufficient flexing and twisting resistance. For this purpose it will suffice to mutually connect the superposed platforms by means of struts 33 in co-operation with some of the aforementioned intermediate elements 30 and the corresponding bolts 31 and nuts 32. For some jobs it is desirable to be able to extend the platform somewhat, so as not to have to displace it. For this purpose the platform may be equipped with an in-and-out rolling extension 34. The latter is built in a similar manner as that previously described for the platform, but with a larger width and height and a smaller length. It consequently consists of four tubular longitudinal members 35, 36, 37 and 38, two side plates 39 and 40, cross members 41 and a floor 42. Two steel rails 43, 44 are welded

on the floor 42 parallel to the longitudinal members, each rail having a U-shaped cross-section with their flange extremities bent over toward each other. Pairs of rollers 45 fitted for free rotation around a shaft 46 run freely in each of these rails, the shaft being welded perpendicularly to the extremity of a bar 47. The other screw-threaded extremity of each bar 47 is secured by means of nuts 48 to the floor 9 and/or to the cross-members 7 of the platform. A series of clevises 49 are attached along the underside of the floor 9, each clevis bearing the shaft of a running wheel 50. These wheels are intended to roll over the floor 42 when extension 34 is shifted in or out. The latter is further provided with railings 51 and 52. Both ends of extension 34 are fitted with stops which are not shown.

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2. A platform according to claim 1, wherein each said connecting element is a 125 metal plate.

3. A platform according to claim 1 or 2, further comprising an in-and-out rolling extension of a construction similar to that of the platform, but with greater width and



height and smaller length, connecting and guiding means being provided between the platform and the extension.

5 4. A platform for a suspended scaffolding, substantially as herein described with reference to the accompanying drawings.

10 5. A suspended scaffolding comprising at least one platform according to any preceding claim and further comprising removable suspension stirrups each having a width smaller than the distance between said two pairs of longitudinal members, said stirrups being secured to the platform or platforms.

6. A suspended scaffolding according to claim 5, wherein each of said separable parts 15 comprises a plurality of posts interconnected by an element transverse to the length of the posts, the parts of each railing being telescopically interengageable.

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