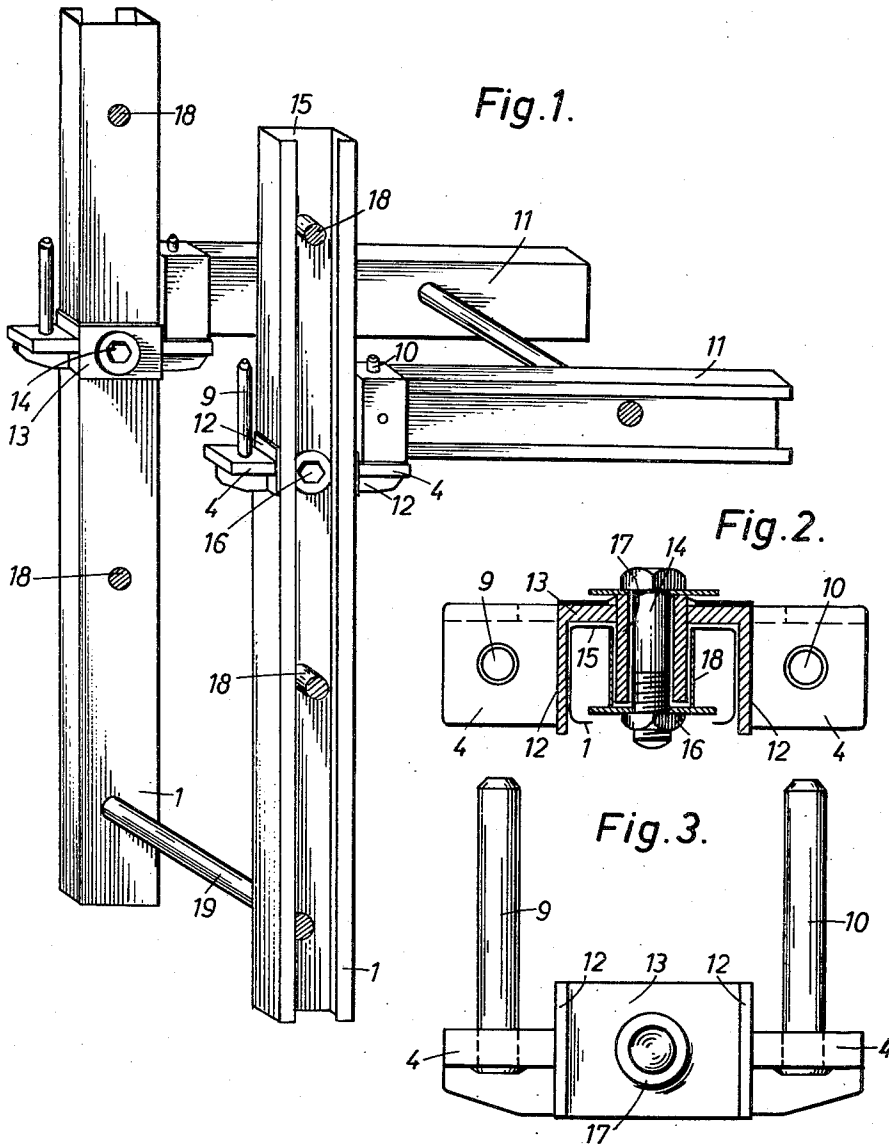


Sept. 11, 1962

O. WEINMANN
CONNECTING ELEMENT FOR ASSEMBLING HORIZONTAL AND
VERTICAL LADDER SECTIONS TO FORM A SCAFFOLD
Filed Feb. 17, 1958

3,053,356



INVENTOR:
Otto Weinmann,

By *Ernest P. Marzocchi,*
His Attorney.

1

3,053,356

CONNECTING ELEMENT FOR ASSEMBLING
HORIZONTAL AND VERTICAL LADDER
SECTIONS TO FORM A SCAFFOLD

Otto Weinmann, Bergerstrasse 8, Walsheim, Germany

Filed Feb. 17, 1958, Ser. No. 715,650

Claims priority, application Germany Feb. 16, 1957

1 Claim. (Cl. 189-36)

The invention has for its object a connecting element for assembling or connecting ladder sections made of wood, and such ladders are jointed or connected together to form a scaffold, by means of struts and horizontal boards usually called "planks." Such scaffolds can only support a limited weight, and they offer only a limited reliability in service. But their main disadvantage resides in the fact, that supplemental elements such as iron clamps, metallic rods, joints and screws are to be used, and that the time necessary to erect the scaffold is very long. To shorten that time and to save material, long sections, up to 15 meters, are prepared in advance, but this brings of course difficulties in storage and transport.

Up to now, the scaffold ladders are generally made of wood, and such ladders are jointed or connected together to form a scaffold, by means of struts and horizontal boards usually called "planks." Such scaffolds can only support a limited weight, and they offer only a limited reliability in service. But their main disadvantage resides in the fact, that supplemental elements such as iron clamps, metallic rods, joints and screws are to be used, and that the time necessary to erect the scaffold is very long. To shorten that time and to save material, long sections, up to 15 meters, are prepared in advance, but this brings of course difficulties in storage and transport.

According to the invention, scaffold ladders made of hollow section irons are assembled vertically and horizontally, by means of connecting elements.

This form of the connecting element of the invention gives the possibility to place horizontal ladders serving as supports for planks, not only at the junctions between vertical ladder sections, but also at levels situated intermediate the ends of a same ladder section. If the distance between two joints or junctions is greater than 2 meters, then it is necessary to insert in the scaffold intermediate transverse ladders. More particularly, if the ground on which the scaffold is to be erected shows an important slope, it is advantageous for the workman who erects the scaffold, to provide on the posts of the vertical ladder sections, already at a level of approximately 250 mm., connecting elements for the horizontal ladder sections because on doing so, only small differences in height are to be level for the vertical ladders starting from the ground.

A preferred form of the junction according to the invention consists in connecting the two lateral, horizontal projections by a web and to form with that web and with the base plates of said projections a connecting element which is laterally engageable over a post which it engages widely as a fork and which is capable of being attached to said post by means of a bolt passing through the web and through the post.

Preferably, the bolt passes through a tube traversing the web portion of the connecting element and said tube is inserted in a sleeve soldered to the wall of the hollow post and projecting within the space determined by said post. Thus, projecting elements, both from the connecting element and from the connecting portion of a post are available with the result of improving the resistance of the connection and the reliability in service.

By way of example, a connecting element is described below and shown in the annexed drawing, in which:

FIGURE 1 is a perspective view of an attachment of an horizontal ladder section to a vertical ladder section.

FIGURE 2 is a horizontal cross-section of the connecting element included in FIGURE 1.

2

FIGURE 3 is a side view of the connecting element of FIGURE 2.

In the views, the reference 1 denotes a pair of posts of a vertical ladder section on which is attached a horizontal ladder section 11. The attachment is made with a connecting element having two horizontal flanges 4 projecting horizontally from base plates 12 connected by a web portion 13 and defining therewith a fork-shaped connecting element adapted to the cross-section of the post and deeply engageable laterally over a post made of a U-iron or channel the open side of which is on the side of the ladder. By means of a connecting means such as a bolt 14 which passes through the web 13 connecting the flanges 4, and through a bore of the web 15 of the post made with a U-iron, and by means of the nut 16 screwed on the bolt 14, the connecting element is removably fixed on the posts.

To improve the resistance of the connection, a tube 17 is inserted in the web 13, which tube 17 receives the bolt 14 and is inserted in a sleeve 18. Such sleeves 18 are provided on each post of the vertical ladder sections intermediate the steps thereof.

What I claim is:

A connecting mechanism, for use in removably interconnecting two scaffolding channel posts each having a web, one of said posts being upright and the other post being substantially horizontal, at least one of said posts having bores in the web, said connecting mechanism comprising a connecting sleeve secured to the end of one post and having two opposite aligned apertures extending at right angle to the longitudinal direction of its post, a connecting member including a U-shaped clamp portion closely surrounding the external channel surface of the second post having bores in the web and being removably secured thereto at a bore thereof and including two flanges connected at opposite sides to said clamp portion and having aligned surfaces extending substantially at right angle to the longitudinal direction of the post thereof, said clamp portion defining a hole corresponding to said bore, a tube disposed in the aligned bore and hole, a bolt disposed in said tube releasably securing said connecting member to said second post, a peg supported on each flange extending perpendicular to the surface thereof, each peg being operable to engage releasably the aligned apertures of a sleeve making contact with the flange of said peg, whereby the two posts will releasably be interconnected.

References Cited in the file of this patent

UNITED STATES PATENTS

722,839	Guy	Mar. 17, 1903
1,003,407	Abrams	Sept. 19, 1911
1,819,031	Kuhlman	Aug. 18, 1931
1,942,210	Harting	Jan. 2, 1934
2,113,196	Jones	Apr. 5, 1938
2,335,046	Droeger	Nov. 23, 1943
2,479,962	Paulson	Aug. 23, 1949
2,612,414	Kirkpatrick	Sept. 30, 1952
2,656,224	Gray	Oct. 20, 1953

FOREIGN PATENTS

705,395	France	Mar. 9, 1931
763,256	Great Britain	Dec. 12, 1956
816,453	Germany	Oct. 11, 1951