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Remarks:

This application was filed on 30-09-2011 as a divisional application to the application mentioned under INID code 62.

(54) Improvements in props for construction work

(57) The improvements in construction props provide the formation of the foot and the top part of the prop by means of plates pressed directly to the corresponding tubular member being the plates featured by cold-cramping deformation and pressing forming a cramp zone of substantially doughnut structure crimped at the edge of the central opening of the corresponding plate.

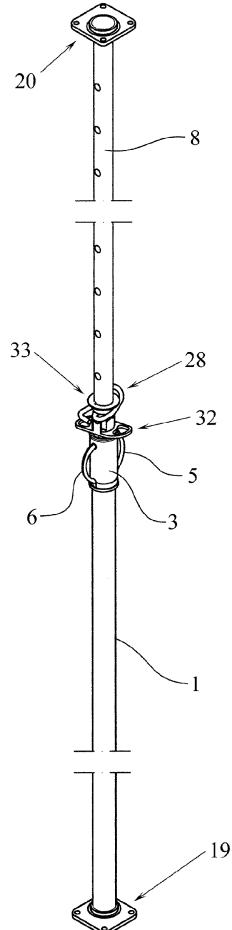


FIG. 1

Description

[0001] The present Patent application is a divisional application of EP 1 602 791 A2 filed on 26/05/2005.

[0002] The aim of this divisional application is to protect improvements in the props for construction work concerning the upper and lower plates of the telescopic tubular member forming the prop.

[0003] According to this invention, the upper and lower plates attached to the extremities of the tubular body of the prop are secured simply by means of cold deformation of the material of the plate and tubular member by cold deformation by cramping and swaging. The improvements refer to the formation of a fold at the top and bottom ends of the prop, avoiding welding, which is at the present time the usual way of securing the upper and lower plates of a prop with a tubular body. Said welding operations are rather expensive and to ensure the proper results the welding should be submitted to costly inspection processes. To prevent these drawbacks now present in the props for construction according to the state of the art, the present invention provides a particular form of direct pressing of each plate onto the corresponding tubular member. The bottom and top plates of the prop have respective central openings in which the corresponding ends of the tubular members are firmly secured by cold cramping deformation and pressing forming a cramped zone of substantially doughnut structure, cramped at the edge of the central opening of each plate, supplemented with an outwardly transversely bent zone in the form of a flange bearing against the upper area of the edge formed at the central opening of the plate. This makes it possible to apply loads between each plate and the corresponding tube. The present invention permits the plates for the bottom and top part of the prop to be formed without any need for welding and with great strength and durability.

[0004] The formation of the securement of both bottom and top plates by cold deformation to the corresponding tubular members of the prop is technically the same, although its position in space will be inverted as the bottom plate is aimed at engaging the ground and the upper plate is aimed at engaging an upper structure such as a beam or similar.

[0005] To better understand the invention, drawings of a preferred embodiment are appended by way of an explanatory but not restrictive example.

Figure 1 shows a perspective view of a prop constructed according to this invention.

Figure 2 shows a detailed cross-section of the base of the prop.

[0006] The improvements of the present invention are aimed at the safe securement of the bottom and top plates of a prop by cold deformation operations, which permits dispensing with the usual welding operations

presently known in the props according to the state of the art.

[0007] The improvements in construction props to which this invention relates provide for the formation of the foot (19) and the top part (20) of the same in a new and rational way which makes it possible to avoid welding, through plates pressed directly onto the tubular member, as may be seen in detail in Figure 2 which shows the bottom part of a tubular member (1) comprising a base plate (21) having a central opening in which the bottom end of tubular member (1) is fitted by cold cramping deformation and pressing forming a cramped zone (22) of substantially doughnut structure cramped at the edge (23) of the central opening end plate (21), supplemented with an outwardly transversely bent zone in the form of a flange (24) which bears against the upper zone of the said edge (23), making it possible to apply loads between the plate and the tube. Through this arrangement the base plates can be formed without any need for welding and with great strength and durability.

[0008] As will be understood, the invention is not limited to the embodiment as shown, but it will cover as well the variations which an expert in the matter may derive from the present disclosure within the limits of the following claims.

Claims

30. 1. Improvements in props for construction work **characterised in that** both the top and bottom base members (19,20) are each constructed of plates (21) attached to the extremities of the corresponding tubes (1,8) by cold cramping and deformation.

35. 2. Improvements according to claim 1 **characterised in that** each plate (21) has a central opening onto which the extremity of the tubular member (1,8) is conformed into a partly doughnut shape (22), a flange (24) formed by transverse deformation of the tubular member (1,8) by transverse bending, coinciding with the upper part of the edge (23) of the said central opening in order to permit axial pressure between the tubular member and the plate.

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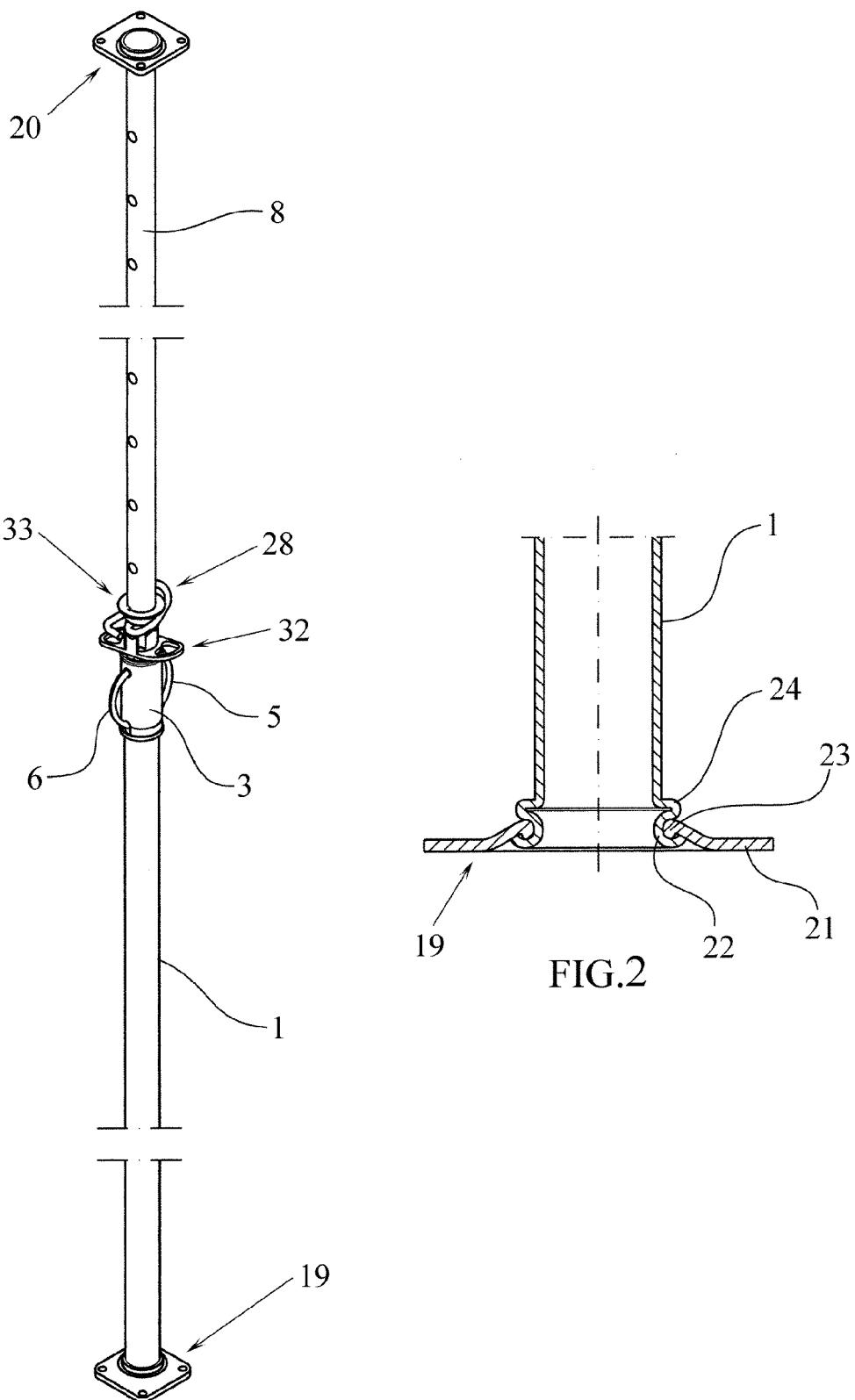


FIG.1

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- EP 1602791 A2 [0001]