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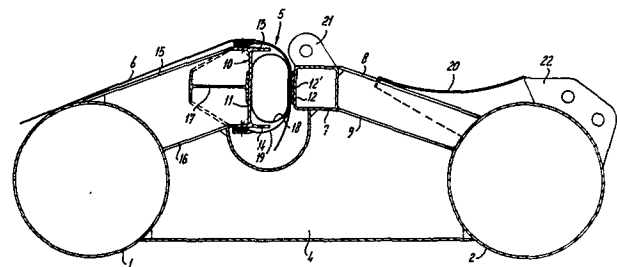
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⑤④ **Fastening device for fascine mattresses.**

⑤⑦ Fastening device for fascine mattresses, which is fastened to a floating carrier (1, 2) and which comprises two fixed parallel spaced apart walls (11, 12) between which is retained an inflatable and deflatable hose (18) of which the minimum dimension in freely inflated condition in transverse direction between the fixed walls (11, 12) is greater than the distance between the walls.

An end edge part (6) of the mattress to be fastened is inserted between one wall (12) and the deflated hose (8), and then the hose (18) is inflated thereby clamping the end edge part (6) between the hose (18) and the wall (12).



Fastening device for fascine mattresses

The invention relates to a fastening device for fascine mattresses.

Fascine mattresses are sunk by fastening them by one end to the sinking beam of a sinking device. Until now, use has been made of, amongst other things, a rather complicated mechanical device, with which problems sometimes occur during the detachment of the sunk fascine mattress. Besides, the fastening in the case of the devices used is very complicated and time-consuming.

The object of the invention is to produce a device which does not have the above-mentioned disadvantages, and this object is achieved according to the invention in that the device is firmly fastened to a carrier and comprises two fixed parallel walls lying opposite each other at a distance from each other, and having a length which is essentially equal to the width of the mattresses, while provided between the fixed walls is an inflatable and deflatable flexible oblong element, with a maximum dimension in the transverse direction between the fixed walls, when the element is inflated and unsupported, which is greater than the distance between the walls, said oblong element being provided with means for the admission of compressed air thereto from a compressed air source and the discharge of compressed air therefrom, as desired.

Very efficient embodiments and further developments of the device according to the invention emerge from the sub-claims and the following description of an embodiment of the invention with reference to the drawing, in which an embodiment of the device according to the invention is shown by way of example.

Fig. 1 shows a top view of part of the device according to the invention.

Fig. 2 shows a cross section through the device along the line II-II in Fig. 1 of the invention.

Fig. 2a shows the fastening device in Fig. 1 with deflated clamping element.

The device shown in the figures comprises two parallel, hollow flotation pipes 1 and 2, having a length which is approximately equal to the width of mattresses to be sunk. The pipes are attached to each other by means of a number of vertical cross plates 4 which are fitted along the length of the pipes at regular intervals from each other, and which are welded by their end edges to the periphery of the pipes 1 and 2. Extending over the full length of the device at the top of the plates 4 is a device for clamping an end edge part 6 of a mattress, said device being indicated as a whole by the reference number 5. The clamping device is made up of a rectangular tubular section, extending in the lengthwise direction of the device and firmly welded to a top flange 8 and a reinforcement flange 9 of the plates, and some distance away from it an I-beam 10, whose body 11 runs parallel to a side 12 of the tubular section 7 facing it. The I-beam 10 is firmly welded with its flanges 13 and 14 to the top flanges 15 and reinforcement flanges 16 respectively of the plates 4, while the body 11 is also firmly welded to the supporting I-beam 17.

Disposed between the body 11 of the I-beam 10 and the opposite side face 12 of the tubular section 7 is an inflatable hose 18, which can be connected by means of a valve (not shown) with a compressed air source, and which is also provided with means which are known per se for deflation thereof as desired. According to a possible efficient embodiment, the source of compressed air can be one or two hollow pipes 1 and/or 2, which

to that end is or are provided, on the one hand, with means for filling thereof with compressed air and, on the other, with means for the discharge of compressed air therefrom to the hose 18.

The distance between the body 11 of the I-beam 10 and the opposite side face 12 of the tubular section 7 is smaller than the maximum diameter crosswise of the hose 18 when inflated and unsupported. Also attached to the flanges 13 and 14 of the I-beam 10 by means of fastening elements which are known per se, such as rivets, are the edges of a strip 19 of flexible sheeting material which hangs loosely between the hose 18 and the side face 12 of the tubular section 7 and is used to retain and protect the hose 18, inter alia, to prevent the hose 18 from falling between the I-beam 10 and the tubular section 7 if the latter is not inflated.

For fastening of the end edge part 6 of the mattress to the device, one starts from the hose 18 in the empty, flattened state shown in Fig. 2a. The projecting end edge part 6 of the mattress is then inserted from the top into the slit between the side face 12 of the tubular section 7 and the sheeting strip 19, following which the hose 18 is inflated, thereby causing the inserted end edge part to be clamped between the hose 18 and the side face 12, as shown in Fig. 1. In order to improve the grip on the clamped end edge part 6, the side face 12 is provided with a strip 12' of material with a surface with increased friction resistance, such as rubber, which may be provided with grooves and corrugations if necessary.

For detaching of the mattress, the hose 18 is deflated, following which the end edge part can easily be pulled away.

The device shown can be fastened to a sinking beam of a sinking device and to that end is provided with a plate 20, which extends over the length of the device and on which a tubular sinking beam

can come to rest, to which beam the device according to the invention can be fastened, the latter being provided for the purpose with fastening lugs 21 and 22 for fastening of straps round the pipe.

The device can also serve itself as a sinking beam and to that end is provided with means for fastening to a sinking device which is known per se.

The flotation device with the clamping device according to the invention fastened to it can also be used as a device for transporting mattresses from a production point or the sinking device located there.

The device discussed can also be used to hold fast the end of mattresses lying opposite the end connected to the sinking device during sinking thereof.

A particular advantage of the fastening device described is that it works without reciprocating moving parts, which means that the device suffers little or no adverse effects from material falling on it or from the corrosive environment in which the device is used.

It is also pointed out that the invention is not limited to the embodiment described with reference to the drawing, but also extends to modified embodiments falling within the scope of the invention.

CLAIMS

1. Device for detachably fastening an end edge of the basic sheet of fascine mattresses to an element for transporting or sinking the mattresses, characterised in that the device is firmly fastened to a carrier and two fixed parallel walls lying opposite each other at a distance from each other, and having a length which is essentially equal to the width of the mattresses, while provided between the fixed walls is an inflatable and deflatable hollow flexible oblong element, with a maximum dimension in the transverse direction between the fixed walls, when the element is freely inflated, which is greater than the distance between the walls, said oblong element being provided with means for admission of compressed air thereto from a compressed air source and the discharge of compressed air therefrom, as desired.
2. Device according to Claim 1, characterised in that the hollow flexible inflatable element is retained between one of the walls and a strip of flexible sheeting material which is connected to that wall and extends along it, and which is so amply dimensioned that it can be pressed against the opposite wall with the inflated hose.
3. Device according to Claim 2, characterised in that the wall opposite the wall provided with the retained hose is provided with a covering having a surface which increases friction resistance.
4. Device according to one of the preceding claims, characterised in that the carrier to which the fastening device is fastened consists of a flotation element.
5. Device according to Claim 4, characterised in that the flotation element is made up of two parallel, hollow tubular flotation elements which are at a distance from each other and are joined

together by vertical cross plates which are fitted at intervals along the length of the tubular elements, while the above-mentioned parallel fixed walls of the fastening device form part of oblong section parts which extend in the lengthwise direction of the flotation elements and are fastened to the top side of the cross plates at a distance from each other.

6. Device according to Claim 5, characterised in that one of the said section parts consists of an I-beam which is welded by its body in a vertical position to one edge of recesses provided in the top side of the plates, while the other section part consists of a hollow tubular section with rectangular cross section which is welded to the other edge of the said recess in the top side of the plates, this being such that the body of the I-beam and the opposite vertical side wall of the tubular section form the said fixed parallel walls of the fastening element.

7. Device according to Claims 4, 5 and 6, characterised in that the flotation element is provided with means for fastening to a sinking device.

8. Device according to Claim 5, characterised in that at least one of the hollow tubular flotation elements is provided, on the one hand, with means V for the discharge of compressed air therefrom to the inflatable element of the fastening device.

fig-1

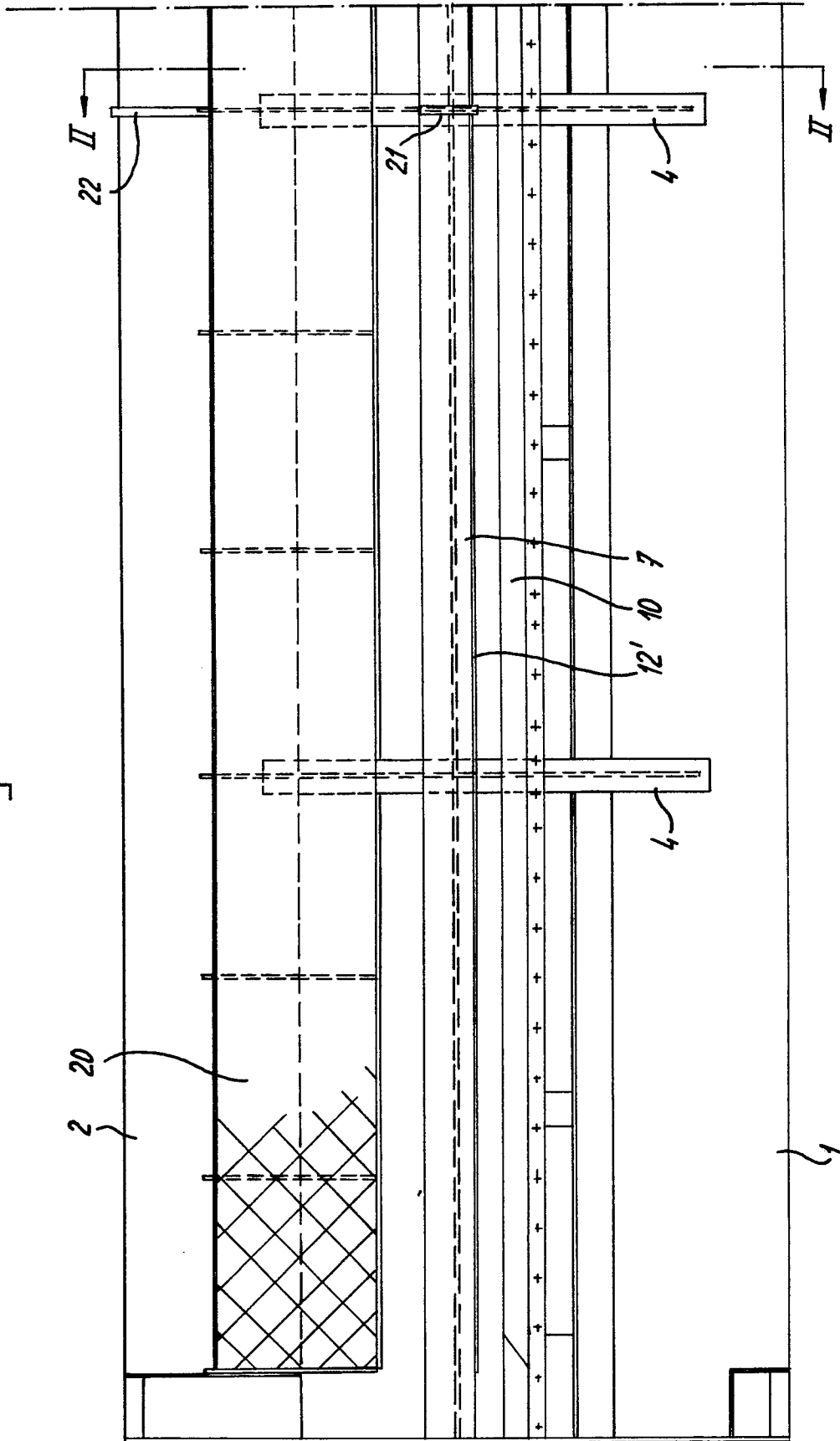


fig - 2

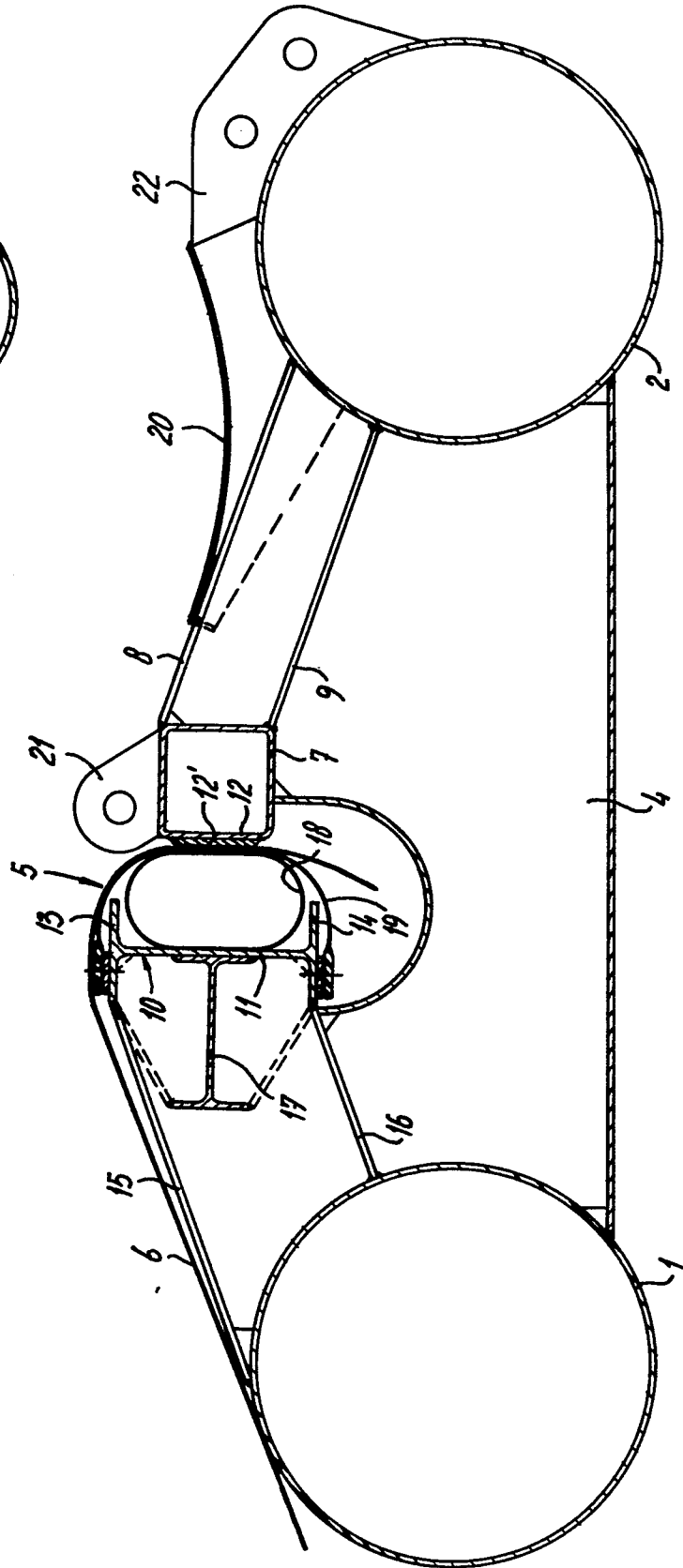


fig - 2a

