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(54) Sliding gate

(57) The invention relates to a sliding gate consisting of a frame with at least one post, that is brought in between two ground-connected stakes when the gate is closed, in which the post and both stakes are equipped with integrated tubular elements that align when the gate is closed and in which an interlocking bar can be slid through the aligned tubular elements in the post and both stakes to interlock the gate when closed.

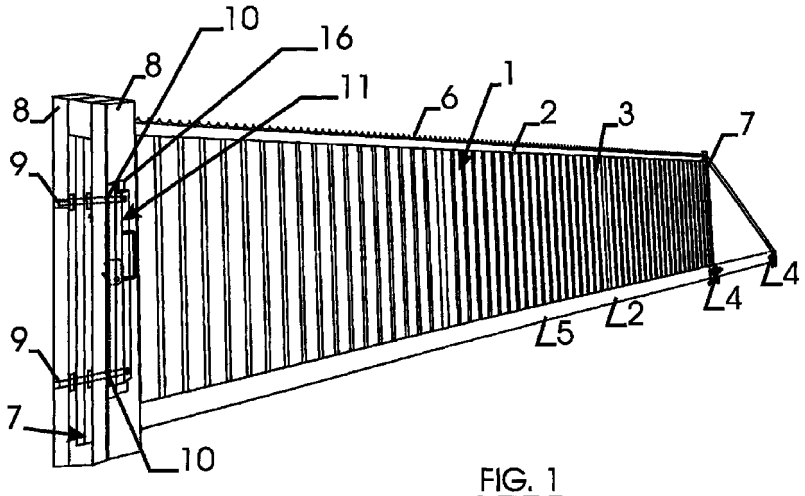

FIG. 1

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Description

[0001] The present invention relates to a sliding gate consisting of a frame with at least one post, that is brought in between two ground-connected stakes when the gate is closed.

[0002] Such sliding gates are well-known and are a.o. described in the German Gbm 8906344 and the European patent applications 134.824, 711.898 and 792.969.

[0003] It is extremely important that a closed sliding gate can be firmly locked. Indeed, when the interlocking mechanism and/or the closing devices of the gate are opened or broken, it is relatively simple to completely open the gate or even wrench it.

[0004] The invention intends to provide a new kind of sliding gate, allowing to firmly interlock the gate when closed.

[0005] To that end, for the aforementioned kind of gate, the invention proposes that the post and both stakes are equipped with integrated tubular elements that align when the gate is closed, and that an interlocking bar can be slid through the aligned tubular elements in the post and both stakes to interlock the gate when closed.

[0006] Preferably, the post and stakes are hollow.

[0007] It is an advantage that the post and both stakes are equipped with at least two sets of integrated tubular elements, that align when the gate is closed, and that at least two interlocking bars can be slid into the two sets of tubular elements to interlock the gate when closed. It is desirable that the ends of the two interlocking bars are interconnected by a cross element, so as to form a U-shaped interlocking device, and that the cross element is close to the adjoining stake when the U-shaped interlocking device is closed.

[0008] In a preferred embodiment, the interlocking bar or the U-shaped interlocking device is equipped with closing devices, that concur with the closing devices in the adjoining stake when the interlocking bar or the U-shaped interlocking device is closed. Hereby it is advisable to equip the adjoining stake with a U-shaped safety device so that the cross element of the U-shaped interlocking device clicks into this safety device when the U-shaped interlocking device is closed.

[0009] In a further preferred embodiment, at least one interlocking bar and the adjoining stake are provided with concurring means to connect the interlocking bar to the stake so that it cannot be removed.

[0010] The invention will be explained in detail in the following description by means of the accompanying drawings.

Figure 1 represents a view in perspective of a sliding gate according to the invention when the gate is closed, in which a post of the gate is brought in between two ground-connected stakes ;

Figure 2 represents a side view of the U-shaped interlocking device according to the invention when the interlocking device is opened ;

Figure 3 represents a longitudinal cross-section of an interlocking bar according to the invention, and

Figure 4 represents a view in perspective of a part of one interlocking bar and the adjoining stake, equipped with means to connect the interlocking bar to the stake so that it cannot be removed.

[0011] Figure 1 represents a view in perspective of a sliding gate 1 according to the invention when the gate is closed. The sliding gate 1 consists of a frame 2 with railings 3 at regular intervals and the necessary drive and guide wheels 4. The frame 2 consists of at least one lower 5 and one upper 6 cross beam and two upright posts 7. Figure 1 clearly shows that the left-hand post 7 of the gate 1 is brought in between two ground-connected stakes 8 when the gate 1 is closed.

[0012] Preferably, the post 7 and both stakes 8 are hollow, made of steel and present a practically rectangular cross-section.

[0013] According to the invention, the post 7 and both stakes 8 are equipped with welded tubular elements 9. When the gate is closed, the two tubular elements 9 of the stakes 8 mutually align and also align with the corresponding tubular element 9 in the post 7. The length of the tubular element 9 in the post 7 should practically be equal to the depth of the post 7.

[0014] According to the invention, an interlocking bar 10 can be slid through the aligned tubular elements 9 in the post 7 and both stakes 8 to interlock the gate 1 when closed.

[0015] In addition, Figure 1 shows that the post 7 and both stakes 8 are equipped with two sets of integrated tubular elements 9, that align when the gate 1 is closed and that two interlocking bars 10 are brought in the two sets of tubular elements 9 to interlock the gate 1 when closed.

[0016] Figure 1 also shows that the ends of the two interlocking bars 10 are interconnected through a cylindrical cross element 11 to form a U-shaped interlocking device 12 and that the cylindrical cross element 11 comes close to the adjoining stake 8 when the gate 1 is closed.

[0017] Figure 2 shows a side view of the opened U-shaped interlocking device 12 according to the invention. Figure 2 uses the same reference digits as figure 1 to indicate the same parts of the gate. The cylindrical cross element 11 of the interlocking device 12 is equipped with integrated closing devices 13, that concur with closing devices 14 in the adjoining stake 8 when the device 12 is closed. The cross element 11 is also equipped with a handle 15 to facilitate moving the interlocking bars 10 in the tubular elements 9 in the post 7

and the stakes 8.

[0018] Figures 1 and 2 also show that the stake 8 adjoining to the interocking device 12 is equipped with a welded U-shaped steel profile 16. When the U-shaped interlocking device 12 is closed, the cylindrical cross element 11 is brought in the U-shaped profile 16. Therefore, the cross-sections of the U-shaped steel profile 16 and the cylindrical cross element 11 are similar or in other words the U-shaped steel profile 16 functions as safety device for the cross element 11 and the integrated closing devices 13 of the U-shaped interlocking device 12. When the interlocking device 12 is closed and the cylindrical cross element is brought in the U-shaped safety device 16, it is impossible to wrench a chisel or similar object between the cross element 11 and the adjoining stake 8 to break open the closing devices 13.

[0019] Figure 3 shows a longitudinal cross-section of an interlocking bar 10 according to the invention, used to be slid in the tubular elements 9. Preferably, the interlocking bar 10 and the corresponding tubular elements 9 have practically circular cross-sections, that are adapted to one another or in other words the cross-section diameter of the bar 10 is slightly smaller than the inner diameter of the tubular elements 9 in the post 7 and the stakes 8. As figure 3 clearly shows, the bar 10 has a notch 17 over a part of its length. The purpose of this notch 17 will be explained below in the description of figure 4.

[0020] Figure 4 represents a view in perspective of a part of an interlocking bar 10 and the adjoining stake 8, equipped with means to connect the interlocking bar 10 to the stake 8 so that it cannot be removed. To this end, the protruding part 18 of the tubular element 9 in the stake 8 has a cross groove 19 in which fits an integrated cross plate 20, that concurs with the longitudinal notch 17 in the bar 10. When the cross plate 20 in the groove 19 is fixed to the stake 8, it is impossible to remove the bar 10 from the tubular element 9 as the end 21 of the bar 10 is stopped by the cross plate 20.

Claims

1. Sliding gate consisting of a frame with at least one post, that is brought in between two ground-connected stakes when the gate is closed, characterised in that the post (7) and both stakes (8) are equipped with integrated tubular elements (9) that align when the gate (1) is closed and that an interlocking bar (10) can be slid through the aligned tubular elements (9) in the post (7) and both stakes (8) to interlock the gate (1) when closed.

2. Sliding gate according to claim 1, characterised in that the post (7) and the stakes (8) are hollow.

3. Sliding gate according to claim 1 or claim 2, characterised in that the post (7) and both stakes (8) are equipped with at least two sets of integrated tubular elements (9), that align when the gate is closed, and that at least two interlocking bars (10) can be slid in the two sets of tubular elements (9) to interlock the gate (1) when closed.

4. Sliding gate according to claim 3, characterised in that the ends of the two interlocking bars (10) are interconnected by a cross element (11) to form a U-shaped interlocking device (12), and that the cross element (11) comes close to the adjoining stake (1), when the U-shaped interlocking device (12) is closed.

5. Sliding gate according to one or more of the claims 1 — 4, characterised in that the interlocking bar (10) or the U-shaped interlocking device (12) is equipped with closing devices (13), that concur with the closing devices (14) in the adjoining stake (8) when the interlocking bar (10) or the U-shaped interlocking device (12) is closed.

6. Sliding gate according to claim 4 or claim 5, characterised in that the adjoining stake (8) is equipped with a U-shaped safety device (16) and that the cross element (11) of the U-shaped safety device (12) clicks into this safety device (16) when the U-shaped interlocking device (12) is closed.

7. Sliding gate according to one or more of the claims 1 — 6, characterised in that at least one interlocking bar (10) and the adjoining stake (8) are provided with concurring means (17 — 20) to connect the interlocking bar (10) to the stake (8) so that it cannot be removed.

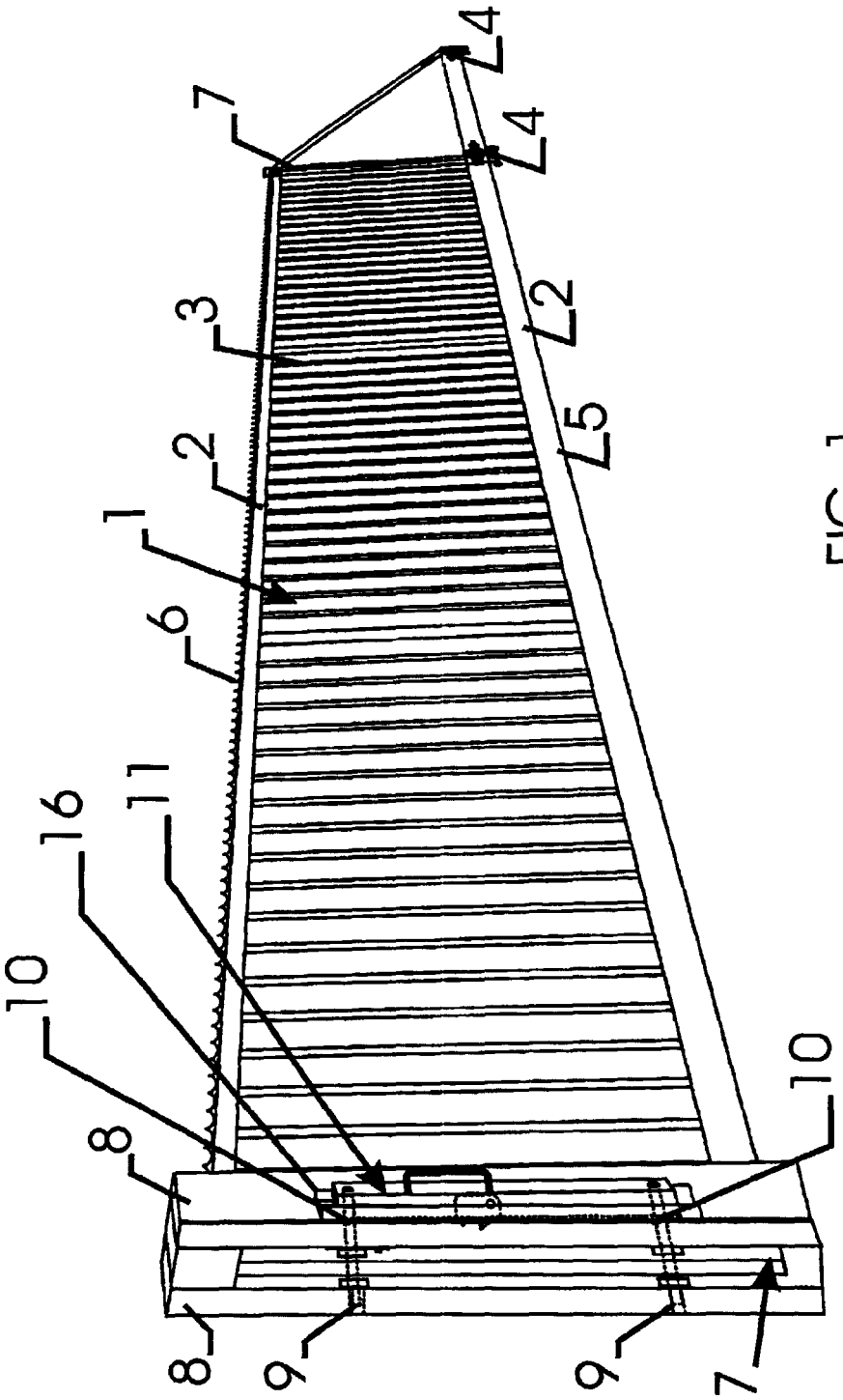

FIG. 1

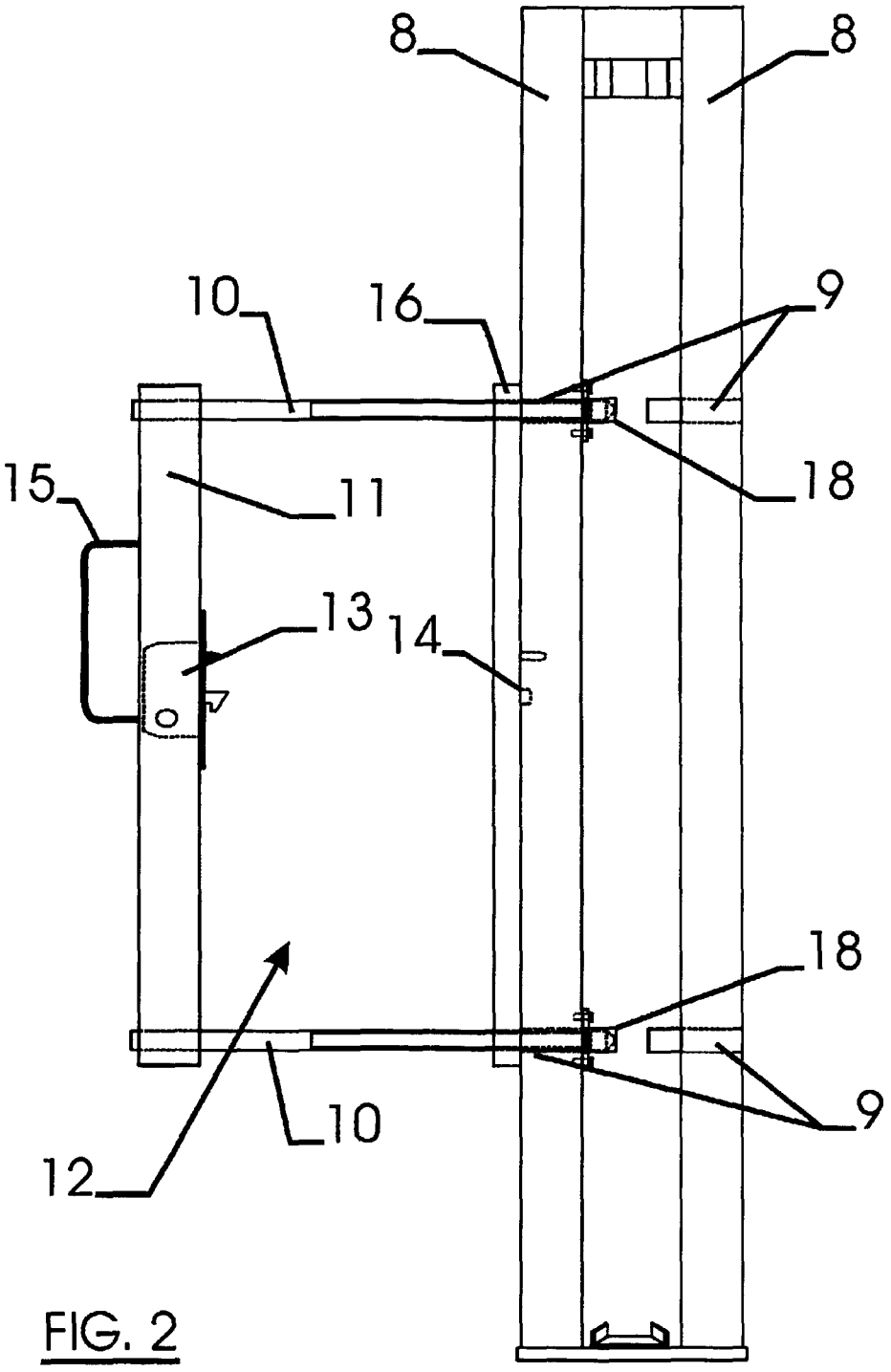

FIG. 2

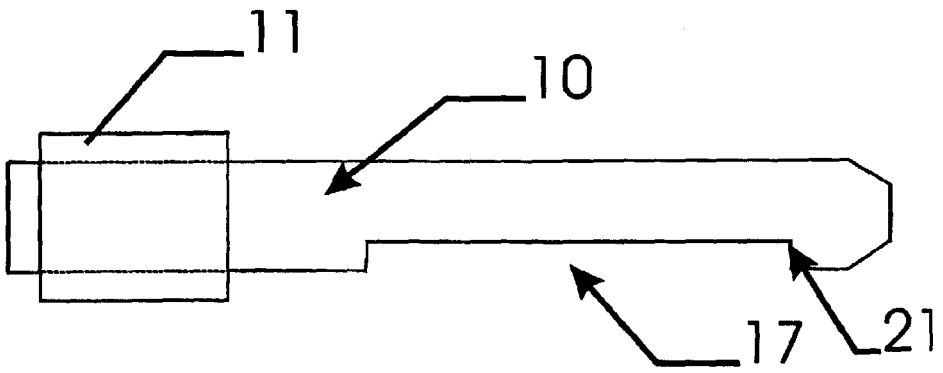

FIG. 3

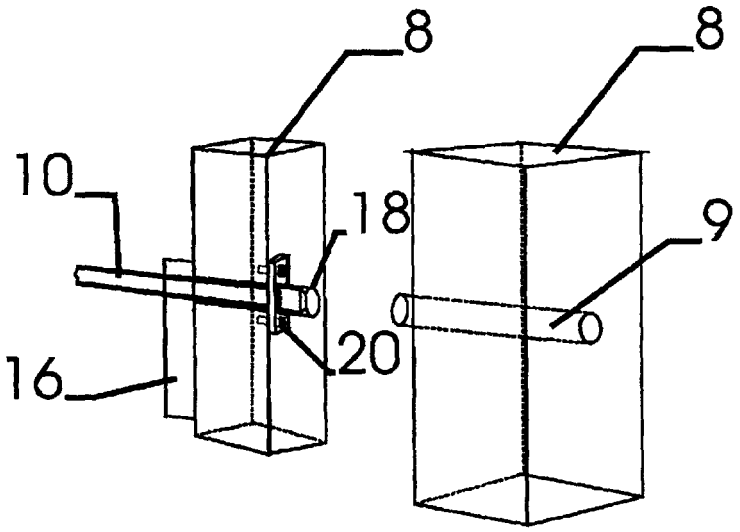

FIG. 4

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EUROPEAN SEARCH REPORT

Application Number
EP 00 20 3703

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A	US 4 345 448 A (SOLOMON) 24 August 1982 (1982-08-24) * the whole document *	1	
A	US 2 098 189 A (KISTNER) 2 November 1937 (1937-11-02) * page 2, left-hand column, line 7-10 *	1	TECHNICAL FIELDS SEARCHED (Int.Cl.7) E05B
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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	3 January 2001	Westin, K

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