

The present invention relates to a bridging system intended to allow in particular military vehicles to clear in particular breaches.

The bridging systems used until now comprise a monolithic spanning beam of short span for the clearing of a relatively small breach or a monolithic spanning beam of greater span for the crossing of relatively great breaches.

Such systems have the inconvenience of requiring at least two transport vehicles, the one for at least one spanning beam of short span and the other one for at least one spanning beam of greater span.

The document DE-A-1 938 940 describes a bridging system comprising the characteristics defined in the preamble of the claim 1. This known system however has the inconvenience of necessitating two transport vehicles for two identical spanning beams, respectively, for depositing them above a bridge to be cleared.

The present invention has as its object to remove the inconveniences here above by proposing a bridging system characterized in that both spanning beams are relatively coupled end-to-end at the level of their respective front faces defined each one by a jib folded back onto the corresponding carrying structure by two locking devices made fast to both spanning beams, respectively, at their respective ends.

According to one characteristic of the invention, each locking device ensuring the endwise coupling of both aforesaid spanning beams is constituted by an aforesaid locking device intended to rigidly fasten one jib to the aforesaid carrying structure.

According to one characteristic of the invention, the device for locking each jib to the carrying structure comprises at least one lock bolt consisting of a first and a second respectively male and female means made fast to the jib and to the carrying structure and

located substantially at a same distance from and on either side of the horizontal plane containing the axis for pivoting in relation to the carrying structure so that the first means may lock itself into the second means in the unfolded position of the jib.

According to another characteristic of the invention, two spanning beams are rigidly coupled end-to-end at the level of their respective front faces defined each one by a jib folded back onto the corresponding carrying structure by two locking devices made fast to both spanning beams, respectively, at their respective ends, each locking device being constituted by the aforesaid locking device with at least one lock bolt, the first and second means of the lock bolt of the locking device at the end of one of the two spanning beams engaging the second and first means of the lock bolt of the locking device at the end of the other spanning beams upon the coupling of both spanning beams.

The first and second means of the lock bolt at one end of a spanning beam are made fast to one jib and to the carrying structure, respectively, and the first and second means of the lock bolt at the opposite end of the spanning beam are made fast to the carrying structure and to the other jib, respectively.

Advantageously the first means of a lock bolt is a transverse locking pin and the second means of this lock bolt is a locking hook, the locking pin and hook projecting from a same side of the corresponding front face of a spanning beam.

Preferably each spanning beam comprises at one of its ends a positioning foot and at its opposite end a positioning opening, the positioning foot of one spanning beam inserting itself into the corresponding positioning opening of an other spanning beam upon the coupling of both spanning beams for their mutual positionings, the positioning foot-opening assembly

taking up the shear forces resulting from the travel of vehicles on the runways of both coupled spanning beams.

Still according to another characteristic of the invention, each jib exhibits a general shape of a pyramid with a rectangular cross-section, both opposite faces of which are intended to serve as runways in the folded back and unfolded positions, respectively, of the jib which is pivoted about the aforesaid pivot pin with one transverse side of the rectangular base of the jib.

According to still another characteristic of the invention, each jib comprises two sidewalls forming wheel guides in the position of the jib folded back onto the carrying structure and retractable in the unfolded position of the jib.

Each sidewall forming a wheel guide is freely sliding in parallel relation to the corresponding side face of the pyramidal jib so as to assume the retracted position when the jib is extended and a stationary work position when the jib is folded back onto the carrying structure.

Advantageously each aforesaid sidewall is bearing through gravity upon a sub-jacent stationary sidewall made fast to the carrying structure and forming a wheel guide in the extended position of the jib.

The invention will be better understood and further objects, characteristics, details and advantages thereof will appear more clearly in the course of the explanatory description, which will follow, made with reference to the attached diagrammatic drawings given by way of example only, illustrating an embodiment of the invention and in which :

-Figure 1 shows an end view of one spanning beam of a bridging system according to the invention.

-Figure 2 is an enlarged view of another portion of the spanning beam of Figure 1;

-Figure 3 also is an enlarged view of the other

portion of the spanning beam of Figure 1;

-Figure 4 is a partial view in section along the line IV-IV of Figure 1;

-Figure 5 shows a jib in the extended position locked to the corresponding carrying structure of a spanning beam;

-Figure 6 is a view in section along the line VI-VI of Figure 1;

-Figure 7 is a view in section along the line VII-VII of Figure 1;

-Figure 8 is a perspective view of a portion of one jib pivoted to the carrying structure of a spanning beam;

-Figure 9 is a view in section along the line IX-IX of Figure 4;

-Figure 10 is a plan view of the jib alone;

-Figure 11 is a view in section along the line XI-XI of Figure 10;

-Figure 12 is a view in section along the line XII-XII of Figure 10 ;

-Figure 13 shows the mode of locking an access jib in the folded back position to the carrying structure of a spanning beam;

-Figures 14A to 14E show the manner according to which two spanning beams are coupled end-to-end to form therewith one spanning beam of great span; and

-Figures 15A and 15B show the laying down of one single spanning beam over a bridge to be crossed.

Referring to the Figures, the reference numeral 1 designates a spanning beam according to the invention intended for the clearing of a bridge of relatively small width.

The spanning beam 1 comprises two identical resistant carrying structures 2 extending longitudinally and connected to each other by several rigid transverse connecting arms 3, one of which only is shown and made

fast to each carrying structure 2, for example by welding. Each carrying structure 2 comprises a lower portion 2a forming a sill to which are made fast uprights 2b supporting an upper portion forming a trackway consisting of a horizontal central portion 2c and of two end portions 2d made fast to both ends of the central portion 2c, respectively, while extending the latter in a downward manner. As this appears more particularly from Figure 9, each carrying structure 2 is made from a mecano-welded metal framework, the central portions 2c and end portions 2b forming the runway being formed of two parallel plates with a reinforcing triangular trussing therebetween. In order to not overload the Figures, one end portion 2d only has been shown.

Two identical jibs 4, one of which only is shown in detail, are pivotally mounted at both ends, respectively, of a carrying structure 2 about a transverse pivot pin 5 so that each jib 4 assumes either a position folded back or tilted back onto the corresponding end portion 2d of the carrying structure 2 as this has been shown on Figure 4 or an extended position in extension of the carrying structure 2 to which the jib 4 is rigidly fastened by a locking device 6 as shown on Figure 5. Each jib 4 exhibits a general pyramid-like shape with a rectangular cross-section both opposite faces 4a and 4b of which are intended to serve as a trackway in the swung back and extended positions, respectively, of the jib which is pivotally connected about the pivot pin 5 by a transverse side 4c of the rectangular base of the jib 4. Thus in the position of the jib 4 swung back onto the end portion 2d, the face 4a of the jib 4 substantially horizontally extends the runway of the central portion 2c and in the extended position of the jib 4, the face 4b thereof is extending the runway of the end portion 2d.

To the extent where both carrying structures with their two associated end jibs 4 are identical, one assembly of associated carrying structure 2 and jibs 4 only will be described.

The transverse pivot axis 5 has the shape of a pivot hinge consisting of several spaced clevis-shaped portions 7 with both parallel legs 7a of each portion 7 made fast by fastening screws 8 to the end of the end portion 2d of the structure 2. A central portion 7b disposed between both legs 7a of a clevis-like portion 7 is made fast to the transverse side 4c of the jib 4 by fastening screws 9 and pivotally mounted between both legs 7a about the pivot axis 5 formed of a transverse pivot pin 7c made fast to the central portion 7b and capable of rotating at its two free ends within two slightly oblong bores 7d, respectively, machined through both legs 7a.

Bearing faces 10 are disposed on either side of the transverse axis 5 symmetrically thereto and above and below the clevis-shaped portions 7 in the folded back position of the jib 4. These bearing faces 10 are machined on upper or lower parts or blocks 11 made fast to the ends of the end portion 2d and of the transverse side 4c, respectively, of the jib 4 by fastening screws 12 embedded into the blocks 11 perpendicularly to the horizontal plane containing the transverse axis 5 and being screwed underneath the legs 7a of the portions 7 for the lower blocks and on the central portion 7b for the upper blocks 11; square-shaped portions 11a being cause to bear, once the screws 12 have been tightened, upon corresponding shoulders of the ends of the portion 2d of the structure 2 and of the transverse side 4c of the jib 4. The blocks 11 are moreover fastened at the ends of the portion 2d and of the transverse sight 4c by fastening screws 12a screwed into corresponding tapped holes of these ends perpendicular to the plane of Figure

2 or of Figure 3, the passageway holes for the screws 12a through the blocks 11 carrying the reference numeral 12b. When each jib 4 assumes the extended position in extension of the portion 2d to this serve as an access jib, the bearing faces are butt-joining end-to-end to each other so as to release the pivot pin 5 from the forces applied thereto in particular during the passage of heavy vehicles on the runway.

The device for locking an extended jib 4 to the carrying structure 2 comprises several lock bolts 6 consisting each one of first and second male and female means 6a and 6b, respectively, made fast to the jib 4 and to the carrying structure 2 and located when one jib assumes the swung back position at a same distance from and on either side of the horizontal plane containing the pivot axis 5 of the jib in relation to the carrying structure 2. The first means 6a of the lock bolts 6 are constituted by coaxial transverse locking pins made fast at one end of an assembly of a carrying structure 2 and jibs 4 to the upper transverse side 4d of a jib 4 opposite to the lower transverse side 4c of this jib when considering the jib 4 in the folded back position and at the opposite end of this assembly to the lower sill-like portion 2a of the carrying structure 2. More specifically the transverse pins 6a are accommodated within longitudinal U-shaped openings 13, respectively, defined in the transverse side 4d of the jib 4 so that the pins 6a project from the front face 4e of the jib 4 defining the rectangular base thereof or into the front phase 2a1 of the portion 2a. The second means of the lock bolts 6 are constituted by aligned locking bolts 6b made fast at the end of an assembly of carrying structure 2 and jibs 4 to the lower sill-forming portion 2a of the carrying structure 2 and at the opposite end of this assembly to the upper transverse portion 4d of the associated jib 4. Each hook 6 b is pivotally mounted

within a longitudinal U-shaped opening 14 forming a clevis about a transverse pin 14a between an unlocked position and a locked position. As shown for four locking hooks 6b with four locking pins 6a, these hooks are operated two by two by two side levers, respectively, both levers 15 associated with the lower hooks 6b at the end of an assembly of carrying structure 2 and jib 4 being shown alone. Each lever 15 has its end opposite to the operating handle made fast to the pivot pin 14a extending through two recesses forming yokes 14 while being made fast to both hooks 6b and is also made fast at an intermediate portion between the operating handle and the end connected to the pin 14a by a connecting bar 16 driving both hooks 6b simultaneously to their unlocked or locked position by operating the lever 15. The connecting bar 16 extends through two lugs 17 made fast to both hooks 6b, respectively. The clevis-like portions 14 of the lower hooks 6b are projecting from the front face 2e of connection of the end of the portion 2d to the corresponding end where is located the face 2a1 of the lower portion 2a of the structure 2 and on the same side as the upper transverse pins 6a, the faces 2e and 4e forming a front face of a spanning beam. Likewise the upper hooks 6b at the opposite end of the assembly of carrying structure 2 and jibs 4 are projecting from the front face 4e of the other jib 4 on a same side as the lower transverse pins 6a. One of the locking hooks of one pair of hooks 6b actuated concurrently by a lever 15 is mechanically connected to a device 18 for holding the pair of hooks 6b either in its locked position or in its unlocked position. This holding device 18 comprises two end yokes 19 and 20 fastened in a pivotal fashion respectively to the fastening lug 17 of a hook 6b and to a fastening lug 21 made fast either to the front face 2e for the lower hooks 6b or to the front face 4e for the upper hooks 6b.

Both yokes 19, 20 are assembled to each other by a screw 22 screwed into the rear connecting wall of the legs of the yoke 19 and the head 22a of which is held in bearing relationship upon the bottom of a cup-shaped portion 23 by a prestressed compression spring 24 bearing between the back face of the yoke 19 and the external annular flange 23a of the cup 23 made fast to the back face of the yoke 20. Thus when a lever 15 is actuated in the unlocking direction shown by the arrow F1 on Figure 6, both hooks are swinging together about the pivot pin 14a and cause the holding device 18 to pivot through its pivot yokes in the direction shown by the arrow F2 to a position where it keeps both hooks in the unlocked position. This holding device 18 also permits to maintain one pair of hooks 6b in the locked position shown on Figure 6. The pins 6a and the locking hooks 6b are disposed in symmetrical relation to the longitudinal middle plane of an assembly of carrying structure 2 and jibs 4 containing the axis X-X' shown on Figure 2 on or Figure 3.

It should moreover be noted that both carrying structures 2 of a spanning beam 1 are disposed in symmetrical relation to a longitudinal middle plane containing the axis Y-Y' of Figure 1 so that to the upper locking axes and lower locking hooks of a same side of one end of an assembly of carrying structure 2 and folded back jibs 4 are respectively corresponding the upper locking hooks and the lower locking pins of the same side of the end opposite to the foregoing end of the other assembly of carrying structure 2 and folded-back jibs 4.

Each assembly of carrying structure 2 and jibs 4 comprises at one of its ends a positioning foot 24 in the shape of a pyramid and made fast to the front face 2e of the structure 2 and at its opposite end, a

positioning opening 25 formed through the opposite front face 2e of the structure 2.

Each positioning foot and each positioning aperture 25 are dimensioned so that both opposite positioning feet of both assemblies of carrying structures 2 and folded back jibs 4, respectively, of a spanning beam 1 are being inserted into both opposite positioning openings 25, respectively, of both assemblies of carrying structures and folded back jibs 4, respectively, of another spanning beam 1 during the coupling end-to-end of these two spanning beams for their mutual positionings, the assembly thus made of positioning foot 24 and opening 25 being intended to take over the shearing forces resulting from the passage of heavy vehicles upon the trackways of both spanning beams coupled end-to-end. Each positioning foot 24 and each positioning opening 25 of an assembly are disposed in symmetrical relation to the longitudinal middle plane passing through the axis X-X' and located between the pivot pin 5 and the locking hooks 6b and between the pivot pin 5 and the locking pins 6a, respectively.

The front face of one of the folded back jibs 4 of each assembly of carrying structure 2 and jibs 4 and located above a positioning foot 24 comprises an opening 26 of dimensions greater than those of the positioning foot 24 so as to permit the free passage through the front face 4e of the sub-jacent positioning foot 24 during the extension of the jib 4.

Each central portion 2c forming a runway of a spanning beam 1 comprises two sidewalls 2f and 2g defining the runway and forming wheel guides located on a same side of a vehicle travelling on both parallel runways of the spanning beam 1. The walls forming wheel guides 2f and 2g are made fast by welding to the upper portion 2c of each carrying structure 2. Likewise the upper portion 2d forming a trackway of each structure 2

comprises two sidewalls defining the trackway and forming wheel guides 2h and 2i. The walls 2h and 2i are made fast to the upper portion 2d also by welding. Each jib 4 comprises two sidewalls 4f and 4g defining the runway 4a of the jib 4 and freely slidable in parallel relation to the side faces of the jib so as to assume a working position projecting above the runway of the jib perpendicularly to the latter when the jib is in the swung back position or a retracted or vanished position when the jib 4 is extended in contact upon the ground, both walls 4f and 4g retracting themselves until they have moved into the laying plan of the jib. Figure 12 shows the structure allowing the sliding of the wheel guide-forming wall 4f with respect to the side face of a jib 4 for assuming the working and retracted positions, the structure used for the sliding of the wall 4g forming a wheel guide being alike. The sidewall 4f shown in the working position comprises several spaced transverse oblong holes 4h at the level of its upper portion through which are extending guide bolts 4i made fast for example by screwing to the corresponding side face of the jib 4. Each guide bolt 4i comprises a head 4i1 with a size greater than the width of the corresponding oblong hole 4h. Several spaced transverse members 4j in the shape of a horizontal U are fastened for example by welding to the sidewall of the jib 4 at some distance below the guide bolts 4i. A plate 4k projecting outwards of the sidewall 4f is fastened by welding to the lower end of the wall 4f along the latter and projects inwards while forming studs inserting themselves into the U-shaped members 4j, respectively. The plate 4k performs the function of a stop limiting the downward displacement of the sidewall 4f when considering Figure 12 while bearing through gravity upon the upper end of the sidewall forming a wheel guide 2h. Thus in the working position the guide bolt 4i is

located at the level of the lower end of the corresponding oblong hole 4h. When a jib 4 is extended in the direction of the arrow F3, the upper end of each sidewall forming a wheel guide 4f, 4g of the jib is caused to bear upon the ground so as to move through sliding in the direction shown by the arrow F4 on Figure 12 thus retracting this wall.

Each jib 4 is held in the folded back position by lateral locking means 26' only one of which is shown on Figure 13. The locking means 26' comprises a lever arm 27 pivotally mounted about a transverse central pin 28 made fast to the transverse connecting portion between both portions 2c and 2d forming a trackway of a carrying structure 2. The lever arm 28 is ending at the upper level with a locking hook 29 into which may insert itself a transverse locking pin 30 made fast in the vicinity of the hook-shaped free end 41 to the jib 4. This end 41 in the folded back position of the jib 4 is resting in a transverse recess of a shape complementary of the junction portion 2k. The end of the lever 27 opposite to the locking hook 29 is mechanically connected to a locking and unlocking mechanism (not shown) controlled by hand or automatically. Such a mechanism may consist of a manual control linkage. In the swung back position of a jib 4, both coaxial locking pins 30 are fitted into their two respective locking hooks 29. To unlock the jib 4, the locking mechanism is actuated so as to pivot the arm 27 about its pivot pin 28 in the direction of the arrow F5 thereby disengaging both hooks 29 from the locking pins 30.

Figures 14A to 14E show the handling of two spanning beams and their assembly end-to-end with a view to form one spanning beam of great span for covering a breach of great width.

A transport lorry T conveys to the vicinity of a breach B to be covered at least two identical

superimposed spanning beams 1 the jibs 4 of which are locked in the swung back position. A contrivance with a handling crane G takes two spanning beams from the transport lorry and deposits them upon the ground so that they be approximately in alignment, with one positioning foot 24 of one end of one spanning beam 1 lying approximately in front of a positioning opening 25 of the end of the other spanning beam 1 the centering foot 24 of which is also approximately in front of the positioning opening 25 of the first spanning beam 1.

The handling crane G actually moves one of the two spanning beams 1 towards the other spanning beam as shown by the arrow F5' until both positioning feet 24 are inserting themselves into the positioning openings 25, respectively, with subsequent locking of both adjacent ends of both spanning beams through insertion of the lower and upper locking pins 6a of one spanning beam into the lower and upper locking hooks 6b, respectively, of the other spanning beam and insertion of the lower and upper locking pins 6a of the other spanning beam into the lower and upper locking hooks 6b, respectively, of the first spanning beam. The lower and upper hooks of a spanning beam prior to the insertion of the positioning feet into their respective positioning openings 25 have of course been unlocked by operating the corresponding side levers 15 which are then operated in the locking direction of the hooks 6b once the positioning feet are inserted into the positioning openings 25, respectively. In the endwise assembled position of both spanning beams, the adjacent folded back jibs ensure a very good mechanical strength in particular at the level of the assembling junction of both spanning beams. It is to be moreover noted that in order to be sure to take advantage of the increase in height and therefore in inertia provided by the swang back position of the jibs, the latter are not in contact

with each other neither at the level of the parts forming hinges 7 offset with respect to each other at the assembling junction of both spanning beams nor at the level of the bearing faces 10 offset too. The locking pins 6a and hooks 6b of the lock bolts 6 and the positioning feet 24 and openings 25 are placed in such a manner that there be no privileged order for the assembly of both spanning beams. Both pairs of folded back end jibs of both coupled spanning beams 1, respectively, are then unlocked from their supporting structure 2 by actuating the arms 27 corresponding to the locking hooks 29 in the unlocking direction. The handling crane G is then used to swing both pairs of end jibs 4 about their pivot pins 5 so that the locking pins 6a of one jib 4 of an end pair and the lower locking pins 6a of the carrying structure associated with the other access jib 4 of this same end pair are inserting themselves into the lower locking hooks of the carrying structure 2 of the first jib 4 of the pair and into the locking hooks 6b of the jib 4 associated with a second carrying structure 2, respectively. The engagement of these locking pins 6a is of course effected by moving the locking hooks 6b from their unlocking position down to their locking position. Both pairs of end jibs thus extending both parallel trackways, respectively, formed of the portions 2d of both associated carrying structures 2. In the extended position of both pairs of end jibs 4 upon the ground, the sidewalls forming wheel guides 4f and 4g are in the retracted position. The contrivance with the handling crane G at last lays down both coupled spanning beams 1 over the breach B so that both pairs of end jibs 4 be bearing upon both opposite bank edges of the breach B.

Figures 15A and 15B show a spanning beam 1 laid down above a breach B of relatively small width. This spanning beam has the jibs 4 of both end pairs which

have been extended and locked to the ends of the spanning beam as described with reference to both pairs of end jibs of both coupled spanning beams 1 of Figures 14D and 14E and rests with its jibs forming access jibs upon both opposite bank edges of the breach B.

The invention has been described with reference to one spanning beam with two assemblies of carrying structures and jibs to form two parallel runways for side wheels of vehicles, respectively, but it should be understood that it also applies to a spanning beam with one single carrying structure and with two end jibs to form a trackway with a width permitting the passage of vehicles.



CLAIMS

- 1/ Bridging system intended to allow in particular military vehicles to clear in particular breaches (B), of the type comprising at least two identical spanning beams (1) capable of being rigidly coupled end to end, 5 each spanning beam (1) comprising at least a resistant carrying structure (2) with a runway at the top part (2b, 2c) ; two jibs (4) mounted for pivotal connection to both ends, respectively, of the carrier structure (2) about a transverse pivot axis (5) so that each jib 10 (4) assumes either a position folded down or back onto the carrying structure (2) or a position unfolded in extension of the carrying structure (2) to which the jib (4) is rigidly fastened by a locking device (6) so that the spanning beam (1) may be used to cover a 15 breach (B) with its two extended end jibs forming access jibs bearing upon both opposite edges, respectively, of the breach (B) ; characterized in that both spanning beams (1) are rigidly coupled end to end at the level of their respective front faces (2e, 4e) 20 each one defined by a jib (4) folded back onto the corresponding carrying structure (2) by two locking devices (6) made fast to both spanning beams, respectively, at their respective ends.
- 25 2/ System according to claim 1, characterized in that each locking device ensuring the endwise coupling of both aforesaid spanning beams (1) is constituted by one aforesaid locking device (6) intended to rigidly fasten one jib (4) to the aforesaid carrying structure (2).
- 30 3/ System according to claim 1 or 2, characterized in that the device for locking each jib (4) to the carrying structure (2) comprises at least one lock bolt (6) consisting of a first and a second respectively 35 male and female means (6a, 6b) made fast to the jib (4) and to the carrying structure (2) and located



substantially at a same distance from and on either side of the horizontal plane containing the pivot axis (5) of the jib (4) in relation to the carrying structure (2) so that the first means (6a) may insert
5 itself into the second means (6b) in the unfolded position of the jib (4).

4/ System according to claim 3, characterized in that upon the endwise coupling of two spanning beams (1),
10 the first and the second means (6a and 6b) of the lock bolt of a locking device (6) at the end of one of the two spanning beams (1) are becoming engaged with the second and first means (6b and 6a), respectively, of the lock bolt of a locking device (6) at the end of the
15 other spanning beam.

5/ System according to claim 3 or 4, characterized in that the aforesaid first and second means (6a and 6b) of the lock bolt (6) at one end of a spanning beam (1)
20 are made fast to one jib (4) and to the carrying structure (2), respectively, and the first and second means (6a and 6b) of the lock bolt (6) at the opposite end of the spanning beam (1) are made fast to the carrying structure (2) and to the other jib (4),
25 respectively.

6/ System according to one of the foregoing claims 3 to 5, characterized in that the aforesaid first means of a lock bolt (6) is a transverse locking pin (6a) and the
30 second means of this lock bolt (6) is a locking hook (6b), the locking pin (6a) and hook (6b) projecting from a same side of the corresponding front face (2e, 4e) of a spanning beam (1).

35 7/ System according to one of the foregoing claims, characterized in that each locking device (6) comprises several lock bolts disposed symmetrically to the



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longitudinal middle plane of one spanning beam (1), the locking pins of the lock bolts (6), respectively, being coaxial.

5 8/ System according to one of the foregoing claims, characterized in that each jib (4) is locked in the folded back position by two lateral locking means (26') comprising each one a pivoting lever arm (27) with a locking hook (29) into which is itself inserting a
10 transverse locking pin (30) made fast to the free end of the jib (4).

9/ System according to claim 6, characterized in that it comprises at least one lateral lever (15) for the
15 operation of locking hooks (6b) of the lock bolts (6), respectively, at each end of one spanning beam (1) between a position for locking and a position for unlocking corresponding lockings pins (6a) and at least one member (18) for holding the locking hooks (6b) in
20 the locking or unlocking position.

10/ System according to claim 9, characterized in that the holding member (18) comprises a prestressed compression spring (24) pivotally mounted with its two
25 ends through the medium of pivotal connection yokes (19, 20) onto the carrying structure (2) or onto the associated jib (4) and onto a locking hook (6b), respectively.

30 11/ System according to claim 9 or 10, characterised in that it comprises two levers (15) for operating two pairs of locking hooks (6b), respectively, each lever (15) driving an arm (16) of connection of two locking
35 hooks (6b).

12/ System according to one of the foregoing claims,



characterized in that each spanning beam (1) comprises at one of its ends a positioning foot (24) and at its opposite end a positioning opening (25), the positioning foot (24) of one spanning beam (1) inserting itself into the corresponding positioning opening (25) of another spanning beam (1) for their mutual positionings, the positioning foot (24) -opening (25) assembly taking up the shear forces resulting from the travel of vehicles on the runways of both spanning beams (1) coupled end to end.

13/ System according to claim 12, characterized in that the aforesaid positioning foot (24) is in the shape of a pyramid.

15 14/ System according to claim 12 or 13, characterized in that the positioning foot (24) is made fast to the front face (2e) of the carrying structure (2) of a spanning beam (1) and the positioning opening (25) is formed in the opposite front face (2e) of the carrying structure (2) of the spanning beam (1).

15/ System according to one of the foregoing claims 3 to 6, characterized in that the first means (6a) of the lock bolts (6) at the end of one spanning beam are located at the top level of the front face (4e) of the associated jib (4) folded back onto the carrying structure (2) whereas the second means (6b) of these lock bolts (6) are located at the bottom level of the front face (2e) of the carrying structure (2) and in that the second means (6b) of the lock bolts (6) at the opposite end of the spanning beam (1) are located at the top level of the front face (4e) of the other associated jib (4) folded back onto the carrying structure (2) whereas the first means (6a) of these lock bolts are located at the bottom level of the front face (2e) of the carrying structure (2).



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16/ System according to one of the foregoing claims 3 to 6 and 12 to 14, characterized in that the aforesaid positioning foot (24) is located above the first or the second means (6a or 6b) of the lock bolts (6) according to the end of the spanning beam to which it is made fast and symmetrically to the aforesaid longitudinal middle plane.

17/ System according to one of the foregoing claims, characterized in that the aforesaid pivot pin (5) is formed of several clevis-shaped portions (7) made fast to the carrying structure (2) and of one central portion (7b) pivotally mounted between two legs (7a) of each clevis (7) and made fast to the jib (4).

15 18/ System according to one of the foregoing claims 12 to 14, characterized in that the front face (4e) of one of the two folded-back jibs (4) of one spanning beam (1) comprises an aperture (26) permitting the free passage through the front face (4e) of the subjacent positioning foot (24) upon the unfolding of the jib (4).

19/ System according to one of the foregoing claims, characterized in that each jib (4) exhibits a general shape of a pyramid with a rectangular cross section, both opposite faces (4a, 4b) of which are intended to serve as runways in the folded-back and unfolded positions, respectively, of the jib (4) which is pivotally mounted about the aforesaid pivot pin (5) with one transverse side (4c) of the rectangular base of the jib (4)

20/ System according to one of the foregoing claims, characterized in that each jib (4) comprises two side walls forming wheel guides (4f, 4g) in the position of the jib (4) folded back onto the carrying structure



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(2) and retractable in the position of the jib (4) unfolded upon the ground.

21/ System according to claim 20, characterized in that
5 each side wall forming a wheel guide (4f, 4g) is freely sliding in parallel relation to the corresponding side face of the associated jib (4) so as to assume the retracted position when the jib (4) is extended and a stationary work position when the jib (4) is folded
10 back onto the carrying structure (2).

22/ System according to claim 21, characterized in that in the aforesaid stationary position, each side wall (4f, 4g) is bearing through gravity upon a subjacent
15 side wall (2h, 2i) made fast to the carrying structure (2) and forming a wheel guide in the extended position of the jib (4).

23/ System according to claim 17, characterized in that
20 it comprises at least two blocks (11) made fast to the tranverse side (4c) of one jib (4) and to the end of the carrying structure (2), respectively, and disposed above and below, respectively, of one aforesaid pivotal connection clevis (7) so that both bearing surfaces
25 (10) of both blocks (11), respectively, are joining butt and butt in the extended position of the jib (4) in order to take up forces applied to the pivot pin (5) in particular during the travel of vehicles on the spanning beam (1).

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24/ System according to one of the foregoing claims, characterized in that each spanning beam (1) comprises two identical parallel carrying structures (2) rigidly connected to each other by transverse arms (3).

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25/ System according to claims 3 and 24, characterized in that both carrying structures (2) of one spanning



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beam (1) are disposed symmetrically to a longitudinal middle plane so that to the first and second means (6a and 6b) of the lock bolts (6) of one end of a carrying structure (2) and of a folded-back jib (4) are

5 corresponding the second and first beams (6b and 6a) of lock bolts (6) of the end on the same side of the other carrying structure (2) and of the associated folded-back jib (4) and to one positioning foot (24) at the end of one carrying structure (2) is corresponding a

10 positioning aperture (25) at the end on the same side of the other carrying structure (2).