Claims

1. A roller shutter comprising

a rotatable drum having a rotational axis;

a shutter curtain comprising

a series of three or more elongate slats pivotally interlocked in a longitudinal-edge-to-longitudinal-edge arrangement one after another and arranged parallel to the rotational axis of the rotatable drum in a manner so as to be capable of being wound on and off the rotatable drum together in an interlocked state, each of the elongate slats having a first longitudinal end portion and a second longitudinal end portion, wherein the first and second longitudinal end portions being respectively aligned to form a first side border and a second side border, respectively, of the shutter curtain, and wherein the first longitudinal end portion and the second longitudinal end portion of each elongate slat are respectively provided with at least one eyelet-structure which protrudes therefrom, whereby a first row of eyelet-structures and a second row of eyelet-structures are formed along the first and second side borders, respectively, of the shutter curtain; and

at least a first cord and a second cord, the first cord being strung loosely through all eyelet-structures of the first row of eyelet-structures and the second cord being strung loosely through all eyelet-structures of the second row of eyelet-structures, and each cord being configured to confine all eyelet-structures of respective row of eyelet-structures within a length of each cord,

wherein each of the elongate slats comprises at least one elongate reinforcing member extending within said elongate slat in a manner so as to be aligned longitudinally to said elongate slat, wherein the at least one elongate reinforcing member extends across an entire length of said elongate slat, and wherein the at least one eyelet-structure of the first longitudinal end portion of said elongate slat is integrally connected to a first longitudinal end of the at least one reinforcing member and the at least one eyelet-structure of the second longitudinal end portion of said elongate slat is integrally connected to a second longitudinal end of the at least one reinforcing member.

2. The roller shutter as claimed in claim 1, wherein each cord comprises a first cord end fixedly coupled to the rotatable drum and a second cord end having a stopper element

which is configured to prevent the second cord end of said cord from sliding out of the respective row of eyelet-structures.

3. The roller shutter as claimed in claim 1, wherein each cord comprises a first cord end having a first stopper element which is configured to prevent the first cord end of said cord from sliding out of the respective row of eyelet-structures, and a second cord end having a second stopper element which is configured to prevent the second cord end of said cord from sliding out of the respective row of eyelet-structures.

4. The roller shutter as claimed in claim 2 or 3, wherein respective stopper element comprises a crimp end, a cord end cap, a knotted end, a bulged end, or an expanded end.

5. The roller shutter as claimed in any one of claims 1 to 4, wherein the at least one eyelet-structure of each longitudinal end portion of each elongate slat is protruding in a longitudinal direction of said elongate slat, and wherein the at least one eyelet-structure is oriented with an axis of a hole of the at least one eyelet-structure of each longitudinal end portion of each elongate slat in a direction parallel to a breadth of said elongate slat.

6. The roller shutter as claimed in any one of claims 1 to 5, wherein each of the elongate slats comprises two eyelet-structures protruding from each longitudinal end portion of said elongate slat.

7. The roller shutter as claimed in any one of claims 1 to 6, further comprising a retaining arrangement configured to align a bottom rail of the shutter curtain to a predetermined position on a ground and to restrain the bottom rail from sideways or lateral movements in said position when the shutter curtain is lowered.

8. The roller shutter as claimed in claim 7, wherein the retaining arrangement comprises two bollards fixed to the ground and two corresponding caps attached to the bottom rail of the shutter curtain.

9. The roller shutter as claimed in claim 7, wherein the retaining arrangement comprises two brackets, each bracket having a Y-shaped slot, fixed to the ground and two corresponding insert members attached to the bottom rail of the shutter curtain.

10. The roller shutter as claimed in any one of claims 7 to 9, further comprising a sliding guide arrangement which comprises a first guiding rod and a second guiding rod fixed to the ground in an upright orientation and spaced apart in a manner so as to be respectively disposed adjacent the first and second side borders, respectively, of the shutter curtain when the shutter curtain is lowered, and a first sliding element and a second sliding element attached to a first longitudinal end and a second longitudinal end, respectively, of the bottom rail of the shutter curtain, wherein the first sliding element is in engagement with the first guiding rod and the second sliding element is in engagement with the second guiding rod.

11. The roller shutter as claimed in any one of claims 1 to 10,

wherein each eyelet-structure comprises a double-eyelets-structure such that the first row of eyelet-structures forms a first row of double-eyelets-structures and the second row of eyelet-structures forms a second row of double-eyelets-structures,

wherein the roller shutter further comprises a third cord and a fourth cord, and

wherein the first cord is strung loosely through all inner eyeholes of the double-eyelets-structures of the first row of double-eyelets-structures, the second cord is strung loosely through all inner eyeholes of the double-eyelets-structures of the second row of eyelet-structures, the third cord is strung loosely through all outer eyeholes of the double-eyelets-structures of the first row of double-eyelets-structures, and the fourth cord is strung loosely through all outer eyeholes of the double-eyelets-structures of the second row of double-eyelets-structures.

12. The roller shutter as claimed in any one of claims 1 to 10, wherein each eyelet-structure comprises a ring structure.

13. The roller shutter as claimed in any one of claims 1 to 10 or 12, wherein each eyelet-structure substantially surrounds each respective cord.

14. The roller shutter as claimed in any one of claims 1 to 10, or 12 or 13, wherein the at least one eyelet-structure of the first longitudinal end portion of each elongate slat at the first longitudinal end of the at least one elongate reinforcing member and the at least one eyelet-structure of the second longitudinal end portion of each elongate slat at the second longitudinal end of the at least one reinforcing member function cooperatively with the first cord and the second cord strung through the at least one eyelet-structure of the first longitudinal end portion and the at least one eyelet-structure of the second longitudinal end portion respectively to mitigate a sudden impact force on the roller shutter.

14. The roller shutter as claimed in claim 11, wherein the double-eyelets-structure comprises a double-ring structure.

15. The roller shutter as claimed in claim 6, wherein each of the elongate slots comprises two elongate reinforcing members, each elongate reinforcing member extending across the entire length of said elongate slat.