CLAIMS

1. A bracing system comprising a plurality of bracing devices, each bracing device comprising an endless screw cooperating with a toothed wheel, a nut coupled to the toothed wheel and comprising a first at least partly threaded opening, an at least partly threaded rod cooperating with the first opening, a plate coupled to the rod, and a torque-limiting mechanism between the wheel and the nut or between a drive shaft and the endless screw, wherein the endless screws of the bracing devices are simultaneously rotated by a drive mechanism.

2. The bracing system of claim 1, wherein, for each bracing device, the endless screw is capable of being driven in a first rotation direction, whereby the plate is displaced in a first direction, and is capable of being driven in a second rotation direction opposite to the first rotation direction, whereby the plate is displaced in a second direction opposite to the first direction.

3. The bracing system of claim 2, wherein, for each bracing device, the torque-limiting mechanism is capable of transmitting a first moment to the nut when the endless screw is driven in the first rotation direction by a second moment and to transmit a third moment to the nut when the endless screw is driven in the second rotation direction by a fourth moment, the intensity in absolute value of the second moment being greater than the intensity in absolute value of the first moment for a same intensity in absolute value of the second and third moments.

4. The bracing system of claim 2 or 3, wherein, for each bracing device, the rod is capable of disengaging from the nut when the plate is displaced in the second direction beyond a given position.

5. The bracing system of claim 4, wherein, for each bracing device, the rod is capable of cooperating again with the nut after the plate has been displaced in the second direction

beyond the given position when the endless screw is driven in the first rotation direction.

6. The bracing system of any of claims 1 to 5, wherein each bracing device comprises a part forming a slide joint with the rod.

7. The bracing system of any of claims 1 to 6, wherein the joint between the endless screw and the toothed wheel and/or between the rod and the nut is an irreversible joint.

8. The bracing system of any of claims 1 to 7, wherein the torque-limiting mechanism comprises a dog rotated by the drive shaft and comprising first teeth, and wherein the endless screw comprises, on one side, second teeth, complementary to the first teeth, the second teeth being capable of sliding on the first teeth in a rotation direction when the resistive torque of the endless screw is greater than a threshold.

9. The bracing system of claim 8, comprising a first spring permanently pushing the dog against the endless screw.

10. The bracing system of any of claims 1 to 7, wherein the wheel comprises first teeth cooperating with the endless screw and is crossed by a second opening comprising second teeth, the nut extending in the second opening, the torque-limiting mechanism comprising fingers radially arranged with respect to the nut, each finger comprising third teeth, complementary to the second teeth, the third teeth being capable of sliding on the second teeth in a rotation direction when the resistive torque of the nut is greater than a threshold.

11. The bracing system of claim 10, comprising, for each finger, at least one second spring permanently pushing the finger against the second teeth.

12. The bracing system of any of claims 1 to 11, wherein the first opening comprises a first threaded portion and a second non-threaded portion, and the rod comprises a third threaded portion and a fourth non-threaded portion, and wherein the third threaded portion no longer meshes with the first threaded portion when the plate is at closest to the nut.

13. The bracing system of claim 12, comprising a third spring capable of pushing on the rod.

14. The bracing system of any of claims 1 to 13, comprising a foot and an alternation of first and second disks, each first disk rotating along with the foot and each second disk rotating along with the nut, the first disks being capable of coming into contact with the second disks when the plate runs into an obstacle.

15. The bracing system of any of claims 1 to 14, wherein at least two of the bracing devices are coupled to each other by a rigid joint.

16. The bracing system of claim 15, wherein all the bracing devices are coupled to one another by rigid joints.

17. A load bracing method comprising installing the bracing system of any of claims 1 to 16 between the loads and a wall and simultaneously actuating the bracing devices until the plate of each bracing device comes into contact with the wall.