CLAIMS

1. A brake assembly (1) for securing a conveyor device, in particular a crane system (100), comprising:

a first brake device (7), which acts on a first drive element (3),

a second brake device (8), which acts on a second drive element (5),

a transmission device (4), in particular a gearbox, acting between the first and second drive element,

a load sensor (13, 13'), which detects a load signal and passes it on to a controller (9), and

the controller (9) is designed in such a way that, based on a load signal that exceeds an overload threshold, it initiates an emergency brake status and actuates the first and the second brake device (7, 8) in such a way that they act on the first and second drive element (3, 5) simultaneously within a first brake acting time, wherein one of the first and second brake devices is designed such that it acts on the first and/or the second drive element within a second brake acting time in a normal brake status, and the first brake acting time is shorter than the second brake acting time.

2. The brake assembly (1) according to claim 1, in which the first drive element (3) is a drive shaft of a drive motor coupled to the transmission device (4).

3. The brake assembly (1) according to claim 1 or 2, in which the second drive element (5) is a cable drum coupled to the transmission device (4) via an output shaft (6).

4. The brake assembly (1) according to claims 1, 2 or 3, in which the first brake device (7) comprises an electrohydraulic brake lifting apparatus (20), wherein the electrohydraulic brake lifting apparatus (20) is configured to reduce ~~in which a~~ fluid pressure counteracting the brake force ~~can be reduced~~ in a piston by means of electromagnetically actuated two valves (24, 25), and wherein the two valves (24, 25) are configured to realize the first brake acting time ~~that can be electromagnetically actuated and the first brake acting time can be realized~~ by de-energizing the two valves and to adjust~~the second brake acting time can be adjusted by de-energizing one of the valves~~ the second brake acting time by de-energizing one of the valves.

5. The brake assembly (1) according to any of the preceding claims, in which a hydraulic unit and/or an electrohydraulic brake lifting apparatus (20) is configured to actuate the second brake device (8), wherein the hydraulic unit and/or the electrohydraulic brake lifting appa-

ratus (20) ~~the second brake device (8) can be actuated via a hydraulic unit and/or an electro-hydraulic brake lifting apparatus (20) which~~ comprises two redundant electrically actuated magnetic valves ~~that can be electrically actuated and~~ , and wherein the two redundant magnetic valves are configured to reduce a fluid pressure counteracting the brake force by de-energizing one of the valves and in this way to trigger the braking effect on the second drive element~~a fluid pressure counteracting the brake force can be reduced by de-energizing one of the valves and the braking effect on the second drive element can be triggered in this way~~.

6. The brake assembly (1) according to claim 4, in which, when ~~the~~ only one valve (24) is switched off, the first brake acting time is 25 and 40 ms and, when ~~the~~ both valves (25) are switched off, the second brake acting time is 180 and 250 ms.

7. The brake assembly (1) according to any of the preceding claims, in which the overload sensor is arranged on a load handling assembly which is coupled to the conveyor device.

8. The brake assembly (1) according to claim 7, in which the load handling assembly is designed as a container spreader (11) and the load sensor (13, 13') is arranged on a load handling element and/or on a support cable connection.

9. A conveyor device comprising a brake assembly (1) according to any of the preceding claims, wherein the conveyor device is designed as a rope hoisting system, as a crane system (100) or as a component of a container crane system.

10. A crane system (100) comprising two conveyor devices according to claim 9, which are synchronized for moving up and down a container spreader (11), wherein each of the two conveyor devices has a brake assembly (1) according to any of claims 1 to 8, which can be actuated in synchronized fashion by means of a common controller (9).

11. The crane system (100) according to claim 10, in which in the event of an overload the synchronization of the conveyor devices can be cancelled and the controller (9) alternatively acts on the brake device of one of the two or of both conveyor devices on the basis of a load relief signal.