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Declarations under Rule 4.17:

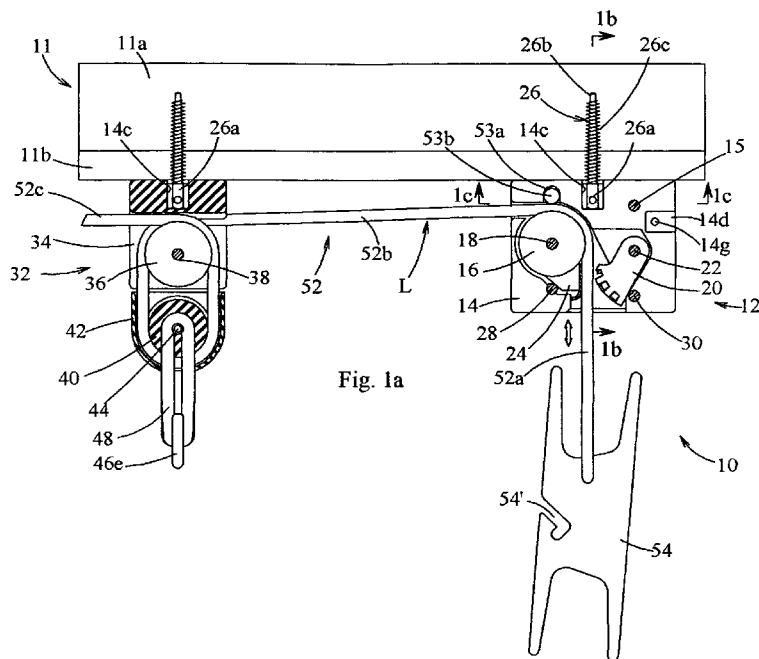
— of inventorship (Rule 4.17(iv))

Published:

— with international search report (Art. 21(3))

[Continued on next page]

(54) Title: **FAILSAFE SYSTEM FOR RAISING AND LOWERING AT LEAST ONE OBJECT**



(57) Abstract: A cleat with automatic line-locking, includes a frame having proximate and remote sides and formed with a passageway, extending between the proximate and remote sides, for receiving a line for movement along a first line moving direction from the proximate to the remote sides and an opposing line pulling direction from the remote to the proximate sides, and defining a line bearing surface or limit stop on one side of the passageway for limiting excessive transverse movements of the line in a direction to the one side of the passageway. Fasteners attach the frame to a support surface. A cam is provided on the frame on the other or opposite side of said passageway and has a line engaging portion normally spaced a predetermined distance from the line. The cam is movable between a line releasing position and a line locking position and is arranged to normally disengage from the line, engagement of the line by the cam to the line locking position while advancing the line in the first line moving direction creating a force couple that wedges the line between the line bearing surface or

limit stop and the cam that tends to arrest or stop the line relative to the frame fixed on the support surface. The cam is formed of generally flat sheet material defining a cam plane and the line engaging portion being formed of a plurality of generally flat pressure-engaging segments or pressure pads that are angularly offset to opposite sides of said cam plane and together generally defining a line-receiving region having a generally uniform cross-section configured to frictionally engage the line in the line locking position. Auxiliary sheave assemblies may be used to provide automatic failsafe operation by means of the cleat when raising or lowering an object on a hook or loop. A pusher may be used to urge the line to move in the direction of the cam especially when the line is released.



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- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))* (88) **Date of publication of the international search report:**
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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2009/006474**A. CLASSIFICATION OF SUBJECT MATTER*****B66D 5/32(2006.01)i, B66D 1/56(2006.01)i, B66C 1/16(2006.01)i, B66D 5/18(2006.01)i***

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

B66D 5/32; B63B 21/04; B66D 3/04; B66F 3/00; F16G 11/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: cleat, cam, rope

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2005-0205852 A1 (PETER STONE et al.) 22 September 2005 See abstract and figures 1-15	1-21
A	US 2003-0071253 A1 (CHARLES J. LOB et al.) 17 April 2003 See abstract and figures 1-9	1-21
A	US 6505384 B1 (RENTON; JULIAN ELWYN et al.) 14 January 2003 See abstract and figures 1-9	1-21
A	US 5931112 A1 (LACAN; GUY HENRI) 03 August 1999 See abstract and figures 1-5	1-21



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:

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Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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