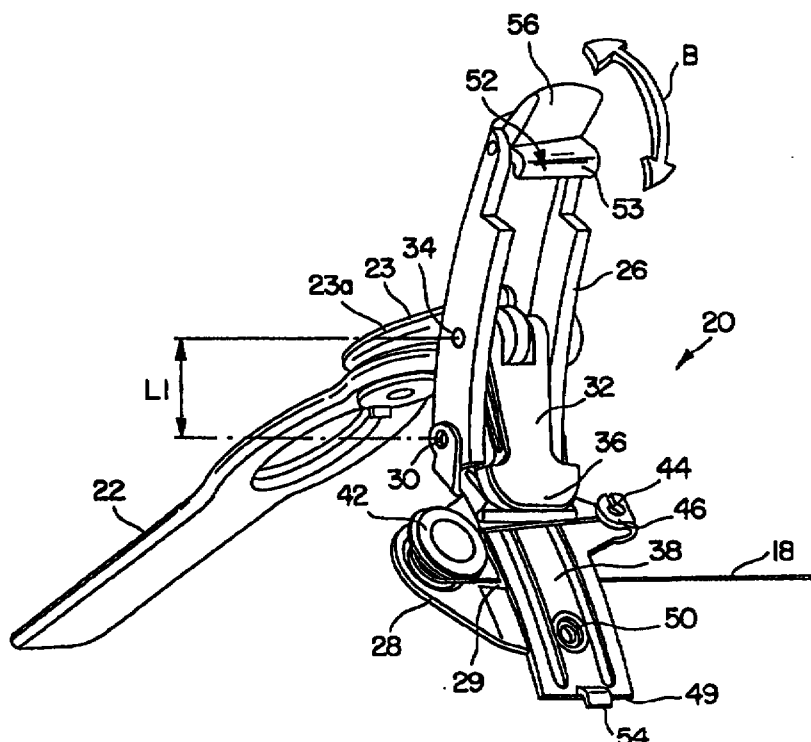




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(21) International Application Number: PCT/US98/24184 (22) International Filing Date: 13 November 1998 (13.11.98) (30) Priority Data: 60/087,370 26 May 1998 (26.05.98) US (71) Applicant (for all designated States except US): VANS, INC. [US/US]; 15700 Shoemaker Avenue, Santa Fe Springs, CA 90670 (US). (72) Inventors; and (75) Inventors/Applicants (for US only): BARBER, Ted [US/US]; 1716 Valley View Avenue, Belmont, CA 94002 (US). SAND, Jeff, Waldo [US/US]; 136 South Park, San Francisco, CA 94107 (US). (74) Agents: FELX, Thomas, C. et al.; 241 North San Mateo Drive, San Mateo, CA 94401 (US).		(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published With international search report.
(54) Title: DUAL-ACTION BUCKLE (57) Abstract A dual action buckle (20) which employs a cable tightening action and a strap tensioning action to tighten two separate portions of a boot, notably a snowboard boot (10). Thus, the boot (10) may be tightened around the foot and/or particular functionalities of the boot (10) may be engaged to a preset condition with one simple buckle closing action. During rest periods when the applied tightening and/or functionalities are not needed, they may be deactivated with one simple buckle opening action, giving relief to the foot, greater ease of walking, etc. The invention includes a primary lever (26), a secondary lever (32) pivotally connected to the primary lever (26) and a pulley (42). The pulley (42) acts to double the cable retraction action of the secondary lever (32). This allows the dual action buckle (20) to be made much smaller than would otherwise be the case.  The drawing shows a side view of the buckle assembly. A strap (18) is shown passing through a pulley (42) and being secured by a lever mechanism. The primary lever (26) is connected to the secondary lever (32) via a pivot point (30). The secondary lever (32) is connected to the pulley (42) via a cable (28). The pulley (42) is mounted on a frame (44) and has a cable (29) that passes over it. The cable (29) is connected to the primary lever (26) via a cable (36). The primary lever (26) is connected to the secondary lever (32) via a cable (34). The secondary lever (32) is connected to the pulley (42) via a cable (38). The pulley (42) is connected to the primary lever (26) via a cable (40). The primary lever (26) is connected to the secondary lever (32) via a cable (42). The secondary lever (32) is connected to the pulley (42) via a cable (44). The pulley (42) is connected to the primary lever (26) via a cable (46). The primary lever (26) is connected to the secondary lever (32) via a cable (48). The secondary lever (32) is connected to the pulley (42) via a cable (50). The pulley (42) is connected to the primary lever (26) via a cable (52). The primary lever (26) is connected to the secondary lever (32) via a cable (54). The secondary lever (32) is connected to the pulley (42) via a cable (56). The pulley (42) is connected to the primary lever (26) via a cable (58). The primary lever (26) is connected to the secondary lever (32) via a cable (60). The secondary lever (32) is connected to the pulley (42) via a cable (62). The pulley (42) is connected to the primary lever (26) via a cable (64). The primary lever (26) is connected to the secondary lever (32) via a cable (66). The secondary lever (32) is connected to the pulley (42) via a cable (68). The pulley (42) is connected to the primary lever (26) via a cable (70). The primary lever (26) is connected to the secondary lever (32) via a cable (72). The secondary lever (32) is connected to the pulley (42) via a cable (74). The pulley (42) is connected to the primary lever (26) via a cable (76). The primary lever (26) is connected to the secondary lever (32) via a cable (78). The secondary lever (32) is connected to the pulley (42) via a cable (80). The pulley (42) is connected to the primary lever (26) via a cable (82). The primary lever (26) is connected to the secondary lever (32) via a cable (84). The secondary lever (32) is connected to the pulley (42) via a cable (86). The pulley (42) is connected to the primary lever (26) via a cable (88). The primary lever (26) is connected to the secondary lever (32) via a cable (90). The secondary lever (32) is connected to the pulley (42) via a cable (92). The pulley (42) is connected to the primary lever (26) via a cable (94). The primary lever (26) is connected to the secondary lever (32) via a cable (96). The secondary lever (32) is connected to the pulley (42) via a cable (98). The pulley (42) is connected to the primary lever (26) via a cable (100).		