9902044-8
IPOS

PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 : A61M 35/00 — A1

(11) International Publication Number: WO 98/18517

(43) International Publication Date: 7 May 1998 (07.05.98)

(21) International Application Number: PCT/US97/19953

(22) International Filing Date: 30 October 1997 (30.10.97)

(30) Priority Data:
08/741,955 31 October 1996 (31.10.96) US

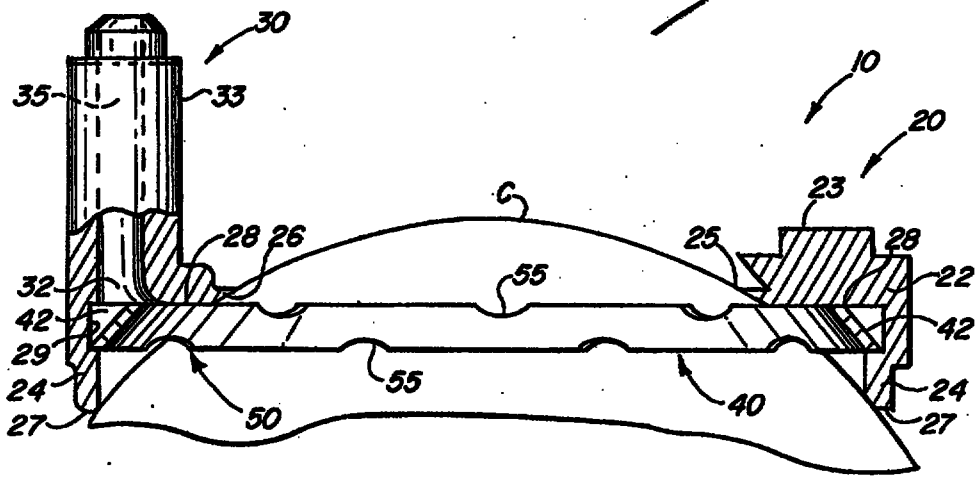
(71)(72) Applicant and Inventor: HELLENKAMP, Johann, F. [US/US]; 7740 S.W. 75th Terrace, Miami, FL 33143 (US).

(74) Agent: MALLOY, Jennie, S.; Malloy & Malloy, P.A., 2800 S.W. Third Avenue, Historic Coral Way, Miami, FL 33129 (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, HU, 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, UZ, VN, YU, ZW, ARIPO patent (GH, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).

Published
With international search report.

(54) Title: A POSITIONING ASSEMBLY FOR RETAINING AND POSITIONING A CORNEA



(57) Abstract

This invention is an improved positioning (10) assembly for positioning and holding a cornea of any eye during surgery comprising a positioning ring (20), a suction force operably coupled to the positioning ring (20) to temporarily attach it to the eye, and a suction enhancement member. The positioning ring (20) includes a retention plate, having an aperture defined therein to receive the cornea (C) of the eye, an interior rim disposed in surrounding relation about the aperture, and a flange member (24) extending downwardly from the retention plate (23) in spaced surrounding relation to the aperture. The positioning ring (20) further includes a vacuum port in fluid flow communication with a point radially interior of the flange member (24) such that a suction force applied therethrough secures the positioning ring (20) to the eye with the cornea protruding through the aperture. The suction enhancement member (40) preferably comprises a resilient material segment structured to engage the positioning ring (20) at a point radially interior of the flange member (24), and disposed to define a suction channel between the suction enhancement member (40) and the positioning ring (20), which channel is in fluid flow communication with the vacuum port. A plurality of suction ports (50) are preferably defined in the segment and in fluid flow communication with the section channel. When a suction force is applied to the positioning ring, the suction enhancement member (40) effects an improved vacuum seal substantially about the eye, and further prevents partial or complete occlusion of the suction force.