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(54) **METHOD AND APPARATUS FOR PREPARING PLATELET RICH PLASMA AND CONCENTRATES THEREOF**

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(58) **Field of Classification Search** 604/7, 604/507; 210/321, 789, 321.6, 321.67, 651, 210/360.1, 321.68

See application file for complete search history.

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(57) **ABSTRACT**

The PRP separator-concentrator of this invention is suitable for office use or emergency use for trauma victims. The PRP separator comprises a motorized centrifugal separation assembly, and a concentrator assembly. The centrifugal separator assembly comprises a centrifugal drum separator that includes an erythrocyte capture module and a motor having a drive axis connected to the centrifugal drum separator. The concentrator assembly comprises a water-removal module for preparing PRP concentrate. The centrifugal drum separator has an erythrocyte trap. The water removal module can be a syringe device with water absorbing beads or it can be a pump-hollow fiber cartridge assembly. The hollow fibers are membranes with pores that allow the flow of water through the fiber membrane while excluding flow of clotting factors useful for sealing and adhering tissue and growth factors helpful for healing while avoiding activation of platelets and disruption of any trace erythrocytes present in the PRP.

12 Claims, 18 Drawing Sheets

