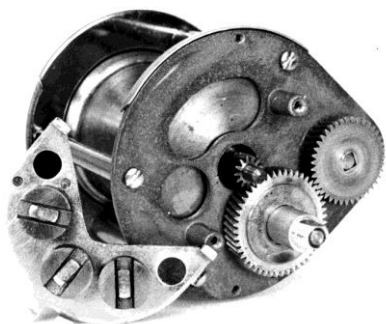


Roots o'Reels V. The Magnetic Brake

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(This article is part of a series about inventions that were adapted for use in fishing reels.)

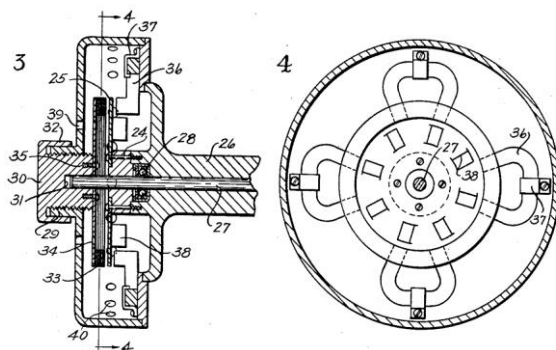
Magnetic brakes are commonplace in casting reels these days, and their advantages over mechanical antibacklash brakes are obvious to anyone who has fished without them. His enthusiasm for the new-fangled brakes inspired Harlon Major to devote a couple of pages in the 1948 edition of his *Salt Water Fishing Tackle* to the development of the "first" magnetic brake. Major credited Robert Ransom, an engineer at the General Electric Co., with the invention of the brake, informing us that Ransom had based his design on an eddy current brake used in electric dynamos.



The magnetic brake in a "Bristol Electromatic" freshwater casting reel.

We collectors are aware that Ransom was granted U.S. Patent no. 2,361,239 on Oct. 24, 1944, for his brake. Major also informed us that the Ocean City Manufacturing Co.'s "Inductor" incorporated the brake under license. A photograph of the reel and a diagram of the brake are shown in the book, so at least a prototype must have been available for Major's inspection before his book went to press. The "Inductor," of course, was designed for surfcasting. In 1948, the Horton Manufacturing Co. introduced its new "Bristol Electromatic," a freshwater reel that included the same magnetic brake. It's a moot point which reel actually hit the market first. Ransom would receive two additional patents for reels with

magnetic brakes in 1950 and 1951, the applications for both of which probably had been filed before either reel had reached the stores.



William Johnson's drawings for one arrangement of his magnetic brake, which was patented in 1942, before Ransom's similar brake. The magnets (36) interact with an iron armature (33) through a conductive plate (25), which is fastened to the end of the spool (26). Adjustment of the bearing cap (30) varies the braking force.

What Major failed to tell us was that William J. Johnson, of Dayton, Ohio, was granted a patent for a magnetic brake on Aug. 25, 1942, about eight months before Ransom submitted his patent application. Johnson's brake, employing four horseshoe magnets, was allegedly "suitable for use on various types of reels such as tow target reels, wire reels, fishing reels, etc." What's more, Johnson granted its use to the government "without the payment to me of any royalty thereon." Although Ransom's later brake had an arguably more efficient design, it worked in the same manner as Johnson's invention. And fortunately for Ransom, he was able to enlist the help of other G.E. engineers in the development of his brake, according to Major.

Although Ransom's device, assigned to G.E., was not the first magnetic brake, it was the first out of the starting gate.