Peter's Black Hole / Vadasz Cage

a.k.a. Inside Out, Magic Jack, IQ Cube

One can reach in with a finger to move cubes inside a cage. The design of the Vadasz cage is often credited to Jozsef Vadasz circa 1995, although this basic idea is described in a number of patents dating back to the early 1900's; the patent of Peter Kassan shows a slightly more complex mechanism with a central cage. These puzzles can be viewed as generalizations of the Fifteen puzzle to three dimensions. It is most fun to use them in a more limited way where you just push from the ends (the only way needed for the 2x2x2 version), but the cubes can be moved individually (and you have to assume that this may have been done when you pick it up after someone else has used it). Jaap's Page gives analysis and a solution.

Further Reading

Wooster Patent, from: www.uspto.gov - patent no. 1,518,889
Kassan Patent, from: www.uspto.gov - patent no. 4,432,548

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