Puzzles Make a Magical Exhibit

By RITA REIF

MECHANICAL PUZZLES — brain teasers that have engaged the curious for centuries — are the subject of an exhibition described by its organizers as the largest such historical survey ever assembled. The show, titled "Puzzles Old and New: Head Crackers, Patience Provers and Other Tactile Teasers," opens today at the Hudson River Museum, where it remains through Sept. 26.

The majority of the 825 puzzles on view are from the collection of Gerald K. Slocomb, an engineering executive at the Hughes Aircraft Company in El Segundo, Calif. Mr. Slocomb, who is known to puzzle enthusiasts as Jerry Slocomb, uses this name as co-author, with Jack Bouterman, of "Puzzles Old and New, How to Make and Solve Them" ($19.95), the book that serves as the show's catalogue.

The authors represent two-thirds of the curatorial team of the exhibition that originated five years ago and opened last November at the Craft and Folk Art Museum in Los Angeles. The third curator is Sharon K. Emanuelli, who organized the show when she was senior curator at the craft museum. She left there in 1984 but continued to supervise the puzzle show through its opening and is involved once again in her new position as curator of 20th-century art at the Hudson River Museum.

The main distinction between mechanical puzzles and games, Ms. Emanuelli said, is that puzzles are manipulated by one person and games are played by two or more people. "Solving a puzzle involves dexterity, serendipity, logic, patience and creativity in dealing with a problem," she said. Dating from the 18th century to 1980's, the puzzles in this show cover a wide range of types, shapes and sizes.

Of the 18 categories presented, the most common are put-together designs — and the best known of these are jigsaw puzzles. The complexity of ways that blocks, letters, geometric shapes and figures can be assembled boggles the mind. Some puzzles become checkboard, others crosses, and a teaser puzzle known as "The Tormenter" takes the shape of a T.

The tangram, another tantalizing put-together diversion, uses seven pieces of plane or solid figures, cut in various forms that may be assembled in an extraordinary number of ways. Although the authors are at a loss to date this puzzle and most others, they state that the tangram probably originated in China, where it became popular in the 18th century. Exported to Europe and America, tangram puzzles swept the world with stunning success in the 19th century.

Most of the other nine categories of puzzles will seem equally formidable to anyone who ever toyed with mastering magic. Among the more enigmatic take-apart puzzles, for example, are puzzle balls, Japanese trick boxes and locks in which a key is concealed inside. Interlocking puzzles — burrs of woven rods that seem impossible to separate — usually have a piece that must be removed to undo the rest. Disentanglement puzzles usually are metal in the form of rings, horseshoes, nails and such — all devilishly difficult to unlock.

The most familiar sequential movement puzzles in the show are those in which a player — through a series of hop-over moves — eliminates all the marbles or pegs from a board. These "Solitaire" puzzles date at least to the 18th century, but an arresting early 20th-century example is a German puzzle showing a man intent on — what else? — solving the puzzle.

Puzzle vessels — punctured with many holes, only one of which has a siphon — are said to date to the Phoenicians. The colorful pottery examples on view are, however, no older than the 19th century. Dexterity puzzles — a box of tiny balls that is shaken until each comes to rest in the appropriate holes — never seem to go out of style, judging by the many engaging versions on display. Less common are the vanishing puzzles in which one of more parts of a puzzle appear to disappear. Impossible object puzzles are uncommon, too. When was the last time anyone saw an arrow through a Coca-Cola bottle? Folding object puzzles are always good for a smile, as when a paper showing four pigs is folded and Hitler's face appears.

Even those never challenged to rearrange Rubik's cube or unscramble a wooden egg, as in a 1934 Century of Progress puzzle, must find much to admire in these provocative toys. The names have a certain ring ("Pike's Peak or Bust," "The Sphinx" and "Presidential Muddle Puzzle"), the graphics have universal appeal and the color combinations are unbeat- able.

Mr. Slocomb, whose collection of 10,000 puzzles is one of the largest and most comprehensive in the world, was in charge of the historical material in the show. Mr. Bouterman, a designer and maker of puzzles in Drimmelen, the Netherlands, was design curator.

"I have a museum — a two-story building at the back of my house in Beverly Hills," Mr. Slocomb said. "The lower floor is my library, where I have 3,000 or more books on mathematical recreations and puzzles. Upstairs is the exhibition area."

The museum was planned to preserve these frequently fragile objects. Most are stored in steel cases, because the puzzles are vulnerable to light and vermin.

He is equally meticulous about record keeping, detailing in a log book from whom, when and at what price each piece was acquired. Most puzzles are modest in price — ranging from less than $100 to $1,000, he said. He found many in flea markets — in London, Paris, Stockholm — and at antiques shows throughout the United States. Others were acquired trading with collectors or buying entire collections.

The show is supported by the California Arts Council, the California Council for the Humanities, Citicorp and Rosenschein Associates, a development organization. The exhibition will travel to the Massachusetts Institute of Technology in Cambridge, Mass., to the Ontario Science Center in Toronto and to four cities in Japan.