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JIGSAW PUZZLE WITH ROTATABLE PIECES

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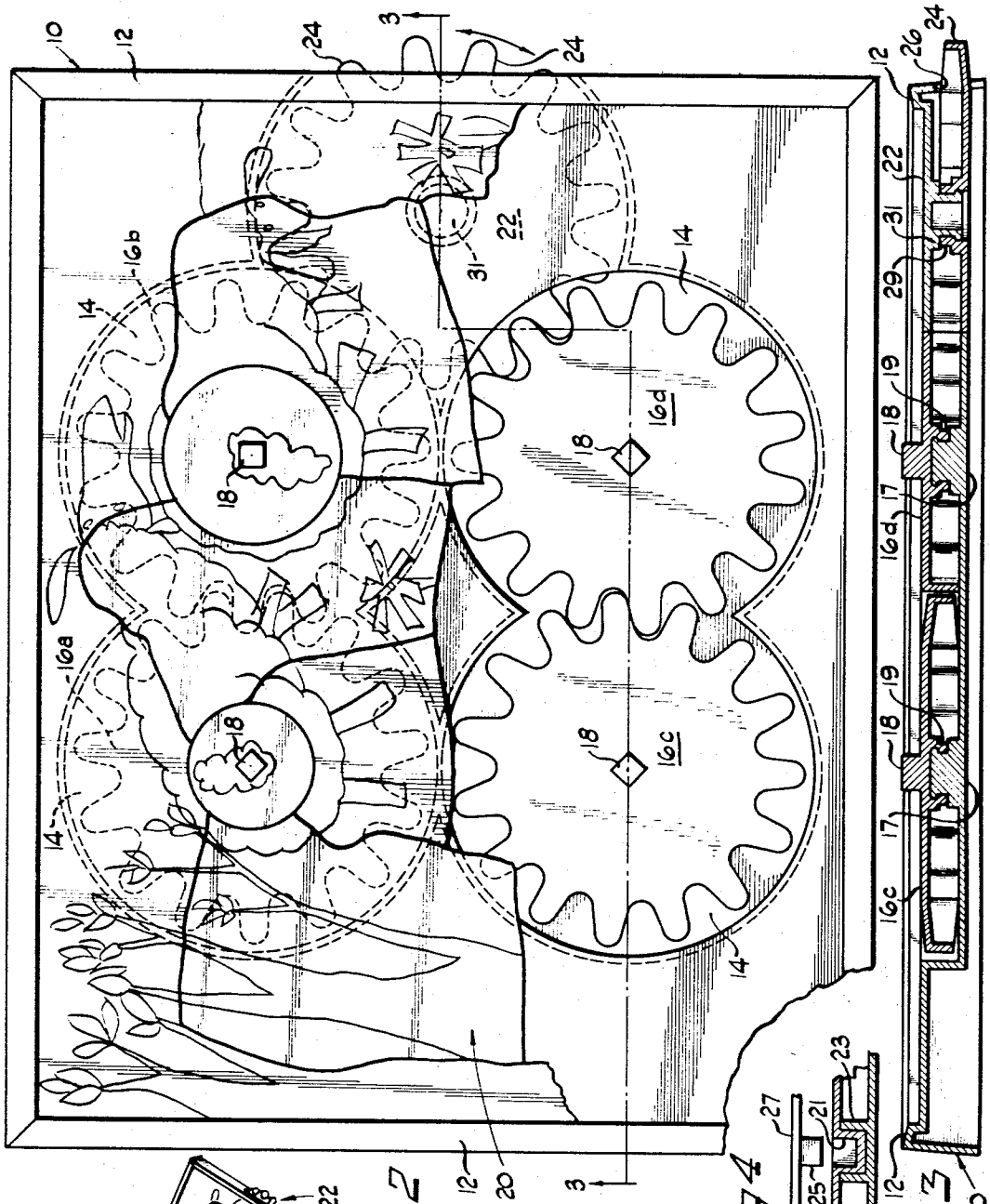


Fig 2

Fig 4

Fig 3

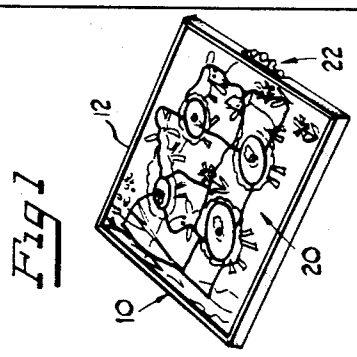


Fig 1

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JIGSAW PUZZLE WITH ROTATABLE PIECES

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ABSTRACT OF THE DISCLOSURE

A jigsaw puzzle with a backing board including one or more wells or recesses each containing a rotatable member having its upper surface flush with the face of the backing board, manually operable means extending outwardly from one edge of the board which is effective to provide rotation of the rotatable members, and a plurality of jigsaw pieces adapted to be positioned on said board and including pieces overlying the rotatable members and connected therewith for rotation in response to operation of the manually operable means.

This invention relates to a game in the form of a jigsaw puzzle, with means for rotating picture pieces after the jigsaw puzzle has been assembled. This movement gives the effect of animation. The invention is particularly suitable for jigsaw puzzles designed for assembly by children; i.e. puzzles with only a few, large picture pieces. The rotation of certain pieces adds substantially to the attractiveness of the puzzle and the entertainment provided thereby.

The principal object of this invention is to provide a novel arrangement of rotating members underlying the plane of the assembled picture pieces, which members are connected to certain of the picture pieces to impart rotary movement to these pieces.

A preferred embodiment of the invention is shown in the accompanying drawing in which:

FIGURE 1 is a perspective view of the jigsaw puzzle game board and associated parts;

FIGURE 2 is an enlarged top plan view, with portions cut away showing the face of the game board and four underlying rotating members, each of which is to be connected to a picture piece;

FIGURE 3 is a cross-sectional view along the line 3—3 of FIGURE 2; and

FIGURE 4 shows a cross-sectional view of an alternative means of connecting the picture piece to the underlying rotating member.

In the embodiment shown in the drawing, the jigsaw puzzle is of an outdoor scene with four caricatures of sheep or similar animals depicted. This picture is obviously only illustrative. The invention is applicable to any number of different jigsaw puzzle pictures.

The jigsaw picture is adapted to be mounted on a solid backing board **10**. The board preferably has a raised border strip **12** around each side to contain the puzzle picture pieces.

Within the raised border strip **12**, there are located on the face of the backing board one or more wells or hollowed-out places **14**. Each of these wells is sufficiently deep to receive a flat rotatable member shown in the drawing in the form of gears **16***a*, **16***b*, **16***c* and **16***d*. In the center of each well is an upwardly extending pin **17** on which gears **16** are rotatably mounted by means of depending rings **19** on the under side of each gear. Extending upwardly from the center of each gear is a square stub shaft **18**.

The upper surface of each gear **16** is substantially flush with the face of the backing board **10**. The picture pieces, when assembled on the face of the board as a

conventional jigsaw puzzle, present a picture such as is indicated at **20** in FIGURES 1 and 2. Those picture pieces designed to be placed directly above the stub shaft **18** are to be rotated, and each of these pieces has a square hole so placed that stub shaft **18** extends through the hole. The picture piece is thus keyed to the rotating gear **16**.

In the embodiment shown in FIGURES 1, 2 and 3, all four pieces above the rotating gears **16** are designed to be rotated. If a picture is designed in which the number of pieces to be rotated is less than the number of underlying rotating members, the alternative structure shown in FIGURE 4 may be used. In this structure, the gear **16***e* has a downwardly extending pin **21** at its center which is adapted to rotate in the cup formed by ring **23** in the base of the backing board. In the upper end of pin **21** is a square cavity which is adapted to receive a square stub shaft **25** depending from picture piece **27**. This connection keys the picture piece to the gear **16***e*.

Where the picture is designed for non-rotation of a piece directly above the rotating member, the depending shaft **25** is eliminated from that picture piece. This piece will then be locked in place by the adjoining pieces and will not rotate with the underlying gear.

The rotating members may be driven in any manner or sequence. In the embodiment shown, the four gears **16***a*, **16***b*, **16***c* and **16***d* (see FIGURE 2) are positioned so that the upper two (**16***a* and **16***b*) intermesh and the lower two (**16***c* and **16***d*) also intermesh. A manual driving means is provided by a fifth gear **22** which is positioned adjacent one edge of the backing board in a cavity between the face of the board and the back of the board. Gear **22** is positioned with its teeth **24** protruding through a slot **26** in the edge of the board, so that the gear may be rotated in either direction by manually moving the exposed teeth **24**. Gear **22** has an upwardly extending ring **29** at its center designed to rotate on pin **31** depending from the face of the backing board. Gear **22** meshes with the two adjacent gears **16***b* and **16***d* (see FIGURE 2), and rotation of gear **22** around pin **31** will cause gears **16***a*, **16***b*, **16***c* and **16***d* to rotate.

A specific form of the invention has been described, and it is to be understood that the invention may be varied, within the scope of the appended claims, without departing from the spirit of the invention.

I claim:

1. A jigsaw puzzle game comprising

(1) a backing board with at least one well in the face thereof,

(2) a rotatable member adapted to be positioned in each such well with the upper surface of the rotatable member substantially flush with the face of the backing board,

(3) means for rotating said rotatable member, which means is positioned between the face and the back of said board and extending outwardly from one edge of said board so that it may be actuated manually,

(4) jigsaw picture pieces adapted to be placed in position on said board and at least partially overlying said rotatable member, and

(5) means connecting at least one of said picture pieces to said rotatable member, whereby such piece is caused to rotate with the underlying rotatable member.

2. A jigsaw puzzle as set forth in claim **1**, comprising a plurality of said rotatable members, each in the form of gears with at least two of said gears arranged in meshing relation whereby rotation of one of said gears produces rotation of the other of said gears.

3. A jigsaw puzzle as set forth in claim **1**, wherein

each of said rotatable members includes an upwardly extending non-circular post and each of said one of said puzzle pieces includes a complementary non-circular opening adapted to receive said post.

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