A. H. WHEELER.

PUZZLE.

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959,903.

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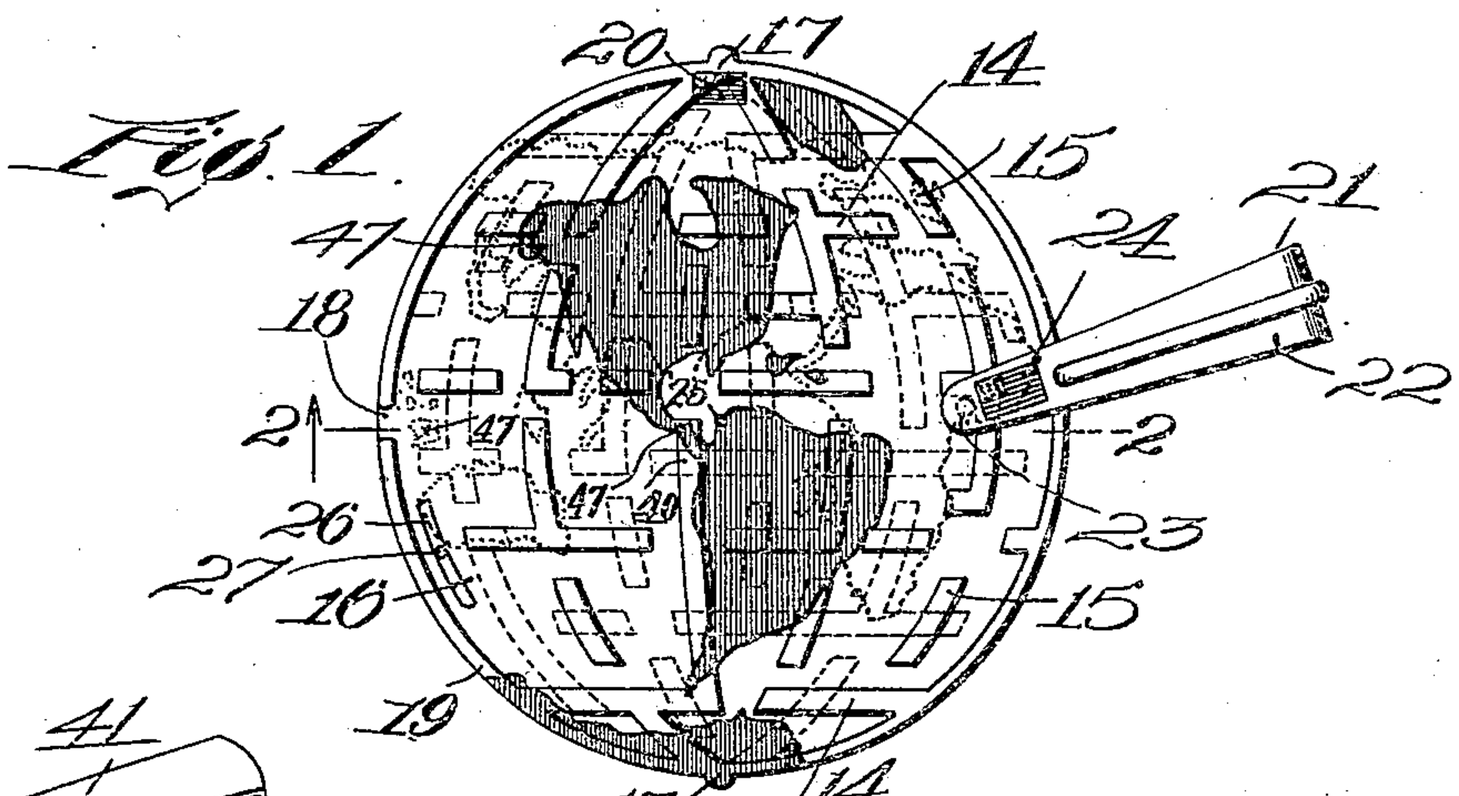

Fig. 1.

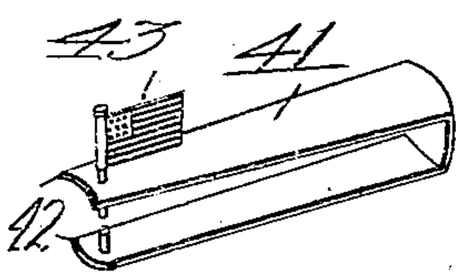

Fig. 5.

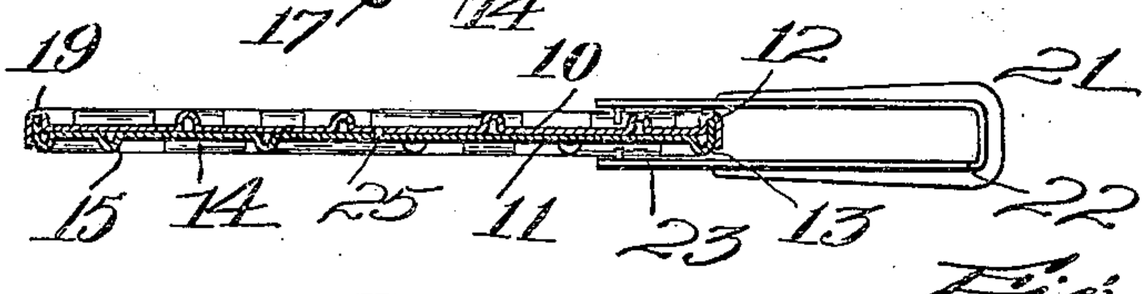

Fig. 2.

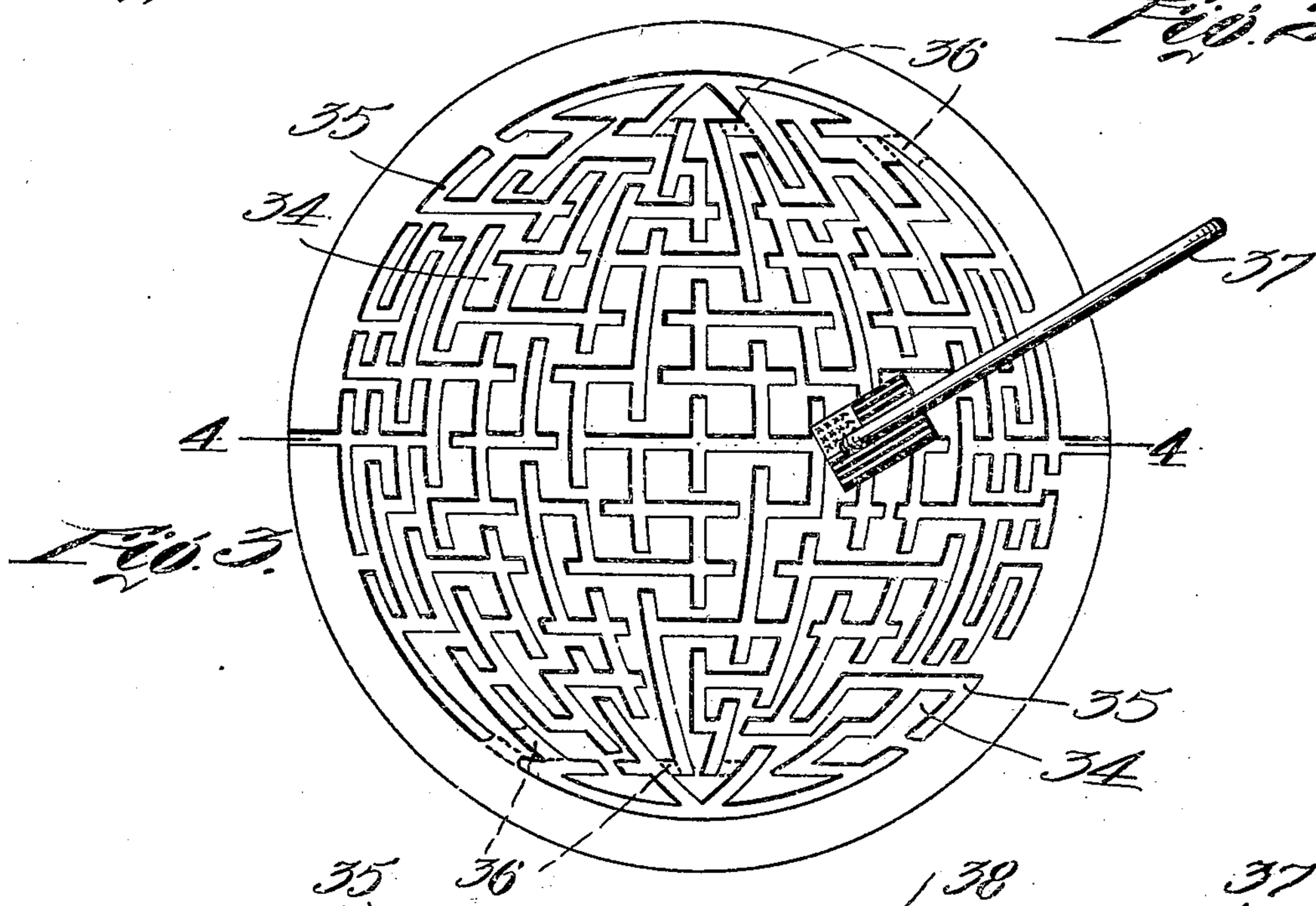

Fig. 3.

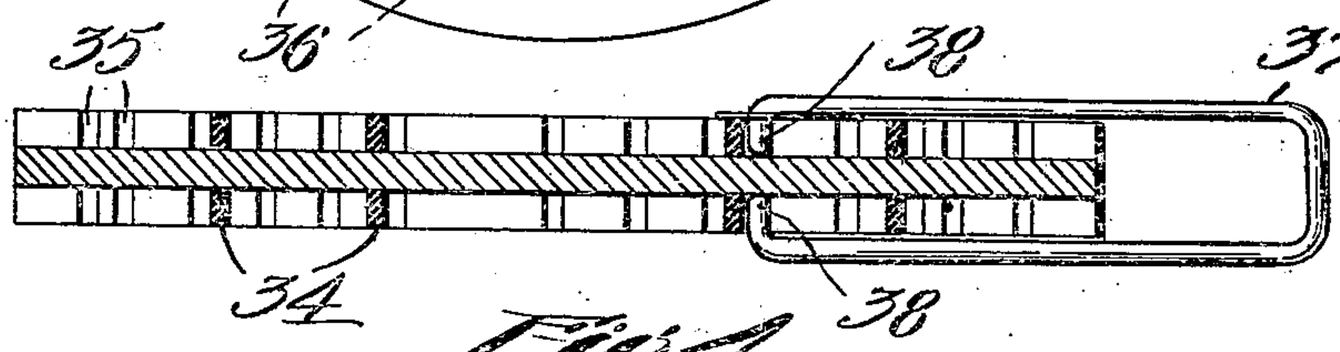

Fig. 4.

Witnesses:

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UNITED STATES PATENT OFFICE.

ALBERT HARRY WHEELER, OF WORCESTER, MASSACHUSETTS.

PUZZLE.

959,903. Specification of Letters Patent. **Patented May 31, 1910.**

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To all whom it may concern:

Be it known that I, ALBERT HARRY WHEELER, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Puzzle, of which the following is a specification.

This invention relates to a puzzle or game in which a "maze" is provided having a number of passages or paths on its surface, most of which are blinds, and preferably only one of which is a continuous path leading to a goal which is to be attained by a traveler or the like that is designed for moving along said plate. These passages or paths can be in the form of narrow grooves or wider spaces between a series of projections or obstacles.

The principal objects of the invention are to provide a puzzle of this character in which the operator shall be free to move the traveler in all directions on the face of the puzzle except in so far as he is prevented by the obstacles in the paths, and also to provide a construction in which all the obstacles cannot be seen at the same time, thereby rendering the puzzle much more difficult than it appears from inspection.

Another object of the invention is to provide a construction which can be utilized in connection with a map or design in such a way that the obstacles or paths shall have some general and interesting relation to the map or design, and to provide other improvements in details of construction as will appear hereinafter.

Reference is to be had to the accompanying drawings, in which—

Figure 1 is a plan of one form of the invention; Fig. 2 is a central sectional view of the same; Fig. 3 is a plan of another form in which the invention can be carried out; Fig. 4 is a central sectional view thereof; and Fig. 5 is a perspective view of one form of traveler.

In the form of the invention shown in the first two figures, the device is shown as having a body made up of a pair of sheet metal disks 10 and 11 having flanges 12 and 13 adapted to telescope together so as to hold the disks in position. The two disks are shown as provided with integral ribs or projections 14 and 15 thereon, and with spaces or depressions 16 between them, so that the surfaces of the plate formed by the two disks are made up of alternating projections and depressions. In this form of the invention the ribs practically constitute obstacles and the spaces together constitute one or more paths or passages which are to be followed. The ribs are shown as arranged in a general way in two sets of lines, first a set of parallel ribs 14 spaced equally apart and adapted when applied to a round disk to represent parallels of latitude, and second a series of curved ones 15 drawn from different centers along the diameter parallel with the parallels of latitude and converging at points 17 diametrically opposite each other, so that the latter sets of ribs will represent meridians of longitude. These ribs of course are not continuous, but are interrupted at intervals by the passages 16 so as to afford such a path as has been referred to. In the present case is shown an entrance or exit 18 through the outer projection or rim 19 which in this case is a complete circle except for this passage. A traveler is intended to enter at this passage and move along until it comes to an obstacle or rib 14 or 15 which it cannot pass over, then it moves to either side until it comes to another obstacle and so on until it reaches for example the upper goal 17. Obviously the ribs or projections 14 and 15 are so located as to make it possible to take a large number of different paths from the starting point and preferably only one of these paths, and that a very sinuous one, will lead to the desired goal. This goal can be indicated by a symbol as 20, if desired. It will be understood of course that the construction can be varied so as to have the traveler pass across from one opening 18 to a similar one on the opposite side, or again can be played to have the removal of the traveler from the plate through the passage 18 the desired result and in fact numerous other variations can be made. Although only two goals have been mentioned, it will be understood that any number can be used and the object to be attained can be the passing of a plurality of them, either in a certain sequence or not. Some of the goals 47 can be on one side and the others on the other.

In the description so far a single side of the puzzle has been chiefly in mind. The other side may be plain, in which case it serves to keep the traveler from being disengaged from the puzzle as will appear

hereinafter. It has been stated, however, that on the other side there preferably are projections 14 and 15, and passages 16. These are shown in dotted lines in Fig. 1 as arranged to break joints to a large extent with the corresponding parts on the other face of the puzzle, but obviously they can be arranged in any other desired way. In this form of the invention they substantially never coincide with the representation on the front, but the projections on one side are opposite the depressions on the other and alternate with the projections thereon, so that a person looking at one side will see several perfectly clear paths to the desired goal, but generally will find obstacles on the back in places where the front appears perfectly clear. But there is at least one continous path on each side that coincides with one on the other.

The device is intended to be used with a traveler 21 preferably consisting of two pins or the like on opposite sides of the plate. These pins are supported by a frame 22, of a general U-shaped form having two legs 23 adapted to project over the two surfaces of the plate and to lie close to both of them. The frame is shown in Figs. 1 and 2 as of sheet metal having a longitudinal strengthening rib. The two legs are connected by a yoke at the back and each is provided at its end with one of the pins. These pins extend toward each other and are located opposite each other, at a distance apart not less than the least thickness of the body, or the distance between the planes of the bottoms of the depressions, and not greater than the greatest thickness of the body, or in fact than that between one of the said planes and the plane of the tops of the projections or outer surfaces on the other side. Each leg of the frame prevents the pin on the other side being removed from the depressions except through the passages 18. If one side is plain, one pin is omitted, but the U-shaped form of the frame is retained as the plain leg holds the pin in the grooves on the other side.

Obviously the traveler can be inserted at the point 18 if there is an opening through the rib at each side and it can then pass in through the passages until either one of its pins meets with an obstacle. The obstacle on the back being hidden from the operator, he can outline a course from what he can see on the front, but will find that he cannot follow it without paying attention to the construction on the back. The operator can turn the disk over and look at the back as much as he desires, but this makes the solving of the puzzle much more difficult than if all the design were on one face. It is preferred also to employ a sign or symbol 24 in the form of a flag or the like on the frame to show the progress of the traveler toward the desired goal. In this form there is a relation between the length of the frame of the traveler and the distance between some definite obstruction, as 40, on the face of the puzzle and some point on one of the edges. That is the distance from one edge to the rear of the obstruction 40 is greater than the length of the frame. After having once passed this obstruction and taken a wrong route and having turned the traveler through a certain angle it is impossible to regain the true route until the traveler has been either turned forward through a certain angle or has been turned back again through a certain angle.

When the puzzle is to be used as a geographical puzzle the same can be made circular as indicated in these drawings, and the map of a hemisphere placed upon it as shown with some of the parallels of latitude and meridians of longitude coinciding with certain of the ribs or projections 14 and 15 respectively on the face of the plate and in fact located directly thereon. This adds greatly to the interest in the puzzle, and constitutes a definite relation between the map and the obstacles which are to be overcome in traversing the desired course.

It will be understood that while the location of the projections or depressions in the form of parallels and meridians is extremely interesting and valuable in connection with a map of a hemisphere or the like, yet other equivalent embodiments of the invention can be employed, as for example, rivers or mountain chains which appear on the map can coincide either with the obstacles or the paths.

As so far described, the two sides of the plate are made stationary with respect to each other, so that when a party has once learned how to solve the puzzle he can perhaps solve it again from memory. If desired, however, the two disks can be pivoted together at the center as shown in Fig. 1 by means of a pivot 25 which will hold them together and they can be arranged so that they can be turned on this pivot, whereby the obstacles on the two sides will assume entirely new relations to each other, so that the puzzle is entirely changed even by a slight rotation of the parts. When this is done the two parts can be secured together so that the new puzzle is made substantially permanent. In this case the entrances 18 need not be used, as the traveler can always be kept on the puzzle and make a start anywhere. If this is not desired then the entrances 18 can be widened or increased in number. This construction can be used in another way by permitting the operator to turn the two disks within certain limits so as to enable him to get by obstacles that he could not pass if the two parts were stationary. Preferably the rotation of the two

parts is limited by means of a circular slot 26 and pin 27, one being on one disk and the other on the other.

In the form shown in Figs. 3 and 4 the body of the puzzle is shown as of a solid block and the projections or obstacles 34 as wider than the ribs 14 so that the passages 35 are merely narrow grooves in the face of the block. In this case it is the depressions which correspond with the parallels of latitude and meridians of longitude, and the traveler has to move in a narrow path instead of being given a wide range of movement on the disks. In this case both sides of the disk are used, but as a puzzle is shown of a much more complicated character than that illustrated in Figs. 1 and 2, most of the grooves on the back coincide with those on the front and there are only a few obstacles as 36 which register with grooves or passages on the other side. In this case the frame 37 is shown as of a single piece of wire with two opposite inwardly extending projections 38, and is used as in the other case. In this case however one function of the frame is lost, because in the other form the edges of the frame bear on the outer surfaces of the plate and prevent any material tilting of the frame, so that the traveler cannot be disengaged from its sunken path by a tilting or rocking of the frame. This is particularly important where two grooves or depressions on opposite sides come nearly, but not quite opposite each other. The frame 41 shown in Fig. 5 is particularly designed for this purpose as its edges 42 are so disposed as to come into close contact with the plate. In this figure a different form of symbol 43 is shown.

In both forms, it will be seen, the body is of varying thickness, the parts of which are so disposed and arranged that the portions of lesser thickness constitute and form a continuous path or uninterrupted, though irregular, course from which the traveler can move from one point to another.

While I have illustrated and described two embodiments of the invention, I am aware that many other modifications may be made therein by any person skilled in the art without departing from the scope of the invention as expressed in the claims. Therefore, I do not wish to be limited to all the details of construction herein shown and described, but what I do claim is:—

1. As an article of manufacture, a puzzle comprising a body having two opposite surfaces each made up of projections and depressions, said projections and depressions constituting a continuous path between two points on the surface of the body, a traveler, consisting of two parts one on each side of said body having a device adapted to be guided by said projections and depressions on the two sides of the body, and a frame consisting of a U-shaped member, the two legs of which are adapted to project over the two opposite surfaces of said body, and which support the traveler, each of the legs of said U-shaped member being of substantial width, and having opposite edges spaced apart and lying in contact with the projections on the surface of the body to prevent the traveler from being tilted and disengaged from the projections and depressions.

2. As an article of manufacture, a puzzle comprising a body having on the opposite sides thereof sets of projections and depressions arranged in rows, each row of projections on one side being arranged alternately with respect to the rows of projections on the other side, whereby clear spaces are provided on each side between two rows of projections, opposite which spaces on the other side are projections thereof, and a traveler projecting over the two sides of the body of the puzzle and having projections adapted to be guided among said projections of the body.

3. As an article of manufacture, a puzzle comprising two circular disks rotatable with respect to each other on their axis, each having projections and depressions thereon forming a maze on each disk, and comprising a path between two regions on each disk, and a traveler having means adapted to be guided within the depressions to move over the surfaces of the disks.

In testimony whereof I have hereunto set my hand, in the presence of two subscribing witnesses.

ALBERT HARRY WHEELER.

Witnesses:
A. E. Fay,
C. Forrest Wesson.