

# United States Patent

[11] 3,589,034

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[73]	Assignee	Rantel Pershore Limited Pershore, Worcestershire, England
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[33]		Great Britain
[31]		9557/68

[56]

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**[54] TOY**  
**8 Claims, 4 Drawing Figs.**

[52] U.S. Cl..... 35/26,

**35/26,**

46/16

[51] Int. Cl. .... G09b 1/36

**G09b 1/36**

[50] **Field of Search**..... 46/16;

46/16;

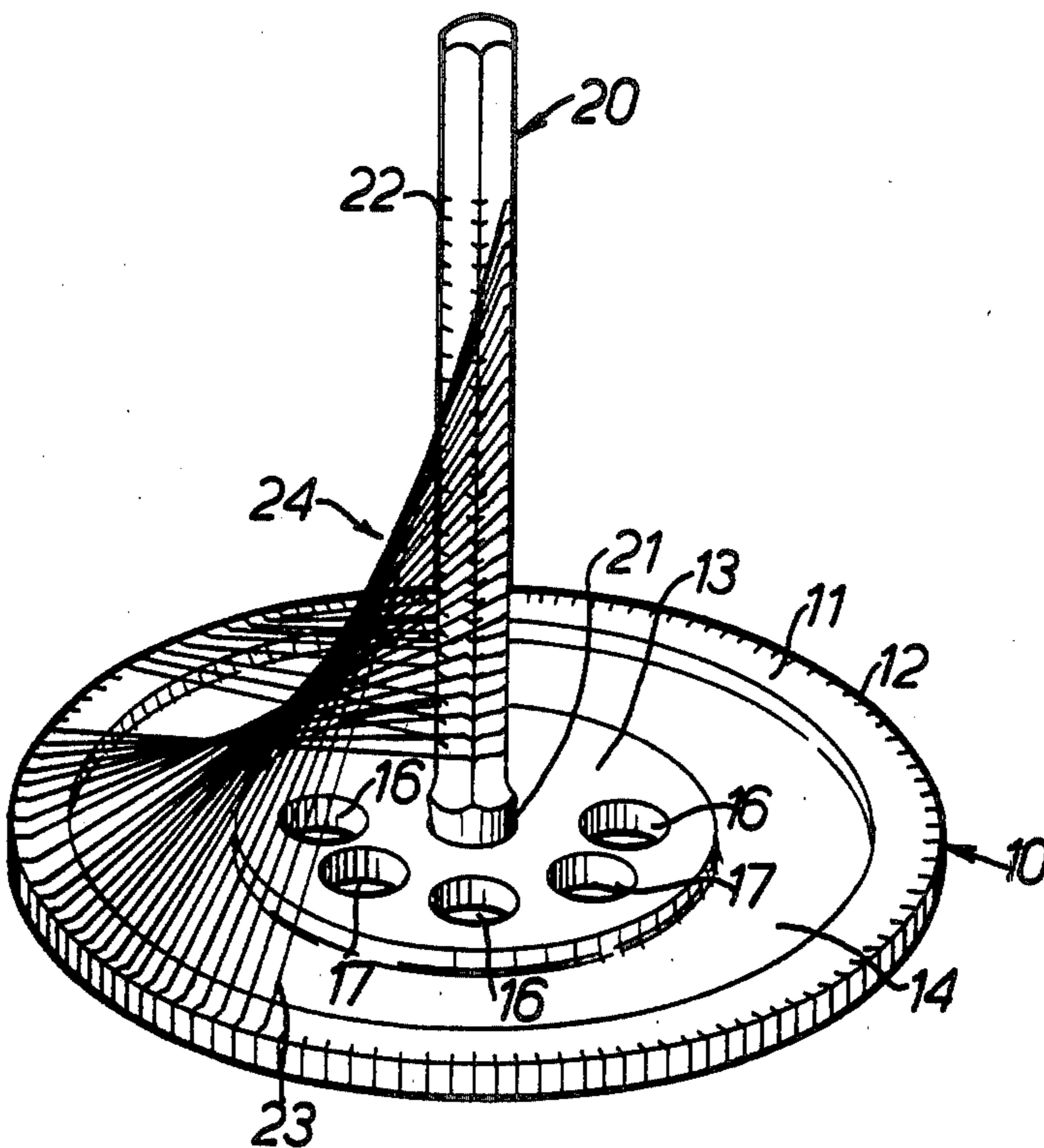
140/92.1; 35/26, 27, 34; 273/156—159; 161/7 M;

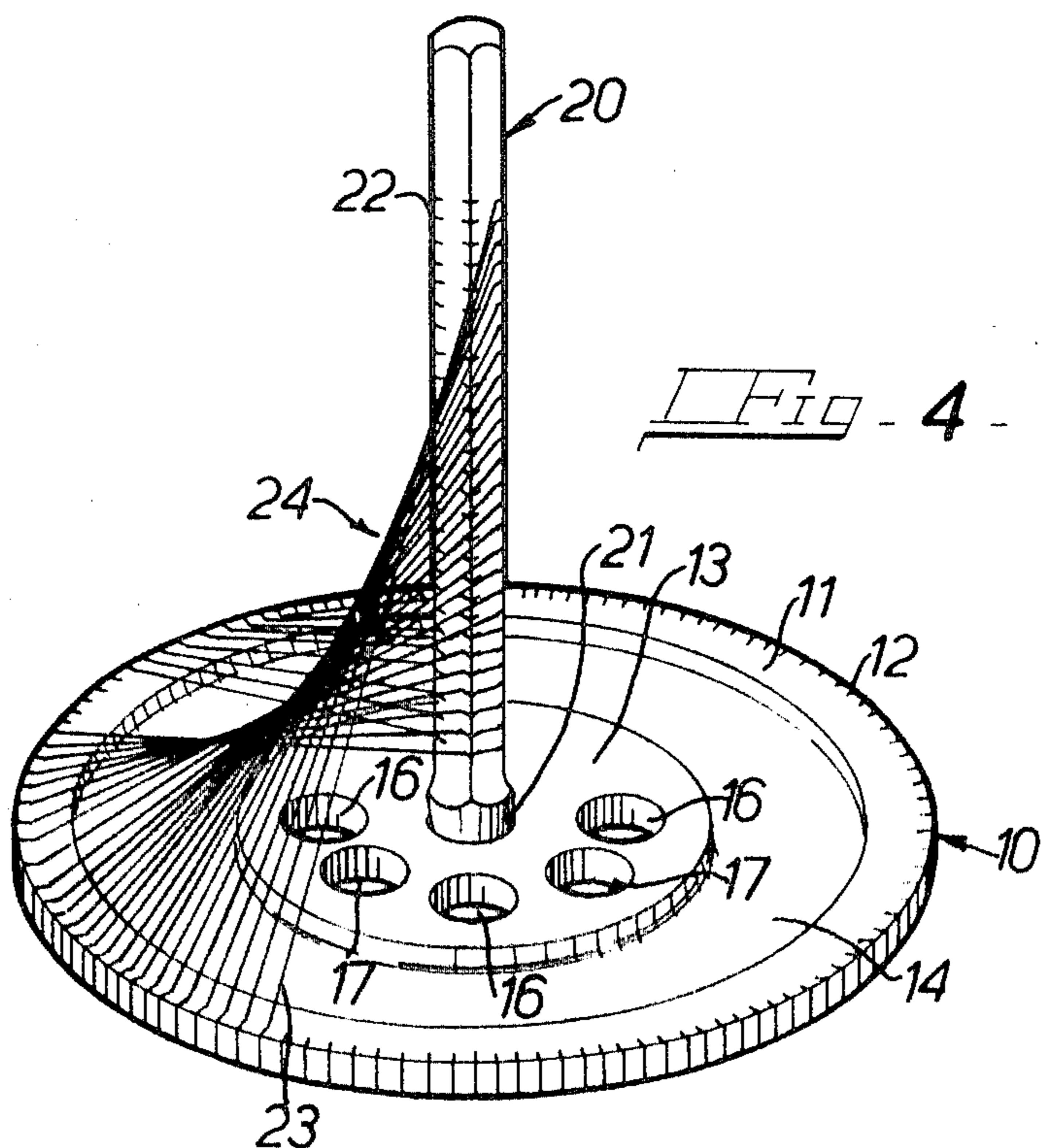
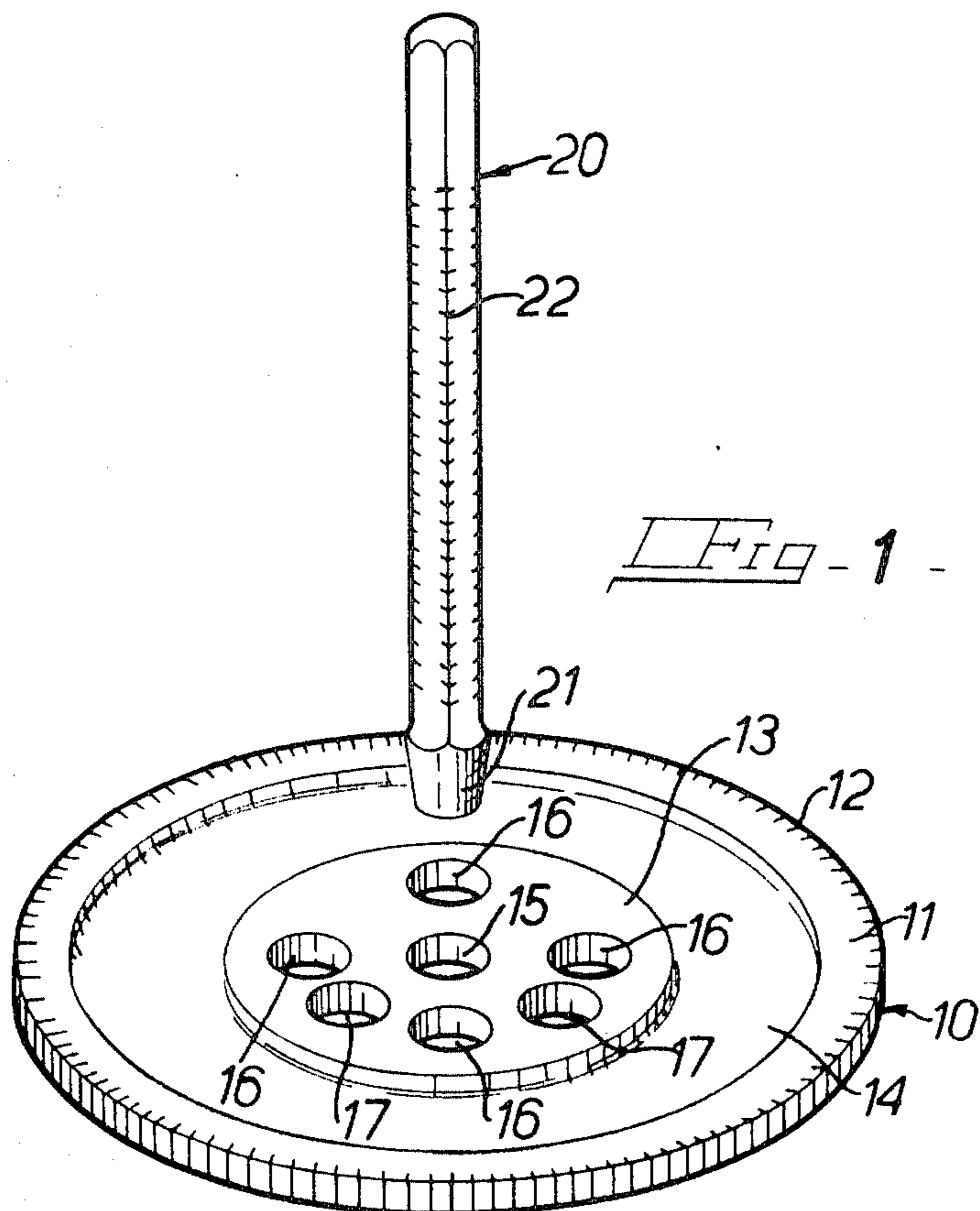
140/92.1; 35/26, 27, 34; 273/156—159; 161/7 M;

28/2.15

20, 21, 22

**ABSTRACT:** A toy of the occupational creative type comprises a circular base formed in its peripheral edge with a plurality of angularly spaced notches or slots. The base has a central portion provided with a central hole surrounded by a plurality of spaced holes located on a pitch circle of constant diameter. At least one of the holes receives the lower end of an upstanding peg of square cross section provided in each corner with notches or slots of which the total number is equal to the number of notches or slots in the base whereby a pattern can be created by weaving an inextensible thread through corresponding notches in the base and in the peg.





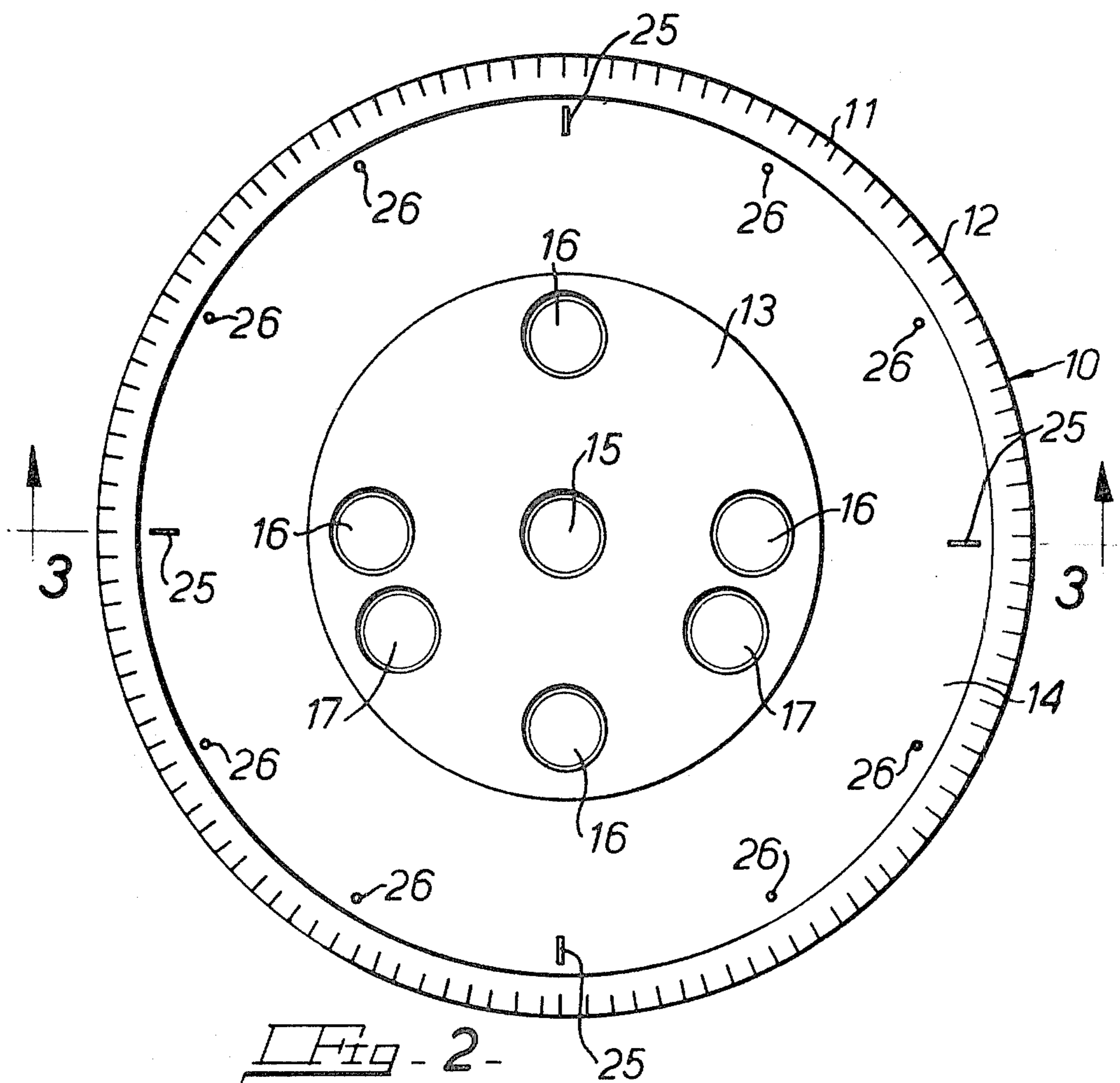


FIG. 2 -

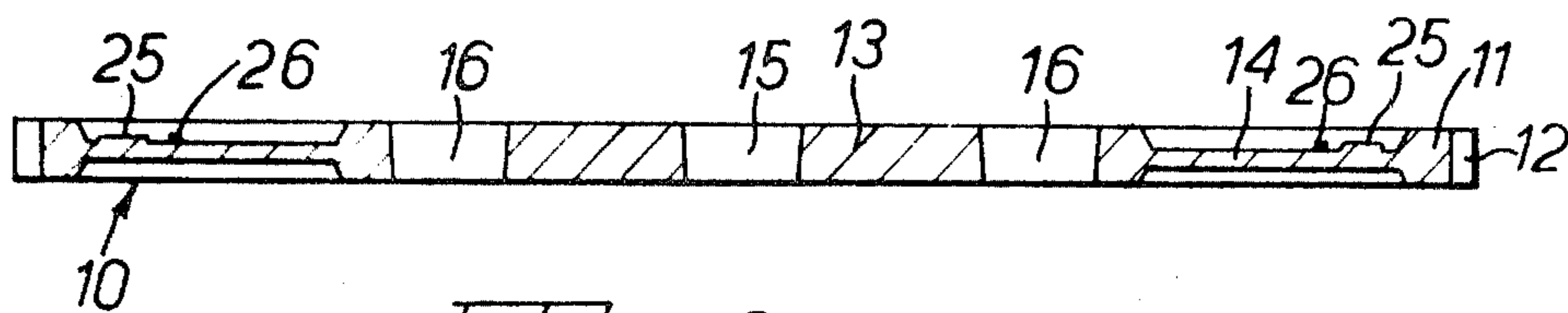


FIG. 3 -

## TOY

## SPECIFIC DESCRIPTION

This invention relates to a new or improved toy of the occupational creative type, that is to say of the kind in which the attention and interest of a person is occupied for periods of time by the use of apparatus to create patterns.

Broadly the toy in accordance with our invention enables the patterns to be created by a weaving process.

According to our invention a toy comprises a substantially rigid member of any geometrical shape around which at least one inextensible flexible thread is adapted to be woven to form a woven pattern and at least a part of the member is formed with a plurality of spaced notches or slots through which the thread is passed to prevent it from slipping relative to the member in a direction transversely of the notches.

Preferably the member has substantially parallel sides and is of a regular outline such as circular, rectangular or triangular, the notches or slots being formed in a continuous peripheral edge substantially normal to the sides.

The rigid member can be adapted to form a base in which is detachably received at least one peg which projects from the base in a direction substantially at right angles to it. The peg is formed over at least a part of its surface with spaced notches or slots which enable a pattern to be woven by passing threads alternatively through the notches in the base and in the peg.

One embodiment of our invention is illustrated in the accompanying drawings in which:

FIG. 1 is a perspective view of a toy of the occupational creative type in accordance with our invention comprising a base and a peg;

FIG. 2 is a plan view of the base incorporated in FIG. 1;

FIG. 3 is a section on the line 3-3 of FIG. 2; and

FIG. 4 is a perspective view of the toy in one position of use.

In the toy of the occupational creative type illustrated in the drawings 10 is a base comprising a circular disc formed at its outer edge with a rim 11. A plurality of angularly spaced notches or slots 12 are formed in the peripheral edge of the rim 11.

All the notches or slots 12 are equal in size and extend radially inwards by equal distances. The rim 11 is connected to a central circular portion 13 of a thickness substantially the same as that of the rim 11 by a continuous annular web 14 of lesser thickness. The central portion 13 has a center hole 15 which is surrounded by a plurality of six holes 16, 17 located on a pitch circle of constant diameter. The six holes 16, 17 are spaced relative to a datum in such a manner that there are four holes 16 angularly spaced from each other by 90°, and the two remaining holes 17 are spaced from each other and from one of the said four holes 16 by 120°.

This arrangement of holes permits pegs 20 to be fitted into the holes in the base in the following symmetrical patterns;

- i. one peg 20 in the center hole 15;
- ii. two pegs 20 diametrically opposed on opposite sides of the center hole 15, being received in diametrically opposed holes 16;
- iii. three pegs 20 surrounding the center hole 15 and spaced angularly by 120° being received in the holes 17 and hole 16 remote from the holes 17;
- iv. four pegs 20 surrounding the center hole 15 and spaced angularly from each other by 90°, being received in the holes 16.

When arranging any one of the patterns ii) iii) and iv) above if desired, a further peg can also be fitted into the center hole.

Each hole 15, 16 and 17 tapers from the upper surface of the base 10 to the lower surface, for example by 6°. Each peg 20 has at its lower end a circular plug portion 21 which is of tapered outline complementary to that of each hole. The plug portion 21 is also of a length substantially equal to the thickness of the central portion 13 of the base 10 so that when inserted into a hole the peg 20 locks tightly and its lower end is

flush or substantially flush with the lower surface of the base 10.

Each peg 20 is of substantial length and is of square cross section. Each corner of the peg 20 at the intersection of adjacent faces is provided with a plurality of notches or slots 22 which are spaced axially at an equal pitch. The notches 22 in each corner are aligned in a lateral direction with the notches in adjacent corners and the sum total of the notches 22 in each peg is equal to the number of notches 12 in the peripheral edge of the rim 11 of the base 10. In one example there are 120 notches 12 in the peripheral edge of the rim 11 of the base 10 and 30 notches 22 in each corner of each peg 20.

The complete toy comprises two base discs 10, six pegs 20, reels or skeins of cotton and a leaflet showing illustrated examples of weaves which can be created by using the toy.

In one such example, as illustrated in FIG. 4 the base-peg combinations (i) described above, the user commences to weave a pattern with a thread 23 of cotton starting at one notch or slot 12 in the base 10, passing the thread 23 through the bottom slot 22 of the vertical peg 20, and then back to the next base slot or notch 12. The process is repeated progressively until the user has completed a three dimensional woven pattern 24 which may be symmetrical or asymmetrical according to the manner in which the weave is carried out.

Using the base-peg combination (ii) described above the thread is passed from a notch or slot in the base around the pegs, being located in the bottom slot or notch in each peg. The thread is returned through a further notch or slot in the base which may be adjacent to or spaced from the first. Thereafter the process is repeated progressively.

The toy can be used in a similar manner with the base-peg combinations described above in (iii) and (iv).

It will be appreciated that the toy can be used in ways other than those referred to in the examples described above to produce three dimension patterns of any desired shape and configuration by experimentation.

To facilitate the production of symmetrical woven patterns and to enable the user to subdivide the base 10 into any number of segments, the upper surface of the base is provided with marking in the form of raised graduations or pips at equal intervals. Specifically there are four graduation marks 25 on the web 14 positioned closely adjacent to the rim, and the graduation marks are located on diameters of the base disc containing diametrically opposed notches or slots 12 and each of the four holes 16 which are relatively spaced angularly by 90°. Each quadrant lying between adjacent graduation marks 25 is also provided with two raised pips 26 which are spaced from each other and from adjacent graduation marks by 30°. With the aid of these markings subdivision of the base 10 preparatory to weaving a pattern is facilitated.

By varying the number of pegs 20 used and the start and finish points of the weave, a considerable variety of woven patterns of great interest can be achieved. The shape of one pattern often appears to be quite different when viewed from another angle.

It is also possible to weave a variety of patterns onto a base 10 without using the pegs.

The bases 10 and the pegs 20 are made from high quality plastics materials by a moulding process. The base 10 and the pegs 20 are made in a variety of colors and can be cross matched to give bases of one color and pegs of another color. Cottons of matching or contrasting color can be used to create simple or complex patterns, the colors enhancing the variety of the weave.

I claim:

1. A toy of the occupational creative type comprising a base having opposed substantially parallel upper and lower sides between which extend at least one hole, a peripheral edge interconnecting said sides and having a plurality of spaced notches thereon, at least one peg receivable at one end thereof into said hole in said base and having an external surface with a plurality of spaced notches thereon. The toy being so arranged that at least one inextensible flexible thread is adapted

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to be passed through notches in the base and in the peg to create a woven pattern.

2. A toy as claimed in claim 1, wherein the base comprises a circular disc formed at its outer edge with a rim having said peripheral edge in which said notches are provided, the notches being spaced angularly from each other and being equal in size and extending radially inwards into said rim by equal distances.

3. A toy as claimed in claim 1, wherein said base is provided with a central portion having a center hole surrounded by a plurality of holes located on a pitch circle of constant diameter.

4. A toy as claimed in claim 3, wherein there are six holes located on the pitch circle of constant diameter, and the relative spacings and arrangement of holes permit pegs to be fitted into the base in symmetrical patterns at any one time with one peg in the center hole, two pegs diametrically opposed on opposite sides of the center hole, three pegs surrounding the center hole and spaced angularly from each other by 120°, or four pegs surrounding the center hole and spaced angularly

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from each other by 90°.

5. A toy as claimed in claim 4, wherein each hole tapers from said upper side of the base to said lower side, and each peg has at its lower end a circular plug portion of tapered outline complementary to that of each hole.

6. A toy as claimed in claim 1, wherein the peg is of substantial length and is of square cross section, and each corner of the peg at the intersection of adjacent faces is provided with said plurality of notches which are spaced axially at an equal pitch.

7. A toy as claimed in claim 6, wherein said notches in each corner of said peg are aligned in a lateral direction with the notches in adjacent corners, and the total number of the notches in said peg is equal to the number of notches in the peripheral edge of said base.

8. A toy as claimed in claim 1 wherein said upper side of said base is provided with marking in the form of raised radially extending graduations, said graduations being spaced angularly from each other by equal angular distances.

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UNITED STATES PATENT OFFICE  
CERTIFICATE OF CORRECTION

Patent No. 3,589,034

Dated June 29, 1971

Inventor(s) Ray E. Beecham

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

On the cover sheet [73], "Rantel Pershore Limited" should read -- Raytel (Pershore) Limited --.

Signed and sealed this 2nd day of May 1972.

(SEAL)

Attest:

EDWARD M. FLETCHER, JR.  
Attesting Officer

ROBERT GOTTSCHALK  
Commissioner of Patents