

Description

The present invention relates to an IQ game wheel which comprises a support base, a plurality of identical rollers disposed upon the support base, and an observation wheel covering the rollers and the support base. The surface of each roller is evenly divided into several regions on which different digits, letters or colors are marked. The bottom face of the observation wheel is set with a few turning protrusions which turn the rollers contacting with the protrusions when the observation wheel is turned in a CW direction. Conversely, CCW rotation of the observation wheel does not turn the rollers. By CW and CCW rotation of the observation wheel, the randomly-arrayed digits, letters or colors of the rollers may be turned to some pre-determined uniform pattern.

In recent years, there have been a great deal of game articles available in the market for exercising the user's intelligence and meanwhile providing users with enjoyment and entertainment. One very successful and world-renowned intelligence game article is Rubic's Cube. However, most other intelligence game articles fail to become world-famous and have only short commercial lifespans. This is largely due to the fact that intelligence game articles have complicated structures and intricate operation rules. Complicated structures raise the costs of the intelligence game articles. Intricate operation rules often perplex new users. Therefore, the present invention, an IQ game wheel, is designed from simple elements and is played with simple rules.

A primary object of the present invention is to mitigate and/or obviate the afore described drawbacks of prior intelligence game articles.

Another object of the present invention is to provide an IQ game wheel which has a relatively simple structure as well as simple and easy-to-understand operation rules.

A further object of the present invention is to provide an IQ game wheel wherein the numbers of the rollers and the turning protrusions, the shape of the polygonal rolling blocks, and the styles of marking the evenly-divided regions of the surface of each roller are not exclusive and can be optionally determined.

Further objects and advantages of the present invention will become apparent as the following description proceeds, and the features of novelty which characterize the invention be pointed out with particularity, in the claims annexed to and forming a part of the invention.

In the figures:

FIG. 1 is a perspective view of an embodiment of an IQ game wheel according to the present invention;

FIG. 2 is an exploded view of the IQ game wheel of the present invention;

FIG. 3 is a cross-sectional view of the IQ game wheel as shown in FIG. 1;

FIG. 4 shows the front end of one turning protrusion of the observation wheel as it comes into contact with face a-d of the rolling block of a roller;

FIG. 5 shows the rolling block shown in FIG. 4 is being turned by the turning protrusion as the observation wheel is turned in the direction of the arrow;

FIG. 6 shows the condition in which face a-d of the rolling block of a roller has been turned to face upwards;

FIG. 7 shows the rear end of the turning protrusion of the observation wheel as it is about to come in contact with face b-c of the rolling block of a roller;

FIG. 8 shows the rolling block as it is being pressed downwards without rotation by the turning protrusion when the observation wheel is turned in the direction of the arrow, which is opposite to the direction of the arrow shown in FIG. 5;

FIG. 9 shows the condition that face b-c of the rolling block still faces to right after the turning protrusion of the observation wheel has rolled over the rolling block; and

FIG. 10 shows another embodiment of the present invention wherein the polygonal rolling block is hexagonal and the cross-sectional shape of the turning protrusion is set in accordance with the hexagonal rolling block.

Referring to the figures, particularly FIGS. 1, 2 and 3, it can be seen that the preferred embodiment of the IQ game wheel according to the present invention comprises a support base 2, a spongy ring 24 and a protective ring 25, disposed in the support base 2, twelve identical rollers 3 disposed on the rings 24 and 25, and an observation wheel 1 covering all the above-mentioned elements.

The shape of the support base 2 is somewhat similar to the shape of an ashtray. The center of the support base 2 is set with a base hub 21 whose top edge is evenly set with twelve radial knob recesses 23. A circular engagement notch 22 is provided beneath the base hub 21. Twelve evenly-spaced post recesses 27 are radially set on the top edge of a circumferential support rim 26 of the support base 2. The number of the knob recesses 23 is always the same as that of the post recesses 27 and each knob recess 23 is aligned with one of the post recesses 27. The elastic spongy ring 24 whose inner diameter is substantially equal to or slightly larger than the outer diameter of the base hub 21 is disposed around the base hub 21. A protective ring 25 with a shape corresponding to the spongy ring 24, is fixed to the spongy ring 24. Because the protective ring 25 is made of a flexible and tough material, it prevents the spongy ring 24 from being damaged by sharp articles.

Twelve rollers 3 with its number identical to that of the knob recesses 23 or the post recesses 27. The twelve rollers are all identical in shape. Each roller comprises a cylindrical part 34. A post 31 is set on the same end of the cylindrical part 34 of each cylindrical roller 3 for resting on the post recess 27 of the support base 2. The other end of each cylindrical part 34 has a rolling block 32 which rests on the protective ring 25 and the spongy ring 24. As shown in FIG. 3, the rolling block 32 is square, but it may be polygonal as desired. The length of the sides of the square rolling block 32 is

slightly larger than the width of the protective ring 25. The outer end of the polygonal rolling block 32 opposite to the post 31 is further set with a round-headed knob 33 for resting on the knob recess 23 aligned with the just-mentioned post recess 27 when the rolling block 32 is pressed downwards. The surface of the cylindrical part 34 of each roller 3 is evenly divided into four regions, each of which is respectively marked with one particular digit, letter, or color. The surface of the cylindrical part 34 of each roller 3 is marked identical to the others. The number of the divided regions of the surface of the cylindrical part 34 of the roller 3 is always identical with the number of the sides of the polygonal rolling block 32.

The observation wheel 1 is provided with a flexible slitted hub 11 on the center thereof, a circumferential rim 13 on the outer edge thereof, and twelve evenly spaced observation slots 14 on the upper face thereof around the slitted hub 11. The outer diameter of the slitted hub 11 is substantially the same as or slightly less than the inner diameter of the base hub 21 of the support base 2. The lower end of the slitted hub 11 is set with outward engagement protuberances 12 for engaging with the engagement notch 22 beneath the base hub 21. Therefore, the observation wheel 1 can be secured to the support base 2 by engaging the flexible slitted hub 11 of the observation wheel 1 to the base hub 21 of the support base 2. The inner diameter of the circumferential rim 13 of the observation wheel 1 is slightly larger than the outer diameter of the circumferential support rim 26 so as to enable the rim 13 of the observation wheel 1 to fit the support rim 26 of the support base 2. The evenly spaced observation slots 14 are arranged so that they may be moved to be located directly above all the twelve rollers 3 by turning the observation wheel 1 for observing the surface of the cylindrical parts 34 of the rollers 3. Three identical turning protrusions 15, each having a parabolic spandrel cross-section, are provided on the bottom face of the observation wheel 1 at irregular intervals. Each turning protrusion 15 is located between the inner end of an observation slot 14 and the slitted hub 11. Three indicating marks 16 are, set on the upper face of the observation wheel 1 and above the protrusions 15 for indicating the positions of the turning protrusions 15. The square rolling block 32 is elastically arranged between the protective ring 25 and the observation wheel 1 such that when the observation wheel 1 is turned in the clockwise direction, the front end of the turning protrusion 15 is simultaneously pressed downwards, in the direction of the spongy ring 24, and turned forwards the rolling block 32 of the rollers 3. Because the slitted hub 11 is flexible, the observation wheel 1 could become detached from the support base 2 if the observation wheel 1 is unintentionally pulled upwards somewhat heavily. To avoid this problem, a transparent securing cover 4 comprising a central securing hub 41 is disposed on the observation wheel 1 with the securing hub 41 inserting into the slitted hub 11 to prevent the slitted hub 11 from being inwardly deformed and consequently becoming detached from the base hub 21. The outer diameter of the securing

hub 11 of the securing cover 4 is substantially equal to or slightly less than the inner diameter of the slitted hub 11. The securing cover 4 can be attached to the observation wheel 1 by adhesion or any other appropriate means.

Referring to FIGS. 4-9, the progressive positions of the turning protrusion 15 rolling over the square rolling block 32 can be clearly seen. FIG. 4 shows the front end of one turning protrusion 15 of the observation wheel 1 is turned to come in contact with face a-d of the rolling block 32 of one roller 3. It should be noted that there are always two other turning protrusions 15 in the same working conditions against two other corresponding rolling blocks 32 as the present-described turning protrusion 15 shown in FIGS. 4-9. When the observation wheel 1 is further turned in the clockwise direction, as shown in FIG. 5 (the CW direction is represented by the arrow on this figure), the front end of the turning protrusion 15 will simultaneously press downwards and turn forwards the rolling block 32 of the roller 3. The above-described movements of the rolling block 32, which is turned in a CW direction by the turning protrusion 15, are a result of external force against the square rolling block 32 acting in the form of rotational torque with the axis of the roller being the torque axis. Because the observation wheel 1 can not be lifted up, the rolling block 32 is thus going to be pushed downwards and subsequently the rolling block 32 may be turned. FIG. 6 shows the rolling block 32 has been turned over one side by the turning protrusion 15 in CW movement. Face a-d of the rolling block 32, which originally faces to the left, has already been turned to face up. At the same time the rolling block 32 (shown in FIG. 6) is being turned over one side, the other two rolling blocks 32 which contact with other two turning protrusions 15 have also been turned over one side. It is noted that other nine rollers 3 whose square rolling blocks 32 do not contact with the turning protrusions 15 do not rotate during the period of the above-mentioned three rollers 3 are being turned.

Referring to FIGS. 7-9, the counterclockwise rotation of the observation wheel acting on the rollers 3 can be seen. FIG. 7 shows that the rear end of the turning protrusion 15 is about to contact with the top edge of face b-c of one of the rolling blocks 32. Because the gradient of the rear portion of the turning protrusion 15 is very low, the external force exerted on the rolling block 32 is primarily exerted as a vertically downward stress when the turning protrusion 15 having a parabolic spandrel cross-section is turned CCW to further contact with the rolling block 32. FIG. 8 shows the rolling block 32 being pressed down by the lower edge of the turning protrusion 15 when the turning protrusion is turned in a CCW direction (as indicated by the arrow in FIG. 8) against face a-b of the rolling block 32. FIG. 9 shows the instant after the turning protrusion 15 has rolled over the rolling block 32 and the rolling block 32 whose b-c face is still facing right and does not rotate during the above-described CCW rotation of the turning protrusion 15.

From the description hereinbefore, it can be un-

derstood that when the observation wheel 1 is turned in a CW direction, the three rollers 3 which are positioned directly, under the three indicating marks 16 will be turned CW 90 degrees. The CCW rotation of the observation wheel 1 does not cause any corresponding turning of the rollers 3 whether the rollers 3 are directly under the indicating marks 16 or not.

Generally speaking, the object of the IQ game wheel is to turn the rollers, which are randomly set, so that they show some particular uniform and/or predetermined pattern by CW and CCW rotations of the observation wheel 1. Since the arrangement of the three turning protrusions 15 is not evenly-spaced or symmetrical, and the number of the rollers 3, which are turned CW 90 degrees by the rotation of the observation wheel 1 at one time, is plural, the process of trying to turn the randomly set rollers 3 into uniformly patterned rollers 3 is challenging and full of fun. Consequently, the present IQ game wheels provides users a lot of intellectual exercise and provides a great deal of enjoyment.

The number of rollers 3, observation slots 14, and knob and post recesses, 23 and 27, are equal, since these parts are mutually dependent. It is noted that this number is not necessarily limited to be twelve, which is merely adopted as a preferred embodiment of the present invention. In addition, the numbers of the sides of the polygonal rolling block 32 of each roller 3 and evenly-divided regions of the surface of the cylindrical part 34 of each roller 3 (to be marked with digits, letters, or colors, respectively) are not necessarily limited to four. This number was merely adopted as a preferred embodiment of the present invention. Once the polygonal rolling block is determined, a corresponding turning protrusion is adopted to enable CW turning of the contacted roller and CCW rolling over the contacted roller without any turning. Referring to FIG. 10, another possible embodiment of a turning protrusion 15a and a hexagonal rolling block 32a can be clearly seen. In this embodiment, the surface of the cylindrical part 34a of each roller 3a is accordingly divided into six even regions on which different digits, letters, or colors are respectively marked.

Claims

1. An IQ game wheel providing users intellectual exercise and enjoyment comprising:

(a) a support base (2), including a central base hub (21) and a circumferential support rim (26); a circular engagement notch (22) being provided beneath said central base hub (21), twelve post recesses (27) being evenly spaced on the top edge of said circumferential support rim (26), twelve knob recesses (23) aligned with said twelve post recesses (27) being evenly set on the top edge of said base hub (21);

(b) a spongy ring (24) and a protective ring (25) which are disposed around said base hub (21), with said protective ring (25) disposed upon said spongy ring (24);

(c) twelve identical rollers (3); each of said twelve identical rollers (3) comprising a cylindri-

cal part (34), a post (31) which is set on one end of each cylindrical part (34), and a polygonal rolling block (32) set on the other end of each cylindrical part (34); the end of said square rolling block (32) opposite to said post (31) being set with a round-headed knob (33); the surface of each cylindrical part (34) being evenly divided into four regions which are respectively marked with different digits, letters or colors; said rollers (3) being disposed on said support base (2) with the post (31) of each roller (3) disposed upon one of said post recesses (27) and the knob (33) disposed upon the knob recess (23);

(d) an observation wheel (1) including a central slitted hub (11) disposed in the base hub (21) and a circumferential rim (13) which encloses said circumferential support rim (26); twelve evenly spaced observation slots (14) being set on the upper face of said observation wheel (1) for observing the surface of the cylindrical parts (34) of the rollers (3); the lower end of said slitted hub (11) being set with outward engagement protuberances (12) to engage with said circular engagement notch (22); three turning protrusions (15) with parabolic spandrel cross-sections being provided on the bottom face of the observation wheel (1), each of said turning protrusions (15) being located between the inner end of an observation slot (14) and the slitted hub (11); three indicating marks (16) being set on the upper face of the observation wheel (1) and above the turning protrusions (15);

(e) the polygonal rolling block (32) being elastically arranged between said protective ring (25) and said observation wheel (1) such that, when turning the observation wheel (1) in the clockwise direction, the front end of the turning protrusion (15) will simultaneously press downwards, in the direction of the spongy ring (24), and turn forwards the rolling block (32) of the rollers (3); and

(f) a transparent securing cover (4) including a central securing hub (41) whose outer diameter is substantially equal to or slightly less than the inner diameter of slitted hub (11).

2. An IQ game wheel as set forth in claim 1, wherein the number of said rollers (3), said observation slots (14), said knob recesses (23) and said post recesses (27) are equal.

3. An IQ game wheel as set forth in claim 1, wherein the rolling block (32) of each roller (3) is square.

4. An IQ game wheel as set forth in claim 1, wherein the number of the turning protrusions (15) is other than three.

Patentansprüche

IQ-Spielrad, das Benutzern geistige Übung und Vergnügen verschafft, bestehend aus:

(a) einer Tragbasis (2) mit einer zentralen Basisnabe (21) und einer peripheren Tragfelge (26), wobei eine runde Eingriffskerbe (22) unterhalb der zentralen Basisnabe (21) vorgesehen ist, zwölf Zapfenausnehmungen (27) gleichmäßig am oberen Rand der peripheren Tragfelge (26) im Ab-

derstood that when the observation wheel 1 is turned in a CW direction, the three rollers 3 which are positioned directly, under the three indicating marks 16 will be turned CW 90 degrees. The CCW rotation of the observation wheel 1 does not cause any corresponding turning of the rollers 3 whether the rollers 3 are directly under the indicating marks 16 or not.

Generally speaking, the object of the IQ game wheel is to turn the rollers, which are randomly set, so that they show some particular uniform and/or predetermined pattern by CW and CCW rotations of the observation wheel 1. Since the arrangement of the three turning protrusions 15 is not evenly-spaced or symmetrical, and the number of the rollers 3, which are turned CW 90 degrees by the rotation of the observation wheel 1 at one time, is plural, the process of trying to turn the randomly set rollers 3 into uniformly patterned rollers 3 is challenging and full of fun. Consequently, the present IQ game wheels provides users a lot of intellectual exercise and provides a great deal of enjoyment.

The number of rollers 3, observation slots 14, and knob and post recesses, 23 and 27, are equal, since these parts are mutually dependent. It is noted that this number is not necessarily limited to be twelve, which is merely adopted as a preferred embodiment of the present invention. In addition, the numbers of the sides of the polygonal rolling block 32 of each roller 3 and evenly-divided regions of the surface of the cylindrical part 34 of each roller 3 (to be marked with digits, letters, or colors, respectively) are not necessarily limited to four. This number was merely adopted as a preferred embodiment of the present invention. Once the polygonal rolling block is determined, a corresponding turning protrusion is adopted to enable CW turning of the contacted roller and CCW rolling over the contacted roller without any turning. Referring to FIG. 10, another possible embodiment of a turning protrusion 15a and a hexagonal rolling block 32a can be clearly seen. In this embodiment, the surface of the cylindrical part 34a of each roller 3a is accordingly divided into six even regions on which different digits, letters, or colors are respectively marked.

Claims

1. An IQ game wheel providing users intellectual exercise and enjoyment comprising:

(a) a support base (2), including a central base hub (21) and a circumferential support rim (26); a circular engagement notch (22) being provided beneath said central base hub (21), twelve post recesses (27) being evenly spaced on the top edge of said circumferential support rim (26), twelve knob recesses (23) aligned with said twelve post recesses (27) being evenly set on the top edge of said base hub (21);

(b) a spongy ring (24) and a protective ring (25) which are disposed around said base hub (21), with said protective ring (25) disposed upon said spongy ring (24);

(c) twelve identical rollers (3); each of said twelve identical rollers (3) comprising a cylindri-

cal part (34), a post (31) which is set on one end of each cylindrical part (34), and a polygonal rolling block (32) set on the other end of each cylindrical part (34); the end of said square rolling block (32) opposite to said post (31) being set with a round-headed knob (33); the surface of each cylindrical part (34) being evenly divided into four regions which are respectively marked with different digits, letters or colors; said rollers (3) being disposed on said support base (2) with the post (31) of each roller (3) disposed upon one of said post recesses (27) and the knob (33) disposed upon the knob recess (23);

(d) an observation wheel (1) including a central slitted hub (11) disposed in the base hub (21) and a circumferential rim (13) which encloses said circumferential support rim (26); twelve evenly spaced observation slots (14) being set on the upper face of said observation wheel (1) for observing the surface of the cylindrical parts (34) of the rollers (3); the lower end of said slitted hub (11) being set with outward engagement protuberances (12) to engage with said circular engagement notch (22); three turning protrusions (15) with parabolic spandrel cross-sections being provided on the bottom face of the observation wheel (1), each of said turning protrusions (15) being located between the inner end of an observation slot (14) and the slitted hub (11); three indicating marks (16) being set on the upper face of the observation wheel (1) and above the turning protrusions (15);

(e) the polygonal rolling block (32) being elastically arranged between said protective ring (25) and said observation wheel (1) such that, when turning the observation wheel (1) in the clockwise direction, the front end of the turning protrusion (15) will simultaneously press downwards, in the direction of the spongy ring (24), and turn forwards the rolling block (32) of the rollers (3); and

(f) a transparent securing cover (4) including a central securing hub (41) whose outer diameter is substantially equal to or slightly less than the inner diameter of slitted hub (11).

2. An IQ game wheel as set forth in claim 1, wherein the number of said rollers (3), said observation slots (14), said knob recesses (23) and said post recesses (27) are equal.

3. An IQ game wheel as set forth in claim 1, wherein the rolling block (32) of each roller (3) is square.

4. An IQ game wheel as set forth in claim 1, wherein the number of the turning protrusions (15) is other than three.

Patentansprüche

IQ-Spielrad, das Benutzern geistige Übung und Vergnügen verschafft, bestehend aus:

(a) einer Tragbasis (2) mit einer zentralen Basisnabe (21) und einer peripheren Tragfelge (26), wobei eine runde Eingriffskerbe (22) unterhalb der zentralen Basisnabe (21) vorgesehen ist, zwölf Zapfenausnehmungen (27) gleichmäßig am oberen Rand der peripheren Tragfelge (26) im Ab-



stand angeordnet sind und zwölf Knaufausnehmungen (23) in einer Flucht mit den genannten zwölf Zapfenausnehmungen (27) gleichmäßig am oberen Rand der genannten Basisnabe (21) sitzen;

(b) einem schwammartigen Ring (24) und einem Schutzring (25), die um die Basisnabe (21) herumgelegt sind, wobei der Schutzring (25) auf dem schwammartigen Ring (24) sitzt;

(c) zwölf identischen Rollen (3), wobei jede der genannten zwölf identischen Rollen (3) mit einem zylindrischen Teil (34), einem Zapfen (31), der an einem Ende jedes zylindrischen Teils (34) sitzt, und einem polygonalen Rollblock (32) versehen ist, der am anderen Ende jedes zylindrischen Teils (34) sitzt, wobei am Ende des quadratischen Rollblocks (32) gegenüber dem genannten Zapfen (31) ein Rundkopfknauf (33) sitzt, die Oberfläche jedes zylindrischen Teils (34) in vier Regionen gleichmäßig unterteilt ist, die jeweils mit verschiedenen Ziffern, Buchstaben oder Farben markiert sind, die Rollen (3) an der Tragbasis (2) so angeordnet sind, daß der Zapfen (31) jeder Rolle (3) in einer der Zapfenausnehmungen (27) und der Knauf (33) in der Knaufausnehmung (23) liegen;

(d) einem Beobachtungsrad (1) mit einer zentralen, geschlitzten Nabe (11), die in der Basisnabe (21) sitzt, und mit einer peripheren Felge (13), die die genannte periphere Tragfelge (26) umschließt, wobei zwölf im gleichmäßigen Abstand angeordnete Beobachtungsschlitzte (14) in der oberen Stirnseite des Beobachtungsrad (1) zum Beobachten der Oberfläche der zylindrischen Teile (34) der Rollen (3) gelegen sind, das untere Ende der geschlitzten Nabe (11) mit nach außen gerichteten Eingriffsvorsprüngen (12) zum Eingreifen in die genannte runde Eingriffskerbe (22) eingerichtet ist, drei Drehvorsprünge (15) mit parabolischen Spandrilquerschnitten an der unteren Stirnfläche des Beobachtungsrad (1) vorgesehen sind, die jeweils zwischen dem inneren Ende eines Beobachtungsschlitzes (14) und der geschlitzten Nabe (11) gelegen sind, und drei Anzeigemarkierungen (16) auf der oberen Stirnseite des Beobachtungsrad (1) oberhalb der Drehvorsprünge (15) sitzen;

(e) wobei der polygonale Rollblock (32) elastisch zwischen dem Schutzring (25) und dem genannten Beobachtungsrad (1) angeordnet ist, derart, daß bei Drehen des Beobachtungsrad (1) im Uhrzeigersinn das vordere Ende des Drehvorsprungs (15) gleichzeitig den Rollblock (32) der Rollen (3) in Richtung des schwammartigen Rings (24) nach unten drückt und vorwärts dreht; und

(f) einem transparenten Sicherungsdeckel (4) mit einer zentralen Befestigungsnabe (41), deren Außendurchmesser im wesentlichen gleich oder etwas kleiner als der Innendurchmesser der geschlitzten Nabe (11) ist.

2. Ein IQ-Spielrad nach Anspruch 1, bei dem die Zahl der Rollen (3), der Beobachtungsschlitzte (14), der Knaufausnehmungen (23) und der Zapfenausnehmungen (27) gleich sind.

3. Ein IQ-Spielrad nach Anspruch 1, bei dem der Rollblock (32) jeder Rolle (3) quadratisch ist.

4. Ein IQ-Spielrad nach Anspruch 1, bei dem die Zahl der Drehvorsprünge (15) eine andere als drei ist.

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Revendications

1. Jeu en forme de roue pour tester le Q.I. procurant aux utilisateurs exercice et distraction intellectuels, caractérisé en ce qu'il comprend:

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(a) une base d'appui (2), comportant un moyeu central (21) de la base et un rebord circonférentiel d'appui (26), un encoche circulaire d'engagement (22) étant prévue sous le moyeu central (21) de la base, douze évidements (27) pour montants étant régulièrement espacés sur le bord supérieur du rebord circonférentiel d'appui (26), douze évidements (23) pour boutons, alignés respectivement avec les douze évidements (27) pour montants, étant régulièrement disposés sur le bord supérieur du moyeu (21) de la base;

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(b) un anneau spongieux (24) et un anneau de protection (25) qui sont disposés autour du moyeu (21) de la base, l'anneau de protection (25) étant disposé au-dessus de l'anneau spongieux (24);

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(c) douze rouleaux identiques (3), chacun de ces douze rouleaux identiques (3) comprenant une partie cylindrique (34), un montant (31) ménagé à une extrémité de chacune des parties cylindriques (34), et un bloc de roulement polygonal (32) ménagé à l'autre extrémité de chacune de ces parties cylindriques (34), l'extrémité de chaque bloc de roulement carré (32) opposée au montant (31) étant munie d'un bouton à tête ronde (33), la surface de chaque partie cylindrique (34) étant divisée régulièrement en quatre régions qui sont respectivement marquées de chiffres, lettres ou couleurs différents, les rouleaux (3) étant disposés sur la base d'appui (2) de façon que le montant (31) de chaque rouleau (3) soit disposé sur l'un des évidements (27) pour montant et que le bouton (33) soit disposé sur l'évidement (23) pour bouton;

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(d) une roue d'observation (1), comportant un moyeu central fendu (11) disposé à l'intérieur du moyeu central (21), et un rebord circonférentiel (13) qui entoure le rebord d'appui circonférentiel (26), douze fentes d'observation (14) régulièrement espacées étant ménagées sur la face supérieure de la roue d'observation (1) pour observer la surface des parties cylindriques (34) des rouleaux (3), l'extrémité inférieure du moyeu fendu (11) étant munie de protubérances d'engagement (12) dirigées vers l'extérieur pour s'encliqueter sur l'encoche circulaire d'engagement (22), trois parties en saillie tournantes (15) présentant une section transversale en forme d'arc de parabole étant prévues sur la face inférieure de la roue d'observation (1), chacune de ces parties en saillie tournantes (15) étant située entre l'extrémité intérieure d'une fente d'observation (14) et le moyeu fendu (11), trois marques de repérage (16) étant ménagées sur la face supérieure de la roue d'observation (1) au-dessus des parties en saillie tournantes (15);

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- (e) le bloc de roulement polygonal (32) étant disposé élastiquement entre la bague de protection (25) et la roue d'observation (1) de façon telle que, quand on fait tourner la roue d'observation (1) dans le sens horaire, l'extrémité avant de la partie en saillie tournante (15) va simultanément presser vers le bas en direction de la bague spongieuse (24) et faire tourner vers l'avant le bloc de roulement (32) des rouleaux (3); et
- (f) un capot de fixation transparent (4) comprenant un moyeu central de fixation (41) dont le diamètre extérieur est sensiblement égal ou légèrement inférieur au diamètre intérieur du moyeu fendu (11).
2. Jeu en forme de roue pour tester le Q.I. conforme à la revendication 1, dans lequel le nombre des rouleaux (3), le nombre des fentes d'observation (14), le nombre des évidements (23) pour boutons et le nombre des évidements (27) pour montants sont égaux.
3. Jeu en forme de roue pour tester le Q.I. conforme à la revendication 1, dans lequel le bloc de roulement (32) de chaque rouleau (3) est carré.
4. Jeu en forme de roue pour tester le Q.I. conforme à la revendication 1, dans lequel le nombre des parties en saillie tournantes (15) est différent de trois.

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