

March 15, 1955

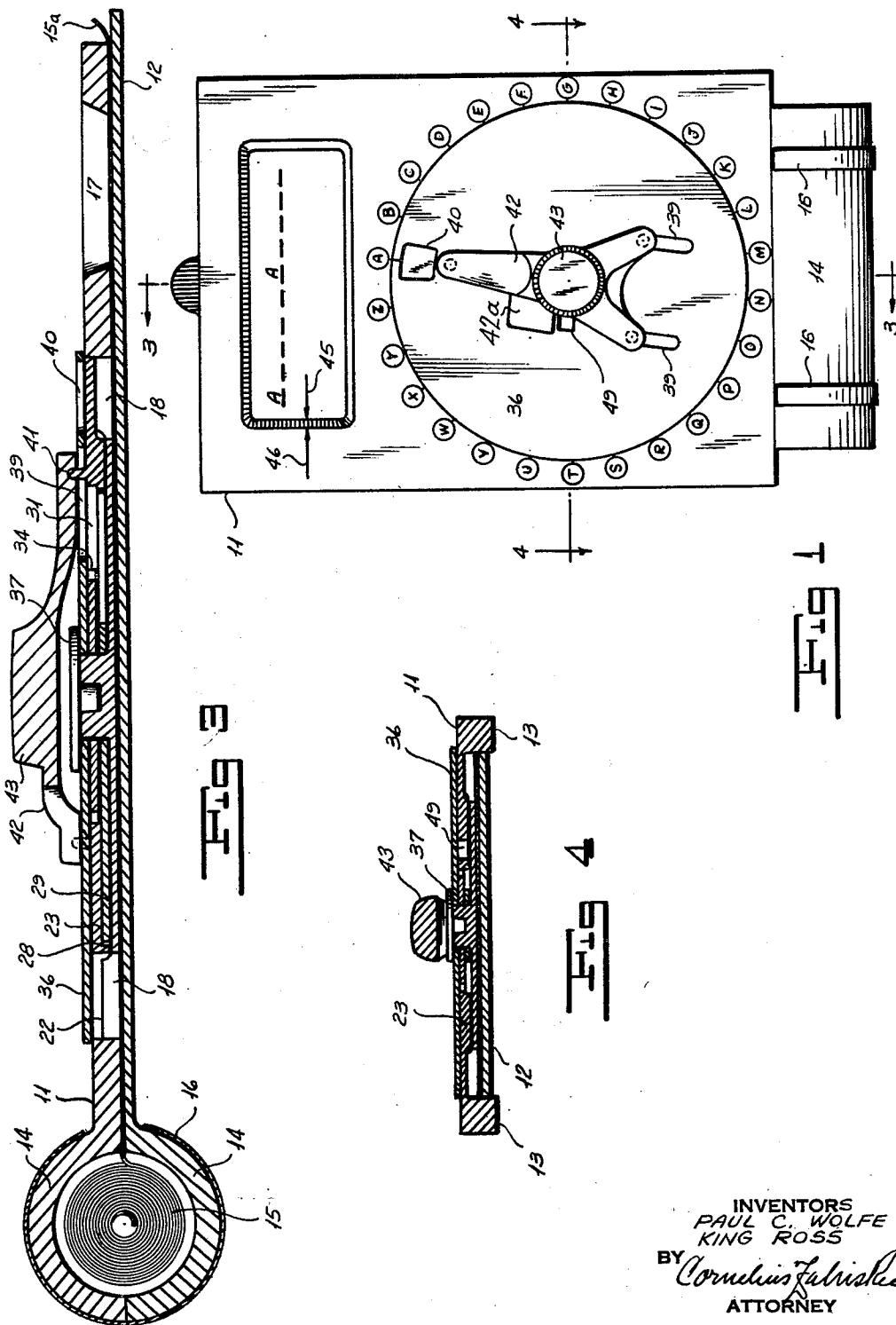
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2,704,210

WORD FORMING GAME APPARATUS

Filed June 4, 1951

3 Sheets-Sheet 1



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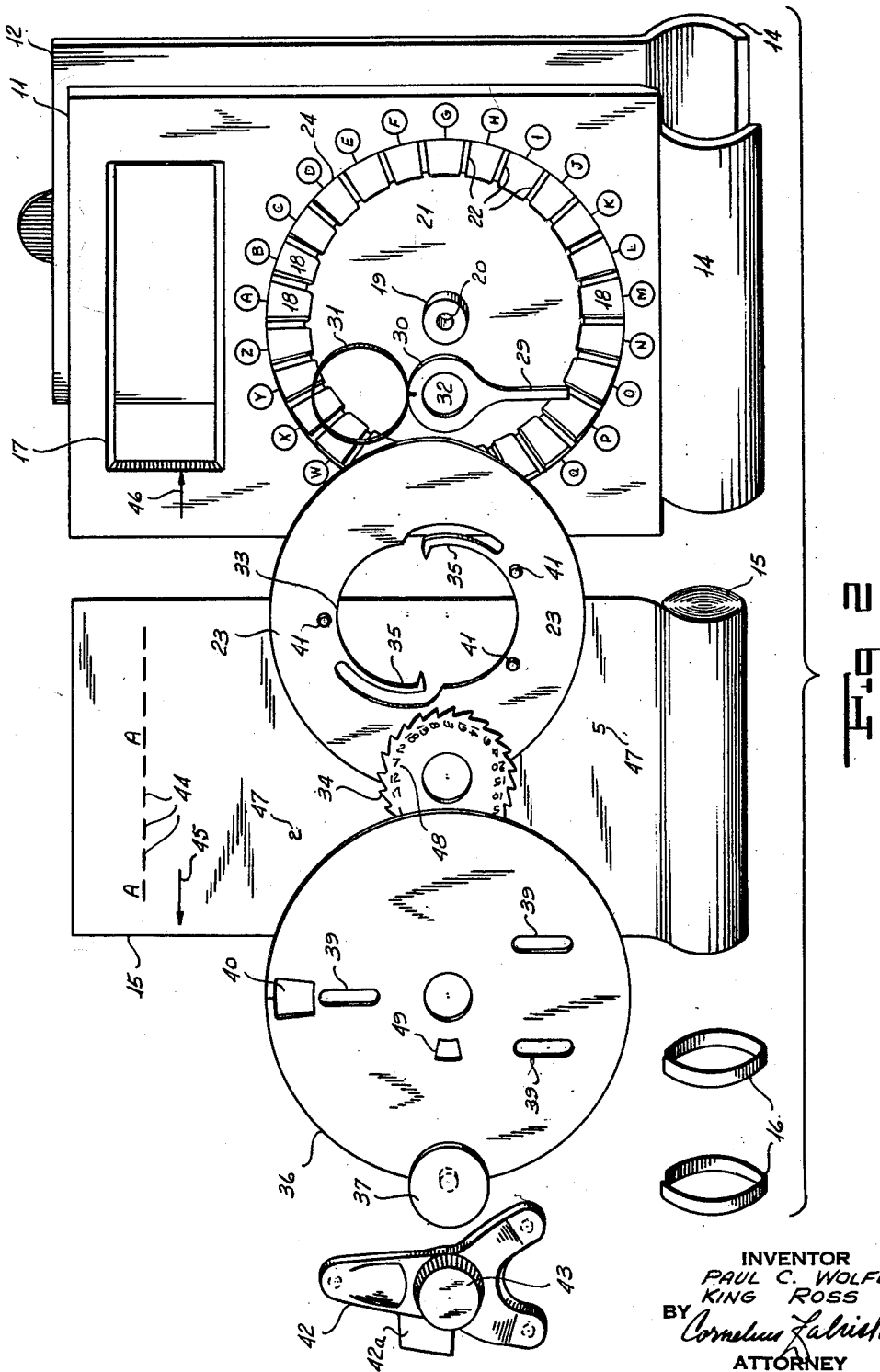
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3 Sheets-Sheet 3

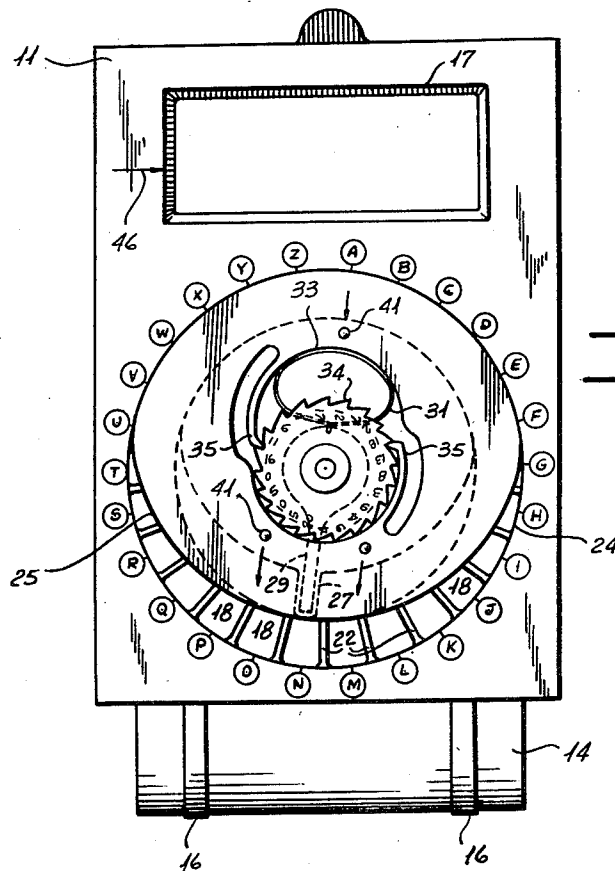


Fig 5

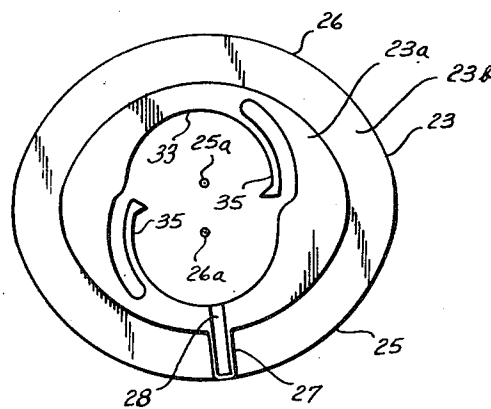


Fig 6

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WORD FORMING GAME APPARATUS

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This invention is a game which, in some of its adaptations, has the aspect of a puzzle, although it is preferably so constituted that a player may exercise his intelligence in the solution of the problem which may be involved.

In the game of this invention a part or parts of the information required for its solution are exposed to view, while another part or parts are concealed but are adapted to be selectively exposed at the will of the player. The player has his choice of several selections and if his choice is fortunate through either chance or judgment, he will work out the solution in a minimum number of exposures or "moves." The game may be played by any number of persons, the purpose of the game being to solve the problem in the least number of choices or moves.

The game of this invention may partake of various mechanical or physical forms. However, in one of its preferred practical embodiments, it comprises a frame having a front panel and a back plate between which a card or web is adapted to be positioned. The front panel of the frame has a frame opening through which certain information on the card or web may be seen at all times. Through this opening notations are adapted to be made on the web as successive portions or steps of the game are disclosed or solved. On the card or web are contained at various positions, parts of the indicia necessary to solve the problem, said indicia being positioned beneath windows provided in the front panel of the frame. All these windows, however, are normally covered by a cover plate having therein a sight opening and a peephole. Around the periphery of the cover plate and on the front face of the panel are additional indicia at all times exposed to view. When the player, by predetermined choice, rotates the cover plate into a particular position, the indicia visible through the sight opening in the cover plate, coupled with the indicia on the exposed face of the panel, will collectively indicate one correct step or factor in the solution of the problem and this operation or "move" is indicated through the peephole in the cover plate by a counter which indicates consecutive moves or operations and thus indicates the number of steps or methods carried out by the player before solution of the game is complete.

The invention embodies numerous features in addition to those already referred to and which will be hereinafter more fully described.

The accompanying drawings illustrate different practical embodiments of the invention, the constructions therein shown are to be understood as illustrative, only, and not as defining the limits of the invention.

Figure 1 is a front elevation of a game embodying the present invention.

Figure 2 is an exploded perspective view showing the various parts of the game dismantled to illustrate their individual constructions.

Figure 3 is a section on the line 3—3 of Figure 1.

Figure 4 is a section on the line 4—4 of Figure 1.

Figure 5 is a view similar to Figure 1, but with the cover plate removed.

Figure 6 is an underneath plan view of a masking and stepping disk used in the construction of Figures 1—6 inclusive.

Referring to Figures 1—6 inclusive, the game therein shown comprises a frame having a front panel 11 and a back plate 12. The front panel is somewhat wider than the back plate and is provided at its lateral edges with rearwardly extending flanges 13 shown best in Figure 4. The back plate 12 is adapted to be received between these

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flanges. At the lower ends both the panel and plate are complementarily semi-cylindrical tubular sections 14 adapted to collectively form a container for a roll of paper shown best in Figure 2. The roll is positioned between the semi-cylindrical sections 14 with a portion of the paper withdrawn from the roll as a web 15 and extending upwardly between the panel and back plate to at least the upper edges thereof and preferably extending slightly beyond as indicated at 15a in Figure 3. The contiguous edges of the flanges 13 confine the paper web laterally and the web and the roll from which it is fed are normally held in place between the panel and plate by spring clips 16 collectively embracing the two semi cylindrical sections 14.

In the upper portion of the front panel 11 is a frame opening 17 and below this opening 17 is a series of windows 18. These windows are arranged in annular sequence about a central boss 19 provided with an axial perforation 20. Between the boss and the windows is a depressed circular plane portion 21 and between consecutive windows 18 are lands 22 elevated above the plane of the circular portion 21, but below the plane of the front face of the panel 11.

Within the central depressed portion of the front plate is seated a combined masking and stepping disk 23 of the particular shape shown in Figures 2 and 6. This disk while having a somewhat elliptical outline is not truly elliptical. On the contrary substantially each of the opposite halves of its periphery is curved on the same radius as the radius of the depression 24, but with the center of curvature in each instance displaced on the opposite side of the center of the disk a distance equal to substantially the radial dimension of the windows 18. The two centers of curvature are indicated in Figure 6 as at 25a and 26a and these centers correspond to the peripheral curves 25 and 26, respectively, of the disks. As a result of this construction, the disk is adapted to cover approximately one-half of the windows while uncovering substantially the other half as shown in Figure 5.

It is not essential in practice that this disk cover half of the windows. It is only necessary that it cover one window at a time, but we find it convenient to make it as shown so that said disk may more efficiently bear against the upper surfaces of the lands 22 during operation of the disk.

The disk 23 has a central portion 23a of a thickness substantially equal to the overall thickness of the depression 24 and this central portion 23a is surrounded by a peripheral portion 23b which is of a thickness approximately equal to the distance of the lands 22 below the plane of the front face of the panel 11. The periphery of the thicker portion 23a also conforms to and is equally spaced from the outer periphery of the thinner portion 23b and the distance between these peripheries is substantially equal to the length of the lands 22 which, in turn, is substantially equal to the radial length of the windows 18.

As shown in Figure 6, the smaller portion of the disk is provided with a metering projection 27 having therein a channel 28. The projection 27 is of a size to enter between two adjacent lands 22 and the channel 28 therein is of a size to receive a tongue 29 of a spring plate 30 which carries spring 31. The spring plate 30 has a central opening 32 adapted to fit over and embrace the boss 19, while the spring 31 is adapted to engage under stress the surface 33 of a central opening in the disk 23.

When the disk 23 is placed in the recess 24, as shown in Figure 5, with the spring 31 under stress against the surface 33 and with the tongue 29 in the channel 28 of the disk, the spring 31 will urge the disk in a direction wherein its edge 26 will ride against the peripheral surface of the recess 24, while the metering projection 27 will be withdrawn from between adjacent lands, so that the disk may be freely rotated without interference between this metering projection and the lands.

Within the central opening of the disk 23 is positioned a counting wheel 34, journaled for rotation on the boss 19 and having rigid teeth in its outer periphery. With these rigid teeth are adapted to cooperate two pawls 35 which, in practice, may be formed on the disk 23.

This disk may be conveniently made of some organic plastic with which the pawls may be integral for, under normal conditions, they need be under no stress but merely sufficiently resilient to pass from tooth to tooth when flexed. The pawls are shown as opposing one another so that when the disk is reciprocated in an up and down direction, as viewed in Figure 2 or 5, the pawl at the left will advance the ratchet wheel during downward movement, while the pawl at the right will advance the ratchet wheel during upward movement. In the form of the invention shown, we have found it convenient to advance the ratchet wheel two teeth by each pawl at each operation.

In assembling the parts, the spring plate 30 is preferably first placed over the boss 19, followed by the disk 23 and the counting ratchet 34 and a cover plate 36 and all these parts are secured in place by a headed stud 37 which engages with the axial perforation 20 of the central boss 19. This headed stud may be threaded to screw into said boss, although in practice we preferably make the parts of plastic and cement the headed stud in place.

It is to be noted that the cover plate is provided with three slots 39, all extending in the same direction which is parallel to the radius of the cover plate which includes a sight opening 40. Projections 41, formed on the upper face of the masking disk 23, extend through these slots 39 and are secured by cement or any appropriate mechanical means to a manually operable member 42 which may be in the form of a dial, but is here shown as a trifoil molding provided with a finger knob 43. By grasping the finger knob 43, with the parts assembled as described, the knob 43, cover plate 36, masking disk 23, counting wheel 34 and spring plate 30 will be freely rotated because the metering projection 27 is held by the spring 31 from engagement with the lands 22. It is to be observed, however, that as long as the masking disk is in the relative position described and shown in Figure 5, no amount of rotation of the parts will make it possible to see any of the window openings 18 through the sight opening 40 of the cover plate. In order to expose any window 18, it is necessary that the sight opening 40 of the cover plate be brought into register with that particular window 18 and the knob 43 then moved in a radial direction away from that window to slide the masking disk from between the opening 40 and that particular window. To accomplish this, the spring 31 is compressed and to insure of proper registration or metering between the sight opening 40 and that particular window, the metering projection 27 must be in line with the space between two lands diametrically opposite the window to be uncovered. When these conditions prevail the knob 43 may be reciprocated radially of the boss 19 to uncover the window 18 which is in register with the sight opening 40.

With the apparatus which has been thus far described the game may be played in several ways, utilizing different characters and obtaining different results which may require or permit of the exercise of intelligence on the part of the player or may be simply matters of chance. In the embodiment shown, the purpose of the game is to spell out a predetermined word unknown to the player until the problem of working out the word has been completed. In this embodiment of the invention, the web 15 of paper is provided at spaced apart distances longitudinally thereof with designated spaces 44, shown in the drawings as nine dashes indicating nine letters of the word "automatic". To give the player something to start with, the two occurrences of the letter "A" in this word are indicated at the first and sixth spaces. The problem is to ascertain the word.

About the periphery of the cover plate 36 and on the front surface of the front panel 11 are arranged the twenty six letters of the alphabet in equally spaced annular sequence with one letter adjacent each window. These letters A, B, C, D, etc. are visible at all times. Provided on the front face of the web 15 at proper spacing and in annular sequence are numbers, appropriate to the spaces 44, 1 to 9 of the word "automatic". These are arranged so that when an arrow 45, provided on the web 15, registers with an arrow 46, provided on the front panel adjacent the frame opening, the several numbers 47 will be in register with corresponding windows 18.

This grouping of letter spaces and numbers on the web is duplicated longitudinally of the web for a plurality of words which may be used by the same or different play-

ers for playing of the game, but for present purposes, the drawings show the word "automatic" and the spacing of numbers 47 appropriate thereto.

In addition to the alphabet on the front panel and the letters and numbers on the web as described, there is also an annular series of numbers 48 on the counting ratchet 34. As hereinbefore stated, the reciprocating movement of the finger piece 43 in one direction advances the counting ratchet two teeth while the return movement of the finger piece advances it two more teeth. Since numbers of the scale on the counting ratchet 34 correspond to the number of teeth in the wheel, the numbers progress in arithmetical sequence for every fourth number of the scale. There are preferably an odd number of teeth in the wheel, such, for example as twenty-one. Consequently, the operation is cyclic and the numbering returns to zero after twenty operations. The numbers of the counter disk scale 48 are adapted to be observed through a peephole 49 in the cover plate 36 when the parts are in normal unstressed positions. When the parts are in stressed condition the projecting fin 42a on the part 42 covers and conceals said peephole.

Assuming now the game is being played, the player having noted that the first letter is A, and, either by chance or design, desires to try the letter U, he grasps the finger knob 43 and turns the cover plate 36, counting ratchet 34, masking disk 23, and spring plate 30 until the sight opening 40 of the cover plate is juxtaposed to the letter U on the front face of the front panel 11.

Having thus positioned the parts, he next reciprocates the knob 43 in a radial direction directly away from the letter U. If the parts are properly juxtaposed, the metering projection 27 will pass between adjacent lands 22 and the peripheral portion 26 of the masking disk will be withdrawn from the peripheral surface of the depression 24 and the surface 25 of that disk will be engaged with such surface, thus uncovering the window corresponding to the letter U. The player will then be able to look through the sight opening 40 and that window 18 and he will observe the number 2 beneath these openings. That number 2 indicates that the U which the player has chosen, is the second letter of the word indicated at the spaces 44 of the frame opening. The player will then mark this letter on the second space 44.

While these operations have been taking place, the pawls 35 have acted upon the counting ratchet 34, so that when the knob 43 is released, the number 1 of the scale 48 will show through the peephole 49, thereby indicating that the player has had one chance or one "move."

To take the next move, the player chooses another letter and operates the parts as before. If some number of the series 47 shows through the selected window the letter corresponding to that window will be entered in one of the spaces 44. If not, the chance or move will have been in vain although it will be counted by the ratchet counter 34 and the number 2 will appear at the peephole 49.

The object of the game when played with this particular word is to complete the word which, in this instance, can be done in a minimum of seven chances or moves, which would constitute a perfect score. After the problem with respect to this particular word has been solved, the projecting portion 15a of the web is pulled to feed the web along and place spaces of another word at the frame opening 17 and then the game may be played with this new word. After all of the words provided for on the rolled web have been played in the manner stated, a new web may be inserted with other words.

We are of course aware that the game of this invention may be played in other ways and that the apparatus and device disclosed may embody other indicia than those illustrated in the drawings and the invention is therefore to be understood as fully commensurate with the appended claims.

Having thus fully described the invention, what we claim as new and desire to secure by Letters Patent is:

1. A game comprising: a front panel having a frame opening in one portion of the panel and also having in another portion of the panel a series of windows arranged in annular sequence and individually identified by indicia on the front face of the panel, a data sheet positioned back of the front panel and carrying two sets of data, one set of which is visible through the frame

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opening and constitutes a part of data which must be completed by uncovering the other set of data at the windows in order to carry out the solution of the problem, a rotatable cover plate overlying all of the windows and provided with a sight opening adapted through rotation of the cover plate to be registered with the windows individually and selectively as determined by the player, a slidable masking disk positioned between the windows and the cover plate, means for normally holding said masking disk in a position to underlie and seal the sight opening in the cover plate, and a handle connected to the cover plate to rotate it and to the masking disk to retract said masking disk to unseal the sight opening.

2. A game according to claim 1, wherein the handle is connected to the masking disk through slots in the cover plate, whereby both the cover plate and masking disk may be conjointly rotated by manipulation of the handle.

3. A game according to claim 1, wherein the masking disk is spring biased to normally seal the sight opening of the cover plate.

4. A game according to claim 1, including a rotatable counter having a ratchet connection with the masking disk to visually indicate the movements of said disk cumulatively.

5. A game according to claim 1, including a ratchet wheel having thereon numbers indicating moves in the game and at least one pawl connected to the masking disk and movable therewith to actuate the ratchet wheel.

6. A game according to claim 1, wherein the exposed window identifying indicia on the front face of the front panel are the letters of the alphabet, one of which is positioned adjacent each window and wherein the data on the sheet in registration with the windows of the panel are numbers showing the positions of selected letters in a word to be spelled out in the solution of the game, the letters of the word being indicated on that portion of the sheet which appears through the frame opening of the front panel by a series of position designations equal in number to the number of letters in the word.

7. A game according to claim 1, wherein the sheet positioned back of the panel forms part of a roll housed within a two part casing, one part of which is integral with the front panel and the other part of which is in-

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tegral with a back plate underlying the rear face of the sheet.

8. A game comprising a front panel provided with a frame opening in one portion of the panel and in another portion of the panel a circular depression in its front face, said depression being provided within its margin with an annular succession of circumferentially spaced apart windows formed in lands intermediate the base of the depression and the front face of the panel, an identifying character positioned adjacent each window on the front face of the panel beyond the periphery of the depression, a cover plate positioned in the depression with its outer surface substantially flush with the front face of the panel, said cover plate being rotatable and having a sight opening which through rotation may be brought into registration with any window, a masking disk positioned back of the cover plate and overlying the lands and normally spring pressed to seal the sight opening of the cover plate, means for locking the masking disk and cover plate together for conjoint rotation while permitting withdrawal of the masking disk from sealing relation with the sight opening of said cover plate, and means to support at the rear of the panel a game sheet carrying data adapted to register with the frame opening and predetermined windows of said panel.

9. A game according to claim 8, wherein the several windows are separated by radial lands and the masking disk is provided with a radial projection so positioned as to enter between adjacent lands to permit unsealing of said sight opening only when said sight opening is in registration with one of said windows.

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