No. 756,514. PATENTED APR. 5, 1904.

G. W. MAXWELL.

GAME APPARATUS.

APPLICATION FILED OCT. 7, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

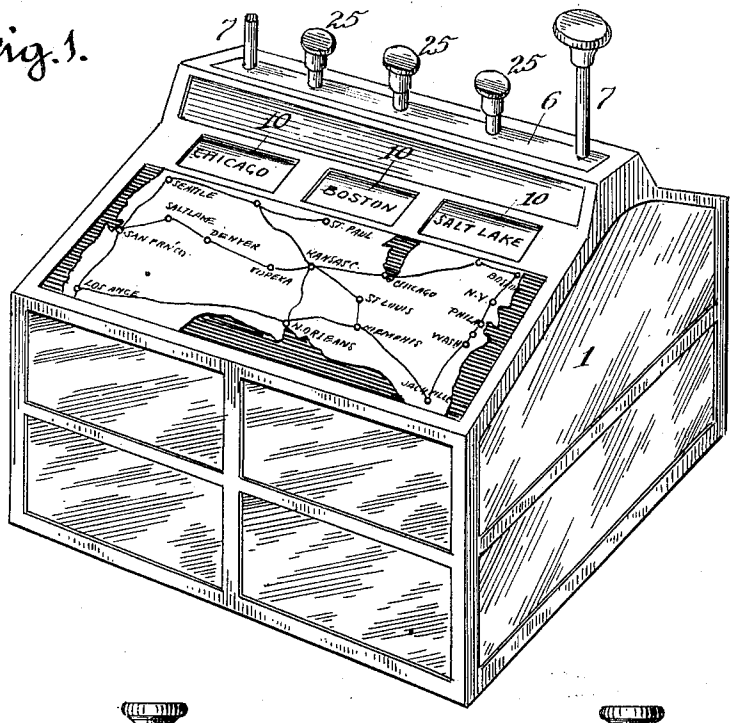


Fig. 7.

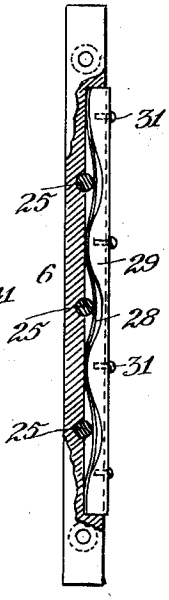
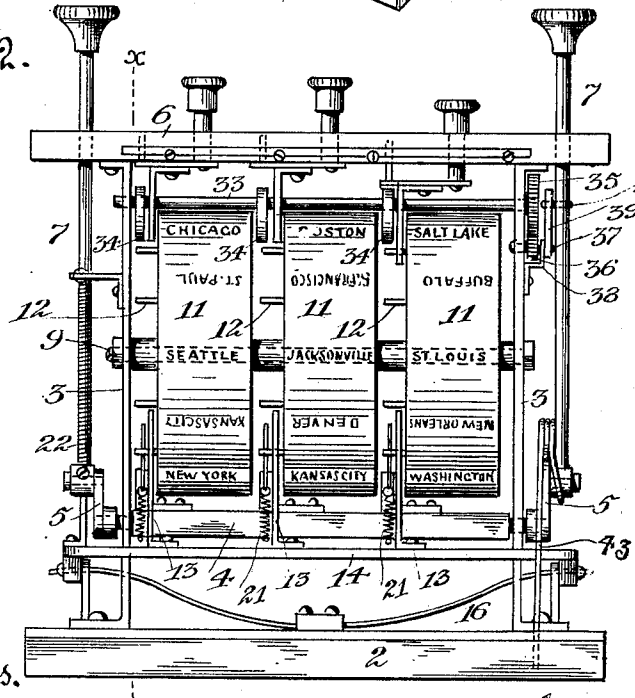


Fig. 2.



Witnesses.

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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 3.

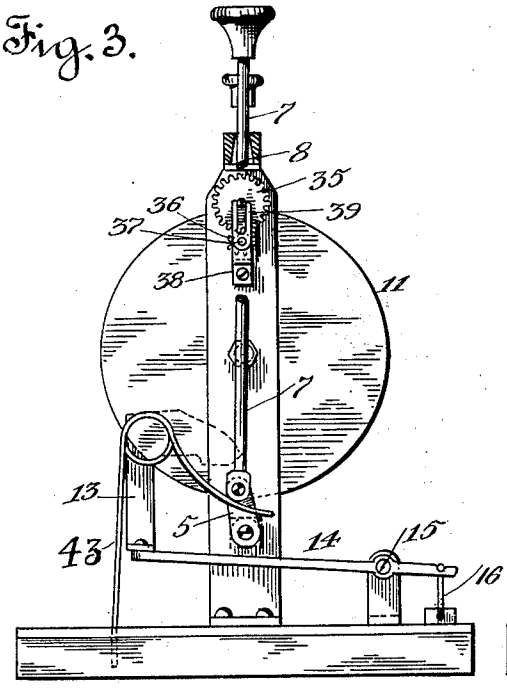


Fig. 4.

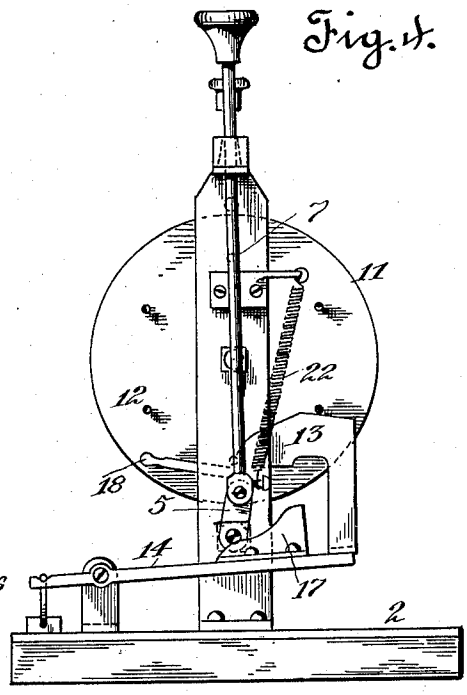


Fig. 5.

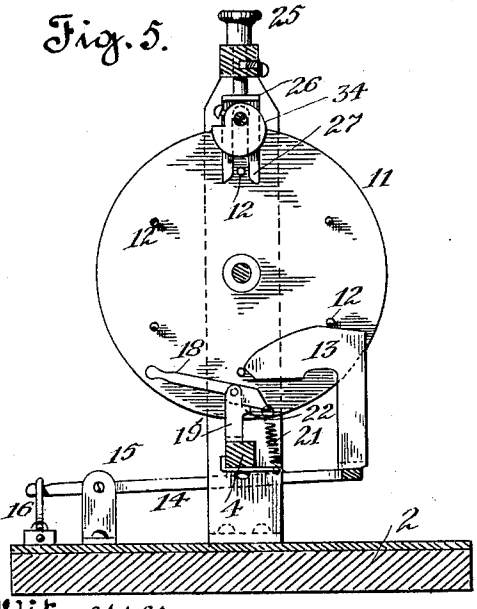
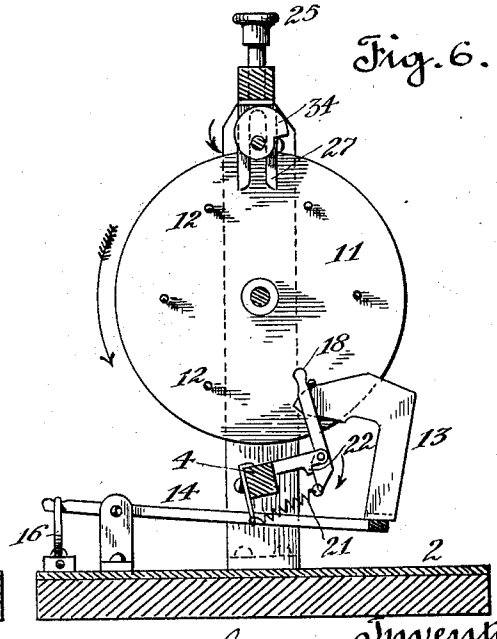


Fig. 6.



Witnesses.

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No. 756,514. Patented April 5, 1904.

UNITED STATES PATENT OFFICE.

GEORGE W. MAXWELL, OF SAN FRANCISCO, CALIFORNIA.

GAME APPARATUS.

SPECIFICATION forming part of Letters Patent No. 756,514, dated April 5, 1904.

Application filed October 7, 1903. Serial No. 176,169. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. MAXWELL, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Game Apparatus, of which the following is a specification.

My invention relates to a game apparatus in which intelligence is conveyed by displaying by means of a mechanical arrangement symbols, characters, words, names, &c., in different permutations and combinations, so that by successive operations of the machine a final result or a final amount of intelligence is obtained.

I have illustrated my invention and the mechanical arrangements embodying it in a geographical game adapted to afford both instruction and amusement and in which the quality of judgment and a certain amount of geographical knowledge are required to arrive at a final result.

Generally speaking, the mechanical arrangement comprises within a box or case a series of wheels or disks independently rotatable and carrying upon their peripheries the separate symbols, characters, or words which convey the desired intelligence. As illustrated in the present case, names of American cities in different parts of the country are used. By striking keys or push-rods these names are displayed in differing combinations at apertures in the case. The manner of playing the game will be hereinafter described in detail. It is sufficient to say in this place that the object is to make an imaginary journey from the city where the game is played to some distant point, to include a certain number of other cities in the route, and to make said route as short as possible under those conditions. Therefore, means are provided for holding out one or more cities which are favorably located in the desired route by locking the disks upon which their names appear and continuing to rotate the remainder of the disks in an attempt to complete the journey by a shorter route than first indicated. The quality of judgment, as well as some degree of geographical information, is required to play the game, which while affording amusement is also a useful and agreeable manner of imparting information.

In the drawings, Figure 1 is a perspective view of the machine inclosed in a case. Fig. 2 is a front elevation of the machine with the case removed. Fig. 3 is an elevation from the right-hand end of Fig. 2. Fig. 4 is an elevation from the left-hand end of Fig. 2. Fig. 5 is a section on *x x* of Fig. 2, showing one of the disks as locked independently of the others. Fig. 6 is a similar view of the same disk, but unlocked. Fig. 7 is a plan view, broken away, to show the spring friction device for the stop-keys.

The case of the machine is shown at 1 and is of such form as to conveniently inclose the mechanism. It is made alike at both sides—that is, the rear, as concealed in the drawings, is like the front, as shown in it, excepting that the apertures or slots in the rear are dropped slightly below those in front. The top is preferably inclined at front and rear for convenience of observation, and three apertures 10 are formed at the front and also at the rear, through which the names of cities are disclosed. I prefer to place a map beneath these apertures on which appear the cities in substantially their proper relative locations connected by lines and having, preferably, the distances between any two so connected accurately stated. The remainder of the casing can be conveniently utilized as advertising-space, if desired.

The manner of playing the game will be hereinafter set forth; but it is first necessary to describe the operating mechanism within the casing.

On the floor of the casing or on a suitable base 2 within it are mounted standards 3 3, one at each end, and near the lower ends of these standards is journaled a square shaft 4, having gudgeons which pass through and bear in holes in the standards. The shaft carries a crank 5 at each end. On top of the standards and extending longitudinally in the machine is a cross-bar 6, which fits and closes an upper slot in the casing, as shown in Fig. 1. At each end of the machine and connected to the crank at that end is a driving-key or push-rod 7, which is guided through a conical hole

8 on the top plate, such hole being made conical, because the push-rod must change its direction in order to follow the crank. A central shaft 9 is fixed in the standards 3, upon which are loose disks 11, shown here as three in number, and which can revolve freely. On the peripheries of these disks are the names of cities, arranged in the present illustration so that there shall be six on each or eighteen in all and all different, and the names correspond to those of the cities indicated upon the map. The names of these cities are also repeated reversely upon the disks and in the same relative arrangement, so that when any three cities show upon what may be called the "front" of the machine the same three will be shown at the apertures in the rear of the casing. Each of the disks has a series of pins 12 projecting sidewise from it, six of such pins being shown in the present illustration spaced at equal distances around. Normally each disk is held in position (see Fig. 5) by an angular dog 13, carried upon the U-shaped frame 14, which is pivoted at the rear at 15 and extends along the sides and across the front. There are three of these dogs, (see Fig. 2,) each of which bears against a pin on a disk, and so locks it. The U-frame is held down at the rear by a leaf-spring 16, the ends of which engage with it, as best shown in Fig. 2, so that it is held up at the front with all the dogs locking the disks. When either push-rod is depressed, the shaft, both cranks 5, and the shaft 4 are turned. The wrist-pin connection of one push-rod to its crank bears against a curved cam 17 on the U-frame, (see Fig. 4,) and so depresses the front of said frame against the pressure of spring 16, and such position is shown in Fig. 6. All the locking-dogs are thereby moved so as to release the pins and disks, and the latter are now free to rotate when impelled in any suitable way. Such an impulse is given immediately after the dogs have released the pins by arms 18, pivoted in standards 19 on the shaft 4 and held normally by tension-springs 21 against stop 22 on said standards. This is the position of Fig. 5; but as soon as the shaft commences to turn each arm 18 comes into contact with that pin which is held by the dog and is put under increasing spring tension as the shaft continues to turn. When under such tension and in the position of Fig. 6, the arm or arms 18 slip past the pin, giving it and the disk to which it is attached a sharp impulse in the direction of the arrow in that figure. The disk is thus revolving rapidly while the crank is completing its revolution, during which said crank moves off the cam, permits spring 16 to return all the dogs 13 to normal position, and also brings all the arms 18 back to their normal positions, which are indicated by the arm shown in Fig. 5. The description just given applies to all the disks, arms, and dogs, which are moved simultaneously, and the disks rotate freely and independently until stopped by some pin on each striking the dog after the return of the latter to its normal position. All of this operation has resulted in bringing the names of three cities on the three separate disks opposite the sight-apertures at front and rear of the casing. The push-rods are sharply returned to their position as soon as their cranks have passed the center by a coil-spring 22, connected to a bracket on the main standard 3.

In order that judgment shall be used in operating the machine, I have provided means for locking one or more of the disks, so that only the remainder can be operated by the push-rods 7. The locking devices are under the control of the players, and so is the release of such locking devices; but I have provided also an automatic release, so that the machine at the conclusion of a player's turn or turns to play shall be placed in readiness for the next player. The locking devices are very simple and one is adapted to each disk. Above each disk and working vertically in the plate 6 is a stop-key 25, to the lower end of which is connected a plate 26 and fork 27, the plate projecting slightly beyond the fork. If any stop-key be depressed so that its fork straddles one of the pins on the related disk, that disk will be locked and will remain locked until the said stop-key is raised by hand or automatically. It can always be raised by hand, but is raised automatically at a proper time, as will be later explained in describing the game. In order to make the descent and action of the stop-keys certain and accurate and to take up any looseness allowed by the easy bearing in which they work, I provide a frictional spring-pressure, which is always excited against them sidewise. This device is shown in Fig. 7 and consists of a straight leaf 28, recessed into the top plate and extending in front of all the stop-key stems. A bar 29, having a waved edge, is set up by screws 31 into the recess in the top plate, giving the same kind of waved or sinuous effect to the leaf 28 and forming it into a spring which bears against all of said stems, as shown.

The object of the geographical game illustrated is to select the shortest route possible from the city in which the game is being played to some other city agreed upon by the players as the destination of a proposed journey, the route to be via any three of the eighteen cities shown upon the map.

The game may be played by any number of persons. The players may contest individually, in pairs, or otherwise. Suppose, for example, that the game is to be played in San Francisco, that there are twelve players, six on each side, and that St. Louis has been agreed upon by the players as the city to which the journey is to be made. The players will then take their positions, six on one side of

the machine and six on the other side. Each player is entitled to three plays or trials. The first player of one set of six players will make his first play by striking one of the push-rods, thus rotating the three disks upon which the names of the cities are situated. Suppose as a result the cities of Seattle, Salt Lake, and Baltimore appear through the apertures. The player will then lock the disk upon which Salt Lake is shown by pressing down the stop-key directly over that city, thus using his judgment in selecting Salt Lake as the most direct route to St. Louis. He will then rotate the remaining two disks by striking the driving-key or push-rod. Suppose the cities of Chicago and New Orleans appear. The player being supposedly at Salt Lake will then retain the city of Chicago by pressing down the proper stop-key. He will then rotate the remaining wheel. Suppose the city of Buffalo should appear. He will then record his score in miles by referring to the map, from which it will be seen that he is compelled to journey to St. Louis via Salt Lake, Chicago, and Buffalo and that the distance from San Francisco to Salt Lake is nine hundred miles, from Salt Lake to Chicago fourteen hundred miles, from Chicago to Buffalo six hundred miles, from Buffalo back to Chicago six hundred miles, and from Chicago to St. Louis two hundred and seventy-eight miles, making a total score of four thousand eight hundred and seventy-eight miles. The first player from the other set of six will then play in a like manner. The players from the two sides alternate until all have played. The scores of each set of players will then be added to determine which set reached St. Louis in the least number of miles, and that side wins the game. A player may select one or more cities from the result of his first or second play. He may by lifting the stop-keys before his second or third play release any cities he may have selected and again rotate the wheel or wheels so released in an effort to shorten his route. Should the city selected as the destination of the journey appear any time during the three trials of a player, he will be considered as having landed or reached his destination, will cease playing, if he so desires, and will be entitled to deduct one thousand miles from his score. As before stated, correct distances between cities on the map should be shown on the lines joining the cities in order to give the required information, to make the game more instructive, and to settle disputes about scores. The result of each play can be viewed from both the front and the back of the machine, and thus one side is as valuable for advertising purposes as the other. After the third trial of a player the stop-keys are automatically lifted and the machine is in condition for another player.

I have hereinbefore referred to the automatic lifting of the stop-keys, and shall now describe how it is accomplished.

Journaled in the upper ends of the standards 3 and passing through the forks 27, which lock the disks, is a shaft 33, having three fixed cams 34, each set in close proximity to one of the forks 27 and just below the overhanging end of its respective supporting-plate 26. On the end of the shaft 33 outside the standard 3 is a gear 35 with which engages a driving-pinion 36, journaled on a pin 37, passing through the standard and a small bracket 38. The arbor of the pinion projects beyond the bracket and carries a crank 39, which is slotted through to its free end. A pin 41 on the adjacent push-rod 7 enters this slot. The same motion of the push-rod which produces a revolution of the crank 5 produces also a revolution of crank 39 and gives a complete turn to the pinion. In the illustration the pinion and gear are in the proportion of three to one, so that one revolution of the pinion will produce one-third of a revolution of the gear, and as the cams are controlled by the gear it will require three complete revolutions of the pinion—that is to say, three complete operations of the machine—to turn the cam from the normal position of Fig. 5 to the position of Fig. 6, where its high face has been caused to bear against plate 26 and so to raise the stop-key, and this operation is simultaneous and automatic for all the stop-keys. Of course when a key has already been raised by hand the related cam is idle and simply moves into position beneath the upraised plate 26. As soon as a play is commenced the cams are moved in the general movement of the machine, leaving all stop-keys free to be depressed until three plays have been completed.

While a single driving-key or push-rod 7 can be employed to operate the machine, I prefer to use two of such keys as a matter of convenience in playing the game from both sides and under one of such push-rods, and bearing against its crank I place a spring 43. (See Fig. 3.) This spring acts as an equalizer for both push-rods and is also put under tension as the crank turns, so that as the crank passes the dead-center it aids the spring 22 in sharply returning both push-rods to their normal position.

I do not limit myself to the precise constructions and arrangements herein described, and shown in the drawings, as I desire to avail myself of such modifications and equivalents as fall properly within the spirit of my invention.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a game apparatus, the combination with rotary disks and with locking-keys for locking one or more of such disks while permitting the rest to rotate, of a straight leaf

bearing upon the stems of all such keys, and a follower-bar having a waved edge and adapted to be set up against said leaf, whereby it is formed into a plurality of spring frictional contacts.

2. In a game apparatus, the combination with separately-rotatable disks carrying separated symbols or characters, a driving-key for rotating said disks, means for locking one or more of said disks, while permitting the remainder to rotate, and means operated by the driving-key after a predetermined number of operations, for unlocking the locked disks, and so placing all the disks in position for another operation.

3. In a game apparatus, the combination with separately-rotatable disks mounted upon a common shaft, and having sidewise-projecting pins, of a push-rod having a crank, a shaft on the crank center, means carried by said shaft for agitating said disks, a spring-pressed pivoted frame, dogs on said frame initially locking said disks, and a cam on said frame in the path of said crank, whereby, in the revolution of said crank, the said frame is depressed, the said dogs removed from contact with said pins, and the means on said shaft caused to operate the said disks, substantially as set forth.

4. In a game apparatus, the combination with separately-rotatable disks mounted upon a common shaft and having sidewise-projecting pins, of a push-rod having a crank, a shaft on the crank center, means carried by said shaft for rotating said disks, a spring-pressed pivoted frame, carrying means for initially locking said disks, means for depressing said frame and causing the said shaft to operate the disks, locking-keys adapted to engage and separately lock the respective disks, and means for automatically disengaging said locking-keys from said disks.

5. In a game apparatus, the combination with separately-rotatable disks, of a shaft carrying means for operating the same, a push-rod connected to said shaft, locking-keys having means for engaging independently with the respective disks, a shaft carrying a series of cams, and operated by the movement of said push-rod, so that, at a predetermined time, the said cams will unlock all of said disks.

6. In a game apparatus, the combination with separately-rotatable disks, each carrying information adapted to be combined upon all or some of them, of means for rotating said disks independently, means for stopping one or more of the disks, while allowing the remainder to be rotated, and means for restoring the stopped disks to a normal position in readiness for another operation.

In testimony whereof I have affixed my signature, in presence of two witnesses, this 22d day of September, 1903.

GEORGE W. MAXWELL.

Witnesses:
L. W. SEELY,
F. M. BURT.