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PROVISIONAL SPECIFICATION.

Improved Coin Freed Game.

I, Ernest George Matthewson of 5 Denman Street London Bridge S.E. in the County of London Engineer do hereby declare the nature of this invention to be as follows:—

The object of my invention is to construct a machine whereby pneumatic games may be played which said machines shall remain inoperative until a coin, coins or the like are inserted. The principle of this invention is to produce a supply of compressed air by means of a pump, pumps, inflators or their equivalent actuated by means of a handle or handles attached outside of the machine and connected to the pump pumps or their equivalent by a crank attached to the spindle or spindles carrying the said handles within the machine. The pump or pumps are always free to be operated by the handles and the air pressure so produced is always free to act upon whatever apparatus is used to form the game, but the apparatus used to form the game is held locked until a coin coins or the like are inserted into the machine to release the mechanism of the game. The coin freed or operated mechanism used in this machine is exactly similar to that used in my Patent No: 9731 of 1896 and therefore I make no claim in this specification to that part of the mechanism.

There are several uses to which the air pressure may be put, to wit: If it is led to a nozzle or nozzles it may be made to blow a model yacht or yachts along in water, to actuate model steamships in water, to cause model men to row boats in water or the pressure of air may be used to work model engines or turn fans by impinging upon their surface after the manner of a windmill, turbine or the like.

Preferably for the use of this invention duplicate mechanisms are used in the machine so as to produce a competitive game to be played by two people such as a yacht race, steamer race or rowing race in water or if engines screws or windmills are used they may be made to form a competitive game of lifting weights, making the greatest number of revolutions, locomotive race or any other suitable use the pneumatic pressure may be put to and in any case the mechanism is so arranged that the winning competitor receives his coin back, consequently two coins are preferably used in the machine and the method used for disposing of the first of the coins inserted is similar to that described in my Patent No. 14484 of 1899 and I do not therefore make any claim in this specification to that part of the mechanism but it is obvious that a single mechanism may be used if a non competitive game is required.

I will first describe the mechanism employed in my pneumatic yacht race game and then the methods by means of which the others are adapted to similar mechanism.

A suitable case is provided the lower part of which is closed in and contains the mechanism and the upper part has a glass front and contains a tank to hold water and any suitable additions to conceal the connecting mechanism and make it look picturesque. I prefer for the yacht race game a mirrored back ground and in front of the mirror at a little distance apart I place two quarter hemispheres painted like the globe, these quarter hemispheres are fixed to the back against the mirror and level with the water so that the reflection of them in the

mirror and water make them appear as two perfect globes surrounded by water: the quarter hemispheres are hollow and inside of them the connecting mechanism from the mechanism beneath the tank and the yachts is carried also the pneumatic arrangements. The pneumatic mechanism is as follows: Two handles are fitted in front of the lower part of the machine near each side, the movement of which is controlled by them being in recesses, these handles actuate spindles carried into the lower part of the case and upon these spindles cranks are fitted which in turn actuate pumps or the like the air pressure thus produced is carried by tubes to the back of the machine and are attached to vertical tubes which are carried up through the top of the quarter hemispheres and form flag poles. These tubes are closed at the top and provided with vanes fixed to the tubes or poles. At the part near the surface of the quarter globes nozzles are let into the tubes pointing in the same direction as the fixed vanes and through these nozzles the air issues. The vertical tubes are so mounted that they may be revolved half a revolution by means of bevelled gear wheels fixed to them engaging bevelled wheels fixed to spindles which pass through the front of the case and terminate in small milled heads, so that each player actuates a pump by means of the handle with one hand and directs the jet of air round the surface of the globe by means of the milled head with the other hand, the fixed arrow indicating to the player the direction he is causing the air from the jet or nozzle to flow to. Or instead of these tubular flag poles and means for actuating them, the vertical spindles hereinafter described may be made hollow and project through the quarter hemispheres and carry the nozzles and in this case they would not require to be actuated from the outside of the case as the nozzles would turn round with the yachts. Both of these actions are free for use at all times and are not in any way controlled by the coin freed or operated mechanism.

The two model yachts are controlled by means of the mechanism in the lower part of the case and are held locked until a coin coins or the like are inserted in the machine. These model yachts are attached by means of small pieces of chain or wire loop at each end of the keels to crank arms. The crank arms are fixed to vertical spindles which pass from the lower mechanism up into the hollow quarter hemispheres and the cranks are so bent that they pass down under the water in the tank and a sufficient distance to hold the yachts about midway between the quarter hemispheres and the front of the tank when in the centre of their travel but the spindle is slighuy forward of the centre of the radius of the quarter hemispheres so that when the yachts are at either side they are brought near to the quarter hemispheres. Each yacht is held before being released by the insertion of a coin or coins at the opposite extreme sides of the hemispheres and when released if the pumps are worked and the nozzles properly directed the yachts may be blown round a semicircular course towards each other until they arrive at the centre part of the case between the two quarter hemispheres and the first to arrive releases a coin and returns it to the winning player and at the same time both yachts are returned to the starting positions ready to be played with again upon the insertion of other coins.

To the vertical spindles carrying the arms which are attached to the yachts under the water other arms are attached beneath the tank, these arms point in the same direction as the upper arms but are hinged so that they may be depressed and are held up to stops horizontally by springs and these lower arms and the upper arms attached to the yachts are the only fixtures to the vertical spindles. Round these vertical spindles just above the lower arms hollow centred toothed wheels are supported in suitable bearings and these wheels carry short arms and pins which pins engage the lower arms on the vertical spindles. These toothed wheels are actuated by racks and the two racks are connected together and placed so that one works on one side of one toothed wheel and the other on the opposite side of the other toothed wheel so that a movement of the connected racks moves the toothed wheels in opposite directions. The racks are so mounted that a movement to the right causes both toothed wheels to revolve

half a revolution which carries the arms connected to them from a position pointing to the outside of each quarter hemisphere to a position pointing to the opposite or inner sides so that both point towards the centre of the case. The pins pointing downwards from the short arms engage the arms of the vertical spindles carrying the yachts on the inside only so that the movement of them by the rack to the right does not move the arms attached to the yacht spindles but only leaves these arms free to move round after the above movement has taken place and when free if the air current is properly directed against the sails of the yachts they will be blown round and being attached by chains to the upper arms connected to the vertical spindles carry them round and consequently the lower arms as well, these travel round until one of them touches one of the pins projecting from the arm of the toothed wheel to which it is connected and the rack is then released by means which will be explained and is drawn back by a spring thus carrying both yachts back to their starting point and holding them there until again released. The release is effected by the coin freed or operated mechanism as follows. The coins (for two are preferably used for this game so that the winner always has his coin returned to him) enter the machine through a special coin slot which is constructed to reject all coins under the size of a penny and also lead dummies iron or tin blanks or the like. The slot itself is just the size to admit a penny and just inside the slot a small shelf is fixed with its top level with the bottom of the slot, this keeps the coin horizontal when being pushed in. Hinged or spindled each side of the slot, just below it, is a steel cranked piece one side of which comes up to just overlap the edge of the slot and is formed into a sharp knife edge. The other part of the crank piece is carried back and upward and across the back of the shelf before mentioned, this latter part of the crank piece from one side being carried at the back of that from the other side. Thus it will be seen if a penny is pushed in to the slot the hard edges force the knives away each side and this movement of the knives raises the part carried across the back of the shelf and allows the penny to fall through. If a coin of less size than a penny is inserted it can only be pressed against one side knife and this would raise one of the cross pieces behind the shelf, but the other one would remain down and prevent the further insertion of the coin. If a lead disc is attempted to be inserted the edges being soft would be cut by the knives and they would either cut in sufficiently to prevent its insertion or if force was used would shear each side off so that the remaining piece of lead would not be of sufficient width to raise the cross pieces by pressing the knives back. Besides the two cranked pieces mentioned a form of horseshoe magnet is mounted on pivots. The shape of the magnet is square at the back and the poles are brought round to a position on either side of the shelf just below its surface. This magnet is mounted between centres and balanced so that the poles are below the level of the shelf and the square back just above the opening formed by the raising of the cross pieces from the crank pieces already mentioned, so that should an iron or tin disc be introduced the poles of the magnet will be immediately drawn up to it and this movement causes the square back part of the magnet to be lowered down opposite the opening caused by the lifting of the crank pieces and blocks their further insertion. Or instead of the poles of the magnet being drawn up to the iron or tin disc the magnet may be centred vertically to the poles and instead of the poles being below the surface of the shelf to be drawn up they would be flush with the surface of the shelf and by adhering to the iron or tin disc would be pushed back thereby lowering the back part of the magnet opposite the opening.

The first penny introduced falls into a bucket lever similar to that described in my improved coin freed or operated cricket game for which Letters Patent No. 14484 of 1899 were granted to me and I make no claim to that part of the mechanism in this invention. The second penny falls between two discs and forms a connection between them thus causing the handle outside the machine to become operative to this part of the mechanism as described in my improved

football game for which Letters Patent No. 9731 1896 were granted to me and I make no claim to this part of the mechanism in this invention. Movement having been given to the second disc by the insertion of the second coin and operating the handle from the outside of the machine, provides means for shifting the double rack hereinbefore mentioned to the right, thus releasing the yachts so that they may be blown round as described. The method employed for causing the movement of the disc to move the rack is as follows:—Four pins are fixed on the outer face of the disc and a lever is pivotted below the disc which passes up to the side of the rack upon which a pin is fitted on the right hand side of the lever and when the rack is at its limit of travel to the left the lever is bearing up against 2 of the pins on the disc which are then square or two pins above two pins, when the disc is revolved a quarter of a revolution the pins become diamond shaped at half stroke and square again on completion of stroke, consequently in moving to this position they must force the lever to the right which carries the rack with it. The rack is then held in this position against the spring which draws it back by means of a detent made in a piece of metal projecting downwards from the piece which connects the two racks in the centre, into which a spring lever catch engages The lever actuated by the movement of the coin discs is not direct to the rack but is carried down to a spindle running from front to back of the case and the lever which passes by the side of the pin on the edge of the rack is carried up from this spindle in a position directly at the side of the rack. Through a hole in the double rack nearer the centre the end of another similarly spindled lever acts. This lever from the rack leads down to a spindle which it actuates when moved and this spindle is carried towards the front of the case to a position to the left of the edge of the coin discs and another lever is carried from this spindle and bent round at its end to just come clear of the edges of the coin discs and in a position to hold the coin from falling out of its position between the discs after it has been carried round by the movement of the handle to its limit of movement. Thus it will be seen that when the rack is to the right the coin is held by this lever but when the rack is released by the withdrawal of the spring catch which engages the detent, the rack is moved to the left drawn by the spring attached to its left hand end and this raises the lever end holding the coin in position and allows it to fall out into one side of a double channel leading to an opening in the front of the case. This opening is double and the double channel has a movement so that it will deliver the coin to whichever side the winning yacht reaches first, this movement will be described later. The spring detent catch lever before mentioned is a lever projecting from a spindle running lengthwise of the case and pivotted to bearings attached to the back of the case and the lever is held up by means of a spring. Upon this same spindle two U shaped levers are mounted one each side of the centre. These U levers are not attached to the spindle but the spindle acts as a centre upon which the levers work. One side of each U lever is brought round to a position parallel to the detent catch lever and a pin projects from each just over it. The other ends of these U levers are carried round to a position just under the hinged lever from the lower part of the vertical spindle which the yachts carry round when the yachts are at the winning post. Thus it will be seen that whichever yacht arrives at the winning post first, causes the lower hinged lever attached to the vertical spindle to be brought over the outer end of the U lever on that side and if the hinged lever is then depressed it will also depress the U lever which in turn will depress the detent lever thus releasing the rack which will then be drawn back by the spring attached to its left hand end thus returning both yachts to the starting point. The two U levers also carry on their inner arms that is those nearest the centre a pin pointing downwards so that when the U lever is depressed the movement of this pin is backward. The lower end of the downward pin from each U lever is connected by a rod or spiral spring to the coin shoot which delivers the coin to the winner. This coin shoot is double and one side is carried beyond the

centre of the case and the other is shorter and not carried quite to the centre. Opposite these two ends openings are made through the front of the case. This double coin shoot is spindled vertically in the centre of the case and the rods or springs from the downward pins of the U levers are connected one each side of this vertical spindle so that the movement of either U lever causes the double coin shoot to be moved one way or the other and this movement is arranged so that the ends close to the coin discs are brought opposite the position where the coin falls according to which U lever actuates it and consequently the coin is delivered to the left hand opening if the left hand yacht wins and the right hand if that side wins. The only other movement to explain is that which depresses the hinged levers attached to the lower part of either vertical spindle hereinbefore described and that is as follows:—Upon each of the two spindles actuated by the handles from the outside of the machine near their back ends a lever arm is fixed and this arm is cranked so as to clear the other parts of the mechanism and its outer end is carried to a position just behind where the hinged lever from the lower part of the vertical spindle comes, when it has been carried round to its extreme limit or winning post by the yacht and upon this outer end a pawl is arranged so that if the hinged lever is in the position mentioned the pawl will pass up past the hinged lever and when past will fall out by being counterweighted or by a spring so that the pawl projects over the hinged lever. The levers carrying these pawls attached to the spindles actuated by the handles of course are depressed every time the handles are depressed to work their pumps as hereinbefore described but have no effect until one of the hinged levers attached to its vertical spindle is brought round under its pawl by being carried round by one of the yachts and the next stroke of the handle on that side after either hinged lever arrives in this position causes the pawl to depress it, that in turn depresses the U lever on the same side which again in turn depresses the detent lever releasing the rack thus returning both yachts to their starting point and actuating the coin shoot so as to deliver the coin to the winning side. The movement of the rack to the left having raised the lever which held the coin between the discs as hereinbefore described.

If model steam ships are used instead of yachts the whole of the mechanism would be the same with the exception of the blowing apparatus and this would be modified as follows:—Instead of the tubes from the pumps being carried up to the movable nozzles described, the nozzles and the apparatus for actuating them from the front of the case are dispensed with and the vertical spindle and arm under the water carrying the model boats are hollow. The air pressure from the pumps is connected to the vertical spindles and is thus lead to the model boats and acts upon fans within the boats carrying either paddle wheels or screws. A similar arrangement to this would be used for rowing boats and for model locomotives the hollow arms from the vertical spindles are carried under the ground surface instead of water and connected to the boilers of the locomotives through a slot between the rails.

Dated this 5th day of November 1900.

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Agent for Applicant,
10 Gt. Turnstile, Holborn, London, W.C.

COMPLETE SPECIFICATION.

Improved Coin Freed Game.

I Ernest George Matthewson of 5 Denman Street London Bridge S.E. in the County of London Engineer do hereby declare the nature of this invention

and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

The object of my invention is to construct a machine whereby pneumatic games may be played which said machines shall remain inoperative until a coin, coins, or the like are inserted. The principle of this invention is to produce a supply of compressed air by means of a pump, pumps, inflators or their equivalent actuated by means of a handle or handles, attached outside of the machine and connected to the pump pumps or their equivalent by a crank attached to the spindle or spindles carrying the said handles within the machine. The pump or pumps or the like are always free to be operated by the handles and the air pressure so produced is always free to act upon whatever apparatus is used to form the game, but the apparatus used to form the game is held locked until a coin, coins, or the like are inserted into the machine to release the mechanism of the game. The coin freed or operated mechanism used in this machine is exactly similar to that used in my Patent No. 9731 of 1896, therefore I make no claim in this specification to that part of the mechanism. There are several uses to which the air pressure may be put, to wit, if it is led to a nozzle or nozzles it may be made to blow a model yacht or yachts along in water, to actuate model steam ships in water, to cause model men to row boats in water, or the pressure of air may be used to work model engines or turn fans by impinging upon their surface after the manner of a windmill, turbine, or the like. Preferably for the use of this invention duplicate mechanisms are used in the machine so as to produce a competitive game to be played by two people such as a yacht race, steamer race, or rowing race, in water or if engines, screws, or windmills are used, they may be made to form a competitive game of lifting weights, making the greatest number of revolutions, locomotive race or any other suitable use the pneumatic pressure may be put to, and in any case the mechanism is so arranged that the winning competitor receives his coin back consequently two coins are preferably used in the machine and the method used for disposing of the first of the coins inserted is similar to that described in my Patent No. 14484 of 1899, and I do not therefore make any claim in this specification to that part of the mechanism.

But it is obvious that one complete mechanism only may be used for a machine to be used by one person only. I will first describe the mechanism employed in my pneumatic yacht race game and then the methods by means of which the others are adapted to similar mechanism.

In the accompanying drawings Sheet. 1. Fig. 1. is a perspective front view of the complete machine. Sheet. 2. Fig. 2. is a front elevation with case removed. Sheet. 3. Fig. 3. is a plan of Fig. 2. and Sheet. 4. Fig. 4. an end elevation of Fig. 2. Sheet. 5. Figs. 5. 6. 7. and 8 are respectively, front elevation, front elevation with front plate removed, side elevation with side plate removed, and plan with top plate removed of coin slot. Similar letters denote corresponding parts throughout the drawings. A suitable case .A. is provided the lower part of which is closed in and contains the mechanism and the upper part has a glass front and contains a tank .B. to hold water and any suitable additions to conceal the connecting mechanism and make it look picturesque.

I prefer for the yacht race game a mirrored back ground and in front of the mirror at a little distance apart I place two quarter hemispheres .C.C. painted like the globe these quarter hemispheres are fixed to the back against the mirror and level with or below the water level so that the reflection of them in the mirror and water makes them appear as two perfect globes surrounded by water, these quarter hemispheres are hollow and inside of them the connecting mechanism from the mechanism beneath the tank and the yachts is carried also the pneumatic arrangements. The pneumatic mechanism is as follows. Two handles .D.D. are fitted in front of the lower part of the machine near each side,

the movement of which is controlled by them, being in recesses, these handles actuate spindles .E.E. carried into the lower part of the case and upon these spindles cranks .F.F. and connecting rods .G.G. are fitted which in turn actuate pumps or bellows .H.H. the air pressure thus produced is carried by tubes .I,I to the back of the machine and these are attached to vertical tubes .J.J. which are carried up through the top of the quarter hemispheres and form flag poles, these tubes are closed at the top and may be provided with vanes fixed to the tubes or poles.

At the part near or a little above the surface of the quarter globes nozzles .K.K. are let into the tubes .J.J. pointing in the same direction as the fixed vanes, and through these nozzles the air issues. The vertical tubes .J.J. are so mounted that they may be revolved half a revolution by means of bevelled gear wheels .L.L. fixed to them engaging bevelled wheels .M.M. fixed to spindles .N.N. which pass through the front of the case and terminate in small milled heads .N¹.N¹. so that each player actuates a pump by means of the handle .D. with one hand and directs the jet of air round the surface of the globe by means of the milled head .N¹. attached to the spindle .N. with the other hand, the fixed arrow if used indicating to the player the direction he is causing the air from the jet or nozzle to flow to. Or instead of these tubular flag poles and means for actuating them, the vertical spindles hereinafter described may be made hollow and project through the quarter hemispheres and carry the nozzles and in this case they would not require to be actuated from the outside of the case as the nozzles would turn round with the yachts. Both of the actions are free for use at all times and are not in any way controlled by the coin freed or operated mechanism.

The two model yachts .O.O. are controlled by means of the mechanism in the lower part of the case and are held locked until a coin, coins, or the like are inserted in the machine.

These model yachts are attached by means of small pieces of chain or wire loops or hooks .P.P. at each end of the keels to crank arms .Q.Q.

The crank arms are fixed to vertical spindles .R.R. which pass from the lower mechanism up into the hollow quarter hemispheres and the cranks are so bent that they pass down under the water in the tank .B. and a sufficient distance to hold the yachts about midway between the quarter hemispheres and the front of the tank when in the centre of their travel, but the spindle is slightly forward of the centre of the radius of the quarter hemispheres .C.C. so that when the yachts are at either side they are brought near to the quarter hemispheres, the travel being shown by dotted lines.

Each yacht is held before being released by the insertion of a coin or coins at the opposite extreme sides of the hemispheres as shown in the drawings, and when released if the bellows .H. are worked and the nozzles .K. properly directed the yachts may be blown in a semicircular course towards each other until they arrive at the centre part of the case between the two quarter hemispheres, and the first to arrive releases a coin and returns it to the winning player and at the same time both yachts are returned as hereinafter described to the starting positions ready to be played with again upon the insertion of other coins.

To the vertical spindles .R.R. carrying the arms .Q.Q. which are attached to the yachts under the water, other arms .T.T. are attached beneath the tank, these arms point in the same direction as the upper arms .Q.Q. but are hinged at .U.U. so that they may be depressed and are held up to stops horizontally by springs .V.V. and these lower arms and the upper arms attached to the yachts are the only fixtures to the vertical spindles .R.R. Round these vertical spindles just above the lower arms hollow centred toothed wheels .W.W. are supported in suitable bearings and these wheels carry short arms .S.S. and pins .X.X. which pins engage the lower arms .T.T. on the vertical spindles. These toothed wheels are actuated by racks .Y.Y. the two racks are connected together and placed so that one works on one side of one toothed

wheel and the other on the opposite side of the other toothed wheel so that a movement of the connected racks moves the toothed wheels in opposite directions.

The racks are so mounted that a movement to the right causes both toothed wheels to revolve half a revolution which carries the arms connected to them from a position pointing to the outside of each quarter hemisphere to a position pointing to the opposite or inner sides so that both point towards the centre of the case.

The pins .X.X. pointing downwards from the short arms .S.S. engage the arms .T.T. of the vertical spindles .R.R. carrying the yachts .O.O. on the inside only so that the movement of them by the rack being moved to the right does not move the arms .T.T. attached to the yacht spindles .R.R. but only leaves these arms free to move round after the above movement has taken place and when free, if the air current is properly directed against the sails of the yachts they will be blown round and being attached by hooks .P.P. or chains to the upper arms .Q.Q. connected to the vertical spindles .R.R. carry them round, and consequently the lower arms .T.T. as well these travel round until one of them touches one of the pins .X. projecting from the arm .S. of the toothed wheel .W. to which it is connected and the rack is then released by means which will be explained, and is drawn back by a spring .Z. thus carrying both yachts back to their starting point and holding them there until again released. The release is effected by the coin freed or operated mechanism as follows:—

The coins (for two are preferably used for this game so that the winner always has his coin returned to him) enter the machine through a special coin slot Sheet. 5. Figs. 5. 6. 7. and .8. which is constructed to reject all coins under the size of a penny and also lead dummies iron or tin blanks or the like.

The slot itself .*a*. is just the size to admit a penny and just inside the slot a small shelf .*b*. is fixed with its top level with the bottom of the slot, this keeps the coin horizontal when being pushed in. Hinged or spindled each side of the slot just below it is a steel cranked piece .*cc*. one side of which comes up to just overlap the edge of the slot and is formed into a sharp knife edge. The other part of the crank piece is carried back and upward and across the back of the shelf before mentioned, this latter part of the crank piece from one side being carried at the back of that from the other side.

Thus it will be seen if a penny is pushed into the slot the hard edges force the knives away each side and this movement of the knives raises the parts carried across the back of the shelf and allows the penny to fall through. If a coin of less size than a penny is inserted it can only be pressed against one side knife and this would raise one of the cross pieces behind the shelf but the other one would remain down and prevent the further insertion of the coin. If a lead disc is attempted to be inserted the edges being soft would be cut by the knives and they would either cut it sufficiently to prevent its insertion or if force was used would shear each side off so that the remaining piece of lead would not be of sufficient width to raise the cross pieces by pressing the knives back. Besides the two cranked pieces mentioned a form of horseshoe magnet .*d*. is mounted on pivots .*e.e*. The shape of the magnet is square at the back and the poles are brought round to a position on either side of the shelf just below its surface. This magnet is mounted between centres .*e.e*. and balanced so that the poles are flush with the level of the shelf, so that should an iron or tin disc be introduced the poles of the magnet will immediately adhere to it and move it backwards this movement causes the crank piece .*f*. fixed to the back part of the magnet, to be moved back also, and this movement allows another lever .*g*. to fall and block the further insertion of the iron or tin disc. The right hand knife lever .*c*. after crossing the back of the shelf is continued further as shown at .*h*. and this extension engages the back of the lever .*g*. and raises it again after the iron or tin disc is removed thus, allowing the magnet to fall forward again. The first penny introduced falls into a bucket lever .*i*. similar to that described in my improved coin freed or operated cricket game for which Letters

Patent No 14484 of 1899 were granted to me and I make no claim to that part of the mechanism in this invention. The second penny falls between two discs *.j.* and *.k.* and forms a connection between them thus causing the handle outside the machine to become operative to this part of the mechanism as described in my improved football game for which Letters Patent No. 9731 of 1896 were granted to me and I make no claim to this part of the mechanism in this invention. Movement having been given to the second disc by the insertion of the second coin and operating the handle from the outside of the machine provides means for shifting the double rack .Y. hereinbefore mentioned to the right, thus releasing the yachts so that they may be blown round as described.

The method employed for causing the movement of the disc *.k.* to move the rack .Y. is as follows, four pins *.l.l.l.l.* are fixed on the outer face of the disc *.k.* and a lever *.m.* is pivoted on a spindle *.n.* below the disc from which another lever *.o.* passes up to the side of the rack upon which a pin *.p.* is fitted on the right hand side of the lever and when the rack is at its limit of travel to the left the lever is bearing up against two of the pins *.l.* on the disc *.k.* which are then square or two pins above two pins, when the disc is revolved a quarter of a revolution the pins become diamond shaped at half stroke and square again on completion of stroke, consequently in moving to this position they must force the lever to the right which carries the rack with it. The rack is then held in this position against the spring which draws it back by means of a detent *.q.* made in a piece of metal projecting downwards from the piece which connects the two racks in the centre, into which a spring lever catch *.r.* engages. The lever actuated by the movement of the coin discs is not connected direct to the rack but is carried down to a spindle *.n.* running from front to back of the case and the lever *.o.* which passes by the side of the pin on the edge of the rack is carried up from this spindle in a position directly at the side of the rack .Y. Through a hole in the double rack or between a pair of pins *.s.s.* nearer the centre, the end of another similarly spindled lever *.t.* acts. This lever from the rack leads down to a spindle which it actuates when moved and this spindle is carried towards the front of the case to a position to the left of the edge of the coin discs *.j.* and *.k.* and another lever is carried from this spindle and bent round at its end to just come clear of the edges of the coin discs and in a position to hold the coin from falling out of its position between the discs after it has been carried round by the movement of the handle to its limit of movement.

Thus it will be seen that when the rack is to the right the coin is held by this lever, but when the rack is released by the withdrawal of the spring catch which engages the detent, the rack is moved to the left drawn by the spring .Z. attached to its left hand end and this raises the lever end in the position shown thus allowing the coin to fall out into one side of a double channel *.u.* leading to openings $.u^1.$ and $.u^2.$ in the front of the case. This opening is double and the double channel has a movement so that it will deliver the coin to whichever side the winning yacht reaches first, this movement will be described later.

The spring detent catch lever *.r.* before mentioned is a lever projecting from a spindle *.v.* running lengthwise of the case and pivoted to bearings *.w.* attached to the back of the case and the lever is held up by means of a spring *.x.* Upon this same spindle two U shaped levers *.y.y.* are mounted one each side of the centre.

These U levers are not attached to the spindle but the spindles acts as a centre upon which the levers work, one side of each U lever is brought round to position parallel to the detent catch lever and a pin *.z.z.* projects from each just over it. The other ends of these U levers are carried round to a position just under the hinged lever T.T. from the lower part of the vertical spindle .R. which the yachts carry round when the yachts are at the winning post. Thus it will be seen that whichever yacht arrives at the winning post first causes the lower hinged lever .T. attached to the vertical spindle .R. to be brought over

the outer ends of the U lever on that side and if the hinged lever is then depressed it will also depress the U lever *.y.* which in turn will depress the detent lever *.r.* thus releasing the rack .Y. which will then be drawn back by the spring .Z. attached to its left hand end thus returning both yachts to the starting point.

The two U levers *.y.y.* also carry on their inner arms that is those nearest the centre, a pin .1.1. pointing downwards so that when the U lever is depressed the movement of this pin .1. is backward. The lower end of the downward pin from each U lever is connected by a rod or spiral spring .2.2. to the coin shoot *.u.* which delivers the to the winner. This coin shoot is double and one side is carried beyond the centre of the case and the other is shorter and not carried quite to the centre. Opposite these two ends openings are made through the front of the case. This double coin shoot is spindled vertically at .3. in the centre of the case and the rods or springs from the downward pins .1.1. of the U levers are connected one each side of this vertical spindle so that the movement of either U lever causes the double coin shoot to be moved one way or the other and this movement is arranged so that the ends close to the coin discs are brought opposite the position where the coin falls, according to which U lever actuates it and consequently the coin is delivered to the left hand opening if the left hand yacht wins, and the right hand if that side wins. The only other movement to explain is that which depresses the hinged levers .T.T. attached to the lower part of either vertical spindle .R. hereinbefore described and that is as follows. Upon each of the two spindles .E.E. actuated by the handles from the outside of the machine near their back ends a lever arm .4.4. is fixed and this arm is cranked so as to clear the other parts of the mechanism and its outer end is carried to a position just behind where the hinged lever .T. from the lower part of the vertical spindle .R. comes when it has been carried round to its extreme limit or winning post by the yacht, and upon this outer end a pawl .5.5. is arranged so that if the hinged lever .T. is in the position mentioned the pawl will pass up past the hinged lever and when past will fall out by being counterweighted, or by a spring so that the pawl projects over the hinged lever. The levers .4.4. carrying these pawls .5.5. attached to the spindles .E.E. actuated by the handles of course are depressed every time the handles are depressed to work their pumps or bellows as hereinbefore described but have no effect until one of the hinged levers .T. attached to its vertical spindle .R. is brought round under its pawl .5. by being carried round by one of the yachts and the next stroke of the handle on that side after either hinged lever .T. arrives in this position causes the pawl .5. to depress it, that in turn depresses the U lever *.y.* on the same side which again in turn depresses the detent lever *.r.* releasing the rack .Y. this returning both yachts to their starting point and actuating the coin shoot *.u.* so as to deliver the coin to the winning side. The movement of the rack to the left having raised the lever *.t.* which held the coin between the discs *.j.* and *.k.* as hereinbefore described.

If model steam ships are used instead of yachts the whole of the mechanism would be the same with the exception of the blowing apparatus and this would be modified as follows:—

Instead of the tubes from the pumps or bellows being carried up to the moveable nozzles described, the nozzles and the apparatus for actuating them from the front of the case are dispensed with and the vertical spindle and arm under the water carrying the model boats are made hollow. The air pressure from the pumps is connected to the vertical spindles and is thus led to the model boats and acts upon fans within the boats carrying either paddle wheels or screws, a similar arrangement to this would be used for rowing boats, and for model locomotives, the hollow arms from the vertical spindles are carried under the ground surface instead of water, and connected to the boilers of the locomotives through a slot between the rails.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is

.1. The use in combination with a coin freed or operated machine of model boats, a water tank to float the said model boats and mechanism whereby the model boats are held locked until released by the coin operated mechanism and guided in their courses when blown by a pressure of air supplied by pumps, bellows, or the like, the said pumps bellows or the like being always free to work by means of handles from the outside of the machine and the air pressure so produced being always free to act upon the model boats.

.2. The use in combination with coin freed or operated machines of pneumatically propelled model locomotives or other engines windmills or the like which are released by the coin operated mechanism and driven by air pressure supplied from pumps, bellows, or the like, the said pumps and air pressure being always free to act, the models only being locked and released by mechanism in connection with the coin operated mechanism.

.3. The use in combination with coin freed or operated machines of handles $N^1.N^1$. spindles .N.N. bevel wheels .L.L. and .M.M. and tubes .J.J. carrying nozzles .K.K. actuated thereby.

.4. The use in combination with coin freed or operated machines of crank arms .Q.Q. carried on vertical spindles .R.R. arms .T.T. attached thereto hollow toothed wheels .W.W. short arms .S.S. and pins .X.X. and racks .Y.Y. actuating the toothed wheels .W. and arms .S.S. Lever *.m.* spindle *.n.* and lever *.o.* actuating the racks .Y.Y.

5. The use in combination with coin freed or operated mechanism of detent *.q.* spring lever catch *.r.* and spindle *.v.* U shaped levers *.y.y.* pins *.z.z.* pins .1.1. springs .2.2. double coin delivery shoot *.u.* vertical spindle of same .3. lever arms .4.4. and pawls .5.5.

.6. The use in combination with coin freed or operated machines of the special coin slot apparatus substantially as described and illustrated on Sheet .5. Figs, 5. 6. 7. and 8.

.7. The coin freed or operated game substantially as herein described and illustrated in the accompanying drawings.

Dated this 4th day of September 1901.

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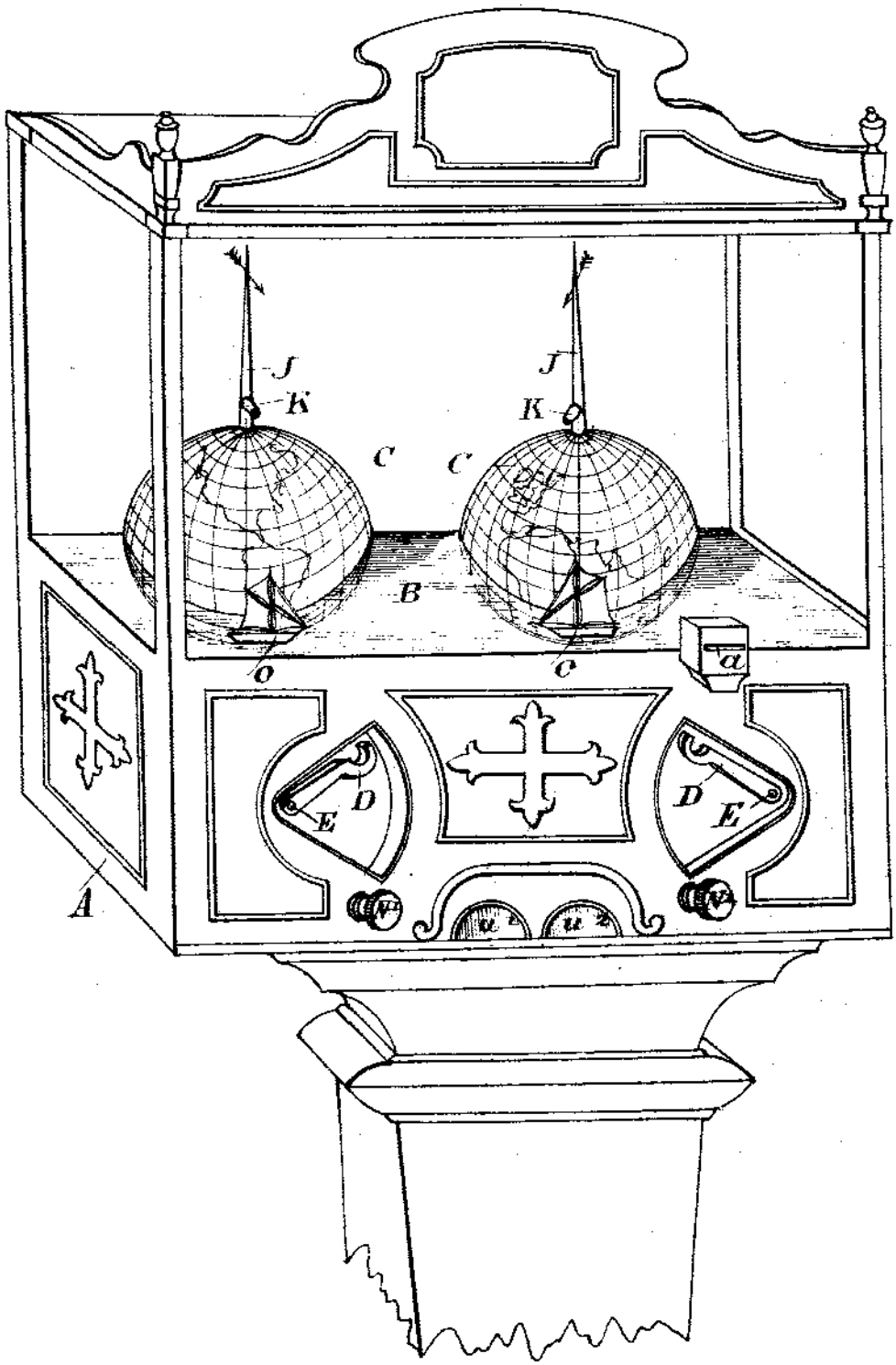

FIG. 1.

[This Drawing is a reproduction of the Original on a reduced scale.]

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