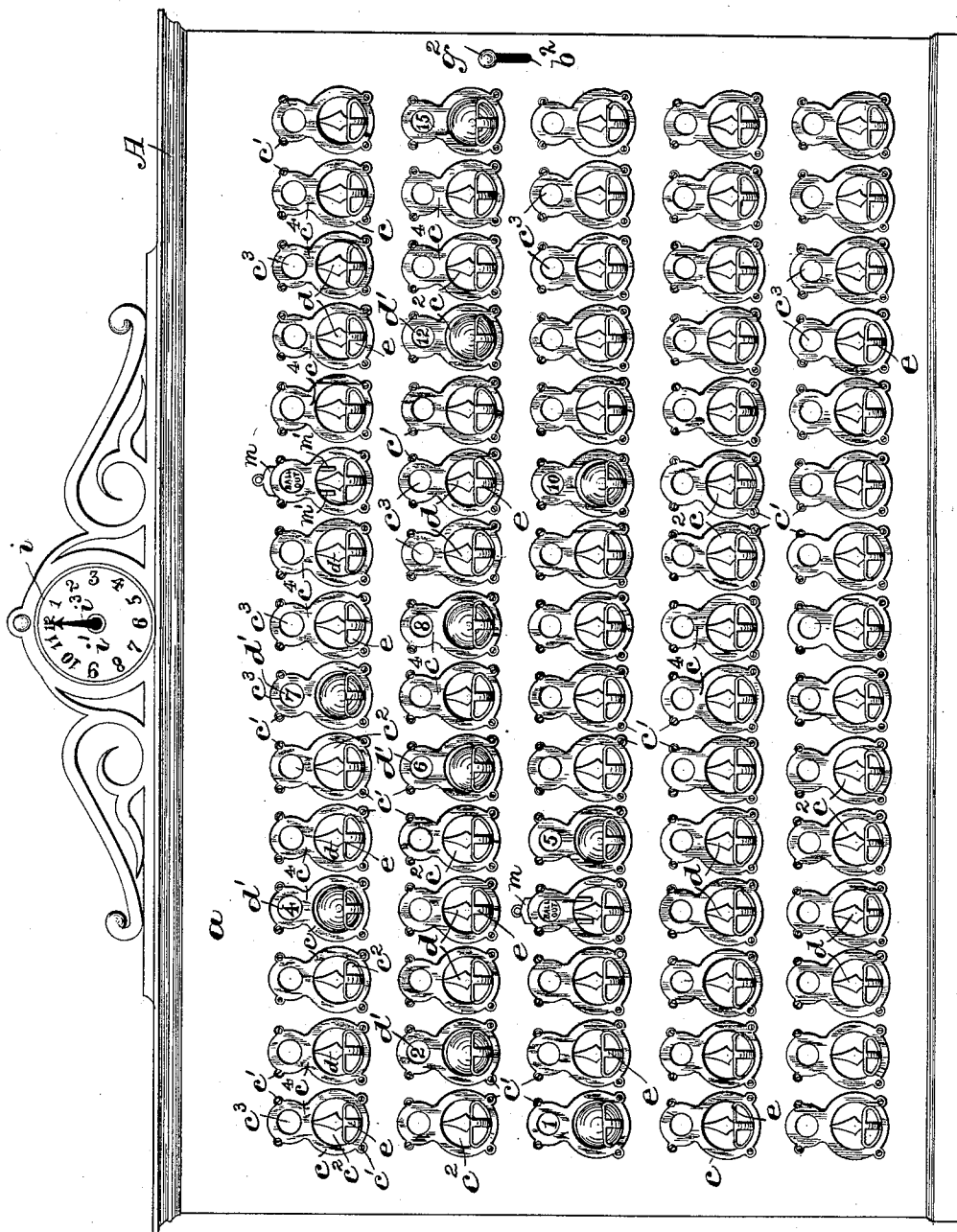


8 Sheets—Sheet 1.

POOL RACK.

Patented Oct. 18, 1892.



INVENTORS:

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Fig. 1

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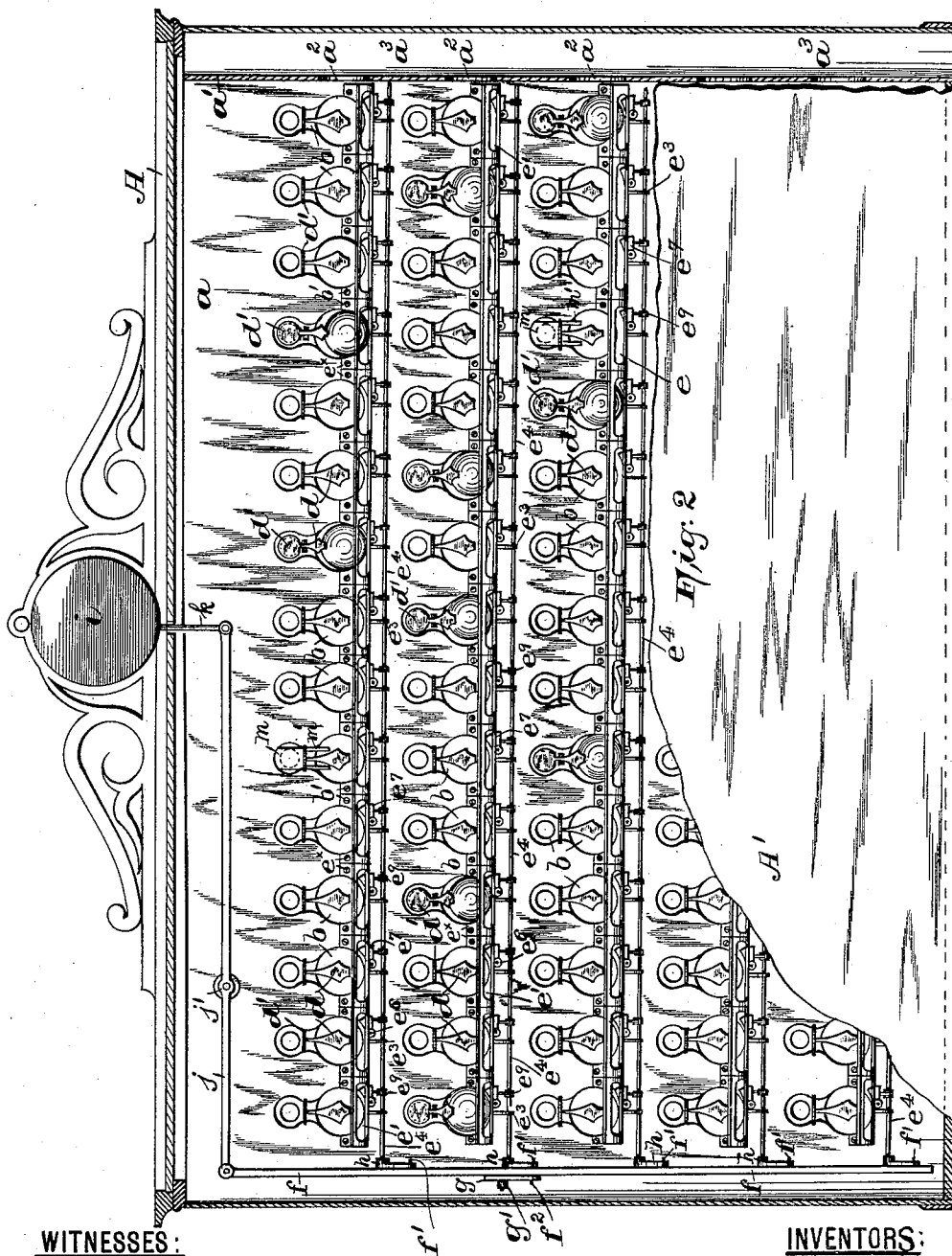
(No Model.)

8 Sheets—Sheet 2.

G. F. HALL & H. GOTTSCHALK.
POOL RACK.

No. 484,533.

Patented Oct. 18, 1892.



WITNESSES:

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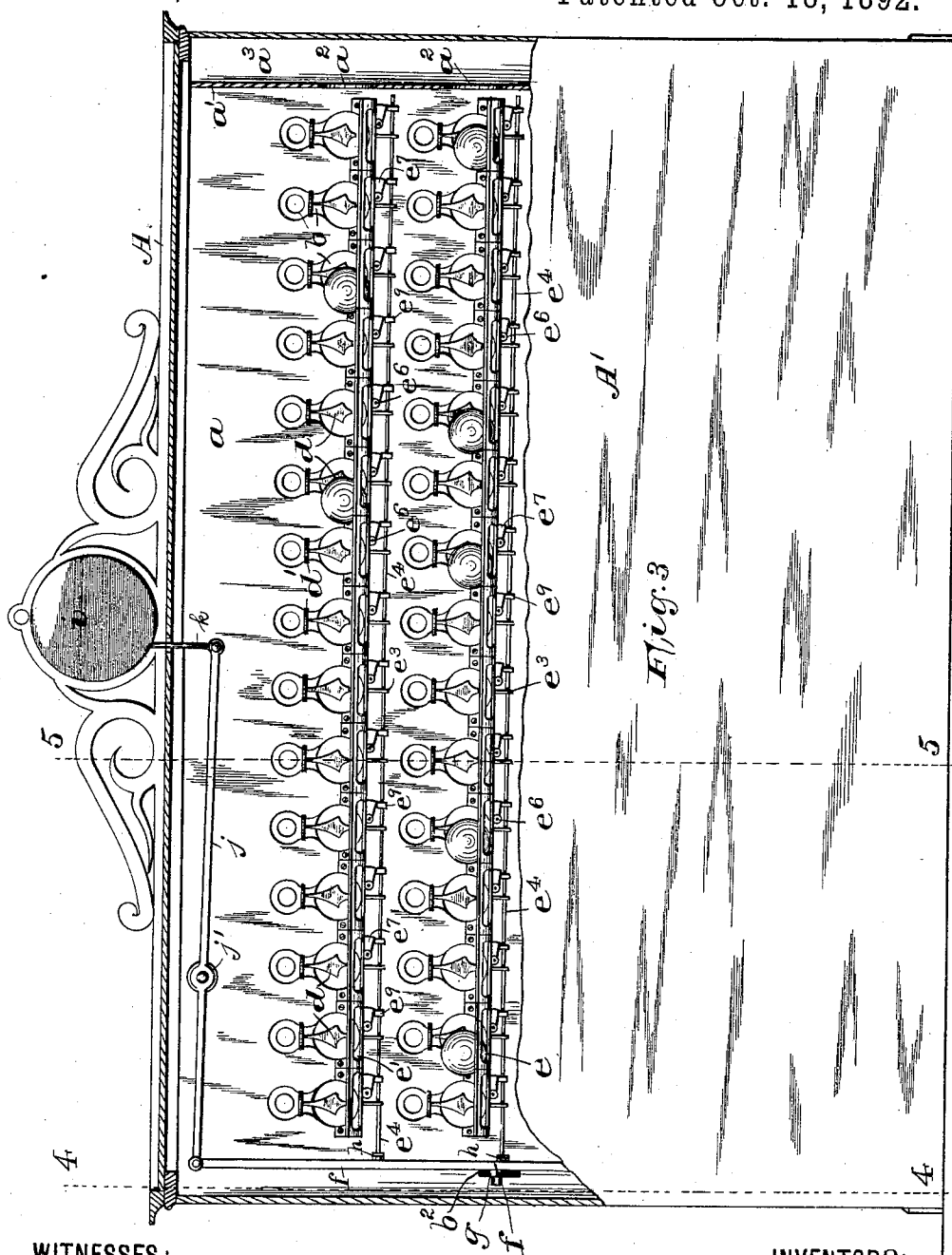
INVENTORS:

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8 Sheets—Sheet 3.

No. 484,533.

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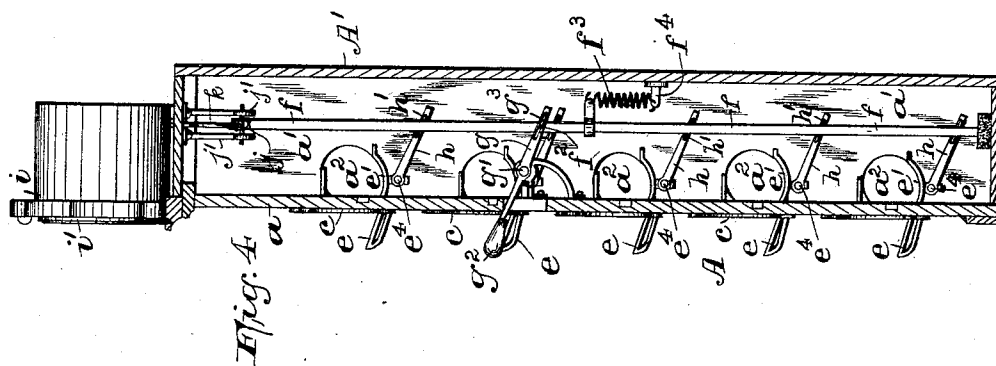
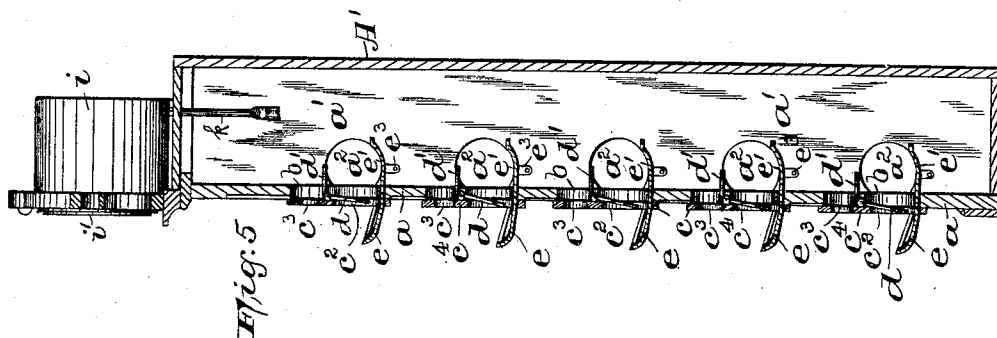
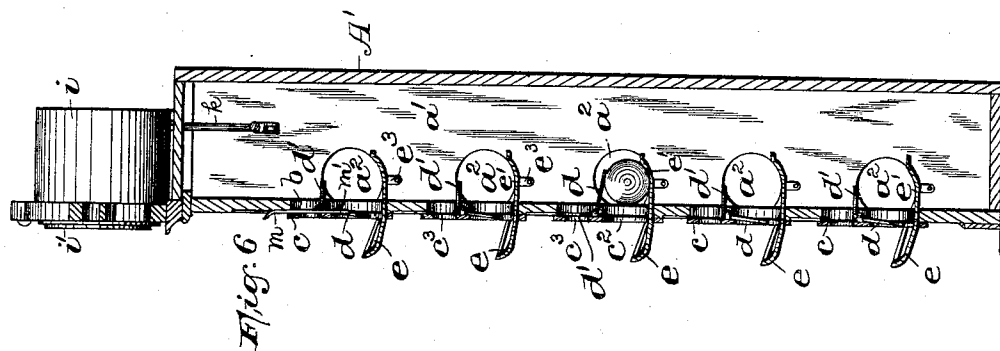
(No Model.)

8 Sheets—Sheet 4.

G. F. HALL & H. GOTTSCHALK.
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No. 484,533.

Patented Oct. 18, 1892.



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(No Model.)

8 Sheets—Sheet 5.

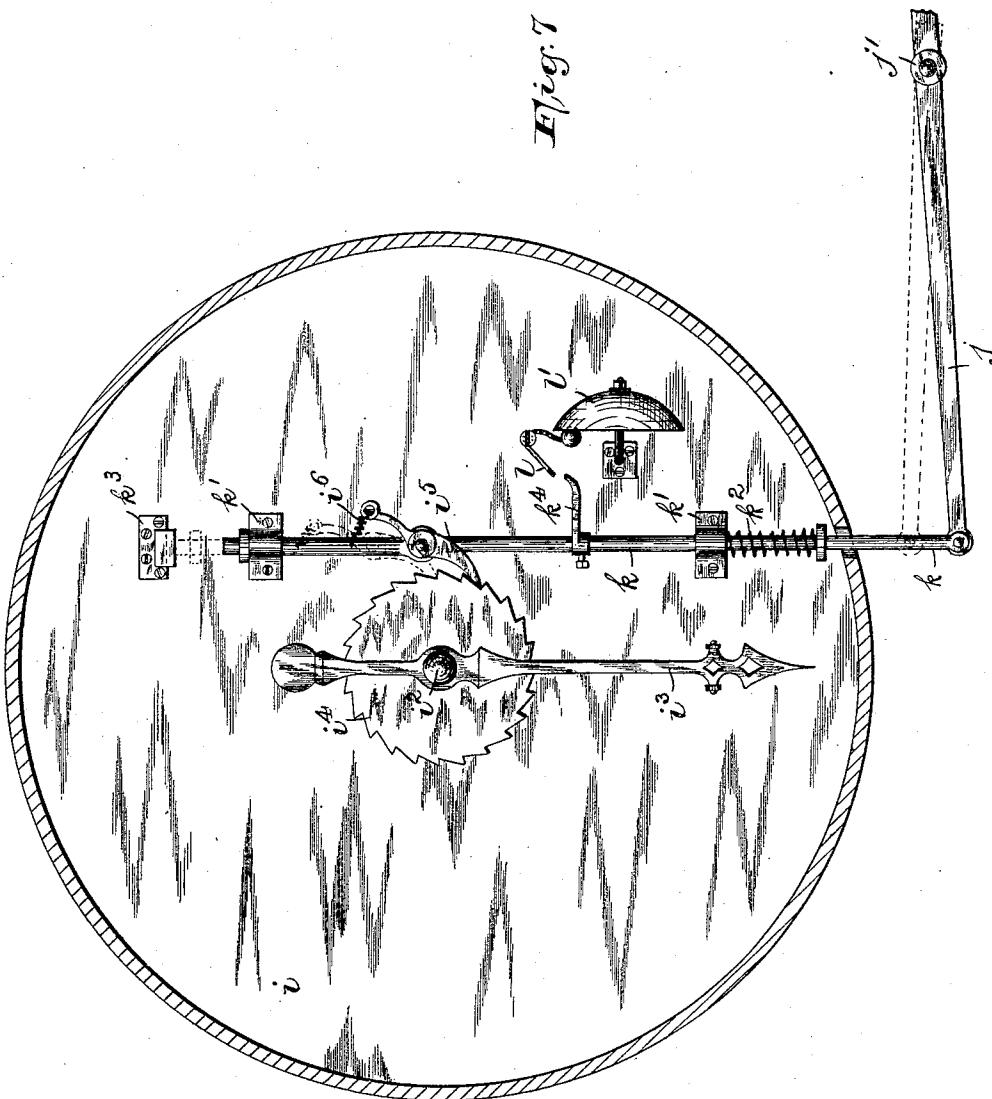
G. F. HALL & H. GOTTSCHALK.

POOL RACK.

No. 484,533.

Patented Oct. 18, 1892.

Fig. 7



WITNESSES:

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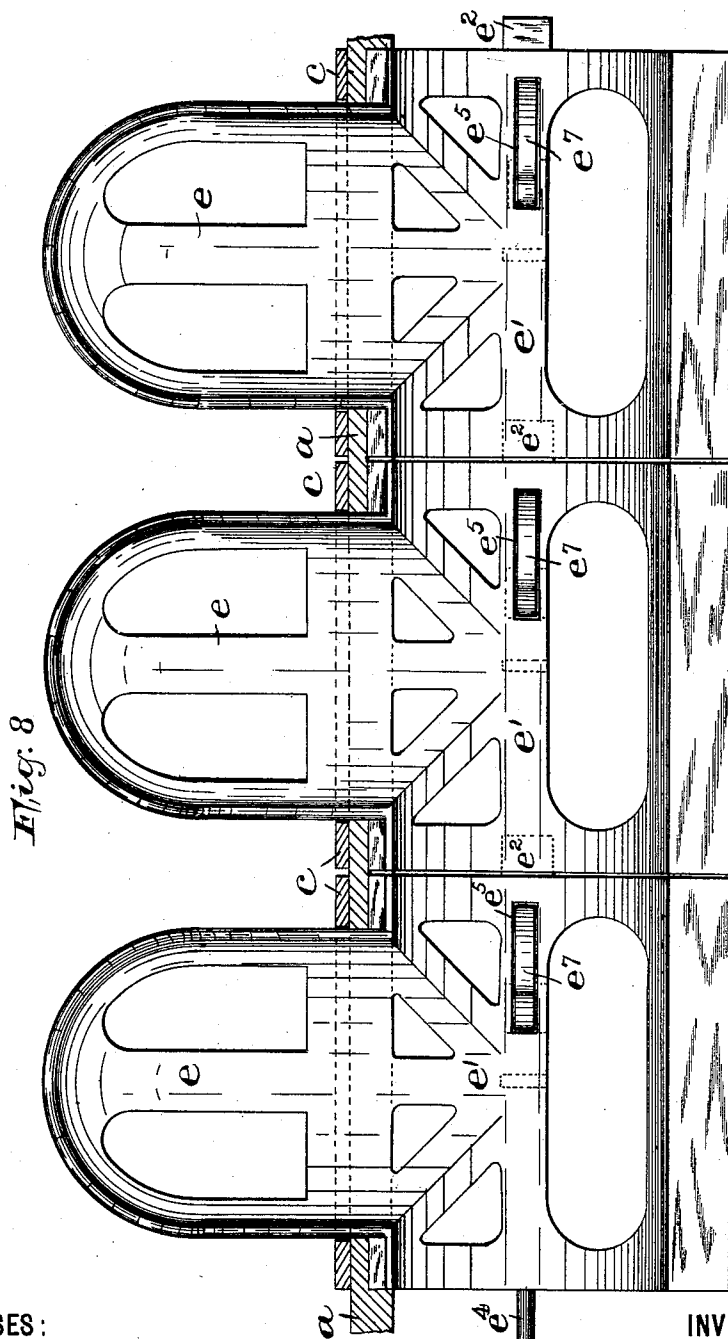
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8 Sheets—Sheet 6.

G. F. HALL & H. GOTTSCHALK.
POOL RACK.

No. 484,533.

Patented Oct. 18, 1892.



WITNESSES :

Wm. H. Canfield, Jr.
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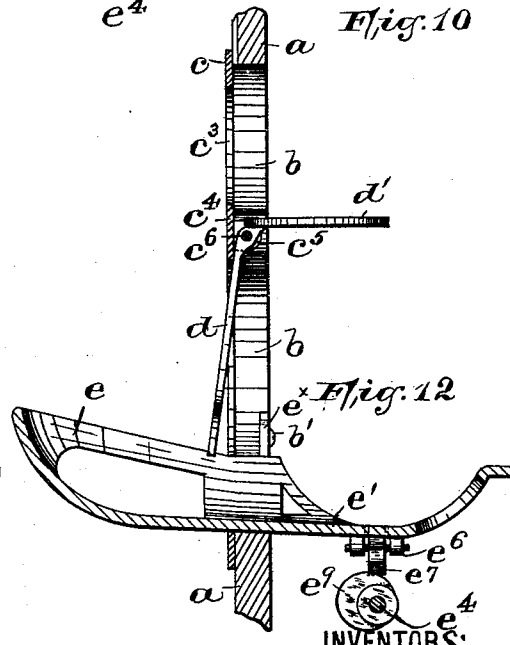
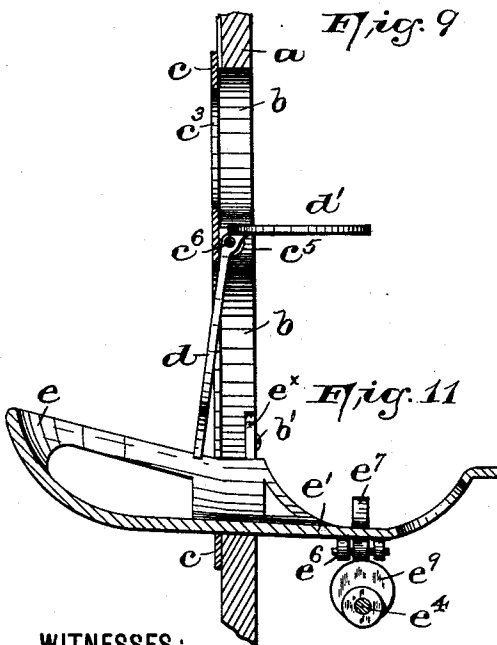
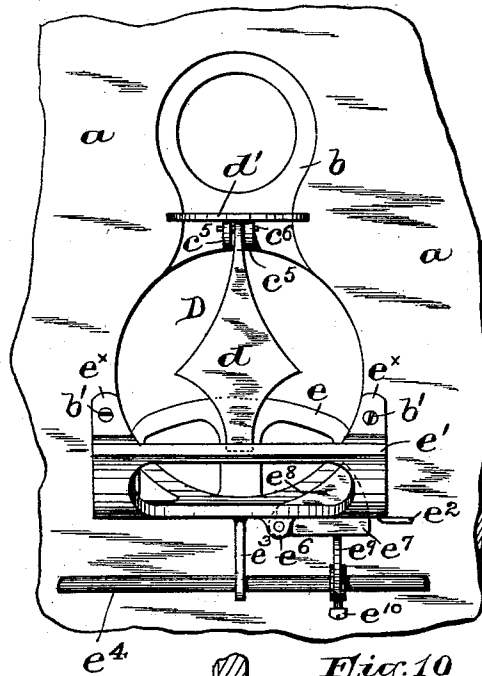
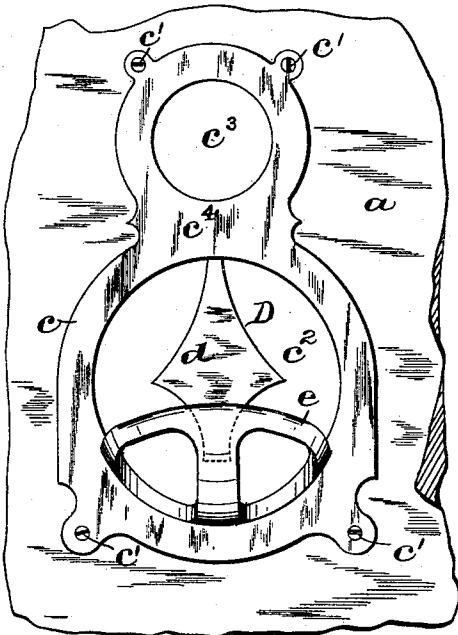
(No Model.)

8 Sheets—Sheet 7.

G. F. HALL & H. GOTTSCHALK.
POOL RACK.

No. 484,533.

Patented Oct. 18, 1892.



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(No Model.)

8 Sheets—Sheet 8.

G. F. HALL & H. GOTTSCHALK.
POOL RACK.

No. 484,533.

Patented Oct. 18, 1892.

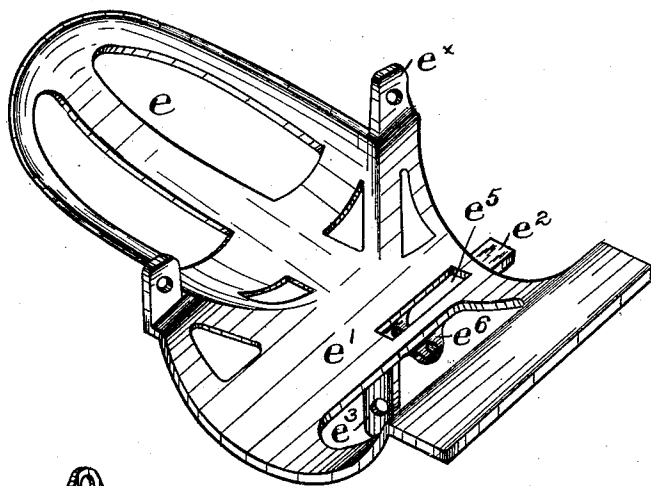


Fig. 13

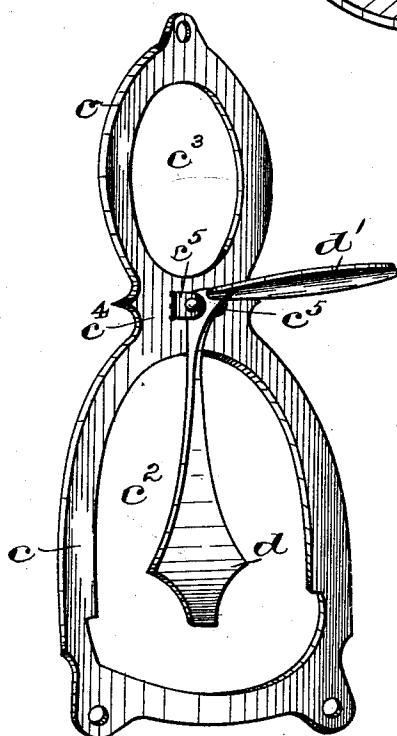


Fig. 14



Fig. 15

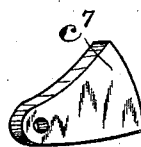


Fig. 16

WITNESSES:

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INVENTORS:

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UNITED STATES PATENT OFFICE.

GEORGE F. HALL AND HENRY GOTTSCHALK, OF NEWARK, NEW JERSEY;
SAID HALL ASSIGNOR TO JOSEPH FISCH, OF SAME PLACE.

POOL-RACK.

SPECIFICATION forming part of Letters Patent No. 484,533, dated October 18, 1892.

Application filed May 11, 1892. Serial No. 432,553. (No model.)

To all whom it may concern:

Be it known that we, GEORGE F. HALL and HENRY GOTTSCHALK, citizens of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Pool-Racks; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The present invention relates to improvements in pool-racks, and has for its object to produce a rack of this class for registering the number of games played, and also to provide a means for accurately registering the value of each pool-ball as it may be deposited in the rack.

The invention therefore consists of the improved pool-rack illustrated in the accompanying drawings, and also in the novel arrangements and combinations of parts, such as will be hereinafter more fully described, and finally embodied in the clauses of the claim.

The form of construction selected to embody the invention in an operative device is illustrated in the accompanying eight sheets of drawings, in which—

Figure 1 is a front elevation of the improved pool-rack. Fig. 2 is a back view of the same with its rear wall partly broken away to clearly illustrate the mechanism selected to embody the present invention, and more especially an arrangement of levers and rotating rods to raise certain stop-pieces and retain a pool-ball directly back of the opening or pocket in the face of the rack. Fig. 3 is a similar view to more clearly illustrate the position of the stop-pieces when the system of levers and rods has been operated to register a game and also allow the balls to roll along inclines or ways into a chute at one end of the rack-casing. Fig. 4 is a vertical section taken on line 4 4 in Fig. 3. Fig. 5 is a vertical section taken on line 5 5 in said Fig. 3; and Fig. 6 is a section taken on the same line, but showing a pool-ball deposited

upon one of the ways and having raised a pivoted plate which registers the number of the ball deposited. Fig. 7 is an inside view of a clock mechanism for registering the number of games played and a connecting arm or lever connected with the system of levers and rods illustrated in Fig. 4. Fig. 8 is a plan view of three of the ball-receiving pockets or stalls and part of the raceways upon which the deposited balls travel down into the chute at the end of the casing. Fig. 9 is a front view of one of the ball-receiving pockets or stalls. Fig. 10 is a rear view of the same. Fig. 11 is a section of the same, taken centrally through the ball-receiving pocket or stall, illustrating the normal initiative position of one of the pivoted stop-pieces to retain the deposited pool-ball directly in back of the entrance in the stall; and Fig. 12 is a similar view illustrating the position of said pivoted stop-piece after the system of levers has operated the rotating rods and a series of cams arranged on each rod. Figs. 13 and 14 are perspective views of the parts constituting a ball-receiving pocket or stall. Fig. 15 is a perspective view of the cam-plate, and Fig. 16 is a perspective view of one of the ball-stops.

Similar letters of reference are employed in each of the above-described views to indicate corresponding parts.

Referring to the drawings, A designates a suitable case or inclosure made of wood or metal and provided with a back plate A', the same constituting a rigid base or framework for the several mechanisms constituting this invention. As will be seen more especially from Fig. 1, the face or front *a* of the casing is provided with suitable openings *b*, arranged in horizontal rows of fifteen holes or openings each. In said figure five of such rows have been shown; but it will be understood that any number of such rows may be used, each row having fifteen openings *b*, above which may be arranged the numbers "1," "2," "3," "4," &c., to "15," inclusive, to designate the stall for the ball or balls won by a player. In front of each opening *b* is secured in any convenient manner, preferably by means of screws *c'*, the ornamental plates *c*, as shown in Figs. 1 and 9, and more especially in Fig. 14, each

plate being provided with an opening c^2 , into which the pool-ball is to be deposited, and an upper and smaller opening c^3 . On the back of a connecting-band c^4 are formed ears c^5 , between which is pivoted by means of a pin or pivot-bolt c^6 an indicating device D. As will be seen from Figs. 11, 12, and 14, said device D consists of a downwardly-extending arm d , which normally stands in front of the opening c^2 , and at the top of said arm d is arranged an indicating-plate d' , provided on its face with the proper number, said plate d' extending back at nearly a right angle from said arm d , as clearly shown, whereby when a ball is rolled against said arm d the device rotates on its pivotal pin c^6 and the indicating-plate d' is brought against the back of the opening c^3 , as clearly shown in Fig. 6, and is held in this position until the deposited ball rolls from beneath said arm d , and the weight of the plate d' causes the device to again assume its normal position, as indicated in said Figs. 11, 12, and 14.

Arranged horizontally in each opening b and secured therein by means of screws or pins b' , (see Figs. 11 and 12,) which pass through perforated ears e^x , is a scoop-shaped receiver e , extending in front of each opening b in the case and formed at its back with a suitably-curved gutter or raceway e' , as clearly illustrated in Figs. 11, 12, and 13. Each gutter e' may be provided at one side with a suitable lip or rest e^2 , which projects under the next adjacent gutter e' , the series of gutters thus arranged side by side, as clearly indicated in Figs. 2, 3, and 8, forming one continuous track, gutter, or raceway for the balls. This continuous track thus formed is slightly inclined toward one side of the case A and ends in front of a partition a' , having openings a^2 , through which the balls can drop into a chute a^3 , which is preferably lined with felt or other soft material, and from which chute the balls can be made to drop into a basket or other suitable catching device.

As will be seen from Figs. 2, 3, 5, 6, and 10, each gutter e' is provided with a downwardly-extending perforated bearing-arm e^3 , through which are passed the operating-rods e^4 . Said gutters e' are also each provided with an opening or slot e^5 , and downwardly-projecting ears or lugs e^6 at the sides of the slot. Between said lugs or ears e^6 is a pivoted stop-piece e^7 , which is preferably curved on its upper edge, as at e^8 , and each stop-piece e^7 normally rests upon the cam-plates e^9 , firmly and properly secured on the rods e^4 by means of screws e^{10} . When said rods e^4 and their cam-plates e^9 are in their normal positions, (illustrated in Figs. 2, 10, and 11,) said cam-plates stand in positions above said rods, substantially as shown, and hence the curved edges e^8 of the stop-pieces e^7 project through their respective openings or slots e^5 in the gutters e' ; but when the rods e^4 have been rotated by means of the system of operating-levers connected with said rods the cam-plates

e^9 are caused to assume the positions indicated in Figs. 3 and 12, and the pivoted stop-pieces e^7 are, by their pivotal arrangement and their weight, dropped beneath said slots or openings e^5 , thereby leaving an unobstructed passage-way for the balls to roll along the continuous passage-way into the chute a^3 at the end of the case A.

The system of operating-levers is clearly illustrated in Figs. 2, 3, and 4, and consists, essentially, of a vertical rod f , provided with the properly-placed pins f' , projecting from the one side of said rod. Said rod f is capable of a vertical sliding movement, and can be moved upward by means of a lever g , fulcrumed in bearings g' . The forward end of said lever g extends through a slot b^2 in the face a of the case A, and is provided with a handle g^2 . The opposite end of the lever g has a slot g^3 , and a pin f^2 on the rod f projects through said slot, whereby when the handle g^2 is pulled down said slotted end of the lever g is raised, and consequently pushes the rod f upward. The forward and free ends of each of the rods e^4 have secured thereto short arms h , provided at their opposite ends with slots h' , into which the pins f' on the rod f extend, and hence when said rod f moves upward said slotted ends of the arms h are rotated, as will be understood, and the longitudinally-arranged rods e^4 turn in their bearings beneath the gutters e' , when the cam-plates e^9 assume the positions indicated in Figs. 3 and 12, and the stop-pieces e^7 drop beneath the openings or slots e^5 , as has been stated in the above, thereby allowing the balls to roll down the raceways. It will thus be seen that all the stop-pieces e^7 and the immediately-placed operating mechanism may be actuated at the same time, thereby allowing the removal of all deposited pool-balls at the end of a game.

Upon the top of the pool-rack may be placed a suitable registering device to register the game when the handle has been pulled down.

The form of registering mechanism intended to be used in connection with the pool-rack is illustrated in Fig. 7, and consists, substantially, of a suitable clock i , having a numbered dial-plate i' . Upon the arbor i^2 is arranged a hand or indicator i^3 and a ratchet-wheel i^4 , and engaging with the ratchet-teeth thereof is a suitable pawl i^5 , provided with a spring i^6 , which pushes the pawl end of the same against the teeth.

The upper end of the rod f in the casing A is pivotally connected with a fulcrumed lever j , pivoted in a suitable bearing j' , and this lever is connected at its other end with a spring-actuated rod k , projecting from the bottom of the clock-casing and moving vertically in the bearings k' . Now when the rod f moves upward when operated by the handle g^2 said rod k moves downward in the clock to the position illustrated in Fig. 7, and while the deposited balls have been released and drop into the vertical chute the pawl i^5 has

moved the ratchet-wheel and its arbor and causes the indicator to register one game. When the operator lets go of the handle g^2 and the several mechanisms in the pool rack or case A return to their normal positions by the action of a spring f^3 , suitably connecting the rod f and a post f^4 in the casing A, which draws said rod f back to its normal position, (illustrated in Figs. 2 and 4,) then the spring k^2 forces the rod k in the clock upward against a stop k^3 to the position indicated in dotted outline in said Fig. 7, while the spring-actuated pawl i^3 moves over the ratchet-teeth without operating the arbor and its indicator. At the same time an adjustable finger k^4 on the rod k trips a pivoted hammer l , which strikes the gong l' , as will be seen from said Fig. 7.

The construction of the clock mechanism is such that the hand or indicator i^3 can only be moved forward, but cannot be changed to the advantage of the players.

To more fully understand the operation of the complete device, I will now briefly describe the method of using the pool-rack. Suppose, for instance, two players are playing the game of pool called "Chicago," in which case the winner must score at least sixty-one points. The balls of each player as he puts them in the pockets of the pool-table are removed and placed in the proper stall in the pool-rack—thus the "1" ball in the first stall of the player's rack—whereby the ball rolls down the scoop-shaped shelf e , tilts the arm d , and brings the indicating-plate d' in front of the opening c^3 , thereby indicating the number of the ball deposited, which rolls upon the gutter e' , where it stops by coming in contact with the stop-piece e'' . In the same manner the "2" ball is placed in the second stall, the "3" ball in the third stall, and so on, each ball in the proper stall provided with the number corresponding to that on the ball to be deposited. As soon as one of the players registers sixty-one or more points, thereby indicating him as the winner, the handle-bar g' is pulled down, and all of said cam-plates and the stop-pieces within the rack-casing A drop, as clearly shown in Fig. 3, and all balls roll along the respective raceways and drop into a basket placed beneath the chute at one end of the rack, and the index-hand of the clock moves one figure, thereby indicating the number of the game played. For the game of "forty-one" the rack is used in substantially the same manner. If, however, two or more players are playing the ordinary game of pool, not counting the points on the balls, but merely the number of balls, then the balls may be deposited in any stall in the proper rack of each player and the game registered in the end, as above stated. In this game of pool when the "cue-ball" rolls into a pocket on the pool-table the custom is to take a ball from the rack of the player and place the same on the "spot" on the table.

In order to facilitate the removal of a ball from the rack, a suitable ring provided with a

handle may be used, which is inserted through the opening c^2 and placed around the ball, whereby it can be removed from its stall, as will be understood. In this case, when a ball has thus been removed a plate m , with suitable inscription thereon—such as "ball out"—may be slipped behind the plate c in a cut-away portion either in the back of said plates or in the face a of the casing, as shown in Fig. 6, to cover the opening c^3 . Said plate m may be provided with fingers m' , made to project down in front of the opening c^3 , which prevents the depositing of a ball into this same stall, and thus at the end of the game it will be readily seen how many "scratches" have been made by each player.

It will be understood that variations of the construction and arrangement of the various parts herein described may be made. For instance, the several raceway-sections and the scoop-shaped receiving-shelves may all be made in one piece and any suitable clockwork in the game-register may be used, and the system of operating-levers may be differently arranged. Hence we do not wish to limit ourselves to the exact form of mechanism herein shown and described.

It will be seen that by these improvements a simple and effectively-working pool-register has been devised, whereby the value of each pool-ball deposited is accurately registered and the number of the game is indicated on the dial-plate of the registering device used in connection with our improved pool-rack.

Having thus described our invention, what we claim is—

1. In a pool-rack, the combination, with a case provided with openings for the reception of the pool-balls, of mechanism to indicate or record the number of the ball deposited, means for retaining each ball in its deposited position, whereby the indicating or recording mechanism is brought up to and held at the reading-opening in the case, and devices for conveying the balls to a chute or receptacle at the side of the rack, substantially as and for the purposes set forth.

2. In a pool-rack, the combination, with a case provided with openings for the reception of pool-balls, of a pivoted mechanism in each opening adapted to be operated by the ball deposited, conveyers or raceways within the case at the back of said openings for leading said deposited balls to a chute or receptacle at the side of the machine, stop-pieces in said raceways adapted to retain the deposited balls directly in front of the openings, and mechanism for causing the raising and lowering of said stop-pieces, substantially as and for the purposes set forth.

3. In a pool-rack, the combination, with a case provided with openings for the reception of the pool-balls, of a pivoted mechanism in each opening adapted to be operated by the ball deposited, conveyers or raceways within the case at the back of said openings for leading said deposited balls to a chute or receptacle

at the side of the machine, pivoted stop-pieces working through slots in said raceways adapted to retain the deposited balls directly in front of the openings, rods adapted to rotate in bearings beneath said raceways, means on said rods to raise and lower said stop-pieces, and mechanism adapted to rotate said rods, substantially as and for the purposes set forth.

4. In a pool-rack, the combination, with a case provided with openings in the face thereof for the reception of the pool-balls, of a pivoted mechanism in each opening adapted to be operated by the ball deposited, conveyers or raceways within the case at the back of said openings for leading said deposited balls to a chute or receptacle at the side of the machine, pivoted stop-pieces working through slots in said raceways adapted to retain the deposited balls directly in front of said openings, rods adapted to rotate in bearings beneath said raceways, cam-plates secured on said rods to raise and lower said stop-pieces, and mechanism connected with the ends of said rods for rotating the same, consisting, essentially, of a spring-actuated rod *f*, capable of a vertical movement, a lever *g*, provided with a handle for operating said rod *f*, and connecting links or arms *h*, connecting the end of each rod beneath the raceways with a pin on said rod *f*, whereby when said lever *g* is operated said arms *h* rotate the rods beneath the raceways and cause said stop-pieces to fall through the slots in the raceways to release the pool-balls, substantially as and for the purposes set forth.

5. In a pool-rack, the combination, with a case provided with openings for the reception of the pool-balls, of mechanism constructed and arranged to indicate or record the number of a ball deposited, means for retaining each ball in its deposited position, whereby the indicating or recording mechanism is brought up to and held at the reading-opening in the case, devices for conveying the balls to a chute or receptacle at the side of the machine, a game-register on said rack, and mechanism for operating the same, substantially as and for the purposes set forth.

6. In a pool-rack, the combination, with a case provided with openings for the reception of the pool-balls, of a pivoted mechanism in each opening adapted to be operated by the ball deposited, conveyers or raceways within the case at the back of said openings for leading the deposited balls to a chute or receptacle at the side of the machine, stop-pieces in said raceways adapted to retain the deposited balls directly in front of the openings, mechanism for causing the raising and lowering of said stop-pieces, and a game-register arranged on said rack, and said mechanism arranged to raise and lower said stop-pieces, also being arranged to operate said register, substantially as and for the purposes set forth.

7. In a pool-register, the combination, with the case provided with openings in the face thereof for the reception of pool-balls, of a

pivoted mechanism in each opening adapted to be operated by the ball deposited, conveyers or raceways within the case at the back of said openings for leading said deposited balls to a chute or receptacle at the side of the machine, pivoted stop-pieces working through slots in said raceways adapted to retain the deposited balls directly in front of the openings, rods adapted to rotate in bearings beneath said raceways, cam-plates secured on said rods to raise and lower said stop-pieces, mechanism connected with the ends of said rods for rotating the same, consisting, essentially, of a spring-actuated rod *f*, capable of a vertical movement, a lever *g*, provided with a handle for operating said rod *f*, connecting links or arms *h*, connecting the end of each rod beneath the raceways with a pin on said rod *f*, whereby when said lever *g* is operated said arms *h* rotate the rods beneath the raceways and cause said stop-pieces to fall through the slots in the raceways to release the balls, and a pivoted lever *j*, connected with a registering device, substantially as and for the purposes set forth.

8. In a pool-register, the combination, with the case provided with openings in the face thereof for the reception of pool-balls, of a pivoted mechanism in each opening adapted to be operated by the ball deposited, conveyers or raceways within the case at the back of said openings for leading said deposited balls to a chute or receptacle at the side of the machine, pivoted stop-pieces working through slots in said raceways adapted to retain the deposited balls directly in front of the openings, rods adapted to rotate in bearings beneath said raceways, cam-plates secured on said rods to raise and lower said stop-pieces, mechanism connected with the ends of said rods for rotating the same, consisting, essentially, of a spring-actuated rod *f*, capable of a vertical movement, a lever *g*, provided with a handle for operating said rod *f*, connecting links or arms *h*, connecting the end of each rod beneath the raceways with a pin on said rod *f*, whereby when said lever *g* is operated said arms *h* rotate the rods beneath the raceways and cause said stop-pieces to fall through said slots in the raceways to release the balls, and a pivoted lever *j*, connected at one end with said rod *f* and at the other end with a game-register, consisting, essentially, of a spring-actuated rod *k*, having a finger *k*¹, adapted to strike a gong, a pawl *v*⁵, a ratchet-wheel *i*⁴ on an arbor *i*², and an index-hand or pointer, all arranged substantially as and for the purposes set forth.

9. In the herein-described pool-rack, in combination with a casing having openings *b* in its face, a scoop-shaped shelf *e*, provided with a gutter *e*¹, a plate *c*, having openings *c*² and *c*³, and ears *c*⁵, and an indicating device pivoted in said ears, consisting, essentially, of an arm *d* and an indicator-plate *d*¹, substantially as and for the purposes set forth.

10. In the herein-described pool-rack, in combination with a casing having openings *b* in its face, a scoop-shaped shelf *e*, provided with a gutter *e'*, a plate *c*, having openings *c²* and *c³*, and ears *c⁵*, an indicating device pivoted in said ears, consisting of an arm *d* and an indicator-plate *d'*, said gutter *e'* being provided with a slot *e⁵* and downwardly-projecting ears *e⁶*, and stop-pieces *e⁷*, pivoted between said ears *e⁶*, adapted to be forced through said slot *e⁵*, substantially as and for the purposes set forth.

11. In the herein-described pool-rack, in combination with a casing having openings *b* in its face, a series of scoop-shaped shelves *e*, extending through said openings and provided with gutters *e'*, plates *c*, secured in front of said openings *b* and provided with openings *c²* and *c³* and having ears *c⁵*, indicating devices pivoted between said ears *c⁵*, consisting of arms *d* and indicator-plates *d'*, slots *e⁵* in said gutters, and downwardly-projecting ears *e⁶*, stop-pieces *e⁷*, pivoted between said ears *e⁶*, adapted to be forced up through said slots *e⁵*, bearings *e⁸* on said gutters, rods *e⁴*, and devices *e⁹* on said rods adapted to be forced against said stop-pieces to raise and lower the same, substantially as and for the purposes set forth.

12. In the herein-described pool-rack, the combination, with a casing having openings *b* in its face, of a series of scoop-shaped shelves *e*, extending through said openings and provided with shelves *e'*, plates *c*, secured in front of said openings *b* and provided with openings *c²* and *c³* and having ears *c⁵*, indicating devices pivoted between said ears *c⁵*, consisting of arms *d* and indicator-plates *d'*, slots *e⁵* in said gutters, and downwardly-projecting ears *e⁶*, stop-pieces *e⁷*, pivoted between said ears *e⁶*, adapted to be forced up through said slots *e⁵*, bearings *e⁸* on said gutters, rods *e⁴*, and devices *e⁹* on said rods adapted to be forced against said stop-pieces to raise and lower the same, and a system of levers provided with a handle-bar extending from the front of the casing and connected with the ends of said rods *e⁴*, all arranged substantially as and for the purposes set forth.

In testimony that we claim the invention set forth above we have hereunto set our hands this 6th day of May, 1892.

GEORGE F. HALL.
HENRY GOTTSCHALK.

Witnesses:

FREDK. C. FRAENTZEL,
WILLIAM H. CAMFIELD, Jr.