(No Model.)

S. G. FROST & R. J. BOLT.

GAME COUNTER.

No. 471,354. Patented Mar. 22, 1892.

FIG. 1.

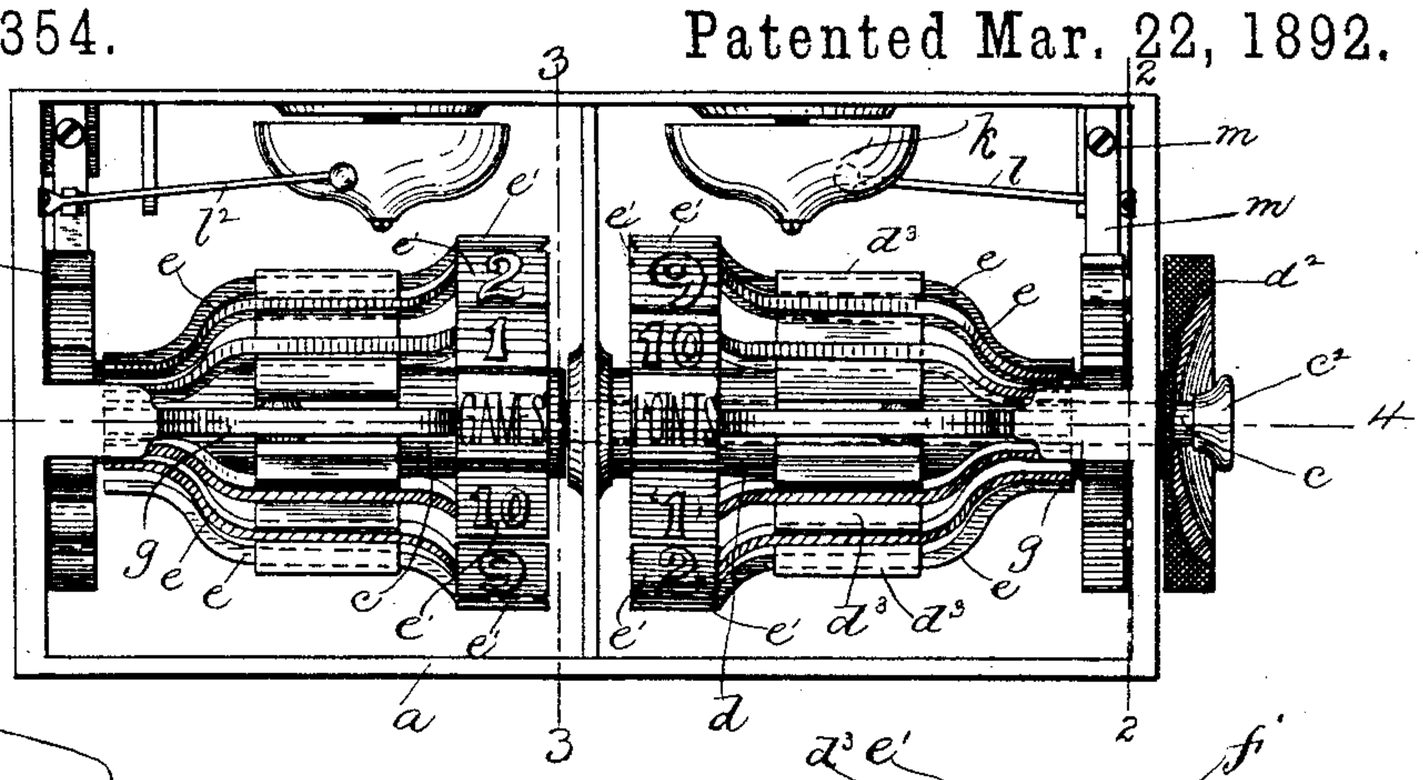


FIG. 2.

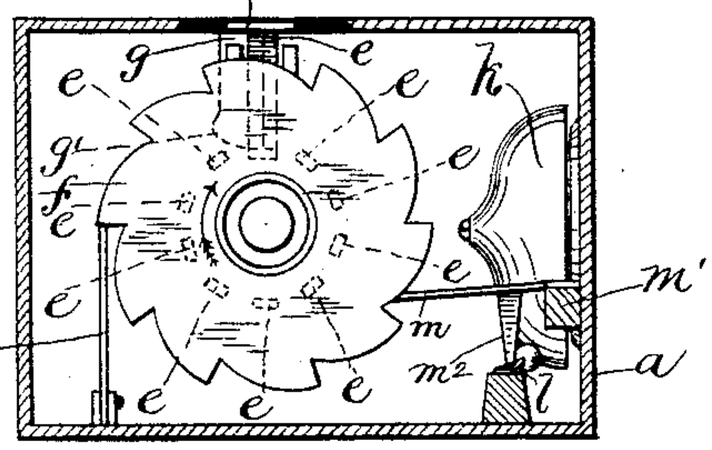


FIG. 3.

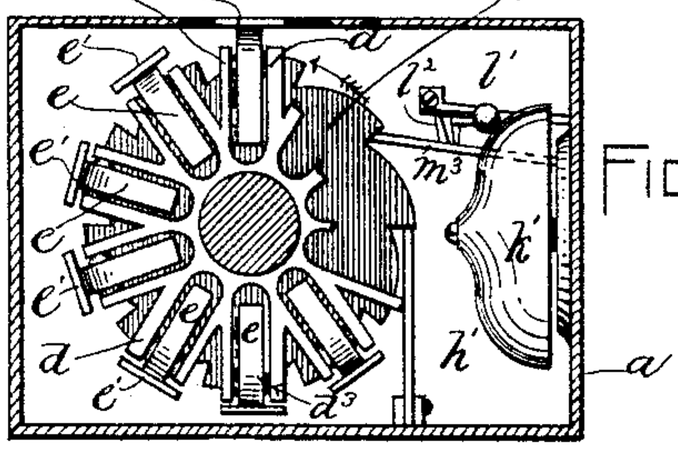


FIG. 4.

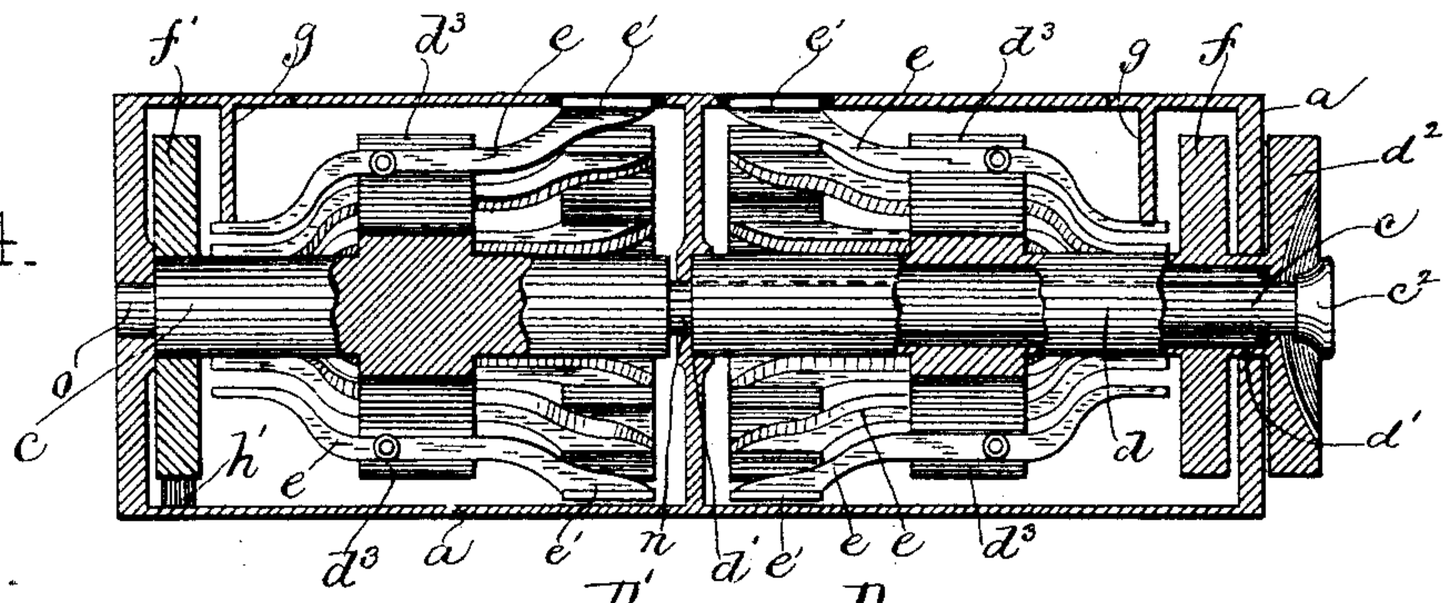


FIG. 5.

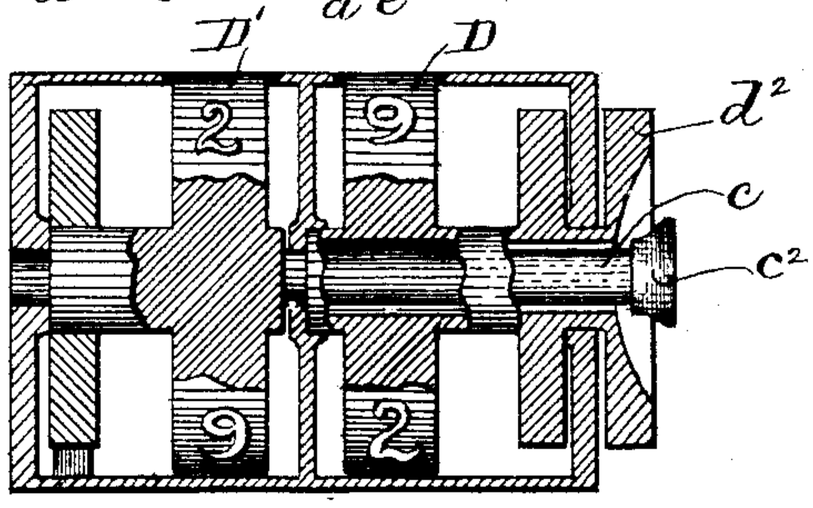
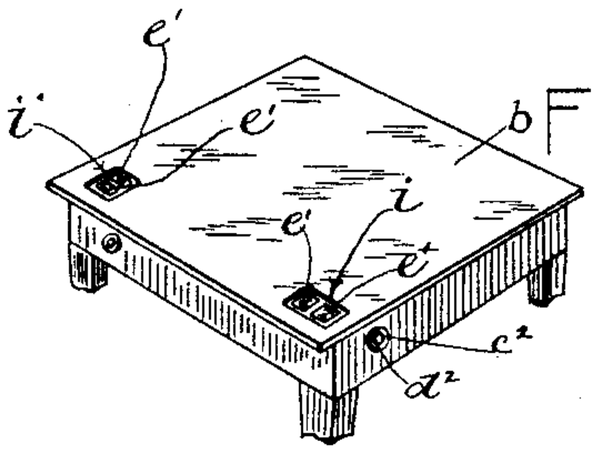


FIG. 6.



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UNITED STATES PATENT OFFICE.

SAMUEL G. FROST AND REUBEN J. BOLT, OF BOSTON, MASSACHUSETTS; SAID BOLT ASSIGNOR TO SAID FROST.

GAME-COUNTER.

SPECIFICATION forming part of Letters Patent No. 471,354, dated March 22, 1892.

Application filed May 22, 1891. Serial No. 393,698. (No model.)

To all whom it may concern:

Be it known that we, SAMUEL G. FROST and REUBEN J. BOLT, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Game-Counters, of which the following is a specification.

This invention has for its object to provide an apparatus adapted for attachment to a card-table for the purpose of indicating the number of points in a game, such as whist, and the total number of games that have been played; and it consists in the improved construction, which we will now proceed to describe and claim.

In the accompanying drawings, forming a part of this specification, Figure 1 represents a top view of our improved game-counter removed from the table to which it is attached when in use. Fig. 2 represents a section on line 2 2 of Fig. 1, looking toward the left. Fig. 3 represents a section on line 3 3 of Fig. 1, looking toward the left. Fig. 4 represents a section on line 4 4 of Fig. 1. Fig. 5 represents a sectional view showing a modification of the construction of the indicating devices. Fig. 6 represents a perspective view of a table having two of our improved game-counters applied thereto.

The same letters of reference indicate the same parts in all of the figures.

Our invention includes a frame or casing *a*, adapted to be secured to the under side of the top of a table *b;* two shafts *c d*, adapted to rotate in said casing, the shaft *d* being tubular and permitting the passage of the shaft *c* through it; two indicating devices, one attached to each shaft, said indicating devices being shown in Figs. 1, 2, 3, and 4 as comprising two series of levers *e*, pivotally connected to arms or wings attached to or formed on said shafts, each lever bearing at one end an indicating-plate suitably inscribed, while in Fig. 5 the indicating devices are disks affixed to the shafts and provided with numbers on their peripheries; means for independently rotating said shafts, and means for preventing the rotation of one shaft in one direction and the rotation of the other shaft in the opposite direction.

The invention shown in Figs. 1, 2, 3, and 4 also includes cams or fixed projections arranged to displace each lever and throw out the end thereof bearing the indicating-plate at a given point in its revolution, so that the indicating-plate will be caused to appear in a slot or opening formed for its reception in the top of the table *b*, the arrangement being such that whenever a player desires to operate the counter he rotates one or both shafts, accordingly as it is desired to indicate points or games, or both points and games, each lever as it passes the highest point in its revolving movement being thrown upwardly and then depressed by the continued movement of the shaft until the desired indicating-plate is brought into coincidence with the aperture in the table, when the motion of the shaft is stopped and the highest indicator is allowed to remain elevated in the corresponding opening in the table.

The invention also includes a bell or alarm and mechanism for giving the same a stroke at each partial rotation of either shaft equal to the distance between one indicating figure or number and the next, so that the number of points announced or visibly indicated by each movement of the shaft will be audibly indicated by the bell.

The tubular shaft *d* is journaled in bearings *d' d'* in the frame or casing *a* and has at its outer end a knob or handle d^2, arranged at one side of the table, as shown in Fig. 6, so that a person sitting at the table can conveniently manipulate the said handle. To the shaft *d* within the casing is affixed a ratchet-wheel *f*, having a number of teeth corresponding to the total number of indicators carried by the shaft.

h represents a dog or pawl, which is arranged to engage the teeth of the wheel *f* to prevent backward rotation of the same, said pawl being shown in Fig. 2 as a strip of elastic or spring metal attached to the bottom of the frame or casing *a* and projecting upwardly in position to engage the teeth of ratchet.

On the shaft *d* and projecting radially therefrom in the construction shown in Figs. 1, 2, 3, and 4 are a series of ears d^3, to which is pivoted a series of levers *e*, which are bent so

that one end of each lever is near the periphery of the shaft, while its other end projects outwardly to a considerably greater distance. The outer ends of the levers *e* are provided with indicating-plates *e'*, there being one of said plates on each lever. Said plates bear the numbers "1," "2," "3," "4," "5," &c., although, if desired, one of them may contain a word or other indication—such as the word "Points"—the said indication being in place of "0" and being in position to be viewed before the commencement of the counting operation.

g represents a fixed arm, which is attached in any suitable way to the frame or casing *a* and has a cam-shaped end *g'*, (shown in dotted lines in Fig. 2,) arranged to bear successively upon the inner ends of the levers *e* when the shaft carrying said levers is rotated. The relative arrangement of the arm *g* and the inner ends of the levers *e* is such that the rotation of the shaft *d* in the direction indicated by the arrow in Fig. 2 will cause the inner end of each lever to strike the cam-shaped end *g'* of the arm *g* and be pressed inwardly toward the shaft *d* by contact with said arm, the outer end of each lever thus acted on being thrown outwardly, so that the indicating-plate *e'* on said outer end is raised and forced into an opening *i* in the top of the table *b*, or so far into said opening as to be clearly seen, the indicating-plate remaining in said position so long as the lever *e* remains in contact with the arm *g*. When the rotation of the shaft *d* carries a lever *e* away from the arm *g*, the outer end of said lever, being heavier than the inner end, drops by gravitation, or, if preferred, by the action of a spring, which may be suitably connected to the shaft *d* and levers *e* to force the outer ends of said levers inwardly, the indicating-plate being thus withdrawn from the slot *i*, so that it will not obstruct the rotation of the shaft by striking the edge of said slot. It will be seen, therefore, that the shaft *d* may be rotated to any desired extent and to carry as many indicating-plates into and out of the opening *i* as may be desired, each plate in turn rising into the opening and withdrawing therefrom so long as the rotation of the shaft *d* is continued. When the motion of the shaft is arrested with either of the levers in engagement with the arm *g*, the indicator on said lever is held projected or forced outwardly in the opening *i* so long the shaft remains stationary.

In Fig. 5, instead of the levers *e* and the indicating-plates thereon and means for throwing said levers out and in, as described, we affix to the tubular shaft a wheel or disk D and to the other shaft a similar wheel or disk D'. Said wheels have figures or numbers on their peripheries, the highest part of each wheel being visible through one of the slots in the table. The operation of this modification, so far as the rotation of the shafts is concerned, is the same as already described, each wheel being rotated until the desired figure is visible, each wheel being prevented from rotating in one direction by the means hereinafter described.

k represents a bell attached to the casing or frame *a*, and *l* represents a spring-hammer attached at one end to a fixed support in the casing, its free end being arranged to strike the bell. *m* represents a spring-arm attached at *m'* to the casing and having its free end arranged to be depressed by each tooth of the ratchet-wheel *f* when the latter is rotated. Each tooth of the ratchet *f* in passing over the free end of the spring-arm *m* depresses said arm and causes a finger m^2, projecting downwardly therefrom, to strike the shank of the hammer *l* and depress said shank, forcing the hammer away from the bell. When the ratchet-tooth passes away from the spring-arm *m*, the latter springs upwardly by its own elasticity, releasing the hammer *l*, which by its own elasticity is caused to strike the bell. It will be seen, therefore, that the passage of each tooth over the arm *m* causes a stroke of the bell, so that an audible indication is given of the extent of rotation of the shaft *d*—that is to say, if the shaft is rotated only a distance equal to the distance between one indicating-figure and the next the bell will be struck once, and if the rotation of the shaft is equal to the distance between two indicating-figures the bell is struck twice, and so on, so that all the players can determine by the number of strokes of the bell the number of points that have been added to the total of either side by the operation of the counter. The portion of the shaft *c* that passes through the tubular shaft *d* is reduced, so as to rotate freely in said tubular shaft, and is provided at its outer end with a knob or handle c^2, located in close proximity to the handle d^2 of the shaft *d*, as shown in Figs. 1, 4, and 5. The reduced portion of the shaft *c* has a bearing at *n* in the casing. The portion of the shaft *c* extended beyond the tubular shaft *d* is preferably enlarged and has the same diameter as the shaft *d*, its outer end having a bearing at *o* in the casing. The shaft *c* in the construction shown in Figs. 1 and 4 has a series of radiating arms d^3, levers *e*, indicating-plates *e'* on said levers, and a lever displacing or operating arm *g*, all constructed and operating like the parts similarly lettered on the shaft *d*, so that whenever the shaft *c* is rotated one or more of the indicating-plates carried thereby will be projected through the opening *i* in the table, the levers *e* on the shaft *c* being reversed from the position of the levers on the shaft *d*, so that the indicating-plates of one series of levers are in close proximity to those of the other series of levers. The shaft *c* is provided with a ratchet-wheel *f'*, which is arranged with its teeth extending or facing in the opposite direction from those of the ratchet *f* on the shaft *d*, so that neither shaft can rotate in the same direction as the other, backward rotation of the ratchet *f'* being prevented by a pawl *h'*.

It will be seen, therefore, that neither shaft can be accidentally rotated while the other shaft is being intentionally rotated. Hence there is no liability of the movement of both series of indicating-plates at the same time, because the shaft d and its handle d^2 can only be rotated in one direction, while the shaft c and its handle c^2 can only be rotated in the opposite direction. The ratchet f' operates a hammer l' of a bell k', the operation of said hammer being the same as that of the hammer l and being effected through a spring-arm m^3, which is arranged, as shown in Fig. 3, to be raised by each tooth of the rachet f', and when raised bears on a finger l^2, projecting from the hammer l'. Hence the bell k' is operated to give an audible indication of the extent of rotation of the shaft c.

The zero or initial plate e', carried by the shaft c in the construction shown in Figs. 1, 2, 3, and 4, and the portion of the wheel D shown in Fig. 5 corresponding to said plate may be inscribed with the word "Games," one series of indicating-plates, or the wheel substituted therefor, being appropriated to the indication of points and the other to the indication of games.

It will be seen that the described apparatus is adapted to be placed entirely below the table out of the way and to be conveniently operated to indicate either games or points, or both, by a player seated at the table. It will of course be preferable to provide two of the described apparatuses for each table, as indicated by Fig. 6.

It is obvious that one shaft and its series of levers and indicating-plates may be used instead of two. Hence we do not limit ourselves to the duplicate arrangement here shown.

We claim—

1. In a game-counter, the combination, with two shafts located in the same axial line, one of said shafts being tubular and receiving an extension or portion of the other, of devices, substantially as described, for preventing the rotation of one shaft in one direction and the rotation of the other shaft in the opposite direction, whereby each shaft is permitted to rotate only in a direction opposite to the direction of rotation of the other shaft, two counters of substantially equal size supported side by side and rotated by said shafts, one counter being secured to one shaft and the other to the other shaft, each counter carrying radially visible numerals, and means independent of said counters for rotating the shafts, substantially as described.

2. The combination of a table having two orifices in its top, two shafts located in the same axial line below said top, one of said shafts being tubular and receiving an extension or portion of the other, devices, substantially as described, for preventing the rotation of one shaft in one direction and the rotation of the other shaft in the opposite direction, whereby each shaft is permitted to rotate only in a direction opposite to the direction of rotation of the other shaft, and two counters of equal size supported and rotated by said shafts, one counter being secured to one shaft and the other to the other shaft, and exhibiting through separate orifices, as set forth.

3. A game-counter comprising a frame or casing, a shaft journaled therein, a series of levers pivotally connected to the shaft and provided with indicating-plates, and a fixed arm or cam arranged to displace each lever and force its indicating-plate outwardly when it reaches a given point in its revolving movement, as set forth.

4. A game-counter comprising a frame or casing, a shaft journaled therein, a series of levers pivotally connected to the shaft and provided with indicating-plates, a fixed arm or cam arranged to displace each lever and move its indicating-plate outwardly when it reaches a given point, a bell or audible signal, and devices operated by the rotation of the shaft to actuate said bell, as set forth.

5. The combination of a supporting-frame or casing, a shaft journaled therein, a series of pivoted indicator-carrying levers on said shaft, means for moving said levers to force their indicators outwardly, a bell supported by the frame or casing, a wheel on said shaft having a series of projections, and a bell-hammer arranged to be actuated by the projections of said wheel, as set forth.

6. In a game-counter, the combination of two shafts located in the same axial line, one of said shafts being tubular and receiving an extension or portion of the other, two series of levers pivotally connected to said shafts, devices, substantially as described, for preventing the rotation of one shaft in one direction and the rotation of the other shaft in the opposite direction, whereby each shaft is permitted to rotate only in a direction opposite to the direction of rotation of the other shaft, each shaft having a series of pivoted levers provided with indicating-plates, and means for displacing one lever of each shaft at a time, and thereby forcing its indicating-plate outwardly, as set forth.

7. The combination of a table having an opening i in its top, a frame or casing affixed to the table below said opening, a shaft in said frame provided with a series of pivoted levers having indicating-plates arranged to be moved successively across said opening i by the rotation of the shaft, and means for forcing outwardly the indicator of each lever when it reaches the highest point in its revolution, and thereby causing each indicator to rise into the opening i, as set forth.

In testimony whereof we have signed our names to this specification, in the presence of two subscribing witnesses, this 18th day of May, A. D. 1891.

SAMUEL G. FROST.
REUBEN J. BOLT.

Witnesses:
C. F. BROWN,
A. D. HARRISON.