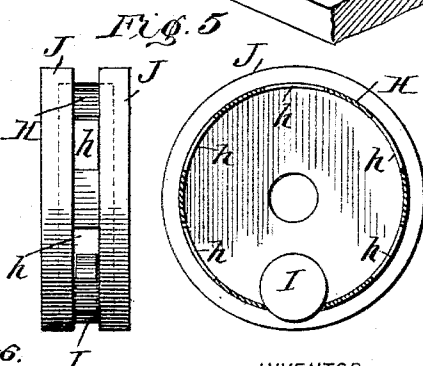
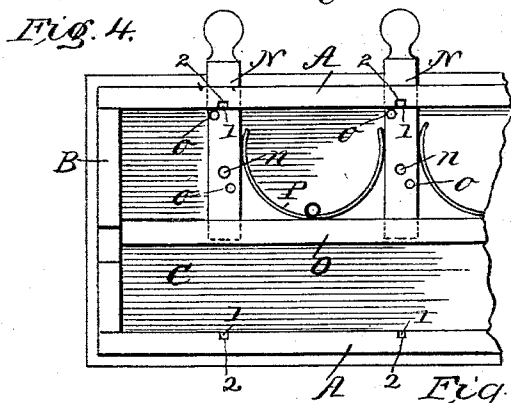
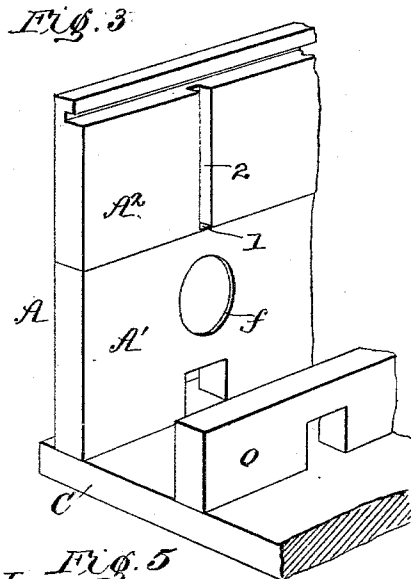
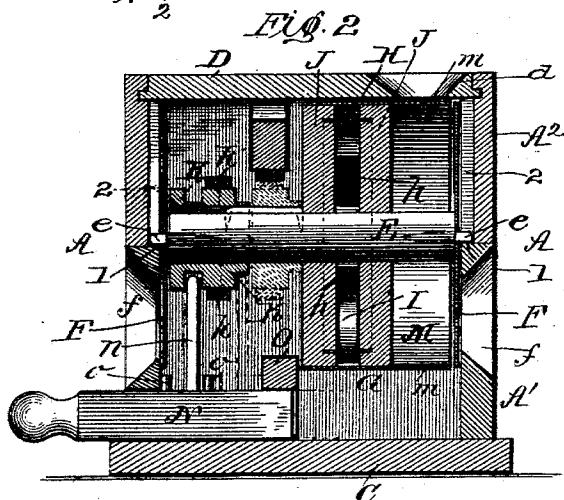
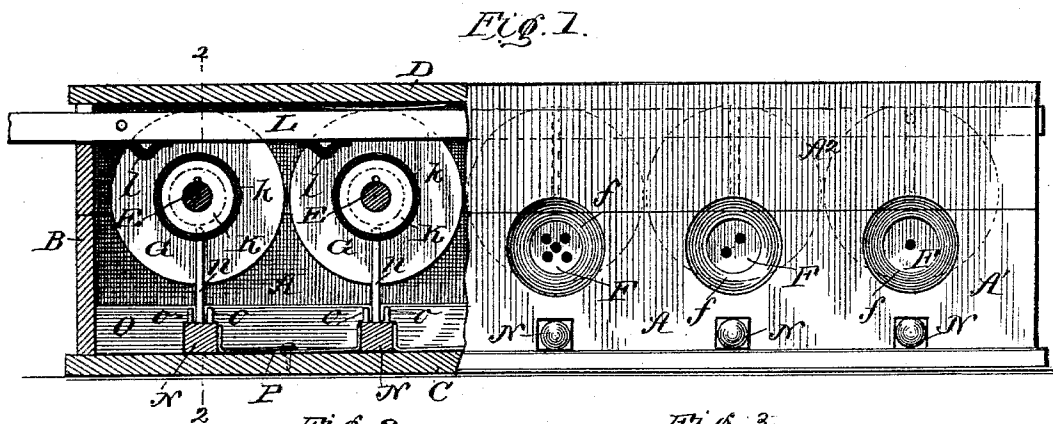


(No Model.)

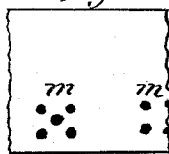
R. F. DE GRAIN.
GAME APPARATUS.

No. 584,219.

Patented June 8, 1897.



WITNESSES:
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UNITED STATES PATENT OFFICE.

REINHOLD F. DE GRAIN, OF WASHINGTON, DISTRICT OF COLUMBIA.

GAME APPARATUS.

SPECIFICATION forming part of Letters Patent No. 584,219, dated June 8, 1897.

Application filed December 1, 1892. Serial No. 453,784. (No model.)

To all whom it may concern:

Be it known that I, REINHOLD F. DE GRAIN, residing at Washington, in the District of Columbia, have invented a new and useful Improvement in Game Apparatus, of which the following is a specification.

My invention is an improved game apparatus; and it consists in certain features of construction and novel combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the drawings, Figure 1 is a side view, part in section, of my improved apparatus. Fig. 2 is a cross-section on about line 2 2 of Fig. 1. Fig. 3 is a detail view of a part of the casing. Fig. 4 is a top plan view of a part of the case. Fig. 5 represents the controlling-wheel in detail, and Fig. 6 is a detail view.

The case is formed with sides A, ends B, bottom C, and top or lid D, the latter preferably sliding in grooves in the sides. In the sides are journaled the shafts E, preferably provided at their ends with trunnions *e*, seated in the bearings in the sides. In providing these bearings I form the inner faces of the sides with a longitudinal upwardly-facing shoulder 1, above which the inner faces of the sides are provided with grooves 2, leading to the tops of the sides, so that the trunnions *e* may be slipped down in the grooves 2 and rest against the shoulders 1.

It is much preferred to make the sides A in lower and upper sections A' A², the lower section being arranged at its top to form the shoulder 1, the parts A' A² being glued or otherwise fastened together. This formation of the sides in sections cheapens the production of the box, as it enables the grooves to be formed by sawing or otherwise cutting grooves across the full width of the section A² and afterward uniting the two sections with the lower section to provide at its top upwardly-facing shoulders 1 at the bottom of the grooves, as clearly shown in cross-sectional view.

Manifestly the number of shafts may be varied, bearings being provided for each, and as such shafts and their attachments and operating devices are alike the description of one will answer for all.

At its ends the shaft is provided with the

figured disks F and F, arranged to expose their characters through their respective openings *f* in the opposite sides of the case, and on the shaft I also support the controlling-wheel G, having cylindrical seat-plate H, provided with openings *h*, forming seats for the gravity-disks I, which fit between the adjacent sides of the end plates J of the controlling-wheel and roll within the seat-plate and into the openings thereof. These disks may be cheaply made, and by having them with flat sides I am able to secure the desired weight without widening the apparatus.

On the shaft I support a pulley K, preferably faced on its rim at *k* with rubber or like yielding material and adapted to be engaged by the tripping projections *l* on the operating-bar L, which is movable longitudinally in the casing and provided with a tripping projection *l* for each of the shafts, which in the operation of the device strike the pulleys K and turn the same and so turn the shafts and the parts F thereon. It is preferred to provide the controlling-wheel with a circumferential rim-plate M, having inscriptions *m*, arranged to show through openings *d* in the lid D.

The operation will be readily understood. By pushing the operating-rod in one or the other direction its projections will strike the pulleys and cause the shafts to turn, and they will continue to turn by momentum until they finally come to a stop, the gravity-disks serving to stop the shafts at proper points to cause their characters to show through the sight-openings. Now it will be understood that the characters shown through the several sight-openings of each shaft will be the same, the several sight-openings corresponding to each shaft serving merely to exhibit the characters to three sides of the box. It will be understood, therefore, that for practical purposes one sight-opening for each shaft may be employed without departing from the invention.

The characters are preferably the ordinary dice-spots shown, but manifestly other characters or representations might be used, if desired.

To permit one, two, or more of the shafts to be turned independently of the others, I provide means for throwing such shafts into and out of gear with the operating-bar. To

this end the pulley K is keyed to and movable along the shaft, so it may be slipped into and out of position for engagement by the operating-bar. To this end a shifting bar N is provided for each pulley, each shifting bar having a pin *n* projecting into a groove in its respective pulley, so that the shifting bar may be reciprocated to set its pulley into or out of the path of the operating-bar, so that its shaft will or will not be operated by the reciprocation of the bar L.

The shifting bars N are guided in openings in the sides of the casing and in a guide-bar O, fixed within the casing, and are limited in their movements by stops *o*. Springs P are fixed to the casing and press against the shifting bars to prevent the latter from being jarred or otherwise accidentally displaced. This construction permits one or more of the several shafts to be thrown out of operative connection with the bar L, so that the whole or any number less than all the shafts may be used, according to the wishes of the players. It will also be seen that if all the pulleys be set into the path of the operating-bar and the latter be moved to operate them the several pulleys and their attached parts may be stopped collectively by a slight reverse movement of the operating-bar to cause its tripping projection *l* to engage the pulleys and thus stop them, and manifestly by adjusting one or more of the shifting bars to set its respective pulley out of the path of the shifting bar any one or more of the pulleys may be stopped without affecting the others, as may be desired.

Having thus described my invention, what I claim is—

1. The game apparatus herein described comprising the casing having sight-openings and having its sides formed with upper and lower sections, grooves being formed transversely entirely across the inner faces of the upper section and the cross-shafts having their end trunnions fitted in the said cross-grooves and resting down against the upper edges of the lower side sections all substantially as set forth.

2. In a game apparatus substantially as described the combination with the casing, the operating-bar and a plurality of shafts provided each with controlling-wheels and with indicating devices, of pulleys keyed one on each of the said shafts and movable into and out of the path of the operating-bar and independently-movable shifting devices whereby to adjust any one or more of said pulleys into and out of position for engagement by

said bar all substantially as and for the purposes set forth.

3. In a game apparatus the combination of the casing having a bar O provided with guide-openings and also having one of its sides provided with openings in alinement with the openings in bar O, the shifting rods having the shifting devices and movable longitudinally in said openings and having stops for limiting their movements, the shafts and their controlling devices, the operating-bar and the pulleys keyed to and movable along the shafts and arranged for operation by the shifting bars the shafts carrying numbers or symbols registering with predetermined reading-points and to be set into and out of position for engagement by the operating-bar all substantially as set forth.

4. A game apparatus comprising a series of disks having a series of numbers or symbols printed on each and fixed to an easily-revoluble spindle operated by mechanism arranged to revolve all the disks simultaneously or one or more of them separately and to stop them separately or collectively together with devices by which to insure the registering of the symbols with predetermined reading-points when the disks are at rest.

5. In a game apparatus substantially as described, the combination with the disks or cylinders having symbols and their shafts, of the slide-bar, intermediate devices between said slide-bar and the shafts of the symbol-carriers and mechanism by which the said devices may be held out of position for operation through the medium of said bar, substantially as set forth.

6. A game apparatus comprising a case or frame, a series of disks or cylinders having symbols, a slide-bar adapted to operate one or all of the disks or cylinders and independent mechanism relative to each of the disks or cylinders whereby any one of the latter may be operated by the sliding of or freed from operation by the sliding of such bar, substantially as set forth.

7. In a game apparatus a series of revoluble indicators, means for preventing the rotation of any desired number of such indicators, and mechanism arranged to revolve all of said indicators simultaneously, or any number less than all when part of the indicators are prevented from revolving.

REINHOLD F. DE GRAIN.

Witnesses:

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W. H. SIGNOR.