(No Model.)

F. SANDERSON.

GAME AND ADVERTISING DEVICE.

No. 451,956. Patented May 12, 1891.

Fig. 1.

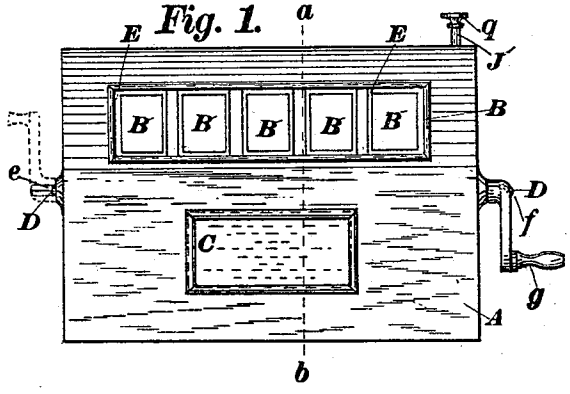


Fig. 2.

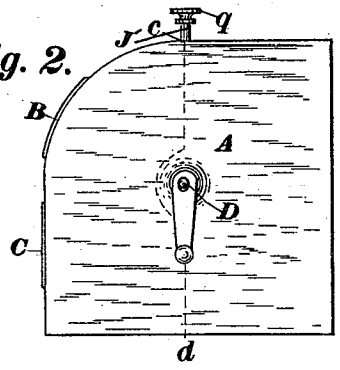


Fig. 3.

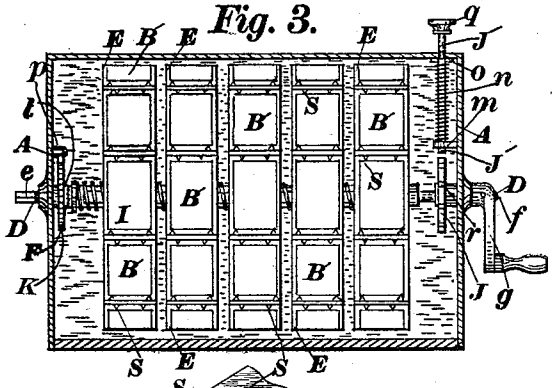


Fig. 4.

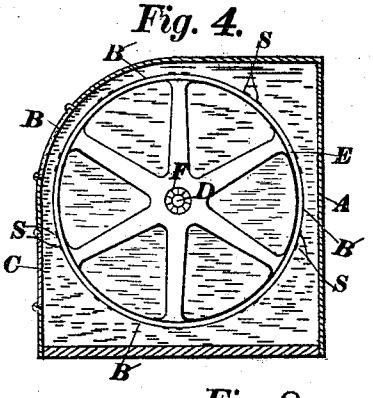


Fig. 12.

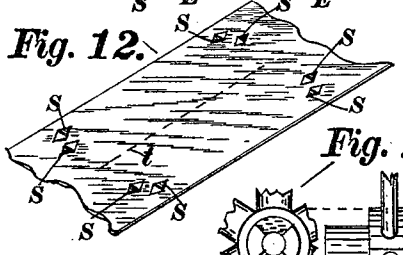


Fig. 11.

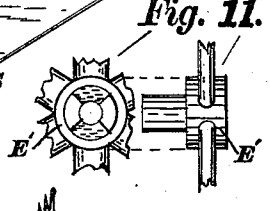


Fig. 7.

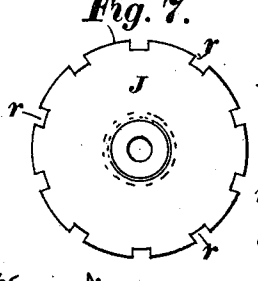


Fig. 6.

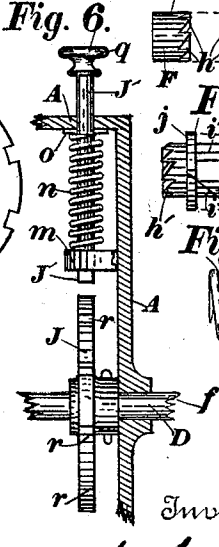


Fig. 8.

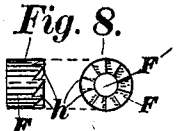


Fig. 9.

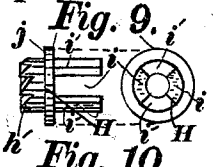


Fig. 10.



Fig. 5.

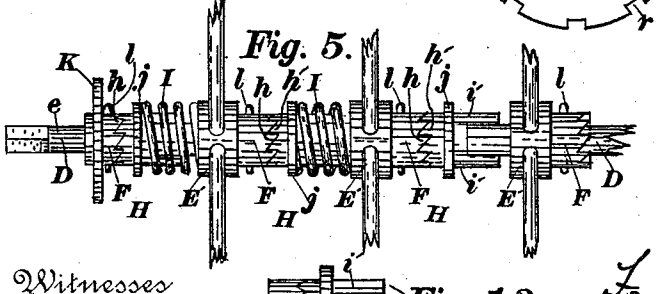
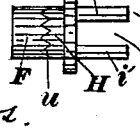


Fig. 13.



Witnesses
H. L. Brown
J. M. Mears.

Inventor
Frederick Sanderson
By his Attorney Oscar Snell.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

FREDERICK SANDERSON, OF CHICAGO, ILLINOIS.

GAME AND ADVERTISING DEVICE.

SPECIFICATION forming part of Letters Patent No. 451,956, dated May 12, 1891.

Application filed January 9, 1891. Serial No. 377,263. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK SANDERSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Game and Advertising Device, of which the following is a specification.

My invention relates to devices into which cards are placed which have pictures, letters, words, or anything to amuse painted or affixed to their exposed surfaces, and which cards have their relative positions changed at each operation of the device.

My objects are to provide a construction in which is a strip of thin material attached to wheels, which strip is furnished with hooks or clasps specially arranged for the attachment of cards, and which hooks permit the ready removal of the cards and the easy insertion of others when found necessary to change the series.

Another object is to provide a construction for the wheels which hold the strips to which the cards are attached, so that the wheels will turn in either one or both directions, and that when placed in series on the same shaft either one can be revolved independent of the others, or all simultaneously.

Another object is a stop mechanism which is so arranged that when all the wheels are rapidly revolved with the shaft and the shaft is suddenly stopped the wheels will continue their revolution by the momentum attained and take different positions relatively than they occupied before the shaft was rotated.

Still another object is to provide mechanical movements which attach the wheels to the shaft so that the wheels cannot stop in their revolution except in certain relative positions, and thus invariably bring the attached cards in an exact line, as will be fully explained; and, lastly, my object is to so combine the mechanism for mixing the cards with a case that many amusing games can be played with cards having words written or printed upon their faces, which, when thrown into a row in different positions, can be made to constitute sentences, or pictures of various kinds can be exhibited with fancy advertising-cards, or ordinary playing-cards be made to assume an endless variety of amusing combinations by the changed positions of the wheels at every operation of the device.

These objects are attained by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation, and Fig. 2 an end elevation, of the exterior of the device. Fig. 3 is a vertical central longitudinal section on dotted line *c d*, Fig. 2, of the case, showing the interior with the operative parts in elevation. Fig. 4 is a vertical transverse section of the case on line *a b*, Fig. 1, showing inside one of the card-wheels in elevation. Fig. 5 is part of the left-hand end of operating-shaft, together with the hubs of the card-carrying pulleys and the clutches for attaching them to the operating-shaft. Fig. 6 is the right-hand end of the operating-shaft, Fig. 5, to illustrate the stop mechanism. Fig. 7 is the stop-wheel; Fig. 8, respectively side and end views of part of clutch mechanism; Fig. 9, parts of clutch mechanism, as will be described; Fig. 10, a spring for holding clutch mechanism in gear; Fig. 11, a central portion or hub of one of the card-wheels, spokes, and rim broken away. Fig. 12 is a perspective view of part of the metal rim to which the cards are attached, but here shown in a straight condition; but when in use it is bent around the wheels and secured in place. Fig. 13 is a view of a modified form of clutch-gearing which will be described.

The drawings from Fig. 5 to Fig. 13 are double the scale of Figs. 1, 2, 3, and 4.

The case or box A contains the greatest part of the mechanism.

At B is a window in case A, which is of a length and width to expose to view a row of cards B′, which cards are attached to wheels on the inside of the case. The window B is filled with a sheet of glass to exclude dust, &c.

At C′ is a card, upon which is printed directions for operating the device.

Referring to Figs. 3 and 4, it will be seen that the operative mechanism consists, first, of a shaft D, journaled at the ends *e* and *f* in the ends of case A, the shaft passing through the case far enough at both ends to receive a hand-crank *g*. Journaled upon the shaft D inside the case are a number of pulleys E, whose rims are separated enough to

give ample clearance. The pulleys E are attached to shaft D, so that they can be rotated relatively to the shaft in one direction, as shown in Fig. 5, but are provided, also, with a modified form of clutch, (shown in Fig. 13,) by which they can be rotated relatively to the shaft in both directions, when necessary, when the device is used for playing games with cards or for any other reason.

I will confine myself in this description to the construction shown in Figs. 5, 8, and 9, since the principle of operation in both instances is substantially the same. Fig. 8 is respectively a side and end view of a cylindrical collar F, with a hole F′ to fit shaft D, Fig. 5, and at one end of F are shown a number of teeth *h*, which in this instance approach the form of a hook. These teeth *h* register as to number with and match as to form with teeth *h′* of sliding sleeve H, Figs. 5 and 9. Sliding sleeve H is slotted longitudinally at *i* and *i*, leaving two projections *i′* and *i′*. Fig. 11 is an end and side view of hub E′ of pulleys E. The left side only of this hub is slotted and has projections to register with the slots described for sleeve H, so that the projections of one operate in the slots of the other, the three parts F, H, and hub E′ forming a clutch.

It is necessary part of the time in this device to hold the teeth *h* of collar F in gear with the teeth in the end of sleeve H until the instant when the teeth will be thrown out of gear, in the manner as will be described hereinafter. Around sleeve H is a collar *j*, and against this collar bears a helical spring I, and the other end of this spring bears against hub E′. In the drawings, Fig. 5, there are three clutches and three pulley-hubs shown. The first two clutches have the spring I in position; but it is removed in the third better to show the relative position of the operative parts. The collars F are the only parts of the clutch system which are firmly secured to shaft D, and these pieces are usually secured by means of a small rivet or pin *l*, which passes through both collar and shaft. Four collars F are shown in Fig. 5, and any number can be added in proportion to the number of card-pulleys, each pulley having its own clutch; but the number shown will fully illustrate the action of this clutch mechanism. Shaft D is shown as broken off at the right-hand end, Fig. 5.

It is obvious that, since sleeve H is attached to hub E′ in the manner shown and described, it must revolve with the hub; also, that sleeve H can have enough play between hub E′ and collar F to allow of a longitudinal motion of the sleeve greater than the depth of teeth *h* in collar F. It is also obvious that from the position occupied by spring I it will slide sleeve H into gear with collar F, and should shaft D be revolved its motion through the described parts would cause the pulley-hubs to revolve with shaft D.

The thin metal strip (shown in Fig. 12) for holding the cards is punched at regular intervals with a V or U shaped punch, which permits the central portion between the converging cuts to be turned up and form hooks S. One-half of these hooks are turned each way and the long space *t*, dotted line, is for the card's position, the ends of the card passing under the hooks, which are then closed down, holding the ends of the card by friction. The metal strips for holding the cards are bent in the form of a hoop and are secured one to the face of each pulley.

In the construction shown in the drawings it is intended to have five wheels E and each wheel to be divided into ten spaces at its periphery for holding cards, thus making a total of fifty spaces for cards.

Figs. 3, 6, and 7 show the stop-wheel J, which is firmly secured to shaft D. This stop-wheel has ten notches *r* around its circumference. On a line with the vertical center and above stop-wheel J is a pawl J′, which is held in position and slides vertically through lug *m* and through the top of case A. A spring *n* bears against lug *m* and against pin *o* of the pawl and holds the pawl out of contact with stop-wheel J. At the left-hand end of shaft D, Figs. 3 and 5, is a ratchet-wheel K, with its pawl *p* for preventing shaft D from being turned but in one direction; but its action can be dispensed with at any time by lifting the pawl up and backward until it falls and hangs in a vertical position from its center pin.

In Fig. 13 the collar F and sleeve H are shown with notches *u*, which are not hook shape, as shown by notches *h*, Figs. 5, 8, and 9; but the bevel on each side is practically the same. This form of notch is preferred when it is intended to turn shaft D in either direction in exhibiting some classes of illuminated cards, in which case the pawl and ratchet *p* K can be entirely dispensed with.

The operation of this device is very simple. By means of the hand-crank *g* the shaft D is turned very rapidly. The collars F, through the medium of their clutch connection with hubs E′, cause wheels E to revolve with shaft D. If now the operator removes his hand from crank *g* and pressure is applied downward upon the button *q*, the lower end of pawl J′ will engage one of the notches *r* of stop-wheel J and instantly arrest the rotation of shaft D. The momentum of wheels E will cause them to continue in motion by slipping the teeth of sleeve H on the bevel of teeth *h* of collar F against the light pressure of the spring I until the friction between the teeth brings the wheels to a stop with five cards in a row at window B. There are ten notches in stop-wheel J, ten teeth *h* in collar F to match ten teeth in sliding sleeve H, and ten spaces around the periphery of the wheels E for cards, which all register so that the wheels cannot stop in any other position than the one where, in this instance, five cards will show in exact horizontal line at the window

B, Fig. 1, this perfect alignment of the cards at each stop of the device being insured by the pressure of springs I, which will draw the ten teeth of collar F in close connection with the teeth of sleeve H, so that should a card pass its right position at the window the wheel holding it will be drawn backward and be forced to assume its proper position to place the card in the row.

What I claim as my invention is—

1. In a game and advertising device, a strip of thin metal forming a hoop around the periphery of wheels E, said hoop being provided with hooks at the described intervals, formed out of the metal of said hoop in the manner described, the hooks forming the beginning and ending of each described interval for cards having their hooks pointing in opposition and used in combination with a bent card upon the periphery of said wheel, substantially as shown and described.

2. In a game and advertising device, a series of card-carrying wheels E, independently mounted upon the same shaft, as described, in combination with the described series of clutches consisting of collars fixed to said shaft, said collars having teeth h, which register with and operate in combination with teeth h', formed at one end of sleeves H, as described, said sleeves having a longitudinal motion on said shaft greater than the depth of teeth h, hub E′ of pulleys E, movably connected to sleeves H in the manner described, and the springs I, contacting with hubs E at one end and sleeves H at the other end for the purpose of operating said sleeves, the whole operating in combination with a stop-wheel J and its pawl J′, substantially as shown and described.

3. In a game and advertising device, a series of card-carrying wheels E, independently mounted upon the same shaft, as described, all the wheels having the same number of cards mounted upon their peripheries, said wheels operated by clutches having teeth h and h', said teeth on each clutch equal in number to the number of cards mounted upon each wheel E, the whole operating in combination with a stop-wheel J, secured to said shaft, said stop-wheel having a pawl J′ operating in notches r, said notches being equal in number to the number of cards mounted upon wheels E, the whole operating in combination, substantially as shown and described.

FREDERICK SANDERSON.

Witnesses:
OSCAR SNELL,
THOMAS W. GILES.