

July 25, 1933.

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1,919,922

GAME PROJECTING APPARATUS

Filed Dec. 19, 1931

3 Sheets-Sheet 1

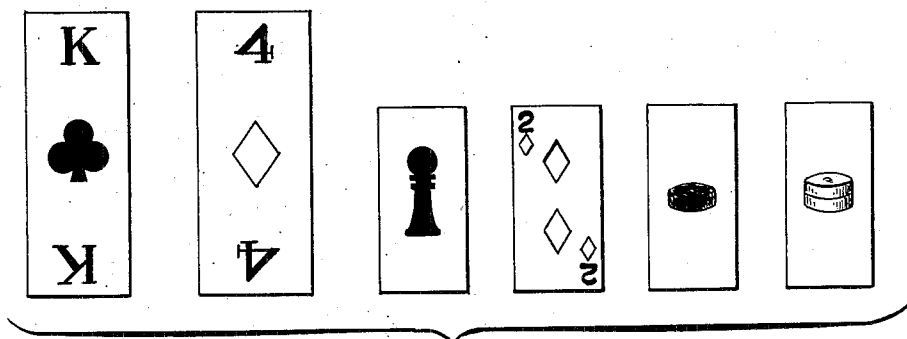


FIG. 1.

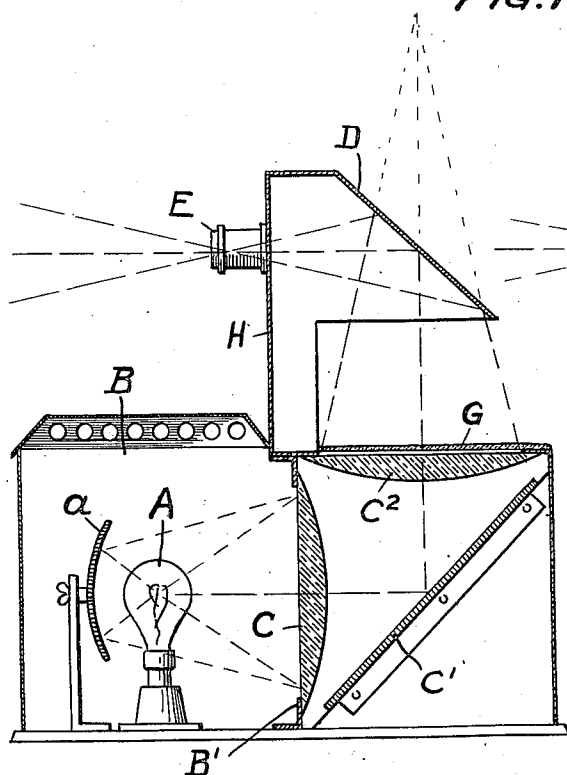


FIG. 2.

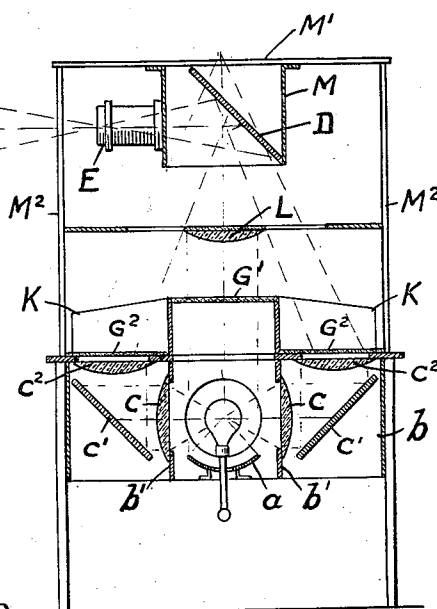


FIG. 3.

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3 Sheets-Sheet 2

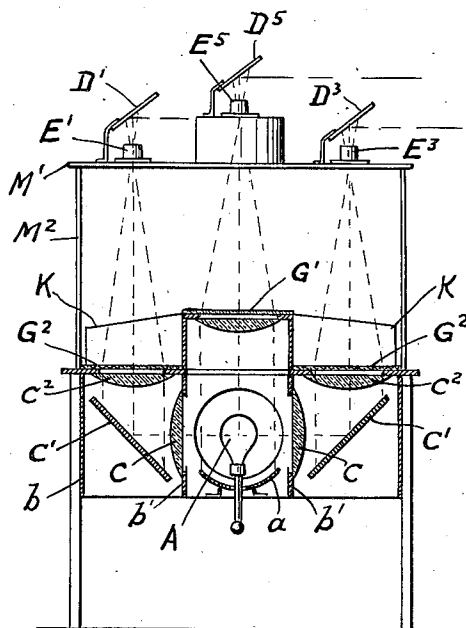


FIG. 4.

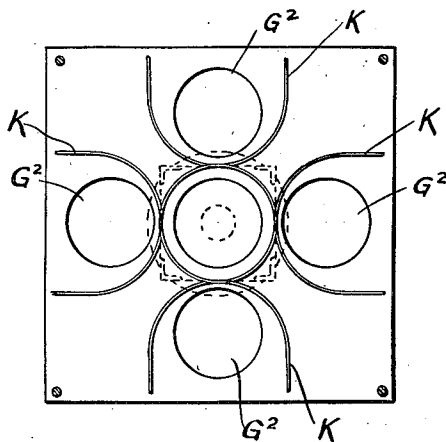


FIG. 5.

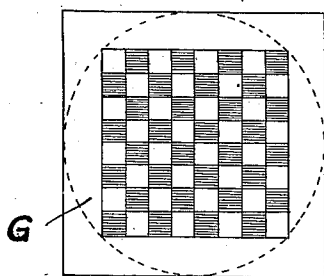


FIG. 8.

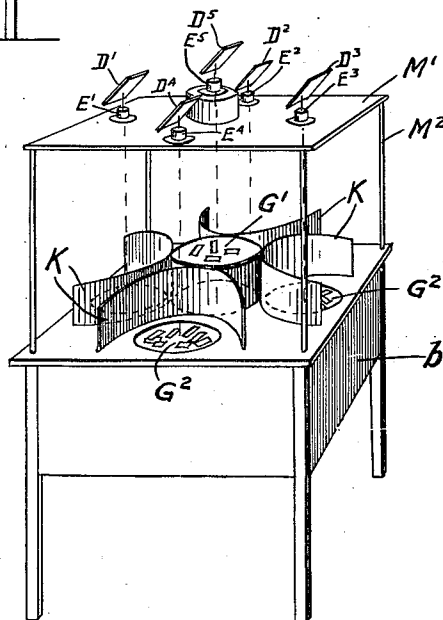


FIG. 7.

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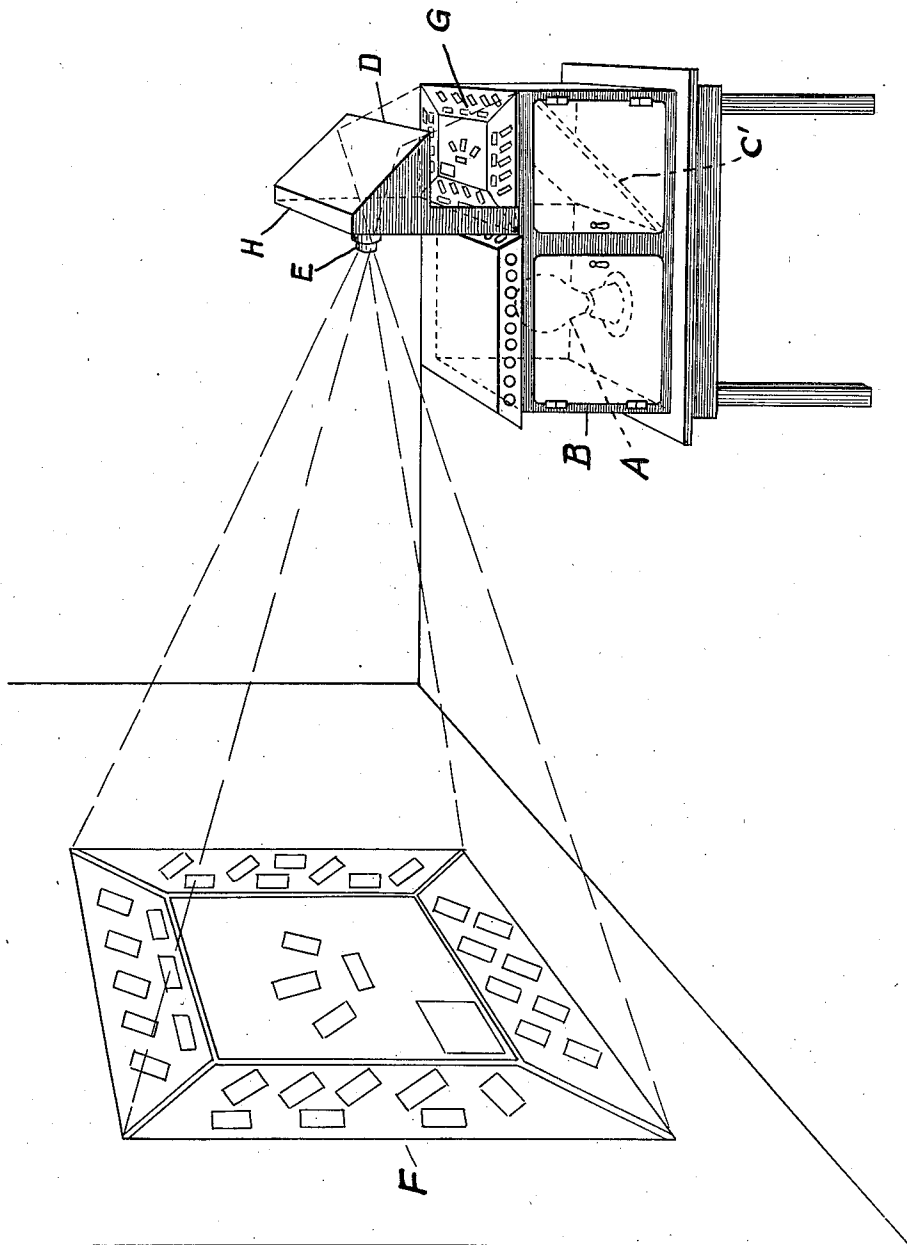
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GAME PROJECTING APPARATUS

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3 Sheets-Sheet 3



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UNITED STATES PATENT OFFICE

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GAME PROJECTING APPARATUS

Application filed December 19, 1931. Serial No. 582,088.

Our invention relates to apparatus designed to visually project upon a screen the actual playing of a game of cards, chess or the like, so that the whole play of the game may be visible to an audience and the object of our invention is to provide a simple and efficient projection apparatus for making this possible and, generally speaking, out invention consists in providing in connection with a source or sources of light, one or more light directing means adapted to direct a beam or beams from said light source in an upward direction and with evenly distributed intensity. Located above said light directing means we provide a projection lens and reflector, adapted to receive the beam or beams of light from the directing means and change their direction from an approximately vertical to an approximately horizontal direction. In the posterior focal plane of the projection lens we locate a screen upon which the beam or beams of light are focused and, as this is an essentially novel feature of our apparatus, we locate between the light directing means and the projection lens an approximately horizontal transparent table, preferably of plate glass, which may be made up of one or more sections and which is of such dimensions as to transmit the beam or beams of light coming from the light directing means to the projection lens and finally in connection with the apparatus above briefly indicated we provide transparent or translucent platens adapted to lie flat upon the transparent table and inscribed with insignia indicating the cards or "men" used in playing the game; the insignia where color differences exist in the cards or "men" will be inscribed in proper transparent colors.

The details and modifications of our generic invention will be best understood as described in connection with the drawings, in which:

Figure 1 indicates a series of platens giving a general indication of the character of such inscriptions or insignia as are to be made on the platens for the playing of different kinds of games.

Figure 2 is a diagrammatic view in vertical sectional elevation, illustrating one modification of our apparatus.

Figure 3 is a similar diagrammatic sectional view showing a modification of the

light directing means adapted to separate the light from a single source or lamp into five approximately vertical beams.

Figure 4 is a diagrammatic sectional elevation generally similar to Fig. 3, but showing the use in place of a single projection lens and single reflector for changing the direction of the beam, a grouping of five such projector lenses and reflectors.

Figure 5 is a plan view of the transparent platen receiving table provided with upwardly projecting screens adapted to conceal platens lying in front of each player of, for instance, a card game, from the vision of the other players at the table, this view also indicating the use of a table in connection with a group of light beams, as provided for in Figs. 3 and 4.

Figure 6 is a perspective view of the projection system, as indicated in section in Fig. 1, certain details being indicated by dotted lines.

Figure 7 is a perspective view of the projection apparatus as shown in section in Fig. 4, and

Figure 8 is a plan view of the transparent table for the reception of the platens, properly inscribed, so as to give the appearance on the screen of a chess board.

The platens used in connection with our projection apparatus must be of transparent or light transmitting character and can be made of celluloid or glass, properly inscribed with indicia indicating the value of the card, piece or "man" used in playing a game, as indicated in Fig. 1.

A, Figs. 2 and 6, is a light source, conveniently an electric bulb, which in these figures is located in one compartment of a light box B in front of a reflector a , said light box being divided by a partition B^1 , in which partition is located a condenser lens C, which directs the light beam from the lamp against a reflector C^1 , which in turn directs the light beam upward through a condenser lens C^2 , through which the beam issues in an upward direction until it strikes the mirror D, which in turn directs the beam into the projecting lens E, through which the beam is directed in a generally horizontal direction against the screen F (Fig. 6) which screen is located in the posterior focal plane of the projecting lens E. G is a horizontal or approximately horizontal transparent table located in the path of the beam,

directed upward by the condenser mechanism at a point corresponding to the anterior focal plane of the projecting lens E. In Figs. 2 and 6, I have indicated supporting devices for the reflector D and lens E, indicated at H and have also indicated the support of the transparent table on the top of the light box but it will be understood that the various parts of my apparatus may be supported in any convenient way.

In Figs. 3 and 4, the light box or housing for the source of light and light directing means is indicated at *b* and is divided by vertical partition *b*¹ into a central chamber and four symmetrically disposed side chambers, as plainly shown in Fig. 5. Below the light source, indicated at A, is located a parabolic reflector adapted to direct the light beam upward through the central part of the transparent table located opposite to the source of light. In the partitions *b*¹ are condenser lenses *c* through which light beams issue into contact with a reflector *c*¹, which direct the rays upward through condenser lenses *c*² through marginal portions of the transparent table. In these views I have shown a modified form of the transparent table made up of a central portion *G*¹ and marginal portions *G*², which are located at a lower level than the central portion. Upon each marginal portion is located a screen *K*, of such shape that when a player lays his cards or platens upon the marginal portion in front of him the screen will conceal the platens from all other players seated at the table. The light beam directed upward centrally by the reflector passes through the central portion of the table and the light beams directed upward by the condensers pass upward through the marginal portions of the table, as indicated in Figs. 3 and 4, and in Fig. 3, these beams are all received upon the single mirror D and directed by the mirror through the projecting lens E against the screen, not shown. In the construction shown in Fig. 3, it is obvious that the marginal portions of the transparent table will not lie in the same focal plane as the central portion and I therefore provide above the central portion an auxiliary lens L, of such a character that it shortens the focal distance of the central beam. In Fig. 3, I have shown the reflector D and lens E as secured in a box M, supported on a plate M¹, in turn supported by four posts M². In the modification illustrated in Fig. 4, the light box directing means and transparent table are the same as in Fig. 3, but in place of using a single mirror and projecting lens we use five projecting lenses, E¹, E²,

E³, E⁴, E⁵, which, as shown, are arranged with their axes approximately vertical and in the axis of the vertical beams and above these projecting lenses we locate reflectors, D¹, D², D³, D⁴ and D⁵, which change the directions of the beams to approximately the horizontal and are so arranged as to direct the beams to their proper places on the screen.

In operation the platens used in the playing of any game are placed upon the transparent table in proper arrangement and sequence of play and the strong beam or beams of light passing through the table and the platens carry the pictures indicating the value of each platen through the reflectors and projecting lenses and project the pictures upon the screen exactly as the platens are played upon the table.

Having now described our invention, what we claim as new and desire to secure by Letters Patent, is:

1. A game projecting apparatus comprising a source of light and means for directing a beam from said source upward, a reflector and projection lens arranged to receive the light rays issuing from the source of light and transmit them in an approximately horizontal direction, a screen located approximately in the posterior focal plane of the projection lens and an approximately horizontal transparent game table adapted to support a series of transparent cards used in playing a game, said table being located between the source of light and the projection lens in approximately the anterior focal plane of said lens, in combination with a series of transparent platens adapted to lie flat upon the transparent table above the source of light and each inscribed with indicia indicating the character of a movable object used in playing a game.

2. A game projecting apparatus as called for in claim 1, in which a series of screens extend upward from the face of the table, separating a central area of the table from lateral areas and adjacent lateral areas from each other.

3. A game projecting apparatus as called for in claim 1, in which a series of screens extend upward from the face of the table, separating a central area of the table from lateral areas and adjacent lateral areas from each other and in which a central light directing means lies below the middle of the transparent table and separate light directing means lie below the screened off portions of the table.

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