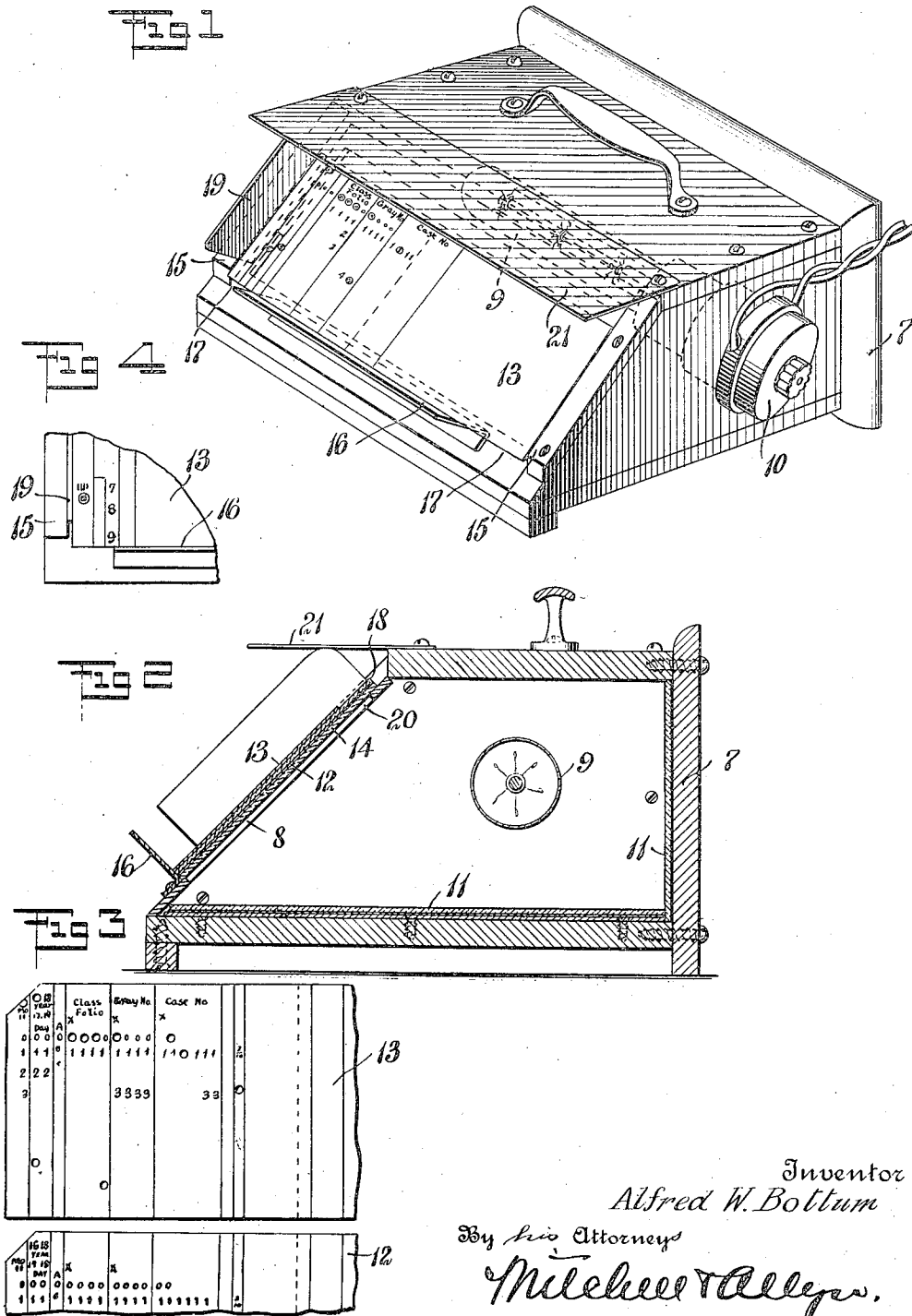


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 READING BOX FOR PUNCHED CARDS.
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1,280,102.

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READING-BOX FOR PUNCHED CARDS.

1,230,102.

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To all whom it may concern:

Be it known that I, ALFRED W. BOTTUM, a citizen of the United States of America, residing at Englewood, New Jersey, have invented a new and useful Reading-Box for Punched Cards, of which the following is a specification.

This invention has reference to tabulating systems and the primary object of the invention is to provide simple and practical means for enabling the quick reading of the punched tabulating cards used in such systems.

Other and more specific objects are to provide simple and effective means for automatically registering the punched cards in proper position to be read, to provide for the proper illumination of the headings of the punched cards and to enable the reading of different styles of cards on the same apparatus.

These objects I have accomplished by means of what I have termed a "reading box" comprising in a general way a box having an opening in one side thereof in which is framed an unpunched indicator card bearing indications in duplicate of all the original values of the punched cards and gaging means for automatically registering the punched cards with the punched-out value locations thereof in line with the originals of such values on the indicating card. A lamp is usually mounted in the reading box and a guard is preferably provided shielding the light from the eyes of the operator and reflecting a portion of the light down onto the headings or other desired indications on the perforated cards. The indicator cards are preferably so supported that different styles or types of cards may be readily substituted.

Other features of the invention will appear as the specification proceeds.

In the accompanying drawings I have illustrated a practical and preferred embodiment of the invention but it will be understood that various changes and modifications may be made without departing from the true spirit and scope of the invention.

In the drawing:—

Figure 1, is a perspective view of the reading box.

Fig. 2, is a transverse sectional view of the same.

Fig. 3, is a broken detail view of one of the punched indicator cards and a fragment

of an indicator member or card below the same.

Fig. 4, is a similar view illustrating the registration of the cards against the side and end gages.

Considering the drawing now in detail:—

7 designates the box proper constructed of suitable material and of convenient size and having in the present embodiment its front side disposed on an incline convenient for reading purposes and provided with an opening 8 therein over which the cards are supported.

In the embodiment illustrated the light is furnished by an electric lamp 9 mounted in the box and controlled by a suitable switch 10 and the box is shown lined with mirrors 11 or other suitable light reflecting means for throwing the light out through the opening in the front of the box.

Framed in the opening is what I have termed an "indicator card" 12 bearing indications in duplicate of all the original values of the tabulating cards 13 which are to be read. In other words, the indicator card is in effect a duplicate of an original tabulating card before any of the values have been punched therefrom.

The indicator cards are preferably so mounted that different cards may readily be substituted for reading different styles of tabulating cards. In the illustration this is accomplished by mounting the indicator card on a ground glass support 14 which is detachably fitted between end gaging strips 15 at the ends of the opening and resting on a bottom gage 16 at the lower edge of the opening, said bottom gage terminating short of the end gage strips so as to leave spaces 17 at which the corner portions of the support are exposed to enable the support being engaged by the fingers when it is desired to remove the same.

The indicator card is preferably protected by a transparent cover such as the glass plate 18 on which the tabulating cards are directly supported.

The tabulating cards are automatically registered over the indicator card by gaging means comprising in the present illustration, an outwardly projecting end gage 19 and the bottom or side gage 16 above referred to.

In using the device care is first taken that the indicator card between the ground and plain glass supports is properly registered

with the end and side gages before described. To read a punched tabulating card then it is merely necessary to drop the punched card over the indicator card with a movement such as to carry it into engagement with the end and side gages whereupon the punched out value locations on such card will be automatically registered with the originals of such punched out values appearing on the indicator card, the light shining through the punched out portions serving to bring out such values in sharp relief.

The indications on the indicator cards are preferably accentuated to make them stand out more clearly as by imprinting them more heavily or in darker ink than the indications on the tabulating cards which they duplicate and the reading is further facilitated by making the indicator card of a different color from the tabulating cards, the indicator card for instance, being red and the tabulating cards being of a lighter color.

When it is desired to use indicator cards of a different character from those then in the apparatus, it is merely necessary to lift out the glass supports for the card by engaging the exposed corner portions thereof, substitute the desired indicator card and replace the supports.

Provision is made in my invention for illuminating the headings on the tabulating cards by allowing a portion of the light to shine through the opening in the front of the box and reflecting the same down upon the desired portion of the card. Thus in the illustration, the cards do not extend entirely to the upper edge of the opening 8 so that a part of the light passes through the uncovered area thus left at 20 and engages the reflecting underface of a reflector 21 by which it is directed onto the top of the card as clearly illustrated in Fig. 2. This light reflector also serves as a guard for shielding the eyes of the observer from any glare.

What I claim is:

1. Apparatus for the reading of tabulating cards which have had certain of the original values punched therefrom comprising an unpunched indicator card bearing indications in duplicate of all the original values of the punched cards, means for supporting said indicator card in position to be illuminated by a source of light and means for automatically registering the punched cards with the punched out value locations thereon in line with the indications on the indicator card representing the originals of such punched out values.

2. Apparatus for the reading of tabulating cards which have had certain of the original values punched therefrom comprising an unpunched indicator card distinguished in color from the colors of the tabulating cards and bearing accentuated indi-

cations in duplicate of all the original values of the punched cards, means for supporting said indicator card in position to be illuminated by a source of light and means for automatically registering the punched cards with the punched out value locations thereon in line with the indications on the indicator card representing the originals of such punched out values.

3. Apparatus for the reading of tabulating cards which have had certain of the original values punched therefrom comprising an unpunched indicator card bearing indications in duplicate of all the original values of the punched cards, a light source, means for supporting the indicator card in position to be illuminated by said light source and means for automatically registering the punched cards with the punched out value locations thereon in line with the indications on the indicator card representing the originals of such punched out values.

4. Apparatus for the reading of tabulating cards which have had certain of the original values punched therefrom comprising a box having an opening in one side thereof, a lamp in said box, an unpunched indicator card framed in the opening in the side of said box and bearing indications in duplicate of all the original values of the punched cards and means for automatically registering the punched cards with the punched out value locations thereon in line with the indications on the indicator card representing the originals of such punched out values.

5. Apparatus for the reading of tabulating cards which have had certain of the original values punched therefrom comprising a box having an inclined front side provided with an opening therein, a lamp in said box, an unpunched indicator card framed in the opening in the front of said box and bearing indications in duplicate of all the original values of the punched cards and means for automatically registering the punched cards with the punched out value locations thereon in line with the indications on the indicator card representing the originals of such punched out values.

6. Apparatus for the reading of tabulating cards which have had certain of the original values punched therefrom comprising a box having an inclined front wall provided with an opening therein, an unpunched indicator card framed in said opening and bearing indications in duplicate of all the original values of the punched cards, a lamp in said box, end and side gages on the front of the box at the end and side of the indicator card for registering the punched sheets on the indicator card.

7. Apparatus for the reading of tabulating cards which have had certain of the

original values punched therefrom comprising a box having an inclined front wall provided with an opening therein, an unpunched indicator card framed in said opening and bearing indications in duplicate of all the original values of the punched cards, a lamp in said box, end and side gages at the front of the box at the end and side of the indicator card for registering the punched sheets on the indicator card and a light shield overstanding the upper portion of the indicator card and provided with a light reflective surface on its under side for reflecting the light from the lamp down upon the head portion of the punched card resting against the end and side gages.

8. Apparatus for reading tabulating cards which have had certain of the original values punched therefrom, comprising a box having an opening in one side thereof, an unpunched indicator card framed in said opening and bearing indications in duplicate of all the original values of the punched cards, a lamp in the box and a light shield overstanding a portion of the indicator card and provided with a light-reflecting surface on the side adjacent the indicator card, the box having an opening

for the light to pass from the lamp to the under side of the light shield whereby said light shield will reflect a portion of the light projecting from the box down onto the face of the indicator card.

9. Apparatus for reading tabulating cards which have had certain of the original value punched therefrom, comprising a box having an opening in one side thereof, an unpunched indicator card framed in said opening and bearing indications in duplicate of all the original values of the punched cards, and gages for registering a punched card over the indicator card.

10. Apparatus for reading tabulating cards which have had certain of the original values punched therefrom, comprising a box having an opening in one side thereof, an unpunched indicator card bearing indications in duplicate of all the original values of the punched cards, a glass support for such indicator card, means for detachably supporting said glass support over the opening in the box, gages for registering a punched card on the glass support and a lamp in the box.

ALFRED W. BOTTUM.