

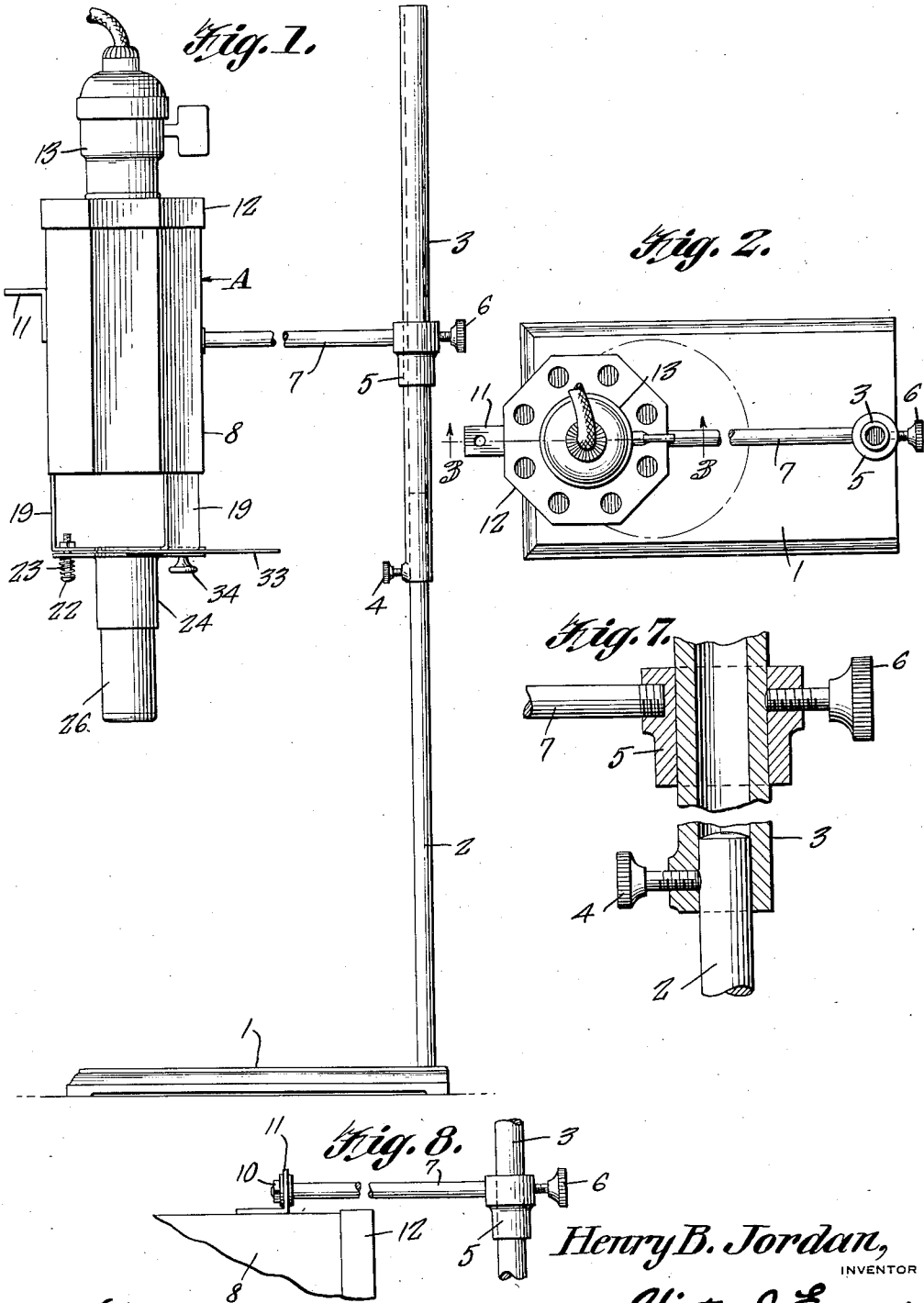
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1,856,956

PROJECTING MACHINE

Original Filed Feb. 15, 1930 2 Sheets-Sheet 1



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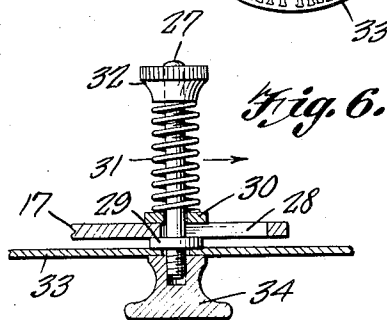
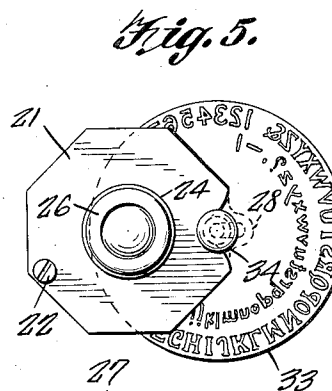
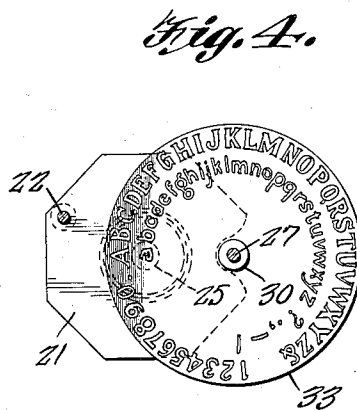
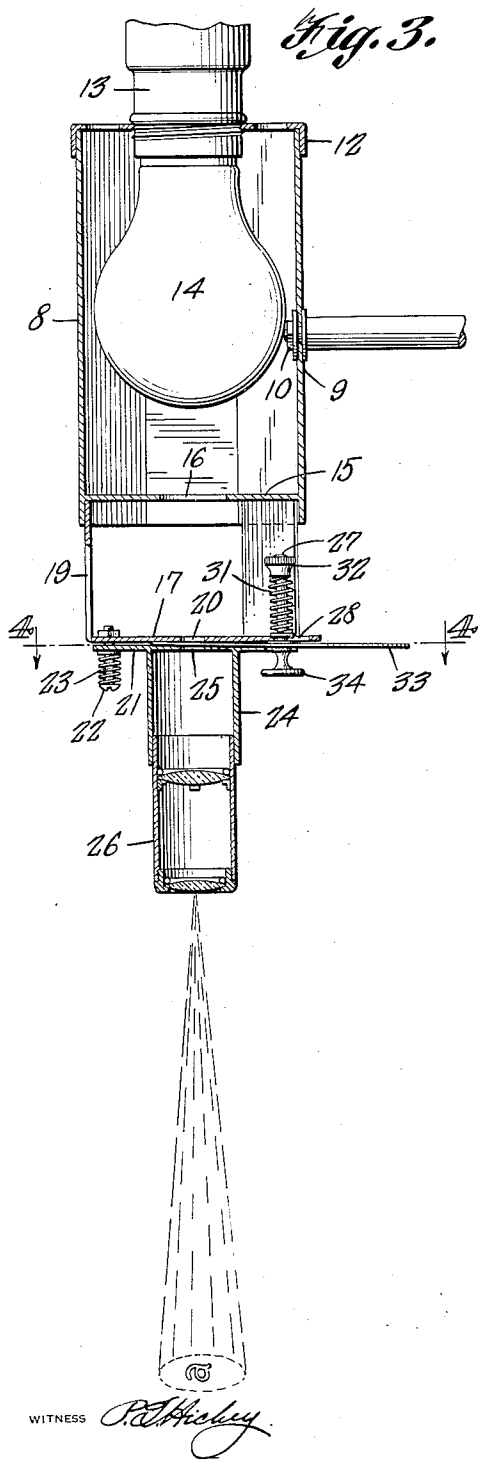
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## UNITED STATES PATENT OFFICE

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## PROJECTING MACHINE

Application filed February 15, 1930, Serial No. 428,800. Renewed March 24, 1932.

This invention relates to a device for projecting letters, figures and designs upon blank cardboard or the like so that the letters, characters or designs can be easily and quickly sketched or otherwise marked on the surface, thereby eliminating the sketching in of the letters, etc., in the usual manner and permitting beginners as well as experienced operators to accurately place the letters, etc. on a surface in the minimum amount of time.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawings and specifically pointed out in the appended claims.

In describing the invention in detail, reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which:—

Figure 1 is an elevation of the device.

Figure 2 is a top plan view.

Figure 3 is a section on line 3—3 of Figure 2.

Figure 4 is a section on line 4—4 of Figure 3.

Figure 5 is a bottom plan view of the device.

Figure 6 is a sectional view partly in elevation of the film holder.

Figure 7 is a sectional view through the upright.

Figure 8 is a view showing the parts with the projector in horizontal position.

In these views, the numeral 1 indicates the base of the apparatus and the numeral 2 a rod having one end threaded in the base. A tubular rod 3 telescopes the rod 2 and is held in adjusted position thereon by the set screw 4. A sleeve 5 is slidably arranged on the rod 3 and is held in adjusted position by the set screw 6. A horizontal rod 7 has one end threaded in the sleeve 5 and the body 8 of the projecting device A is adapted to be fastened to the outer end of this rod 7 either in a horizontal position or a vertical position. When the device is to be held in a vertical

position, the rod 7 has its threaded outer end passed through a hole 9 in one side of the body and fastened thereto by a nut 10. When the device is to be held in a horizontal position, the threaded end of the rod is passed through a hole in an angle bracket 11 on the body and fastened to the bracket by the nut 10. This latter arrangement is shown in Figure 8.

The upper end of the body 8 is closed by a cap 12 which carries the lamp socket 13, the lamp being shown at 14, it being understood that the socket is connected with a suitable source of electrical supply. A partition 15 is located in the lower end of the body and has a hole 16 therein through which the rays of light from the lamp pass. A plate 17 is held in spaced relation from the lower end of the body by the strips 19 and this plate has a small hole 20 in its center through which the rays of light passing through the holes 16 pass. A second plate 21 is connected with the plate 17 for swinging movement by the bolt 22 having the spring 23 thereon for preventing free movement of the plate 21, the bolt passing through the two plates adjacent the edges thereof. A barrel 24 has one end connected with the plate 21 at the center thereof and said plate 21 has a hole 25 therein located at the axis of the barrel and registering with the hole 20 when the plate 21 is in operative position. The usual lens barrel 26 is carried by the barrel 24.

A bolt 27 is slidably supported by the plate 17 by passing through a slot 28 in the plate adjacent one edge thereof, the bolt carrying the nut 29 and a washer 30, with a spring 31 on the bolt for causing the washer to clamp the plate 17 between itself and the nut 29, so that the bolt is frictionally held against sliding movement on the plate 17. A nut 32 on the bolt is provided for tensioning the spring.

The character carrying member or film is shown at 33 and has a hole in its center to fit over the lower end of the bolt 27 and said member is held on the bolt by the nut 34. This member is of translucent material and carries the characters, designs or the like which are to be projected, these characters,

of course, being transparent. By having the bolt 27 slidably arranged, the characters can be placed in two annular rows on the member 33, so that when the bolt is in one position, the characters of one row will be brought in projecting position between the openings 20 and 25 by rotating the member and by moving the bolt to its other position, the characters of the other row will be brought into projecting position by rotating the member.

From the foregoing it will be seen that when the lamp is lighted, the rays of light will pass through the opening 16 in the partition and through the openings 20 and 25 in the plates 17 and 21 and then through the barrels and the lenses carried by the barrel 26 and thus the character opposite the openings 20 and 25 will be projected on to a sheet or the like placed on the base 1, as shown in Figure 3. Thus the character or the like can be easily and quickly sketched or otherwise drawn on the sheet. To bring a new character into projecting position, it is simply necessary to turn the member 33 and other members can be readily substituted for said member when desired by removing the screw 34. As before stated, a character in either row can be brought into projecting position by adjusting the bolt 27 in the slot 28 and the barrel carrying plate 21 can be swung out of the way to permit a new member 33 to be substituted for the old one, as the plate 21 is formed with a notch 21' for receiving the nut 34, so that by removing the nut, said plate 21 is free to swing on its pivot.

The size of the characters may be varied by adjusting the distance between the lens and the sheet by raising or lowering the device and then fastening it in adjusted position by the set screws 4 and 6.

It is thought from the foregoing description that the advantages and novel features of the invention will be readily apparent.

It is to be understood that changes may be made in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claims.

What I claim is:—

1. A projecting device of the class described comprising a body having an opening at one end thereof, a lamp in the body, a perforated plate spaced from that end of the body which is formed with the opening, a barrel carrying plate pivoted to the first plate, means for rotatably connecting a member carrying the matter to be projected to the first plate and means whereby the pivotal point of said member can be adjusted toward and away from the perforation in the plate.

2. A projecting device of the class described comprising a hollow body having an opening in one end thereof, a cap closing the other end, a lamp socket carried by the cap, a lamp in the socket and located in the body,

strips extending from the perforated end of the body, a plate fastened to the outer ends of the strips and having a central perforation therein and a slot adjacent one edge thereof, a bolt slidably arranged in the slot, spring means for frictionally holding the bolt in adjusted position, a member rotatably and removably arranged on the bolt and carrying annular rows of characters or the like to be projected, a barrel carrying plate pivoted adjacent one edge to the first plate, the rotatably supported member extending between the two plates and a lens carrying barrel carried by the barrel of the plate.

In testimony whereof I affix my signature.  
HENRY B. JORDAN.