

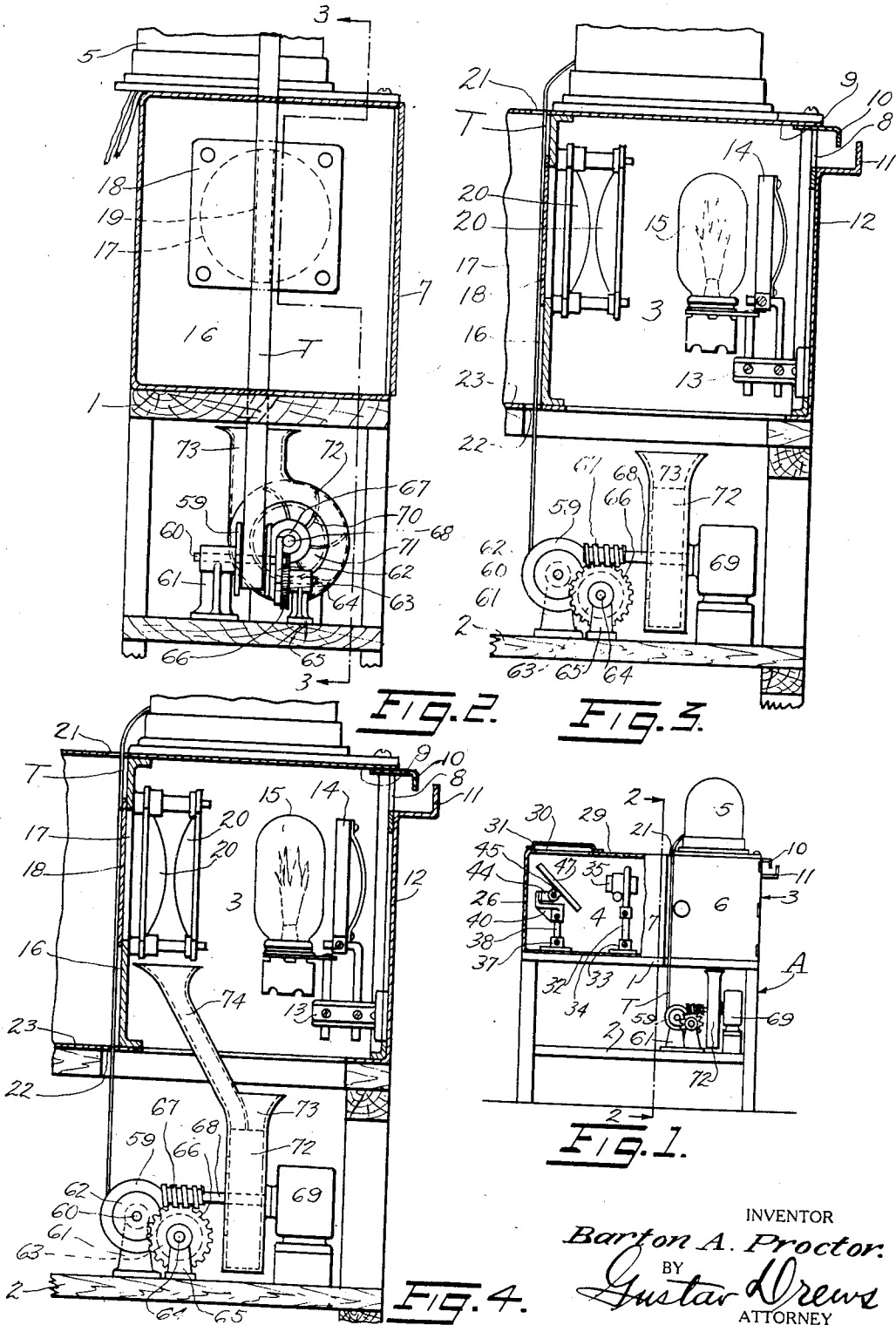
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AIR COOLING MECHANISM FOR PROJECTING MACHINES

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AIR-COOLING MECHANISM FOR PROJECTING MACHINES.

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This invention relates to picture projecting machines in general and more especially to means for ventilating and cooling picture projecting machines.

5 Among the objects of the present invention, it is aimed to provide a ventilating means which will effectually ventilate and cool the lamp housing of a projecting machine.

10 To this end, the present invention contemplates the provision of a lamp housing having openings at the bottom and top and provided with an air circulating means for circulating the air through said lamp housing
15 from one end to the other for effectually cooling the same.

It is further aimed to provide a lamp housing having a lamp at one end, a condensing lens series at the other end, the lamp housing
20 having openings at the bottom and top, and a fan provided with guiding means for directing the air from the fan to pass through the housing from one opening to the other to effectually and continually displace the heated
25 air surrounding the condensing lens series and lamp.

The present invention still further contemplates the provision of a lamp housing having a lamp at one end, and a condensing lens
30 series and film opening at the other end, the lamp housing having ventilating openings at opposite ends, and a fan provided with conduits, one conduit for directing the air from the fan to pass through the housing
35 from one opening to the other and particularly past the lamp, and another conduit for causing the air from the fan to pass through the housing from one opening to the other and particularly past the condensing
40 lens series and film opening.

These and other features, capabilities and advantages of the invention will appear from the subjoined detail description of certain
45 embodiments thereof illustrated in the accompanying drawings in which

Figure 1 is a side elevation partly in section of a complete projecting machine with the ventilating means in place.

Fig. 2 is a section enlarged on the line 2—2
50 of Fig. 1.

Fig. 3 is a section enlarged on the line 3—3
of Fig. 2.

Fig. 4 is a section enlarged similar to the section illustrated in Fig. 3 of another modification.
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In the embodiment illustrated in Figs. 1, 2 and 3 there is shown a suitable frame A having an upper supporting platform 1 and a lower platform 2. On the upper platform there is formed at one end thereof a lamp containing housing 3, and in alignment therewith an elongated housing 4. On the lamp containing housing 3 there is located in the present instance a standard stock quotation ticker 5. As shown in Fig. 1, access to the interior
65 of the housing 3 may be gained through the door 6 and access to the interior of the housing 4 by means of the door 7. The bottom of the housing 3, see Fig. 3, is open to permit air there to enter, and the upper rear end of
70 the housing 3 is provided with an opening 8, the upper wall 9 of the housing being provided with a downwardly bent plate 10 to extend into the trough formed by the rearwardly and upwardly bent plate portion 11 of the
75 rear wall member 12 of the housing 3. These oppositely extended plate portions 10 and 11 cooperate to prevent the passage of light through the opening 8 and at the same time to permit the formation of an upper outlet
80 for the escape of the air heated in the housing 3.

To the wall 12 there is secured a bracket 13 near the rear end of which there is supported an ordinary reflector 14, and in front thereof
85 of a standard projecting lamp 15.

The front wall 16 of the housing 3 is provided with an opening 17, a suitable plate 18 being secured to the outer face of the front wall and provided with an elongated
90 window forming slot 19. In the present instance, see Fig. 2, the slot 19 extends vertically. To the rear face of the wall 16, there are secured the usual plano-convex condensing lenses 20, 20 to receive the light from the
95 lamp 15 and its reflector 14 and permit it to pass through the opening 19.

A portion of the top wall between the housings 3 and 4 is cut away to form the opening 21 for the passage of the film such
100 as the tape T, in the present instance, from the ticket 5 to, and across, the opening 19. For convenience of construction, the opening 21 in the top of the frame A continues down between the aligned door members 6 and 7,
105 see Fig. 1, and continues into the opening 22 between the rear portion 23 of the base 32 of the housing 4 and the front wall member 16 of the housing 3.

The top wall member 29 of the housing 110

4 has, adjacent to the front wall 26, an enlarged opening 30, which in the present instance is provided with a suitable border frame 31.

5 In the housing 4, near the rear end thereof, and on the base 32 resting on the platform 1, there is secured the bracket 33, in which is slidably secured the standard 34 on which is mounted a suitable objective lens housing
10 35, aligning with the opening 17 and receiving the light rays from the condensing lenses 20, 20, and the image or images of the quotation and the like on the ticker tape T. The ticker tape in the present instance is preferably composed of a transparent material
15 such as ordinary film stock or translucent material such as celluloid, cellophane or the like.

Adjacent to the front wall 26 and on the
20 base 32, there is secured the bracket 37 in which is slidably secured the pedestal 38. At the upper end of the pedestal 38, there is secured a second bracket 40 which can be adjusted in a rotatable direction.

25 The bracket 40, in the present instance, is provided with an angle plate 44 which has, pivotally connected to its free end, the mirror support 46 which supports the mirror 47. By means of the aforesaid adjustments,
30 the mirror 47 and objective lens housing 35 can be readily adjusted to direct the image produced to the mirror 47 at whatever angle desired.

From the mirror 47, it is aimed to project
35 the images produced through the opening 30 to a suitable screen or screen housing not shown.

For taking up the tape T as it is being fed past the opening 19, there is provided the
40 friction driven spool 59 which is mounted on the shaft 60 journaled in the support 61. The support 61 is secured to the platform 2. To the shaft 60, there is secured the friction wheel 62 which engages the friction wheel
45 63 fixed on the shaft 64 which is journaled in the support 65 secured to the platform 2. To the shaft 64, there is fixed the worm wheel 66 which is in mesh with the worm 67 on the shaft 68 of the motor 69. Thus the motor 69
50 will drive the shaft 68 in turn to drive the friction wheels 63 and 62 to rotate the spool 59 in turn to take up the tape T as it is being fed thereto.

On the shaft 68, see Fig. 2, there is mounted a blower, such as the rotary fan 70 which
55 sucks air in through the annular opening 71 in the side of the fan housing 72 and directs it up through the funnel 73 into the lamp chamber 3, thereby to force the heated air in said chamber up and out through the opening
60 8 at the upper end thereof.

In the modification illustrated in Fig. 4, the funnel 73 is provided with an auxiliary funnel member 74 which directs the air up
65 to the opening 19 and to the condensing lenses

20, 20, thereby to insure the cooling of the tape T and of the lenses 20, 20, the remaining part of the funnel 73 being free to direct the air up through the rest of the chamber 3.

It is obvious that various changes and
70 modifications may be made to the details of construction without departing from the general spirit of the invention set forth in the appended claims.

I claim:

1. In a projecting machine, the combination with a lamp housing, of a lamp in said housing, a condensing lens in said housing, there being a glass covered opening in one side of said housing registering with said
80 condensing lens to permit the passage of light from said lamp to pass from said lens through said glass covered opening, there being an opening at the upper end of said housing, the entire bottom of said housing being open, and
85 a blower located outside of said housing and operable to direct air up through the bottom of said housing and out through the opening at the upper end of said housing.

2. In a projecting machine, the combination with a lamp housing, of a lamp in said housing, a condensing lens in said housing, there being a window in one side of said housing registering with said condensing lens to permit the passage of light from said lamp
95 to pass from said lens through said window, there being an opening at the upper end of said housing, the entire bottom of said housing being open, a shaft below said housing, a blower mounted on said shaft, a motor for
100 driving said blower, and a blower housing for guiding the air driven by said blower to extend up through the bottom of said housing.

3. In a projecting machine, the combination with a lamp housing, of a lamp in said housing, a condensing lens in said housing, there being a window in one side of said housing registering with said condensing lens to permit the passage of light from said lamp
110 to pass from said lens through said window, a tape having characters thereon, means for feeding the tape passed said window, there being an opening at the upper end of said housing, the entire bottom of said housing
115 being open, a shaft below said housing, a blower mounted on said shaft, a motor for driving said blower, a blower housing for guiding the air driven by said blower, there being an enlarged mouth at the upper end of
120 said blower housing facing the opened bottom of said lamp housing to direct the air into said open bottom, and a funnel extending up from said mouth to said condensing lens and tape to direct the air to said
125 condensing lens and tape.

4. In a projecting machine, the combination with a lamp housing, of a lamp in said housing, a condensing lens in said housing, there being a window in one side of said
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housing registering with said condensing lens to permit the passage of light from said lamp to pass from said lens through said window, a tape having characters thereon passing said
5 window, there being an opening at the upper end of said housing, the entire bottom of said housing being open, a shaft below said housing, a blower mounted on said shaft, a motor for driving said blower, a blower housing for
10 guiding the air driven by said blower, there being an enlarged mouth at the upper end of said blower housing facing the opened bottom of said lamp housing to direct the air into said open bottom, a funnel extending up
15 from part of said mouth to said condensing lens and tape positively to direct the air to said condensing lens and tape, the remainder of the mouth of said blower housing being free to direct the air to the rest of said lamp
20 housing.

5. In a projecting machine, the combination with a lamp housing, of a ticker mounted on said lamp housing, a lamp in said housing, there being a window in one side of said housing, the bottom of said housing being entirely
25 open, there being an outlet opening at the top of said housing, a tape rewinding spool below said housing, a tape having characters printed thereon by said ticker and passing
30 from said ticker past the outside of said window to said rewinding spool, and a blower and a motor both located below and outside of said housing, the motor being operatively connected to drive said rewinding
35 spool and to operate said blower to direct air up through the bottom of said housing and out through the opening at the top of said housing.

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