

Jan. 15, 1929.

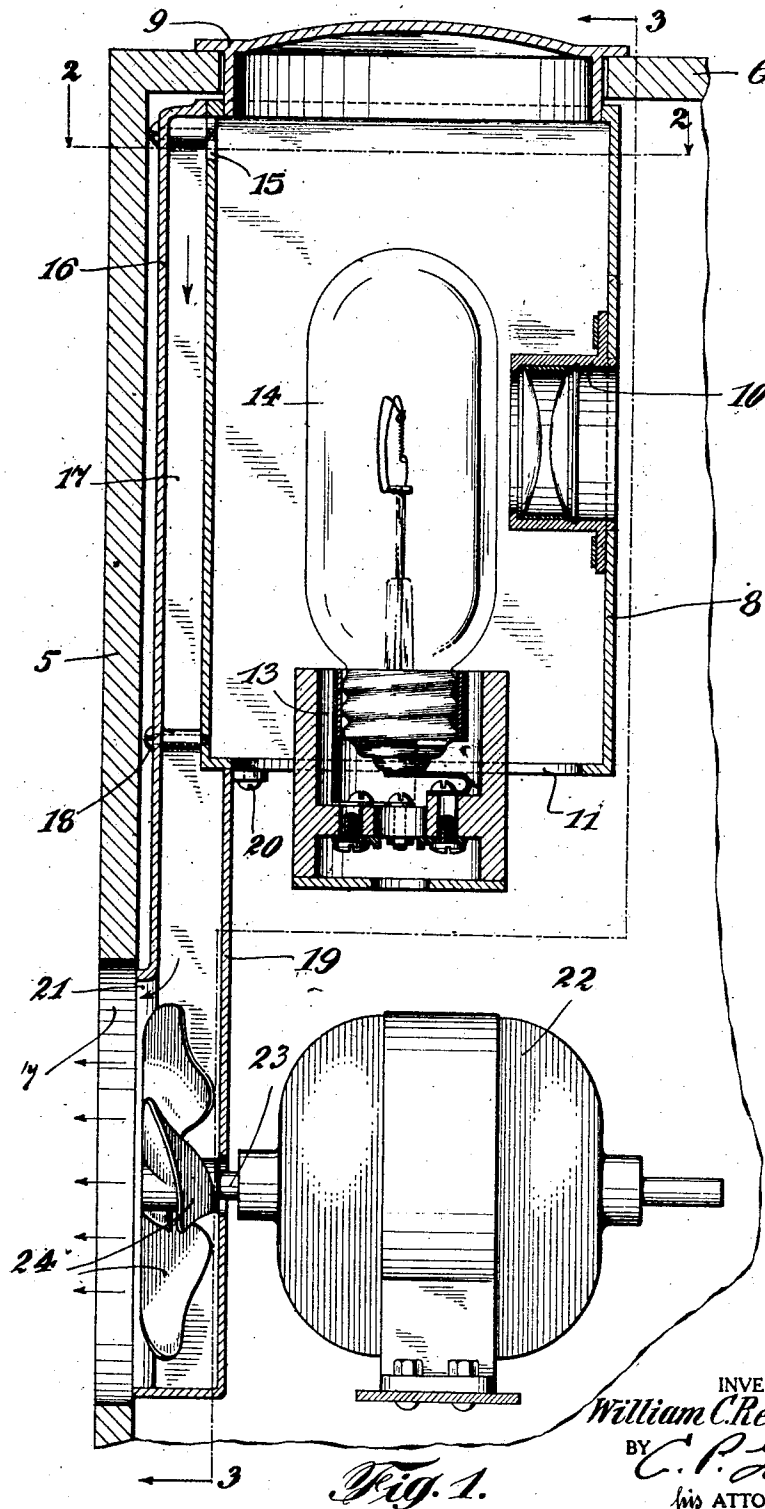
W. C. READEKER

1,699,078

VENTILATOR FOR MOTION PICTURE MACHINES

Filed Jan. 8, 1926

2 Sheets-Sheet 1



INVENTOR
William C. Readeker
BY *C. P. Gephel*
his ATTORNEY

Jan. 15, 1929.

W. C. READEKER

1,699,078

VENTILATOR FOR MOTION PICTURE MACHINES

Filed Jan. 8, 1926

2 Sheets-Sheet 2

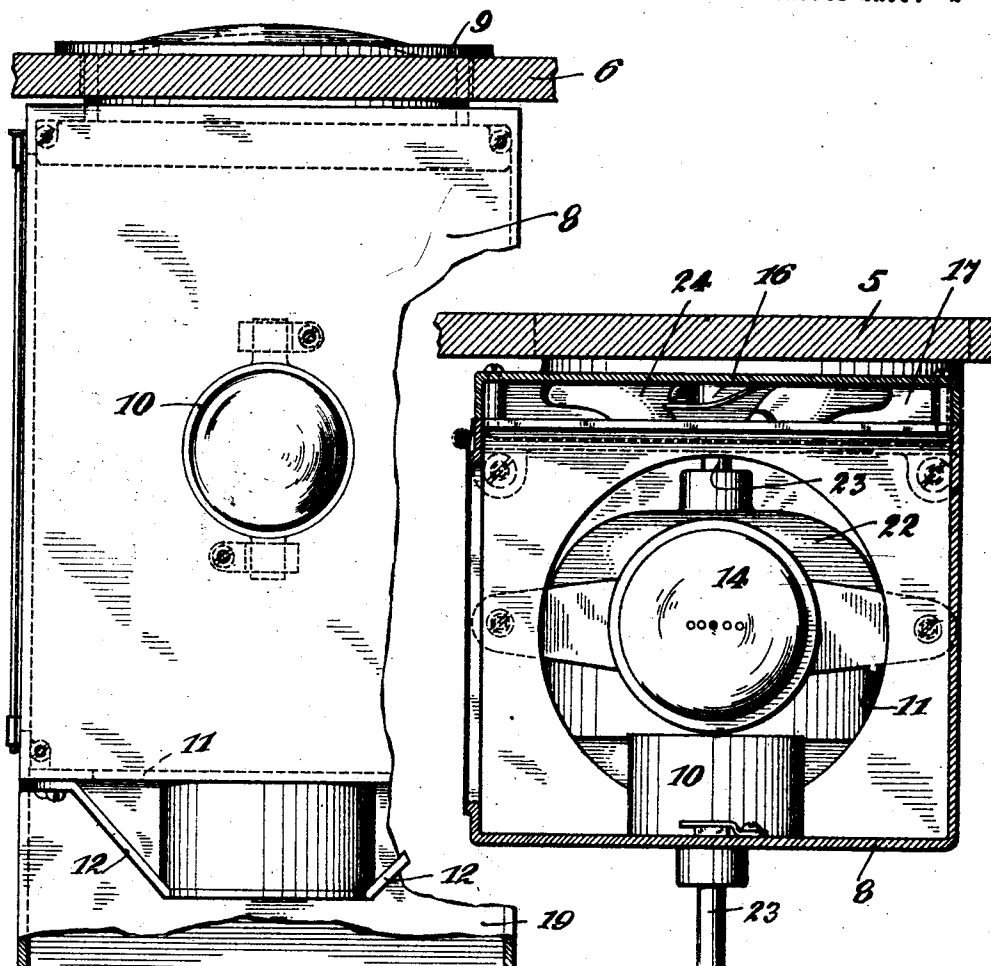


Fig. 2.

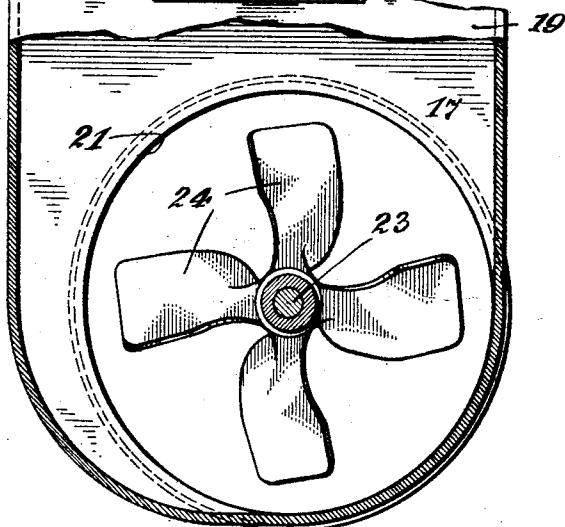


Fig. 3.

INVENTOR
William C. Readeker
BY *C. P. Gephel*
his ATTORNEY

UNITED STATES PATENT OFFICE.

WILLIAM C. READEKER, OF NEW YORK, N. Y.

VENTILATOR FOR MOTION-PICTURE MACHINES.

Application filed January 8, 1926. Serial No. 79,918.

This invention relates to an improved ventilator for motion picture machines, and has for its primary object to provide simple and inexpensive means for ventilating the interior of the casing or cabinet and more particularly the lamp housing therein so that overheating and possible combustion of the inflammable motion picture film will be obviated.

It has heretofore been the general practice to circulate relatively cool air within and through the casing or cabinet of the motion picture apparatus. This method, however, produces a high suction at the air inlet opening so that dust, dirt and other foreign matters are drawn into the casing and collect upon the parts of the mechanism. Also, the temperature in the immediate vicinity of the lamp is not greatly reduced.

In a preferred embodiment of my present invention the ventilator is in the form of a suction fan fixed on the shaft of the operating motor for the mechanism of the projection machine and mounted and arranged with relation to the end of an outlet conduit in direct communication with the interior of the lamp housing. Preferably, this lamp housing is open at its bottom and the operating motor is mounted adjacent thereto so that the hot air generated by the operation of the motor will also be withdrawn through the lamp housing. In this manner, therefore, it will be seen that instead of supplying cool air under pressure to the interior of the casing or cabinet, I withdraw the hot air from the casing and the interior of the lamp housing and discharge the same exteriorly of the casing. In this manner, a substantially uniform, relatively low temperature may be maintained within both the lamp housing and the casing so that the possibility of ignition of the film is precluded.

With the above and other objects in view, the invention consists in the improved ventilator for motion picture machines and in the form, construction and relative arrangement of its several parts, as will be hereinafter more fully described, illustrated in the accompanying drawings and subsequently incorporated in the subjoined claims.

In the drawings, wherein I have illustrated one simple and satisfactory embodiment of the invention, and in which similar reference characters designate corresponding parts throughout the several views,—

Figure 1 is a vertical sectional view through

a portion of the casing or cabinet and the lamp housing, showing the application of my present improvements thereto;

Fig. 2 is a horizontal sectional view taken on the line 2—2 of Fig. 1, and

Fig. 3 is a vertical sectional view taken on the line 3—3 of Fig. 1.

Referring in detail to the drawings, 5 designates the rear wall of the casing or cabinet within which the moving picture projection mechanism is contained and 6 the top wall thereof. The rear wall 5 adjacent to its lower end is provided with an air outlet opening 7 therein.

Within the casing the lamp housing 8 is suitably mounted, said housing at its upper end being provided with a cover 9 extending through the top wall 6 of the casing. Upon the front wall of the lamp housing 8 a lens holder 10 of any approved construction is suitably mounted. The bottom wall of said housing has an opening 11 therein beneath which a suitable supporting plate 12 for the lamp receiving socket 13 is disposed, said plate having its ends fixed to the bottom wall of the housing. The socket 13 may be of any approved construction and receives a high powered electric lamp bulb 14, the filament of which is properly centered in opposed relation to the objective lens carried in the holder 10.

The rear wall of the lamp housing 8 at its upper end is provided with a horizontally extending slot or opening 15 which affords communication between the interior of said housing and the upper end of a vertically extending conduit 17 formed by the vertical wall 16 of a pressed or stamped sheet metal structure. This rear wall 16 of said sheet metal structure extends upwardly between the rear wall of the lamp housing 8 and the wall 5 of the casing and is suitably fixed to said housing wall as by means of the screws indicated at 18. Said structure also includes a relatively short vertically disposed front wall 19 having lugs or ears at its upper end fixed to the bottom wall of the lamp housing at the rear side of the opening 11 by means of the screws 20. The rear wall 16 of this sheet metal conduit structure at its lower end is provided with an opening 21 therein concentrically related with the opening 7 in the rear casing wall.

Within the casing or cabinet and preferably immediately beneath the lamp housing 8, the operating motor 22 for the light shut-

ter and the projecting mechanism is arranged. As any suitable operating connections between one end of the motor shaft and this mechanism may be provided, such connections are not herein illustrated. The other end of the motor shaft indicated at 23 extends through a suitable opening in the front wall 19 of the vertically disposed conduit structure and has fixed thereon a suitable suction fan 24 which operates in said lower end of the conduit and within the opening 21 in the rear wall thereof.

In the operation of the picture projecting machine thus equipped with my present improvements, it will be apparent that when the motor 22 is started, a high suction effect is produced by the fan 24 at the lower end of the conduit 17. Thus, the very high degree of heat given off from the high powered lamp 14 is continuously withdrawn from the interior of the lamp housing 8 through the opening 15 in the rear wall of said housing, and hence downwardly through the conduit 17 and is driven outwardly at the rear of the casing or cabinet through opening 7. The very high suction induced in the operation of the fan 24 likewise is sufficient to withdraw from the interior of the cabinet or casing in the vicinity of the motor 22, the hot air generated in the operation of said motor, such hot air being drawn upwardly through the opening 11 in the bottom wall of the lamp housing. Thus, by withdrawing and discharging from the casing or cabinet of the machine the hot air created both by the motor 22 and the lamp 14, the interior of the lamp housing and the casing is maintained at a uniformly low temperature so that the danger of spontaneous combustion of the film will be entirely obviated.

From the above description, it will be seen that I have produced a very simple ventilator for motion picture apparatus which may be operated without additional power and is readily applicable to various types of such machines now in common use. Further, it will be appreciated that owing to the simplicity of the sheet metal conduit structure which constitutes the principal part of my invention, the ventilator may be produced at relatively low manufacturing costs. Various conventional forms of suction fans might be employed. Furthermore, while I have herein referred to a particular construction of the ventilator conduit and of the lamp housing which I have found gives high satisfactory results in practical operation, it will nevertheless be understood that these parts are susceptible of embodiment in other alternative structures, and I accordingly reserve the

privilege of resorting to all such legitimate changes therein that may be fairly embodied within the spirit and scope of the invention as claimed.

I claim:

1. In combination with a case for motion picture apparatus and a lamp housing mounted therein, a conduit extending between one side of the lamp housing and an adjacent wall of the case and having a part projecting below the lamp housing, the case wall and the adjacent wall of the conduit at the lower end of the latter having coinciding air outlet openings, and the housing wall having an air outlet opening communicating with the other end of the conduit, an operating motor for the projecting apparatus mounted in said case and having its shaft extended into the lower end of said conduit, and a suction fan on said end of the motor shaft operating in the conduit to withdraw hot air from the lamp housing.

2. In combination with a case for motion picture apparatus and a lamp housing mounted in said case and open at its lower end, a conduit extending between one side of the lamp housing and the wall of said case, said conduit having spaced walls fixed to the lamp housing and projecting below the same, said lamp housing communicating with the interior of the case through the open end thereof, and the wall of the lamp housing being provided with an air outlet opening communicating with the other end of said conduit, an operating motor for the projecting mechanism mounted within the case and having its shaft projecting into the lower end of said conduit, and a suction fan fixed to the motor shaft and operating in said conduit to withdraw hot air from the interior of the case and the interior of the lamp housing through said outlet opening.

3. In combination with a lamp housing for motion picture apparatus, a conduit extending over one side of the lamp housing and having an end portion projecting longitudinally from the lamp housing, said conduit having spaced walls fixed respectively to the side wall and one end wall of the housing, and said side wall of the lamp housing having an air outlet opening communicating with one end of said conduit, and the other end of said conduit adapted to receive a suction fan to withdraw air through said opening from the lamp housing, and one side wall of the conduit at its latter end having an opening therein through which the air is expelled.

In testimony that I claim the foregoing as my invention, I have signed my name hereto.

WILLIAM C. READEKER.