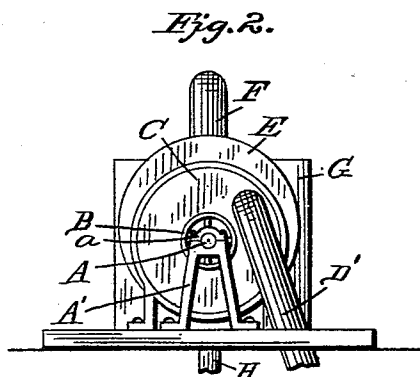
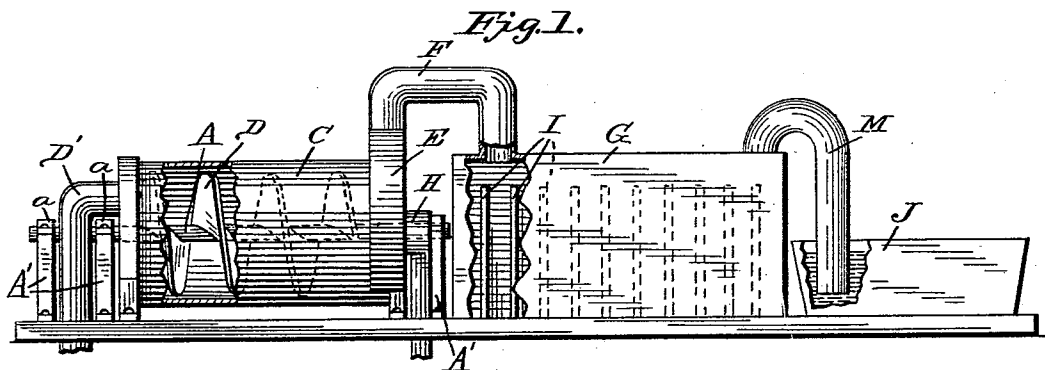


(No Model.)

W. F. KINTNER.
SMOKE SEPARATOR AND CONVEYER.

No. 560,219.

Patented May 19, 1896.



Witnesses
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UNITED STATES PATENT OFFICE.

WILBUR F. KINTNER, OF LEADVILLE, COLORADO.

SMOKE SEPARATOR AND CONVEYER.

SPECIFICATION forming part of Letters Patent No. 560,219, dated May 19, 1896.

Application filed September 19, 1895. Serial No. 563,024. (No model.)

To all whom it may concern:

Be it known that I, WILBUR F. KINTNER, a citizen of the United States, residing at Leadville, in the county of Lake and State of Colorado, have invented certain new and useful Improvements in Smoke Separators and Conveyers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to certain new and useful improvements in smoke separators and conveyers; and it has for its object, among others, to provide a simple and cheap device for this purpose so constructed that the centrifugal force will throw the heavier particles to the outside, the screw aiding in the movement of the heated gas forward, while the part going to the outside is forced into a dead-air chamber to settle, the dead-air chamber being provided with a pressure-outlet from the top, which passes through water to relieve the pressure.

The invention is applicable to the smoke-stack of a locomotive, if desired.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be specifically defined by the appended claims.

The invention in this instance resides in the peculiar combinations and the construction, arrangement, and adaptation of parts, all as more fully hereinafter described, shown in the drawings, and then particularly pointed out in the claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a side elevation of my device with parts broken away to more clearly show the interior construction. Fig. 2 is an end view of the same.

Like letters of reference indicate like parts in both views.

Referring now to the details of the drawings by letter, A designates a horizontal shaft mounted in suitable bearings *a* in the uprights or standards A', and upon this shaft is the drive-pulley B.

C is the cylinder or fan-casing, within which

revolves the fan D on said shaft. This fan is constructed in the form of a screw or conveyer-worm and is designed to run at a high rate of speed.

D' is the smoke-pipe from its connection with the source of the smoke, whether it be a chimney or the smoke-stack of a locomotive, and this pipe conducts the smoke into one end of the fan-casing, as shown. This casing is enlarged at the opposite end, as shown at E, and with this enlarged portion connects the pipe F, which leads to the dead-air chamber G. This end of the casing is closed and has leading therefrom the hot-air pipe H, which is designed to lead to the smoke-stack. (Not shown.) The dead-air chamber is shown as provided with a plurality of vertical partitions I, which do not, however, extend to the top thereof, as shown, so as to leave a passage above the upper ends of said partitions, and from the end of this chamber opposite that to which the pipe F connects leads the pipe M, preferably curved, as shown, and designed to relieve the pressure of the settling-chamber.

J is a water-tank into which the pipe M leads, as shown.

The operation will be readily understood. The fan being set in motion, the centrifugal force throws the heavier particles to the outside, the screw of the fan aiding in the movement of the heated gas forward and out through the pipe in center of fan, while that part going to the outside is forced into the dead-air chamber to settle. The gas and unsettled smoke pass through the water, which can be regulated to suit the required pressure. The heavier particles drop down onto the ground, where they can do no harm.

Various modifications in detail may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages.

What is claimed as new is—

1. The combination with the casing, the water-tank and the fan, of the pipe communicating with one end of said casing, the two independent pipes leading from the other end of the casing, the dead-air chamber and the pipe connecting one end of said dead-air chamber with the water-tank, one of the pipes leading from the casing communicating

with said dead-air chamber substantially as specified.

2. The combination of the casing having an enlargement at one end, the fan, the pipe
5 communicating with one end of the said casing, the pipe leading from the opposite end, the pipe communicating with said enlargement and communicating with the settling-chamber, the settling-chamber and the water-
10 tank and a pipe connecting one end of said

chamber with the water-tank, all constructed and operating substantially as specified.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

WILBUR F. KINTNER.

Witnesses:

CHAS. M. LIBBY,
OLIVER ADAMS.