(No Model.)

2 Sheets—Sheet 1.

J. W. EVANS.

Smoke Stack for Locomotives.

No. 234,911. Patented Nov. 30, 1880.

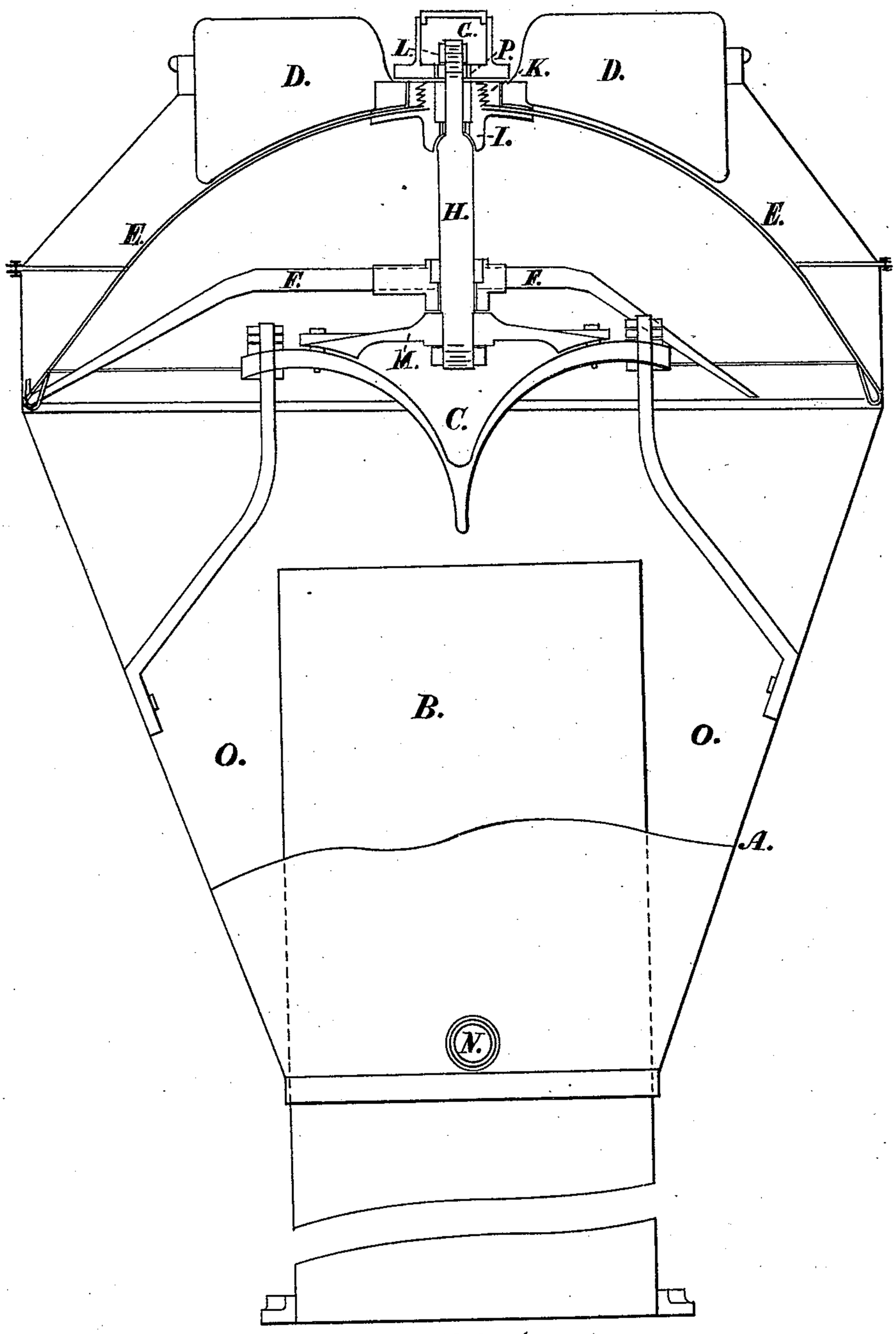

Fig. 1.

Witnesses:

Thos Alexander Jr

James A. Patrick

Inventor:

James W. Evans

(No Model.) 2 Sheets—Sheet 2.

J. W. EVANS.

Smoke Stack for Locomotives.

No. 234,911. **Patented Nov. 30, 1880.**

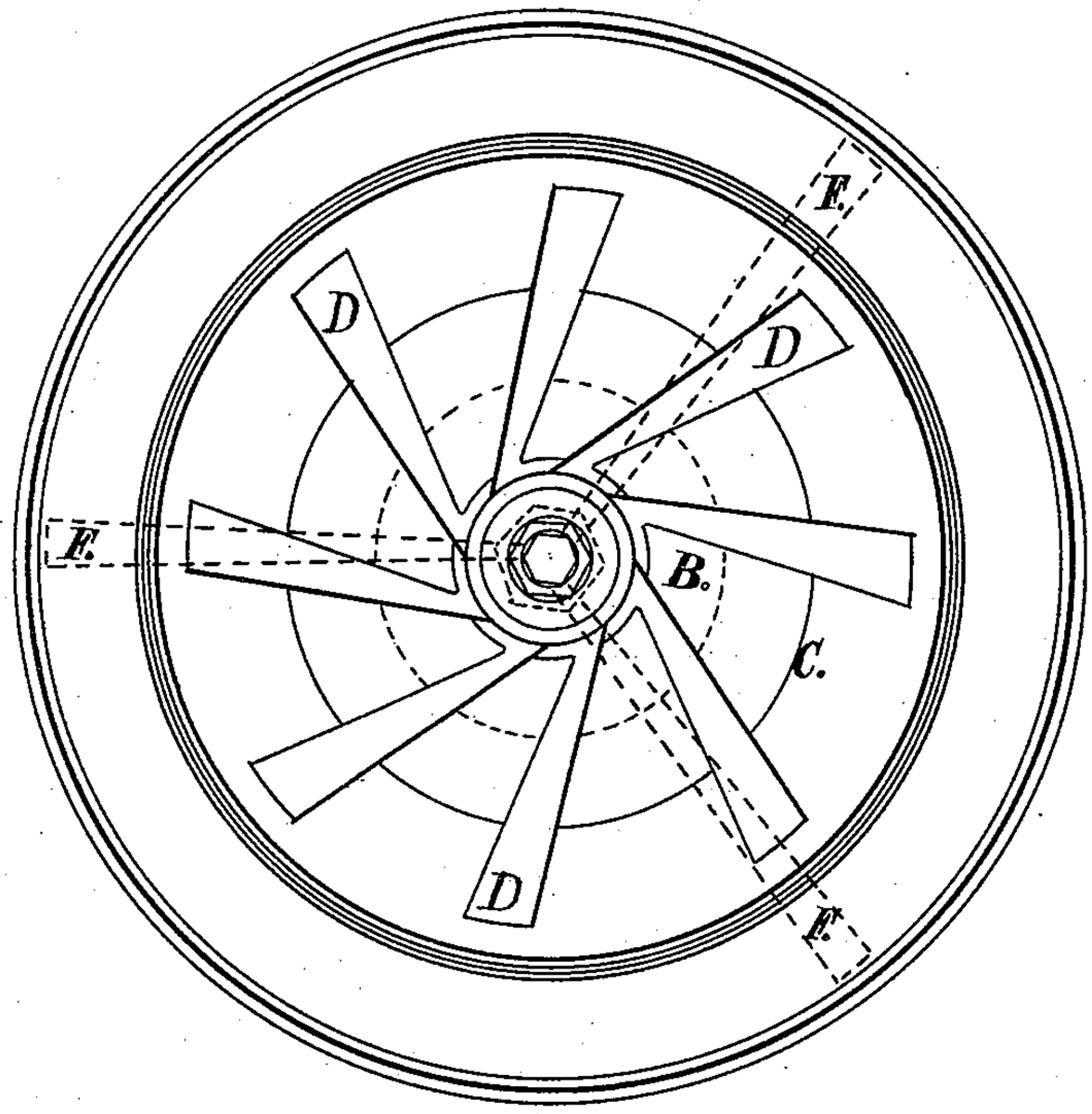

Fig. 2.

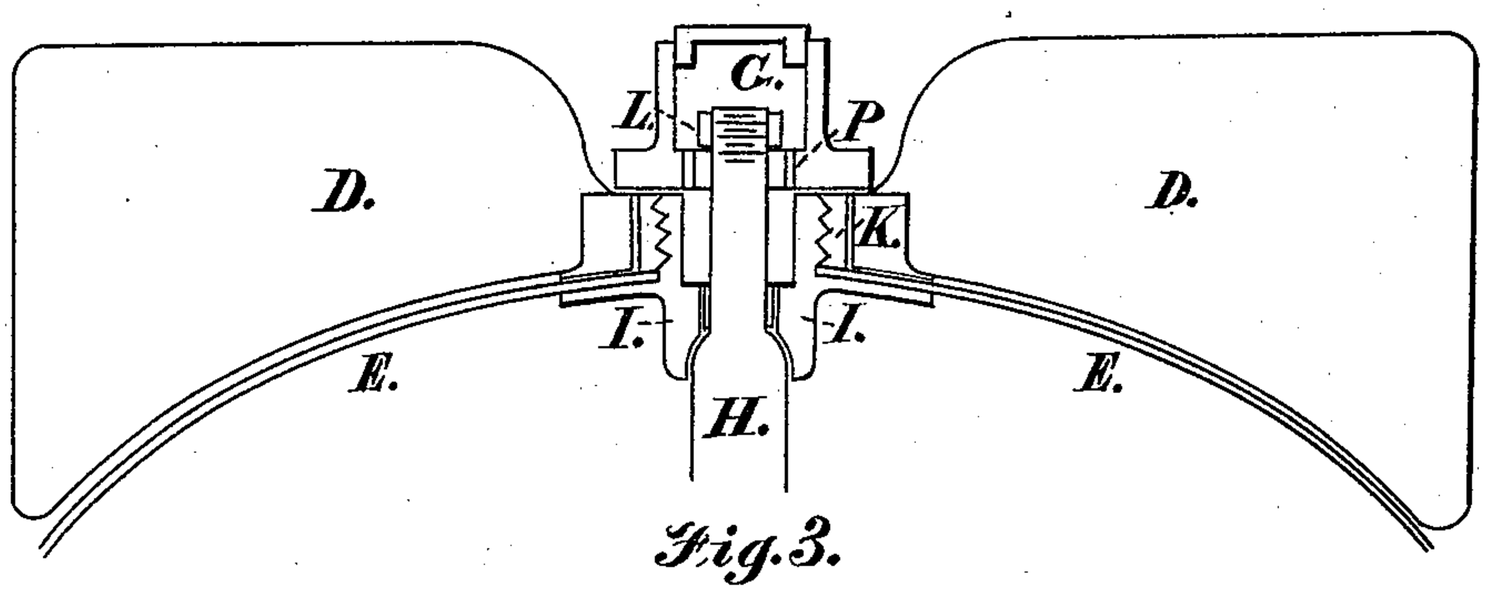

Fig. 3.

Witnesses;

Thos Alexander Jr.

James A Patrick

Inventor;

James W. Evans

UNITED STATES PATENT OFFICE.

JAMES W. EVANS, OF NEW YORK, N. Y.

SMOKE-STACK FOR LOCOMOTIVES.

SPECIFICATION forming part of Letters Patent No. 234,911, dated November 30, 1880.

Application filed June 7, 1880. (No model.)

To all whom it may concern:

Be it known that I, JAMES W. EVANS, of the city of New York, in the county of New York and State of New York, have invented a new and useful Improvement in Smoke-Stacks for Locomotive-Engines, of which the following is a specification.

My invention relates to that class of smoke-stacks provided with revolving fan-wheels; and it consists, mainly, in providing such smoke-stacks with a screen revolving with the fan, and in certain details of construction which will be hereinafter more fully described, and then pointed out in the claims.

In order that my said invention may be more easily and clearly understood and more readily performed, I will give a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, similar letters indicating similar parts, making a part of this specification, in which—

Figure 1 is a full view of smoke-stack from bottom of same to the line at A, and a central vertical section of same above that line. Fig. 2 is a view of smoke-stack looking from above. Fig. 3 is a central vertical section of fan-wheel and wire screen, and also of socket, nuts, and lubricating-box.

To a smoke-stack constructed in the ordinary manner, with an interior smoke-pipe, B, and a cone, C, which is used to break the force of the exhaust-steam, there are made the following additions, viz: Upon the upper side of the cone C, in the center of the smoke-stack, is fastened the shaft H by the cross-piece M, said shaft extending to the top of the stack. The upper portion of this shaft is reduced in size, so as to form a bearing for the socket I, which it pierces. This socket should so fit said shaft as to permit it to freely revolve thereon. To this socket the wire screen E and the fan-wheel D are fastened by the nut K, said screen and fan-wheel being of such size as to just clear the sides of the smoke-stack. Upon the top of the shaft H is placed the lubricating-box G, from which the shaft H, at the socket I, is freely lubricated. From the lower portion of the shaft H extend three arms or braces (two of which are shown, marked F in Fig. 1) to the lower edge of the screen E, and serve to strengthen said screen. The fan-wheel should be so fastened that the upper portion of the fans will project above the top of the smoke-stack, and said fans adjusted at such an angle that the action of the air thereon, caused by the motion of the locomotive and the pressure of the exhaust-steam, will cause said fan-wheel to revolve with the socket I on the shaft H, and, as the screen E is also fastened to said socket, said screen will also revolve. The revolutions of said screen will prevent the escape of sparks and cinders from the smoke-stack, and they will fall into the cinder-chamber O, from which they can be taken by removing the cap N.

I claim as my invention and desire to secure by Letters Patent—

1. The combination, with a smoke-stack, of a fan-wheel, D, and wire screen E, both connected to revolve together, substantially as described.

2. In a smoke-stack, the fan-wheel D, wire screen E, socket I, and arms F, in combination with and constructed to revolve around shaft H, substantially as and for the purpose specified.

3. The combination, with the cone C, the cross-piece M, and shaft H, of the revolving screen E, fan D, and arms F, substantially as herein shown and described.

JAMES W. EVANS.

Witnesses:

THOS. ALEXANDER, Jr.,

JAMES A. PATRICK.