

K. J. DUGGAN.

Improvement in Locomotive Smoke-Stacks.

No. 129,272.

Patented July 16, 1872.

Fig. 1

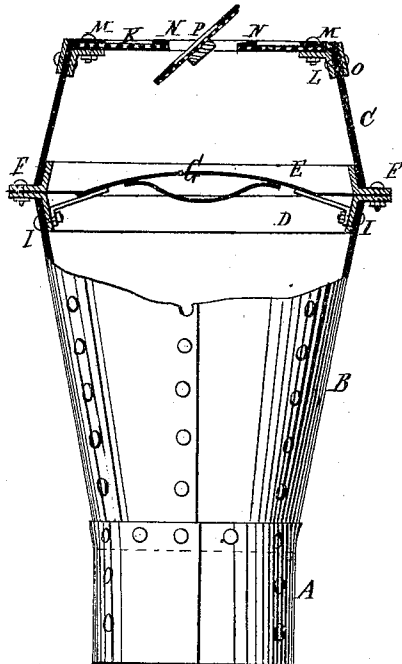


Fig. 2

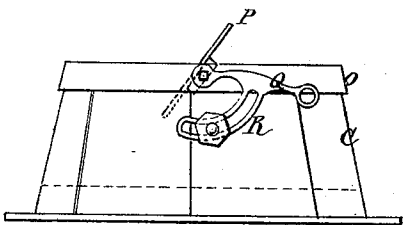


Fig. 3

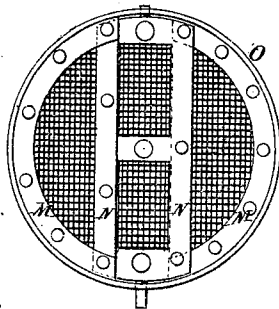
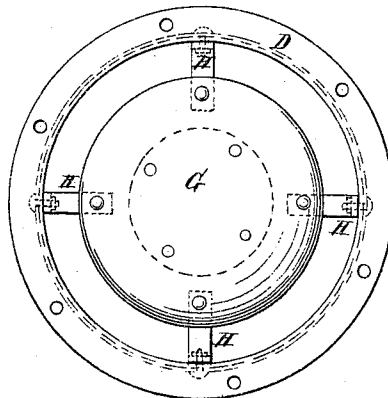


Fig. 4



Witnesses:

A. W. Almqvist
W. A. Graham

Inventor:

K. J. Duggan

PER

Munnell
Attorneys.

UNITED STATES PATENT OFFICE.

KEYRAN J. DUGGAN, OF MONTGOMERY, ALABAMA.

IMPROVEMENT IN LOCOMOTIVE SMOKE-STACKS.

Specification forming part of Letters Patent No. 129,272, dated July 16, 1872.

Specification describing a new and useful Improvement in Locomotive Smoke-Stack, invented by KEYRAN JAMES DUGGAN, of Montgomery, county of Montgomery, State of Alabama.

The invention will first be fully described and then clearly pointed out in the claim.

My improved construction is calculated to greatly economize the cost and to dispense with inside pipes, which greatly interfere with the removal of the stack for cleaning and repairs.

In the accompanying drawing, Figure 1 is partly a side elevation and partly a sectional elevation of my improved stack. Fig. 2 is a side elevation of the top section. Fig. 3 is a plan of the top; and Fig. 4 is a top view of the middle section and the cone, the top section being removed.

Similar letters of reference indicate corresponding parts.

A is the bottom cylindrical section, which connects with the cast-iron saddle, fitted on the top of the boiler in the usual way. B is the middle section, in the form of an inverted frustum of a cone. These two sections are permanently riveted together. C is the top section, also in the form of a frustum of a cone. These two sections are connected at their bases by the two angle-iron rings D E, the horizontal flanges of which are bolted together by about six, more or less, bolts, F, and the said sections are riveted to their respective rings, the vertical or nearly vertical flanges of which fit snugly inside the sections. G is the cone, which I secure to the ring D by bars or braces H and bolts I, so that it can be taken off readily when required. This cone is about the same

diameter as that of the wire-gauze spark-arrester K at the top, but, being arranged at the largest diameter of the stack, is designed to afford an annular space for the ascent of the smoke of about ten inches in width in stacks of large size; but it may be varied, as circumstances may require. The wire-gauze spark-arrester K is riveted down upon the horizontal flange of the angle-iron ring E, with the sections M of rings and cross-bar N above. The said ring is fitted inside of the top of the upper section C, and another flaring ring, O, for strengthening the top, is fastened, together with it, to the said top section by rivets. P is the damper, fitted in the open space between the cross-bars N. It consists of a frame with wire-netting stretched upon it, and is mounted on pivots at the center of each end, on which it is balanced, and opens up and down. One of the pivots is provided with a crank, Q, by which a rod or cord extending to the cab may be used for turning it. This crank is also provided with a curved slotted arm, R, which works on a bolt with a nut, by which said damper may be readily opened or closed.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The combination of the concavo-convex plates G and spark-arrester K with a smoke-stack, B-C, and angle-irons D E, constructed and arranged as and for the purpose described.

KEYRAN JAMES DUGGAN.

Witnesses:

JAMES MCFARLAND,
W. C. HARGROVE.