

E. H. WINCHELL.

Improvement in Smoke Stacks for Locomotives.

No. 119,808.

Patented Oct. 10, 1871.

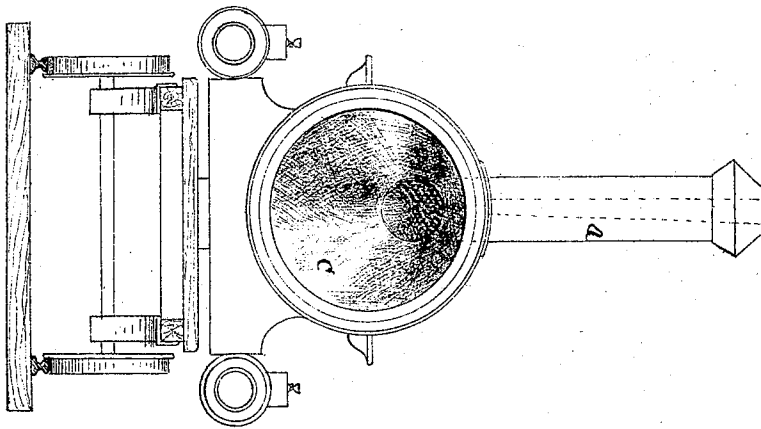


Fig. 1.
FRONT ELEVATION.

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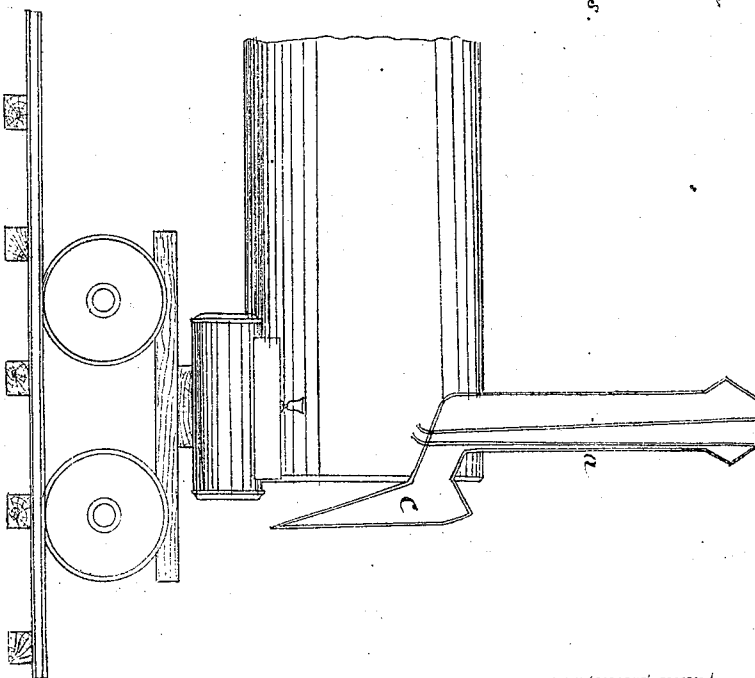


Fig. 2.
VERTICAL CROSS SECTION.

UNITED STATES PATENT OFFICE.

EDWIN H. WINCHELL, OF NEW YORK, N. Y.

IMPROVEMENT IN SMOKE-STACKS OF LOCOMOTIVES.

Specification forming part of Letters Patent No. 119,808, dated October 10, 1871.

To all whom it may concern:

Be it known that I, EDWIN H. WINCHELL, of the city, county, and State of New York, have invented a new and useful Improvement for Increasing the Draught from the Smoke-Stacks or Chimneys of Locomotives and thereby carrying off the smoke and cinders from the train of cars behind; and that the following is a full and exact description of my said improvement, reference being had to the drawing, in which—

Figure I represents a front elevation of my said improvement; and Fig. II, a vertical longitudinal section thereof.

In both figures, similar letters represent similar parts.

The nature of my invention consists in the construction of an exterior funnel around the ordinary locomotive smoke-stack, into the back part of the space formed by which is forcibly introduced an upward current of air, caused by the rapid motion of the engine, by means of a wide-mouthed air-funnel communicating at its throat into and at the foot of the space thus formed between the smoke-stack and the outer funnel.

The manner of constructing my improvement is as follows: Around the exterior back of the ordinary stack or smoke-funnel *a* I place the additional funnel *b*, extending to the same height as the smoke-stack. This exterior pipe or flue is not concentric with the smoke-stack, but is placed in such a manner as to be as near to it in front as its shape admits, leaving the space or flue for the ascent of the current of air chiefly

behind and on the sides of the smoke-funnel. In the front chamber of the boiler-shell through which passes the smoke-funnel, is constructed a proper opening, into which is inserted the throat of the wide-mouth air-funnel *c*, and which is so arranged as to communicate only with the space between the smoke-stack and outer funnel above described. By this construction, the rapid motion of the engine will forcibly introduce a strong current of air into the space between the smoke-stack and outer funnel, which, meeting the smoke and cinders coming out of the top of the smoke-stack, will, by the force of the current and the rarefaction thereof from the heat of the smoke-pipe, carry the cinders and smoke so as to clear the train. The force of the ascending current of air at its place of exit is increased, from the space at the exit being contracted in volume or size from that in the lower part of the chamber, when the smoke-pipe is smaller, and consequently leaves them a greater space between it and surrounding funnel.

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

The combination of a wide-mouthed air-funnel with the additional vertical funnel surrounding the smoke-pipe of the locomotive, constructed, arranged, and operating substantially in the manner and for the purposes described.

E. H. WINCHELL.

Witnesses:

J. B. STAPLES,
GEO. W. FOX.