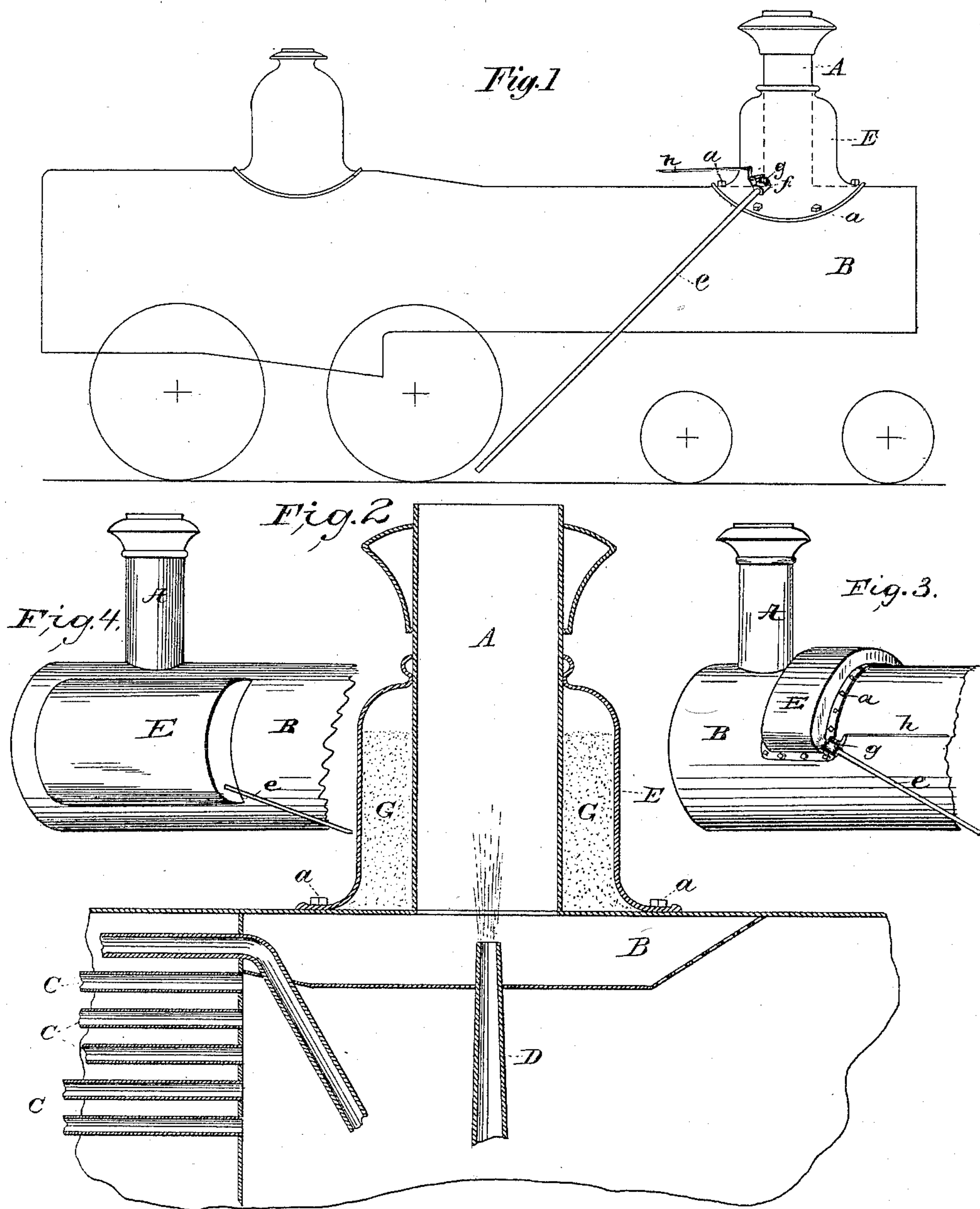


(No Model.)

R. McDOWELL.
SAND BOX AND DRIER.

No. 431,911.

Patented July 8, 1890.



Witnesses
F. W. Ritter, Jr.
J. M. Copenhaver.

Inventor
Richard McDowell
By his Attorney E. J. Walters

UNITED STATES PATENT OFFICE.

RICHARD McDOWELL, OF LAMBERTVILLE, NEW JERSEY.

SAND BOX AND DRIER.

SPECIFICATION forming part of Letters Patent No. 431,911, dated July 8, 1890.

Application filed March 7, 1890. Serial No. 342,998. (No model.)

To all whom it may concern:

Be it known that I, RICHARD McDOWELL, of Lambertville, in the county of Hunterdon and State of New Jersey, have invented a new and useful Improvement in Sand Boxes and Driers, of which the following is a specification.

This invention relates to sand-boxes for locomotives, its object being to locate the sand-box in such a position on or near the smoke-box or stack of the locomotive that it will receive heat therefrom, and thereby keep the sand dry, so that it will run freely through the sand-pipes to the track. It also has for its object to act as a drier for the sand when it is first received, and thus dispense with the use of a drying-oven at the engine-house.

My invention is fully illustrated in the accompanying drawings, which form part of this specification, and in which similar letters of reference indicate corresponding parts.

Figure 1 represents in outline a side elevation of a locomotive, showing my improved sand box and drier as it will appear when located on top of the smoke-box and surrounding the stack; and Fig. 2 represents a vertical section through the center of the stack and sand-box, to show the manner in which the sand is confined and its close proximity to the dry heat of the smoke-box and stack. Figs. 3 and 4 represent modifications of my invention.

The stack A, smoke-box B, tubes C, and exhaust-nozzle D, in fact the whole front end of the locomotive, may be of any desired construction without interfering with the application or usefulness of my device.

The manner of applying the device is preferably illustrated as in the form of a drum surrounding the stack, as shown at E, Figs. 1 and 2, the sand being incased, as at G, Fig. 2. This drum is bolted to the smoke-box shell, as shown at *a a*. The sand-pipe *e*, as shown in Fig. 1, is connected to the sand-box, as shown at *f*, Fig. 1, and is provided with the usual valve *g* and rod *h* for opening and closing the same.

It has been the custom heretofore to locate

the sand-box on a locomotive on top of the boiler just forward of the dome, also in the wheel-guard just forward of the driving-wheels, but this custom has caused no end of trouble. The sand would keep moist and clog in the pipes, and at times it would be impossible to use the sand at all. When the sand is received in bulk at the round-house, it is usually very damp and must be dried in an oven before it is fit for use in the sand-boxes. This, however, will not be necessary where my improved box is used. There will be no danger of the sand getting damp and clogging up the pipes, owing to the fact that it is constantly receiving dry heat from the smoke-box and stack.

The manner of applying my improved sand-box as illustrated seems to be the most practicable with the present form of locomotive; but it could be applied in several other forms. As, for example, it could be made in the form of a half-cylindrical tank and rest across the smoke-box either before or behind the stack, as shown in Fig. 3; or it could be made in the form of cheek-boxes and placed one on either side of the smoke-box, as shown in Fig. 4, and several other forms without materially altering the principle or benefits derived from my invention.

Having thus described my invention, what I claim therefor, and desire to secure by Letters Patent of the United States, is—

1. The sand-box of a locomotive secured to and in combination with the smoke-box B, so that it will receive heat therefrom, as and for the purpose specified.

2. The combination of the sand-box E, stack A, and smoke-box B, constructed and arranged together as specified, and for the purpose set forth.

In testimony that I claim the foregoing improvement in sand boxes and driers, as above described, I have hereunto set my hand this 27th day of February, 1890.

RICHARD McDOWELL.

Witnesses:

M. L. TRIMMER,
WM. LYMAN.