

No. 649,339.

Patented May 8, 1900.

J. G. McPHERSON.
SAND DRIER.

(Application filed Feb. 23, 1900.)

(No Model.)

Fig. I.

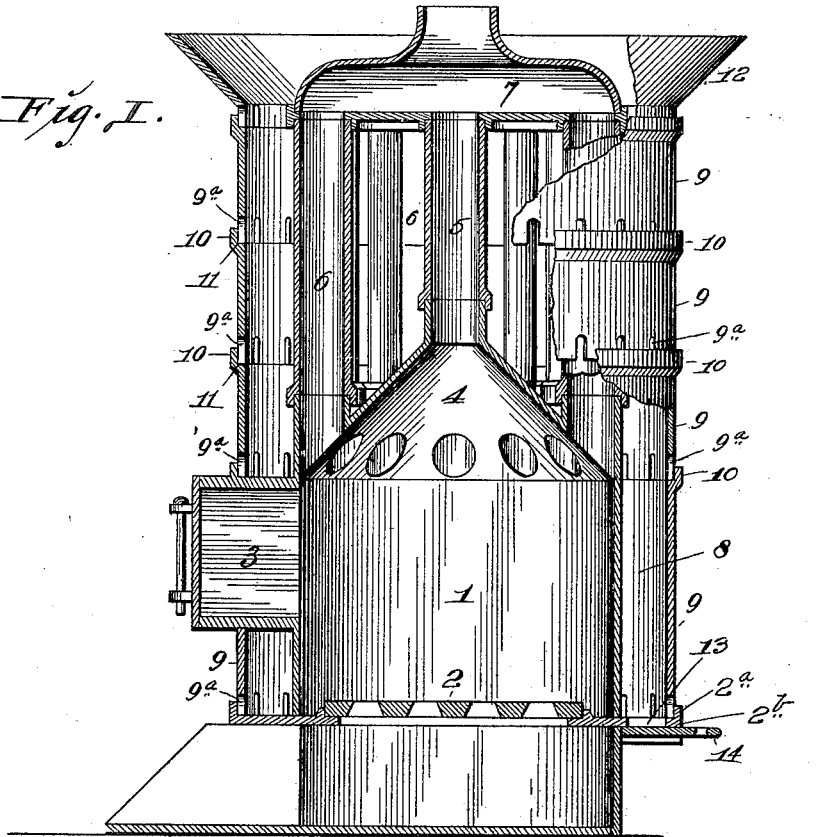
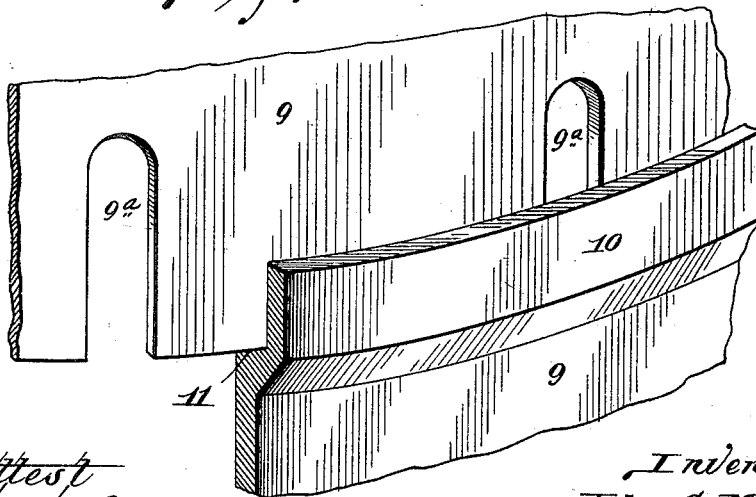


Fig. II.



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UNITED STATES PATENT OFFICE.

JOHN G. McPHERSON, OF ST. LOUIS, MISSOURI.

SAND-DRIER.

SPECIFICATION forming part of Letters Patent No. 649,339, dated May 8, 1900.

Application filed February 23, 1900. Serial No. 6,190. (No model.)

To all whom it may concern:

Be it known that I, JOHN G. McPHERSON, a citizen of the United States, residing at the city of St. Louis, in the State of Missouri,

have invented certain new and useful Improvements in Sand-Driers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to a sand-drier of that class particularly serviceable for use in drying sand carried by locomotives for sanding the rails of a railway-track.

My invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Figure I is a vertical sectional view, partly in elevation, of my improved drier. Fig. II is an enlarged detail perspective view of fragments of the meeting edges of two of the shell-sections of the drier.

1 designates the fire-chamber, containing the grate 2. Any suitable fuel may be fed into the fire-chamber 1 through the feed-doorway 3. The fire-chamber 1 is surmounted by a dome 4, that communicates with a central flue 5. Communicating with the fire-chamber through the lower part of the dome 4 are a series of flues 6, all of which discharge in common with the central flue 5 into the outlet-cap 7.

Surrounding the fire-chamber and separated therefrom to leave an annular space 8 is a shell composed of a series of sections 9 set upon each other. The lowermost section 9 is seated in a flange 2^a of the grate-support 2^b, and each section 9 is provided with an offset flange 10, providing a shoulder-seat 11, in which the lower edge of the next surmounting shell-section is seated. The topmost section of the shell is in the form of a hopper 12, in which the sand is introduced into the drier to fall into the annular space 8, surrounding the flues and fire-chamber.

In the practical use of the apparatus the sand is introduced into the annular space 8 and falls therein, becoming packed around the flues and fire-chamber. As soon as the

sand has become dried it falls from the annular space 8 to the exterior of the drier through the outlet-apertures 13, which may or may not be provided with valves 14.

It is an essential feature in the operation of a sand-drier of the nature herein described that free exit be provided for the moisture during the operation of drying the sand. A considerable percentage of the moisture rises through the sand to the top of the drier; but by reason of the sand being frequently packed very tightly in the annular space 8 it is difficult for the moisture to ascend through the sand, and the drying operation is therefore impeded and requires a much greater period of time to accomplish it. In order to provide for the free discharge of the moisture through the extent of the drier-shell, I form slots 9^a in the lower edge of each shell-section 9. The lower open ends of these slots are confined within the offset flanges 10, so that they are not exposed to the exterior of the shell; but the upper ends of the slots provide communication from the annular space 8 to the exterior of the drier, through which the moisture arising from the sand being dried may find ready egress and the sand therefore be dried much more rapidly.

I claim as my invention—

1. In a sand-drier, the combination of a fire-chamber, flues communicating therewith, an outer shell composed of sections placed one upon another, said sections being provided with slots at their lower edges, substantially as described.

2. In a sand-drier, the combination of a fire-chamber, flues surmounting said fire-chamber; and communicating therewith; an outer shell composed of sections placed one upon another, said sections being provided with offset flanges, and having in their lower edges slots that are partially closed by said offset flanges, substantially as described.

JOHN G. McPHERSON.

In presence of—

E. S. KNIGHT,
N. V. ALEXANDER.