

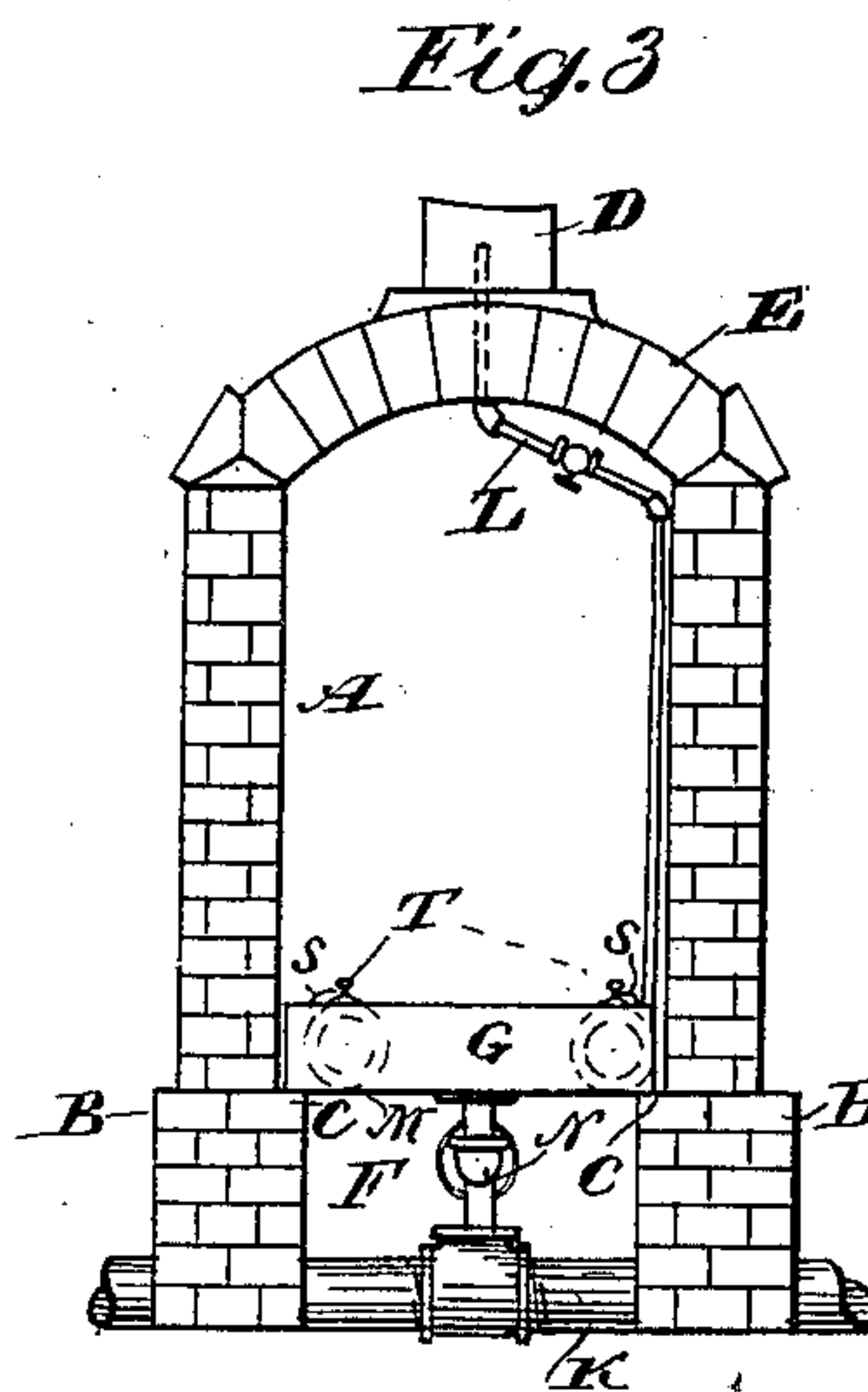
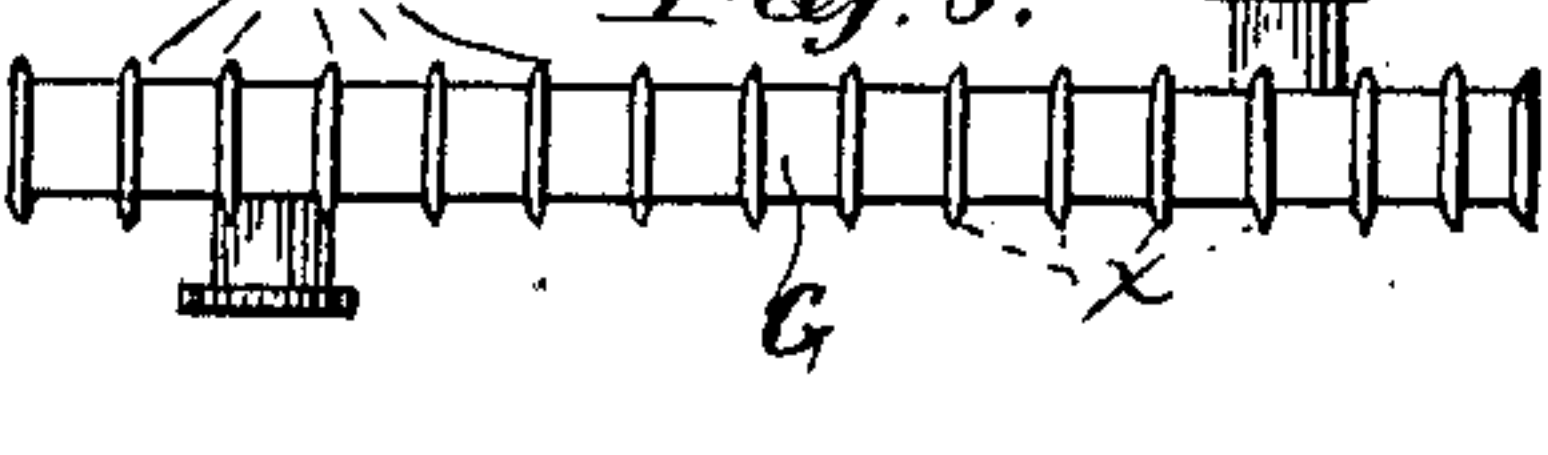
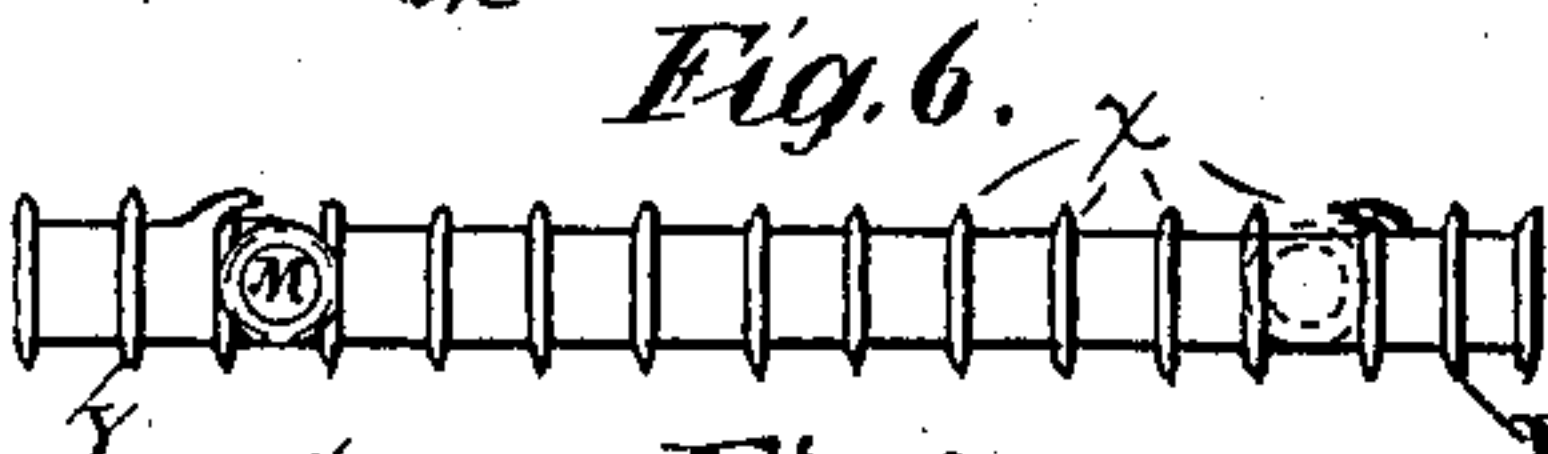
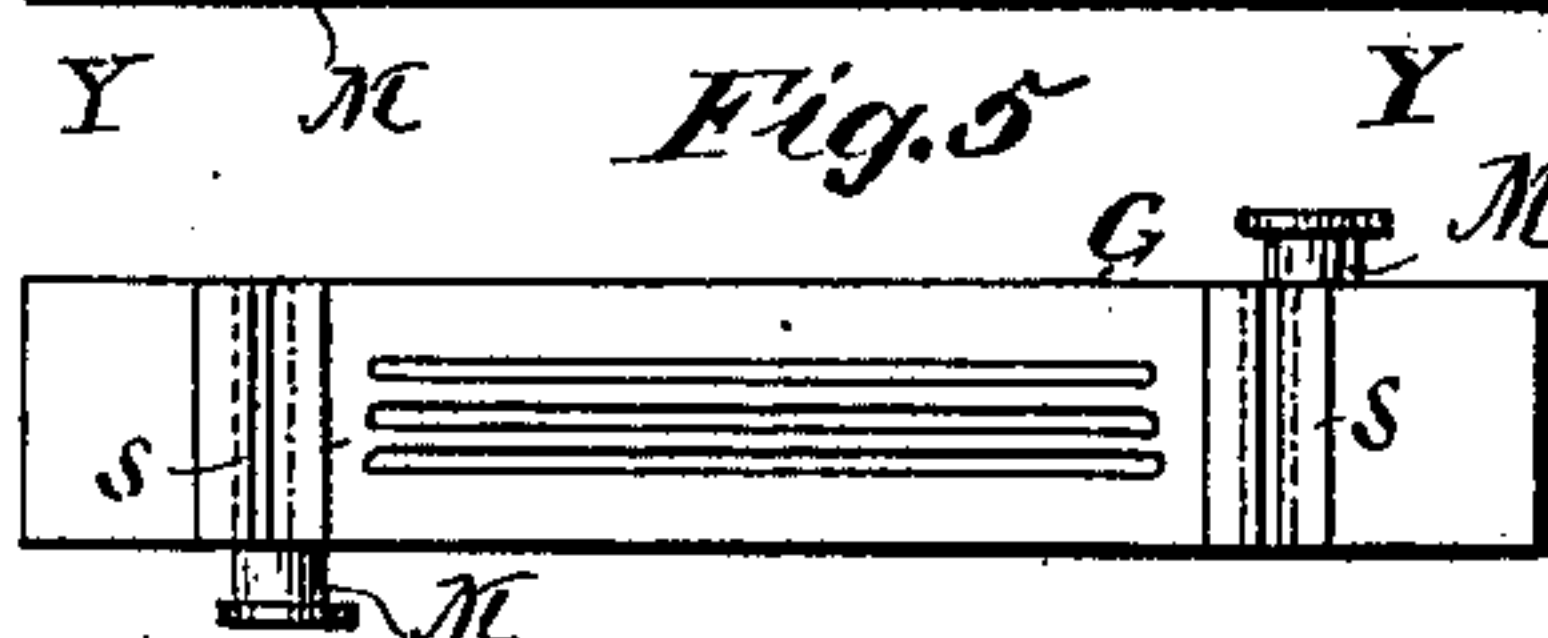
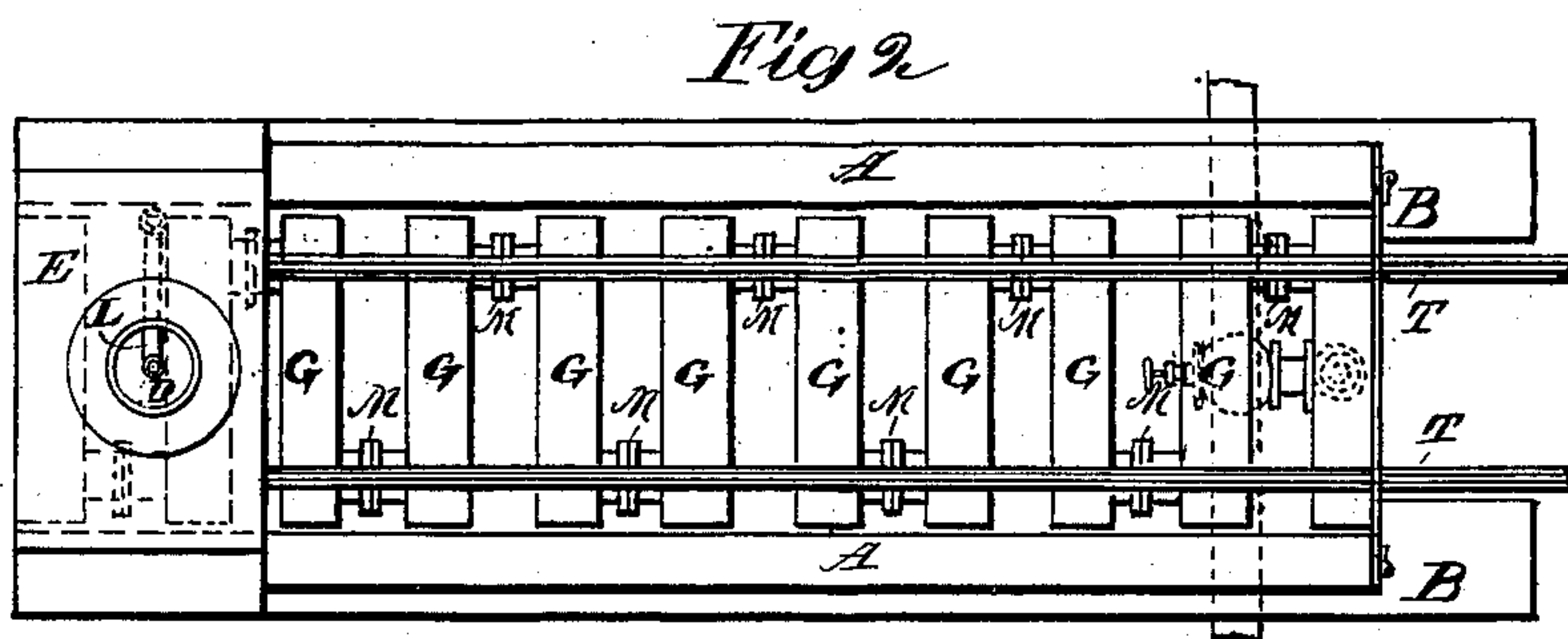
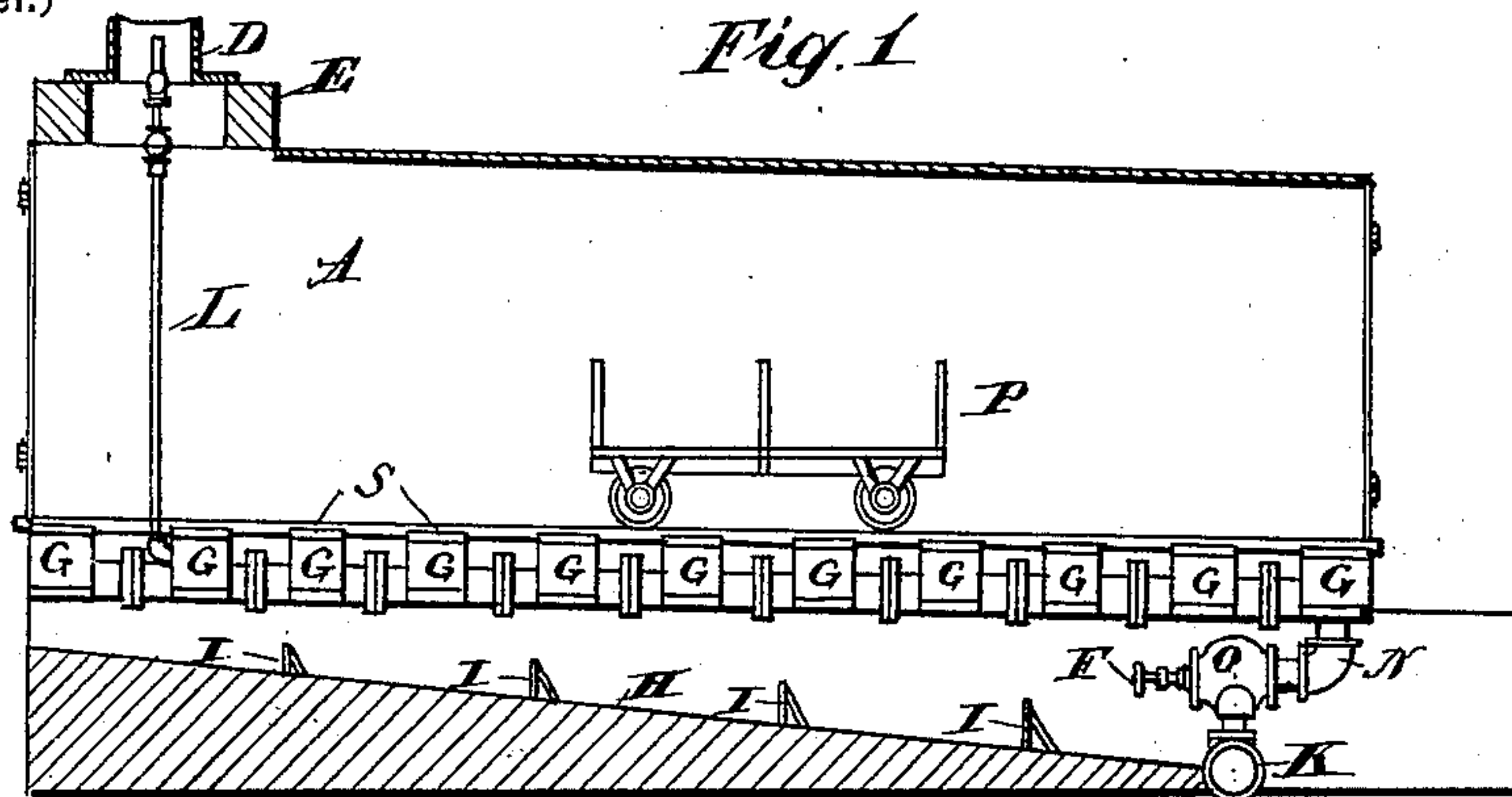
No. 658,061.

Patented Sept. 18, 1900.

F. E. FREY.
DRYING ROOM.

(Application filed Nov. 24, 1899.)

(No Model.)



Witnesses
Percy E. Neville
C. H. Olds,

Inventor
Frederic E. Frey
by
Wm M. Monroe
Attorney

UNITED STATES PATENT OFFICE.

FREDERICK E. FREY, OF GLENNVILLE, OHIO.

DRYING-ROOM.

SPECIFICATION forming part of Letters Patent No. 658,061, dated September 18, 1900.

Application filed November 24, 1899. Serial No. 738,148. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK E. FREY, a citizen of the United States, and a resident of Glennville, county of Cuyahoga, State of Ohio, have invented certain new and useful Improvements in Steam Drying-Rooms, of which I hereby declare the following to be a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to drying-rooms heated by steam for clay products, lumber, and other materials out of which the moisture is to be driven by passing them through the heated rooms on cars or by other means; and its object is to increase the simplicity and efficiency of such drying-rooms. I am aware that a number of devices for this purpose are now in use heated by steam-pipes, the car-tracks when such are used to receive cars laden with damp material resting on either wooden or iron sills. In my drier I have discarded pipes, using the floor-sills for conducting the steam and radiating the heat; furthermore, enabling the use of exhaust-steam, which the friction in the pipes (from their small size) often prevents in the drying-rooms as now in general use.

I have fully illustrated my invention in the accompanying drawings, forming part of this specification, wherein—

Figure 1 is a side view in elevation with the side wall removed. Fig. 2 is a plan view with the top covering removed. Fig. 3 is a front elevation with the door left off. Fig. 4 is a side elevation of one form of floor-sill; and Fig. 5, a top view of the same, showing slotted perforations for increasing the radiation. Fig. 6 is a side view of a cylindrical form of floor-sill; Fig. 7, a horizontal longitudinal section, and Fig. 8 a top view of same.

In the drawings like parts of the construction are identified by the same letters of reference. The illustrations show the drying-house consisting of one section of a so-called "tunnel." The radiating-sills, however, can be used for a room of several tracks.

A designates the side walls of the drier, and B the foundation-walls, which are made wider than the side walls, so as to leave the supports C for the radiating-sills G to rest upon.

D is the vapor-flue, having the exhaust-

blowpipe L projecting up in the center thereof. The blowpipe L is connected below to one of the sills G.

E is the arch, resting upon side walls A and upon which the vapor-flue D rests.

F is the cold-air passage, with inclined floor H upon which the upward deflections of cold air I are placed.

M represents the steam connections at alternate ends of the heat-radiating sills G.

T is the side track, resting on and held in place by shoes S upon sills G.

K is the main steam-feed pipe, (from the engines or boilers,) running transversely under the front part of the drier, connecting each series of sills by steam connection N (having regulating angle-valve O) to the first of the sills G.

P in Fig. 1 shows a car on track T.

Having designated the various parts of the drier, I will further describe the essential points in my invention—namely, the radiating-sills G. As will be seen, I show two forms to make it more comprehensible, although I do not confine myself to any particular form. In Figs. 4 and 5 they are made rectangular, with slots through the body and projecting ribs on the outside to give additional radiating-surface. I found, however, that the cylindrical form, Figs. 6, 7, and 8, was preferable, as it gives more radiating-surface and strength with less weight of metal. As will be seen, it is provided with annular rings X along its surface, so as to increase the radiating capacity. The steam connections M, I make as large as possible, so as to reduce the friction of the steam and the back pressure on the engine. These may be made of screwed wrought pipe, but casting them to the sill, as shown, is the cheapest, with less joints for leakage. As will be seen, I use flanges and bolts with a gasket for connecting the steam-passages M. The rail-shoes S are cast on the sills G. Stops Y are cast upon the extremities of the sills, where they rest upon the foundation-walls to maintain them in horizontal alinement.

The operation of the drier is as follows: The room having been filled with the material to be dried and the doors shut, steam is admitted from the feed-pipe K with the angle-valve O. Next the valve in blower-pipe

L is opened sufficiently to give good circulation and at the same time starting the air upward through vapor-flue D. This draws cold air in at F, which is deflected upward against the radiating-sills G by the deflectors I, where it is warmed and drawn through the material, from which it extracts the moisture, carrying it along and out through the vapor-flue D.

Narrow plates (not shown in the drawings) can be placed between the radiating-sills G to retard the cold air from passing upward too fast.

The radiating sills G are placed at least one inch higher at the intake for every ten feet in length, so as to make a slight incline toward the outlet of the drier. This causes the water condensed from the steam to flow back into the feed-pipe K, from where it is drained into traps or a cistern. The incline further facilitates the passage of cars through the drier.

What I wish to claim and for which obtain Letters Patent is—

1. In a drying-house, the combination in the inclined floor thereof, of hollow heat-radiating sills, provided with steam-openings near their opposite extremities and on opposite sides thereof, each sill being formed separately, and all the sills being connected together to form a continuous series for the passage of steam, substantially as described.

2. In a drying-house, the combination in the inclined floor thereof of a series of trans-

versely-placed hollow floor-sills provided with alternate steam connections at opposite extremities of the sills, and stops upon the bottoms of the sills, substantially as and for the purpose described.

3. In a drying-house, the combination in the inclined floor thereof, of a steam-heating and car-supporting device resting thereon, consisting of hollow heat-radiating sills placed transversely upon said floor, steam connections connecting alternate ends of the sills, rail-shoes upon the sills and rails across the shoes, substantially as described.

4. In a heating and car-supporting device for a drying-house, a series of transverse sills connected at alternate extremities to form a continuous steam-radiator, each sill consisting of a body portion closed at either end, and provided with openings on opposite sides and at either end whereby each sill can be connected with the next adjacent sills in the series, substantially as described.

5. The combination of cold-air passage F, deflectors I, radiating-sills G, steam connection N, feed-pipe K, rail-tracks T, arch E, vapor-flue D, and blower L.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FREDERICK E. FREY.

Witnesses:

WM. M. MONROE,
C. H. OLDS.