E. H. ANGAMAR.

Apparatus for Removing Snow and Ice from Railroads and Streets.

No. 232,225. **Patented Sept. 14, 1880.**

Fig. 1.

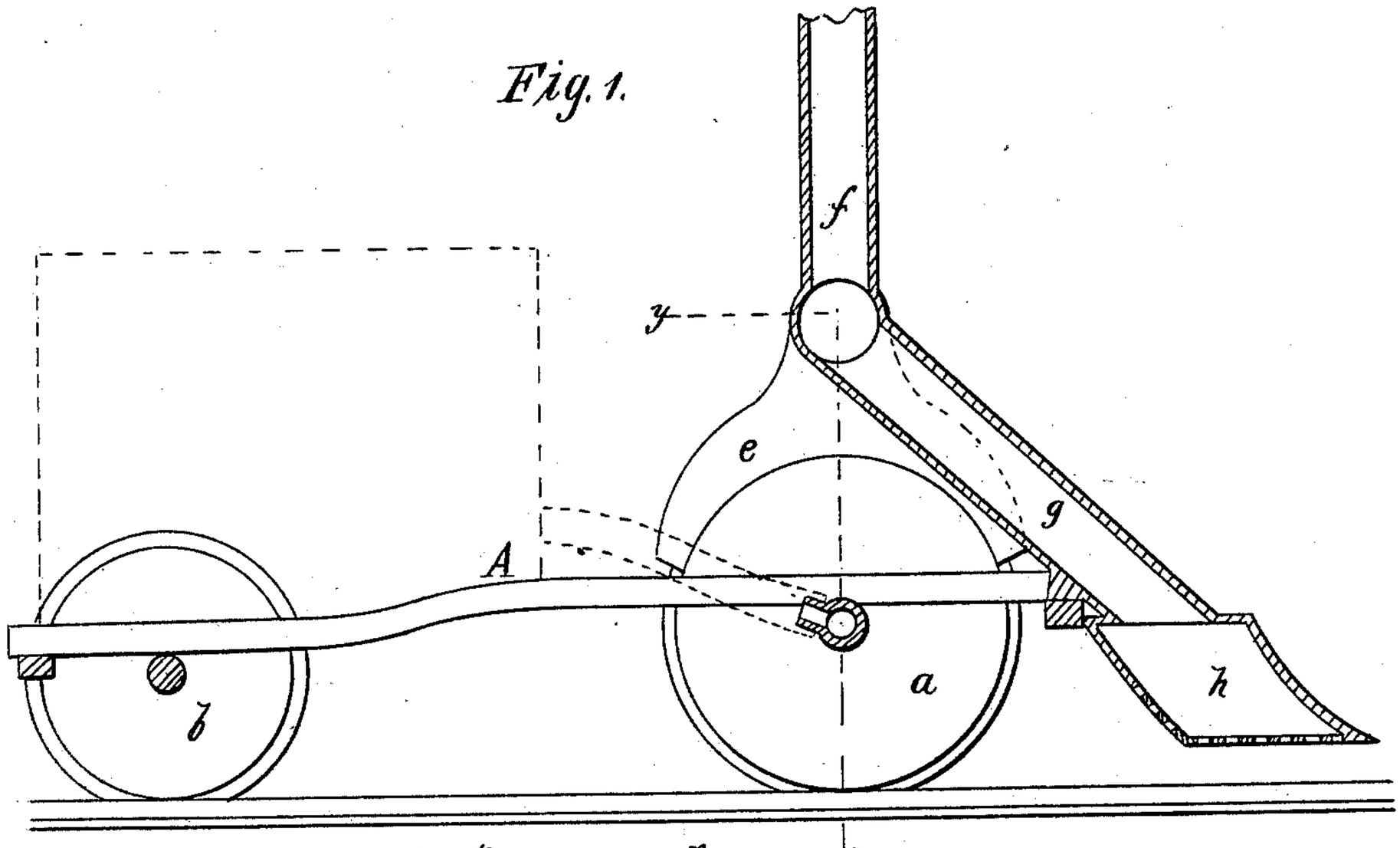


Fig. 3.

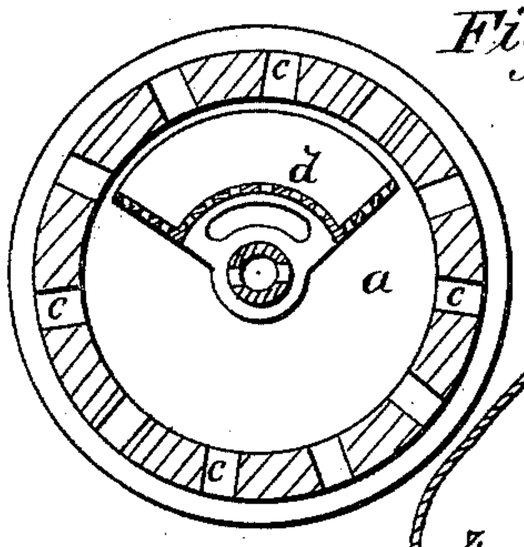
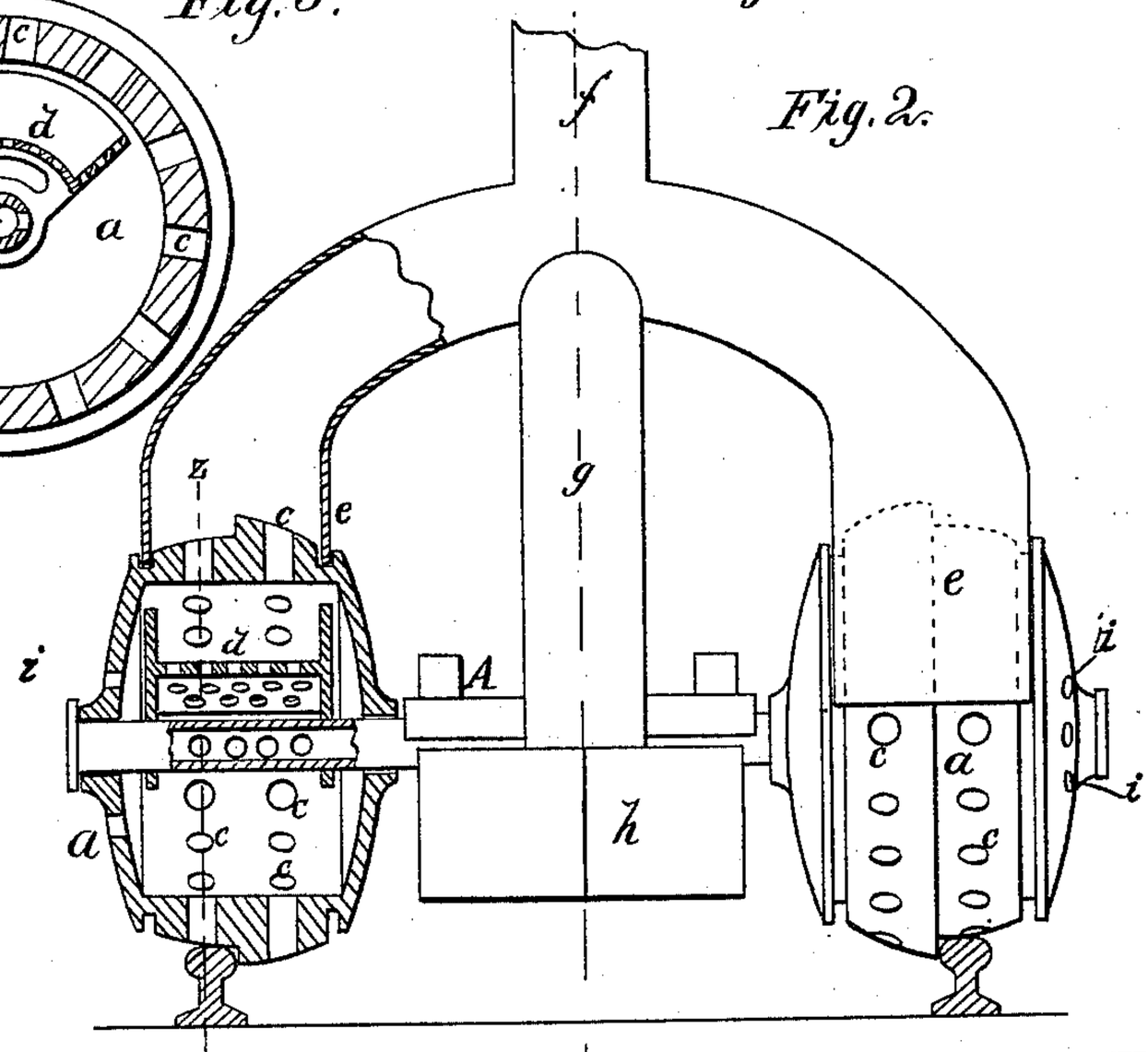


Fig. 2.



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EUGENE H. ANGAMAR, OF NEW ORLEANS, LOUISIANA.

APPARATUS FOR REMOVING SNOW AND ICE FROM RAILROADS AND STREETS.

SPECIFICATION forming part of Letters Patent No. 232,225, dated September 14, 1880.

Application filed October 21, 1879.

To all whom it may concern:

Be it known that I, EUGENE H. ANGAMAR, of New Orleans, in the parish of Orleans and State of Louisiana, have invented a new and Improved Apparatus for Removing Snow and Ice from Railroads and Streets, of which the following is a specification.

The object of my invention is to construct a simple and effective apparatus for freeing railroad-tracks from snow and ice by heat, more especially street-railroads; and the invention consists in a truck fitted for running on the track and supported on hollow wheels, which are fitted with grates for burning fuel, and perforated, whereby the wheels may be highly heated.

In the accompanying drawings, Figure 1 is a vertical longitudinal section of the apparatus. Fig. 2 is a vertical transverse section on line *y y* of Fig. 1. Fig. 3 is a section through one of the wheels on line *z z* of Fig. 2.

Similar letters of reference indicate corresponding parts.

A is a truck-frame, of suitable character, supported upon the forward wheels, *a a*, and rear wheels, *b*, that are loose upon their axles, and formed with flanges for retaining them upon the track.

The forward wheels, *a*, are hollow, and are made wide to give sufficient fire-space. The flanges of these wheels are placed in their mid-width, and they are formed with radial perforations *c* at each side of the flange, and also with side openings, *i*.

Within each wheel *a*, supported upon the axle, is a foraminous plate or grate, *d*, preferably of the shape shown in Fig. 3, to form a grate at each side of the axle.

Above each wheel *a* is fixed a hood, *e*, which incloses the upper part of the wheel closely, and has its edges at the side entering annular grooves of the wheels to form a close joint.

The hoods *e* are united to a central draft-pipe, *f*, and the hood and pipe will be supported from the truck in any suitable manner.

From the bottom, at the center of the pipe *f*, a pipe, *g*, extends in an inclined direction, and terminates in front of truck A in a hollow fire-chamber, *h*, which is perforated at its under side with numerous holes to form a grate, and is shaped similar to a snow-plow—that is, with a pointed forward end and inclined sides, so that it will throw off snow that may be on the ties between the rails.

The truck A may be fitted with a suitable tank, as shown in dotted lines, for containing oil or gas.

The axle of wheels *a* is tubular, and perforated beneath the grate *d*, and will be connected by a pipe to the supply-tank, so that the oil or gas will be supplied in the quantity required for burning to assist combustion of the fuel on the grate.

In operation, coal or other fuel will be placed upon grates *d* through suitable doors in the side of the wheels and burned thereon. Air will be provided through the openings *c* and *i*, and the draft through the pipe *f* will maintain combustion, the wheels will be heated, and the heat will melt the snow and ice.

In case the combustion is not rapid enough oil or gas will be supplied beneath the grate, as mentioned. Fuel is also to be burned on the grate at the bottom of chamber *h*, the draft through pipe *g* maintaining combustion.

In some cases, after the fire is under way, a blast of steam may be used to drive the heat and flame out. That may be done on surface roads in deep drifts of snow.

The apparatus is to be propelled in front of a motor; and instead of using the rear wheels the frame may rest upon the front of the motor.

The apparatus may also be adapted for propulsion by hand, in the same manner as a wheelbarrow, and also used for removing snow and ice from streets and roads, the wheels in that case being formed without flanges.

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

1. The apparatus for removing snow and ice from railroads and streets, consisting of a truck with hollow wheels containing grates, and the inclosing-hoods and draft-pipes combined, substantially as described and shown.

2. The fire-grate *d*, fixed to a stationary axle, in combination with a hollow car-wheel having side and peripheral openings, as shown and described.

3. The combination, with two hollow car-wheels having internal fire-grates, annular edge grooves, and peripheral openings, of the hoods *e*, fitting into said grooves and connecting with the same smoke-stack *f*, as set forth.

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Witnesses:

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