L. Von Froben,

Road Rammer,

No. 52,915. Patented Feb. 27. 1866.

Fig. 2.

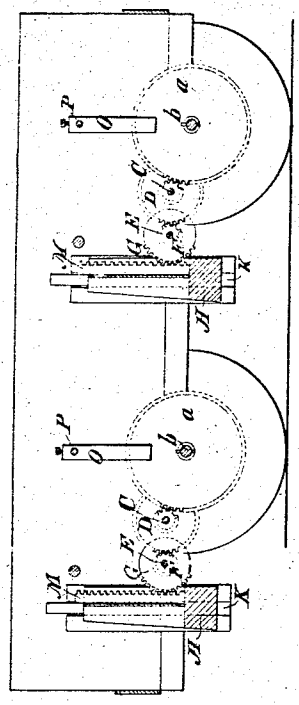


Fig. 4.



Fig. 1.

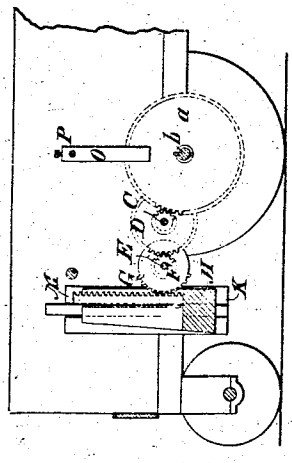
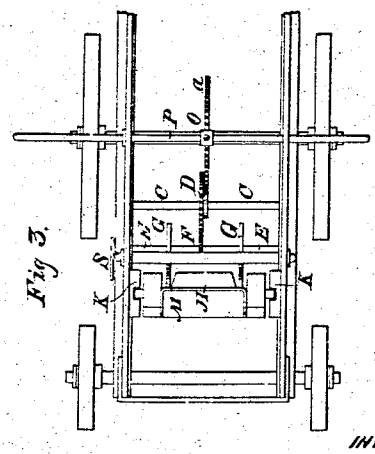


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

LOUIS VON FROBEN, OF WASHINGTON, DISTRICT OF COLUMBIA.

IMPROVED MACHINE FOR LEVELING STREETS.

Specification forming part of Letters Patent No. **52,915**, dated February 27, 1866.

To all whom it may concern:

Be it known that I, LOUIS VON FROBEN, of the Grand Duchy of Baden, in Germany, but residing in the city of Washington, in the District of Columbia, have invented a new and useful Machine for Leveling Street-Pavements; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

The object of my invention is to construct a machine by which street-pavements may be leveled by animal or steam power in the place and stead of the hand-ram heretofore in use.

To this end I construct a carriage on wheels, as represented in the drawings, to be drawn along the pavement either by steam or animal power, and provided with one or more trip-hammers, as may be most desirable. If I desire to use one hammer only I construct the carriage with two large and two small wheels, as shown in Figure 1; but if I desire to use two hammers I construct it with four large wheels, as shown in Fig. 2.

I may add to the number of hammers in use by adding to the number of wheels, axles, and gearing in the carriage-frame.

The large wheels of the carriage are secured firmly to the axle of the carriage, and with which they revolve.

In the center of the axle I attach a cog-wheel. (Marked A.) It may be moved sidewise on said axle, and thereby the machinery be thrown out of gear, by removing the bolt *b*, by which it is fastened to the axle.

Letter C is a shaft, on the center of which I place the double cog-wheel D. This wheel has cogs on its periphery and on its sides, as the drawings show. The cogs on the wheel A mesh with the cogs on the side of wheel D when the machine is at work.

Letter E is a shaft, on which I attach three wheels, the central one of which is a cog-wheel, which meshes with the cogs on the periphery of cog-wheel D. It is marked F on the drawings.

G G are wheels on shaft E, affixed one on each side of cog-wheel F. These wheels have cogs on their peripheries, respectively, covering about one-third part thereof, more or less, which cogs mesh with the cogs on the ratchets of the trip-hammer, as hereinafter described.

Letter H is a trip-hammer, which moves up and down in slots or grooves placed upright on the inside of the body of the carriage, as shown at K. The face of this trip-hammer is usually made of wrought iron or steel to give it durability and strength, or, as is preferable, I make the inside thereof of wood, and surround it with a strong wrought-iron ring. The hammer itself is constructed of firm and heavy materials, for the reason that the work is performed by its weight alone when falling upon the paving-stones. It has ratchets marked M, in which the cogs on the wheels G G mesh, and by which it is lifted in the grooves or slots above mentioned.

Letter O is a slotted pendant hanging upon a rod, P, to which it is connected by a set-screw, and extending down each side of the cog-wheel A. Its office is to guide said cog-wheel while in gear, and to keep it out of gear when I desire to do so.

The machine, as shown in the drawings, represents the hammer in the rear of the axle. It is sometimes desirable to have the hammer on the front end of the carriage. In that case I interpose a shaft and cog-wheel between the double-cog wheel D and the cog-wheel F, meshing with both, and thereby reversing the motion of cog-wheel F and wheels G G. Fig. 4 of the drawings represents this additional shaft and wheel.

Letter S is a pawl-and-ratchet wheel, whose office is to hold the hammer suspended in its grooves when the machine is out of gear or not at work.

The mode of operating my said machine is as follows, namely: Place the wheels in gear and secure them in that position by placing the pendant O immediately over the cog-wheel A, with its sides extending down each side thereof, and also by placing the bolt *b* in its proper position. Connect the motive power with the carriage at its forward end, and the work commences. The various cog-wheels mesh with each other as the main wheels and axle revolve, and the wheels G G, working in the ratchets of the hammer, raise it until the cogs in said wheels have all passed through the cogs on the ratchets, when the hammer falls. When I desire to move the carriage without

working the hammer I throw it out of gear by removing the bolt *b* and sliding the cog-wheel A sidewise on the axle, and securing it, when I wish, by means of the pendant and set-screw above described.

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

The combination and arrangement of the cog-wheels A, D, F, and G G, bolt *b*, and trip-hammer H, and the shafts C and E with the pawl and ratchet S, substantially as and for the purposes herein specified.

LOUIS VON FROBEN.

Witnesses:

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