L. MANN.

APPARATUS FOR CARBURETING AIR.

No. 191,767. Patented June 12, 1877.

FIG. 1.

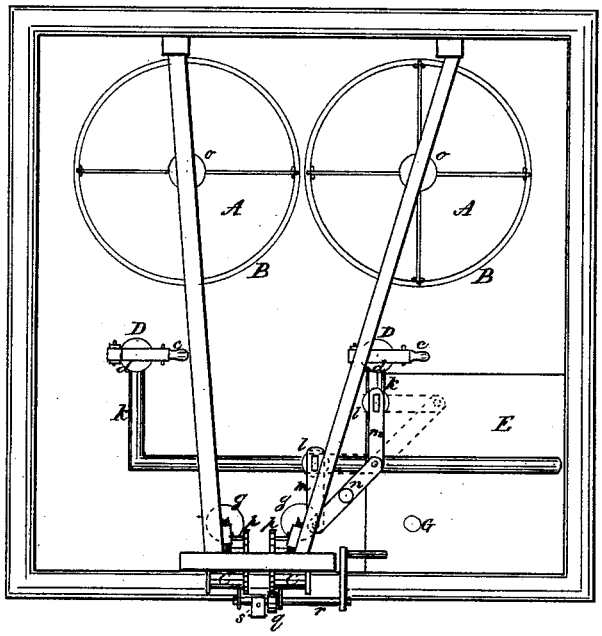


FIG. III.

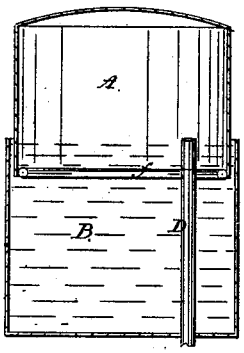


FIG. II.

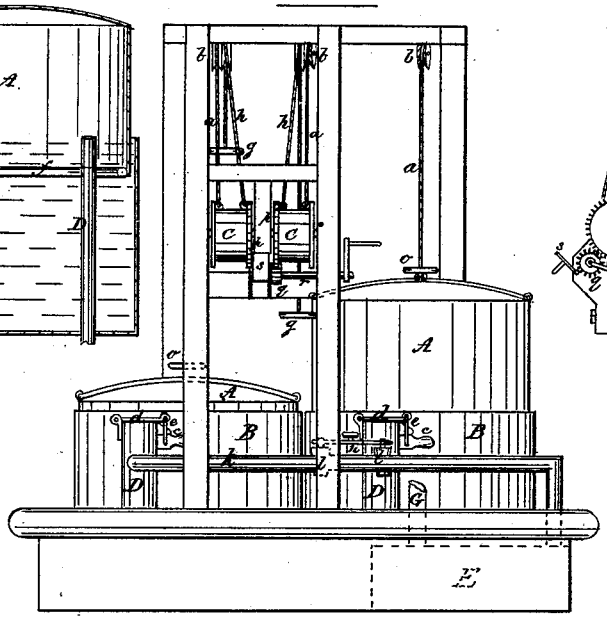
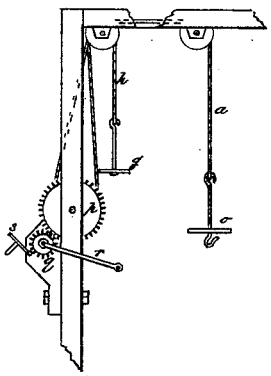


FIG. IV.



WITNESSES

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LOOMIS MANN, OF IONIA, MICHIGAN.

IMPROVEMENT IN APPARATUS FOR CARBURETING AIR.

Specification forming part of Letters Patent No. **191,767**, dated June 12, 1877; application filed May 4, 1877.

To all whom it may concern:

Be it known that I, LOOMIS MANN, of the city and county of Ionia, in the State of Michigan, have invented a new and Improved Apparatus for Carbureting Atmospheric Air, of which the following is a specification:

Referring to the accompanying drawing, Figure 1 represents a top view of an apparatus embracing my improvements. Fig. 2 is a front elevation of the same. Fig. 3 is a vertical tranverse section of the air-tank. Fig. 4 is a side elevation of a portion of the apparatus, showing the drums and gearing for elevating the tanks.

The same letters occurring on the several figures indicate like parts.

A A represent two air-tanks, constructed similarly to an ordinary gasometer, and suspended by cords or chains *a* in water-vessels B B. The cords *a* by which these air-tanks are suspended pass over pulleys *b*, and are connected with the drums C of two windlasses operated through gear-wheels *p*, by the pinion *q*, and by which said tanks are raised; during which operation said tanks become charged with atmospheric air, which has its ingress through the stand-pipes D, passing through the bottom and up to or a little above the level of the water in the vessel B; after said tanks are thus charged the valve-like covers *d d* are closed and securely locked, to prevent the escape of air, by the cam-levers *c*, taking under the fixed projections *e* on the stand-pipes.

The drums C are operated by a crank-shaft, *r*, carrying a pinion, *q*, which shaft has a sliding motion longitudinally, so that the pinion *q* may be in gear with the wheels *p* of either of said drums, as desired, and is secured in gear with the desired one by a trip-stop, *s*, falling on either side of said pinion.

The pressure on the air-tanks A is adjusted by weights placed on the disk *o* on the suspending-cord *a* of the tank, and on the disk *g* on the counter-cord *h*, connected to the drum C, and winding in the opposite direction from that of the suspending-cord *a*, so that the descent of the tank A may be accelerated by placing a weight on the disk *o*, or retarded by transferring it to the disk *g*, to increase or diminish the pressure in proportion to the number of burners to be supplied or the quantity of gas consumed per hour.

The tanks A are also loaded at their lower edge with a bar or ring of lead, or other suitable material, *f*, to counteract their buoyancy and insure their perpendicular descent.

The air accumulated in these tanks is then forced by the desired pressure through the stand-pipes D and pipes *k* into the carbureter E, where it passes by a circuitous passage over the gasoline, with which it becomes saturated, and thence passes by the service-pipe G to the place of consumption.

The two stand-pipes D, communicating with the tanks A, are both connected by the pipes *k* with the carbureter E, and are controlled by two stop-cocks, *l l*, which are operated by levers *m* and a coupling, *n*, so that in closing the one to cut off the flow of air from a nearly exhausted tank, the other is opened to obtain a supply from the other tank, which has been previously fully charged with air, thus keeping up a continuous supply of gas to the burners.

Having thus described my apparatus and its operation, it will be seen that there is no gas stored to be lost or wasted by leakage, or to be liable to explosion. The air-tanks with their water-sealed chambers may be located in a cellar or sunk in the ground, where the water will not be liable to freeze, and the gasoline-chamber may be located at a safe distance from the place of consumption of the gas, or other combustion, and if desired may be embedded in the ground, so as to be kept at a uniform temperature, and no possible danger from the use of the apparatus need be apprehended.

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

1. The combination of the drums C C and their gear-wheels *p* with the sliding pinion *q* and trip-stop *s*, as and for the purpose specified.

2. The disks *o g*, in combination with the suspending-cord *a* of the air-tank, and counter-cord *h* of the drum C, for the reception of weights, transferable from one to the other, as and for the purpose described.

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Witnesses:
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