

No. 638,864.

Patented Dec. 12, 1899.

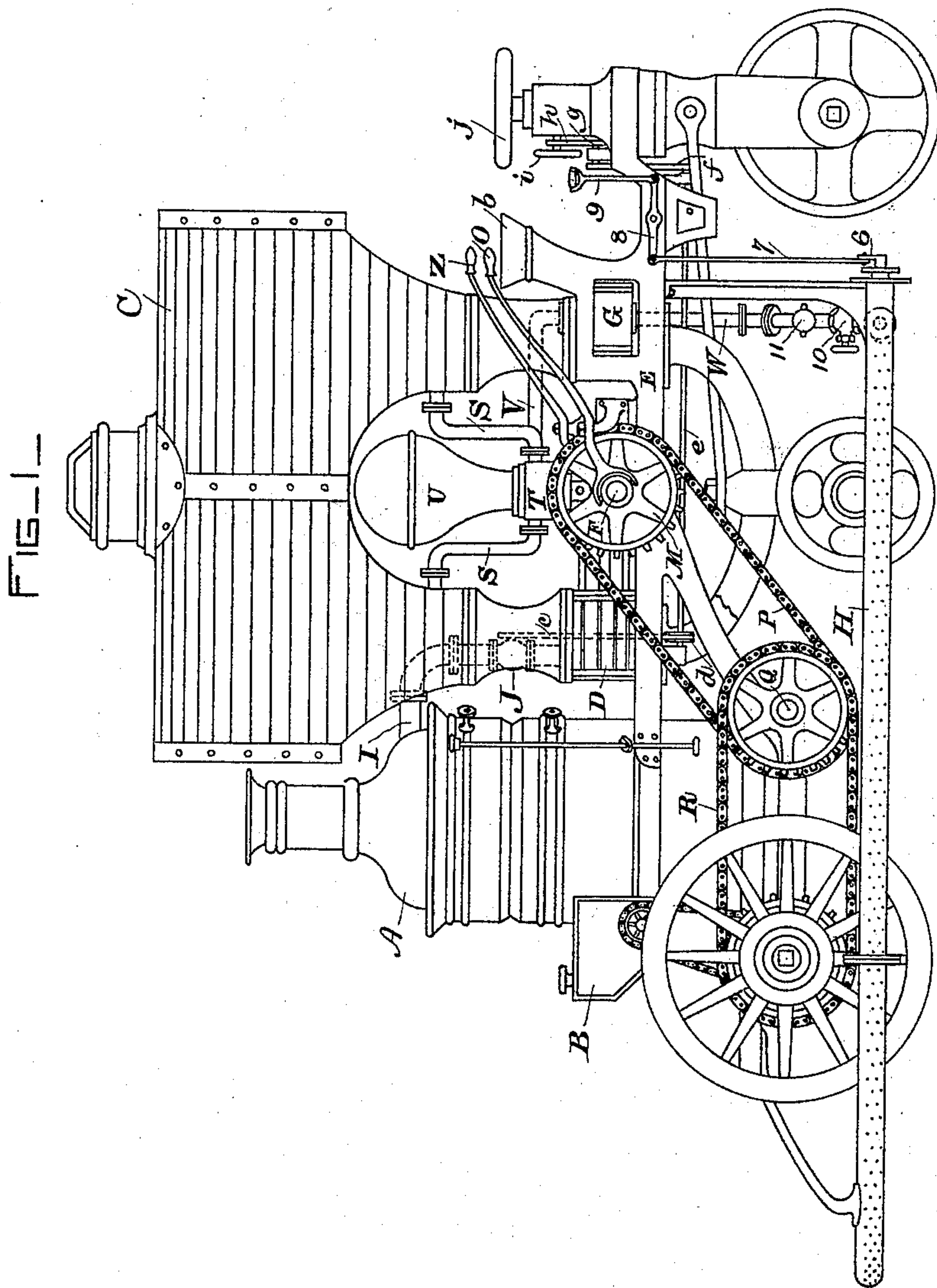
C. W. COLLYER.

AUTOMOBILE WATERING CART AND FIRE ENGINE.

(Application filed Nov. 18, 1898.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES

C. Kitching -
A. E. H. Co.

INVENTOR

Charles W. Collyer,
By his attorney
Phillips & Anderson.

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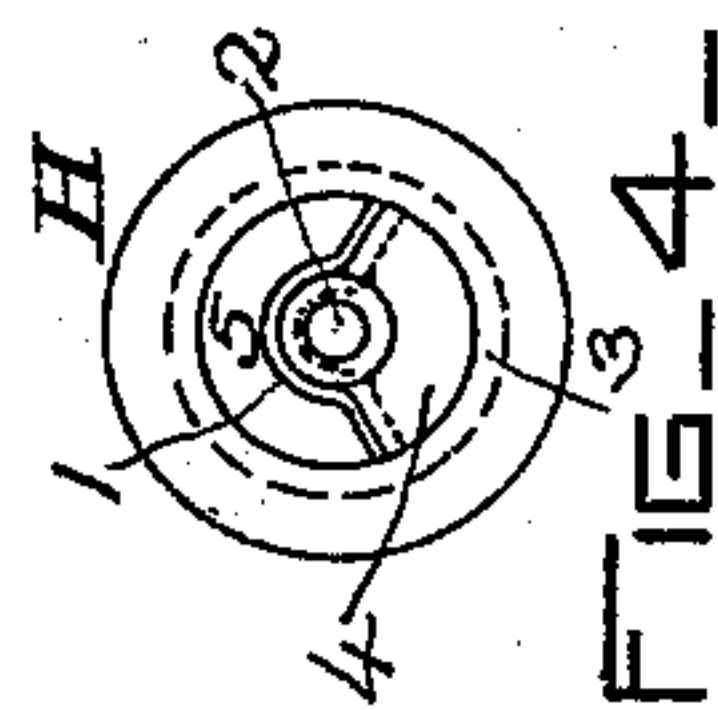
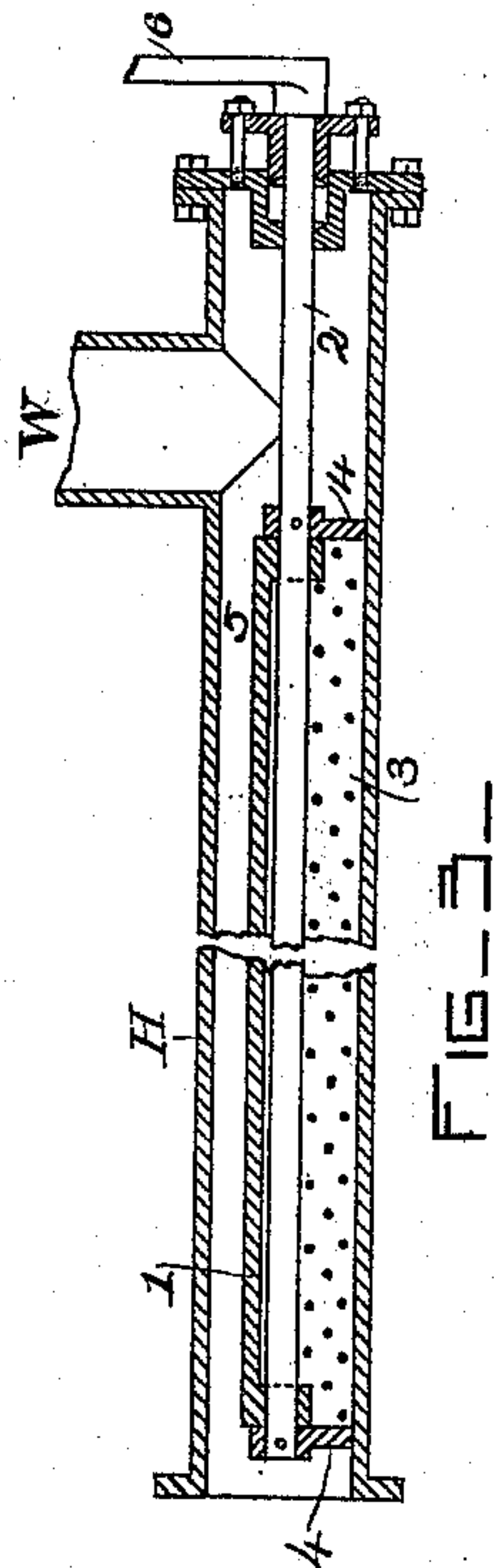
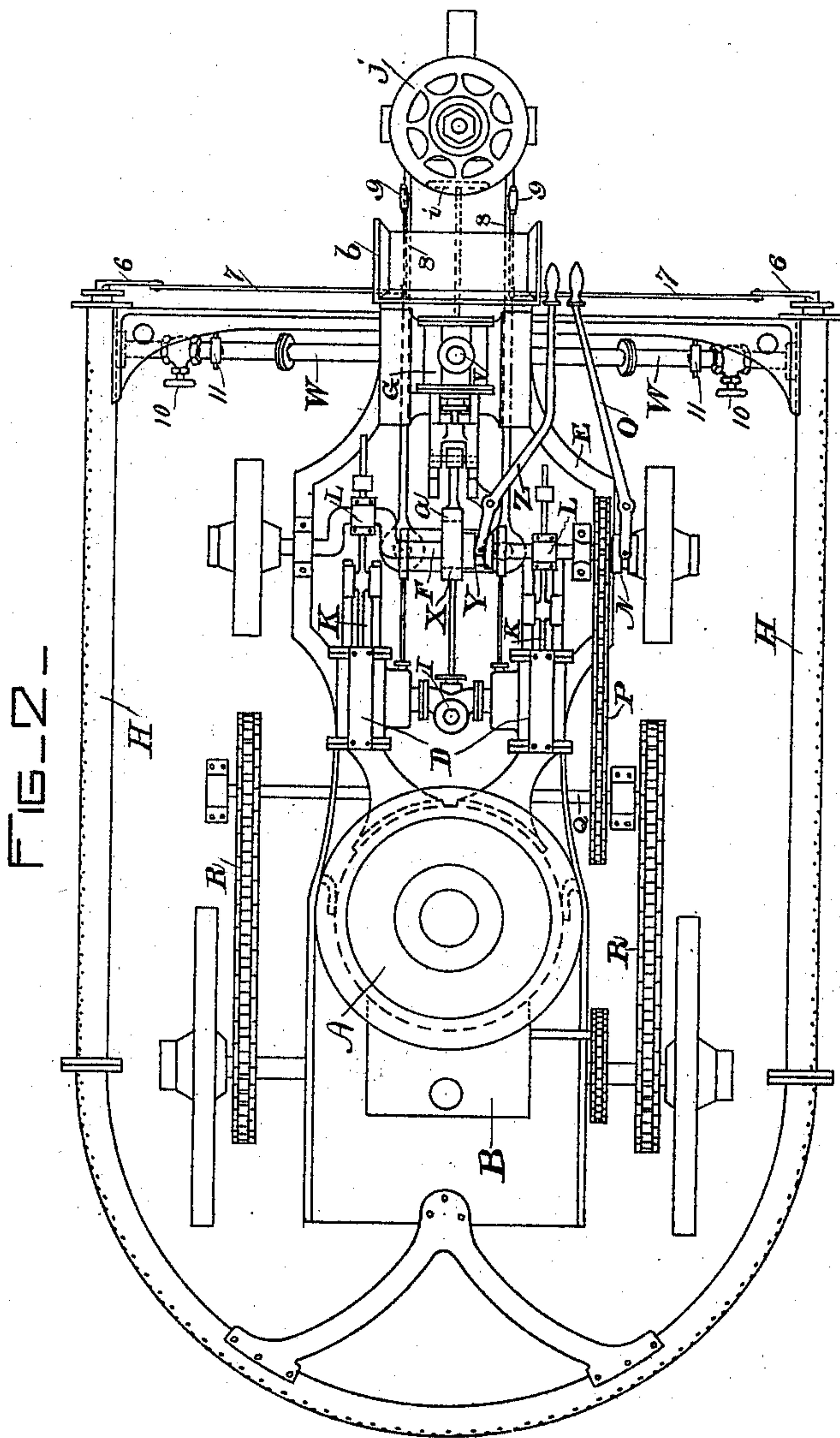
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UNITED STATES PATENT OFFICE.

CHARLES W. COLLYER, OF LYNN, MASSACHUSETTS.

AUTOMOBILE WATERING-CART AND FIRE-ENGINE.

SPECIFICATION forming part of Letters Patent No. 638,864, dated December 12, 1899.

Application filed November 18, 1898. Serial No. 696,786. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. COLLYER, a citizen of the United States, residing at Lynn, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in an Automobile Combined Watering-Cart and Fire-Engine; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improved automobile combined watering-cart and fire-engine; and the object of my invention is to produce a self-propelled or automobile road-machine which is provided with a tank, pump, propelling means, sprinkling-pipes, and motor arranged so that it can be used as a watering-cart or a fire-engine, carrying its own water.

The invention consists in the combination of devices hereinafter described, and more particularly pointed out in the claims.

In the drawings illustrating my invention, in which similar reference letters and numerals refer to similar parts throughout, Figure 1 is a side elevation. Fig. 2 is a plan of the machine with the tank removed in order to show the working parts thereof, and Figs. 3 and 4 are details hereinafter to be described.

In the drawings illustrating the preferred form of my invention, A indicates a steam-boiler provided with an automatic stoker B, C indicates the tank, and D the steam-cylinders, all of which are supported by a suitable frame E, carried by the usual wheels for supporting, guiding, and driving the same.

F indicates the main shaft of the machine, G the pump, and H the sprinkling-pipes. Steam is conveyed by the pipe I to the steam-cylinders D to drive the engines. A throttle-valve J in this steam-pipe controls the starting and stopping of the same. The piston-rods K impart motion to the main shaft F by means of ordinary Scottish yokes L, being quarter-cranked, so that the engines will never come to dead-center. Loosely mounted upon the main shaft F is a sprocket-wheel M, which may be clutched to the shaft by the clutch N, operated by means of the hand-lever O. This sprocket-wheel is adapted to drive the sprocket-chain P, which leads to a

sprocket-wheel on the intermediate shaft Q, from which another sprocket-chain R runs to a sprocket-wheel on the rear axle of the machine. When, therefore, the clutch-lever O is thrown over so as to clutch the sprocket-wheel M to the main shaft F, the machine will be driven through the means described.

The water-tank C is provided with the usual opening at its top for filling the same in the ordinary manner. From the bottom of the tank two pipes S run down to a water-chamber T, surmounted by the ordinary air-chamber U. From this water-chamber a pipe V leads to the pump G, from which water is pumped through the pipe W into the sprinkling-pipe H. The pump is operated from the main shaft in any suitable manner which will permit the same to be thrown out of operation, and in the machine of the drawings this means consists of an eccentric X, loosely mounted upon the center of the shaft F, adapted to be clutched thereto by a clutch Y, operated by a lever Z. The eccentric X is encircled by an eccentric-strap *a*, which is connected to the cross-head of the pump and operates the same in the usual manner. Thus it is seen that by throwing the lever Z so as to clutch the eccentric X to the main shaft F the pump will be set in operation.

A driver's seat *b* is provided in front of the machine, and the ends of the levers O and Z are disposed on one side of the same, so that the clutches may be operated from the driver's seat. In order that the throttle-valve for starting and stopping the engine may also be operated from the driver's seat, suitable connecting mechanism is provided for that purpose. In the machine of the drawings this means consists of a sprocket-chain *c*, carried on a sprocket-wheel on the valve-rod of the throttle-valve J. This sprocket-chain extends downwardly around a sprocket-wheel *d*, mounted upon a longitudinally-extending shaft *e*, extending to the front of the machine under the driver's seat. At this point a sprocket-chain *f*, intermediate shaft *g* and sprocket-chain *h*, passes around a sprocket-wheel on a suitably-supported shaft carrying the hand-wheel *i*, so that the driver by turning the hand-wheel *i* is enabled, through means of the sprocket-chain and shafts, to open and close the throttle-valves J. In front

of the driver is the ordinary guiding-wheel *j* for guiding the machine.

In passing vehicles on the road it is necessary that the water be shut off from the side sprinkling-pipe, and for this purpose I have provided a valve inserted in the side sprinkling-pipe, by means of which the water may be turned off from the side pipe. In Figs. 3 and 4 this valve and its operating mechanism are shown in enlarged detail. The side sprinkling-pipe H is provided with a longitudinal integral diaphragm 1, provided with bosses at its ends concentric with the pipe to receive and support the valve-shaft 2. This diaphragm 1 may extend across the pipe diametrically or it may be V-shaped, as shown. The openings in the sprinkler-pipe are made in the side 3 thereof inclosed between walls of the diaphragm, while the remainder of the sprinkler-pipe is closed. In order to shut off the water from these side sections of the sprinkler-pipe, I have provided valves 4 at each end of these portions of the pipe corresponding in shape to the sector inclosed by the diaphragm, so that when the valve-shaft 2 is rotated to bring the valves into a coincidence with the sector inclosed by the diaphragm the water will be cut off therefrom, but at the same time permitted to flow on the side of the diaphragm through the space 5 of the rear sprinkler-section. A crank 6 is fastened on the outer end of the valve-rod 2, by means of which the lever may be operated as desired. This crank 6 is connected by a rod 7 to lever 8, pivoted on the side of the frame beside the driver's seat and carrying at its other end a handle 9, by means of which the valve may be operated. These valves are provided in the sprinkler-pipe on both sides of the machine and also corresponding hand-levers for operating them.

It will thus be seen that my machine is capable of the following uses: First, the tank may be filled and the machine used as a sprinkling-cart. The driver, taking his seat, opening the throttle-valve, and starting the engines, will thereafter throw the clutch N into engagement with the driving mechanism and starting the machine. Then when it is desired to sprinkle the driver will throw the clutch Y into engagement with the eccentric Z, thereby throwing the pump into operation and sprinkling the street as the machine progresses. In passing vehicles the driver without stopping the pump will simply turn off the water on one side of the machine by turning the proper hand-lever 9. In order to stop sprinkling while passing over crossings, the driver will simply stop the pump. In case

it is desired to use the machine as a fire-engine, the tank will be filled and the driving mechanism thrown in and the machine driven to the place where it is desired to use it. Then the valves 10 in the pipe W will be closed, so that the water may not be permitted to pass into the sprinkler-pipes, the cap 11 will be taken off from the fire-nozzles of the pipes, and the fire-hose screwed on. Then the driving mechanism being thrown out of operation the pump will be thrown into operation and water will be pumped from the tank into the fire-hose.

Having thus described my invention, I claim as new and desire to secure by Letters Patent of the United States—

1. In a vehicle, the combination with a motor, of propelling mechanism, a clutch for connecting and disconnecting the motor with the propelling mechanism, and a lever for operating the clutch, arranged convenient to the driver, a water-tank adapted to contain a large quantity of water suitably mounted upon the vehicle, a pump, pipes connecting the tank with the intake of the pump, a clutch to connect the pump with the motor, a lever for operating the clutch, arranged convenient to the driver, discharge-pipes provided with valves connected with the outlet of the pump, the whole being so organized and arranged that the machine may be propelled to carry the water to the place where it is desired to be used, so that the vehicle may stand still and pump water from the tank into the discharge-pipes, and also so that the vehicle may pump water into the discharge-pipes while it is in motion, substantially as described.

2. In a sprinkling-cart, a sprinkling-pipe arranged with a longitudinal diaphragm integral therewith, valves at the ends of the diaphragm and means connecting the valves for simultaneously opening and closing the same, so as to cut off the water from the portion of the sprinkling-pipe between the valves.

3. In a sprinkling-cart, the combination with a sprinkling-pipe, provided with an integral diaphragm extending lengthwise of the pipe, of valves at the ends of the diaphragm and a longitudinal stem connecting them and extending out through the end of the pipe, a lever mounted thereon and means for actuating the lever, substantially as described.

In testimony whereof I have hereto affixed my signature in presence of two witnesses.

CHARLES W. COLLYER.

Witnesses:

T. HART ANDERSON,
HORACE VAN GUEREN.