

(No Model.)

J. F. BEATTIE.  
APPARATUS FOR OILING MINE CARS.

No. 410,530.

Patented Sept. 3, 1889.

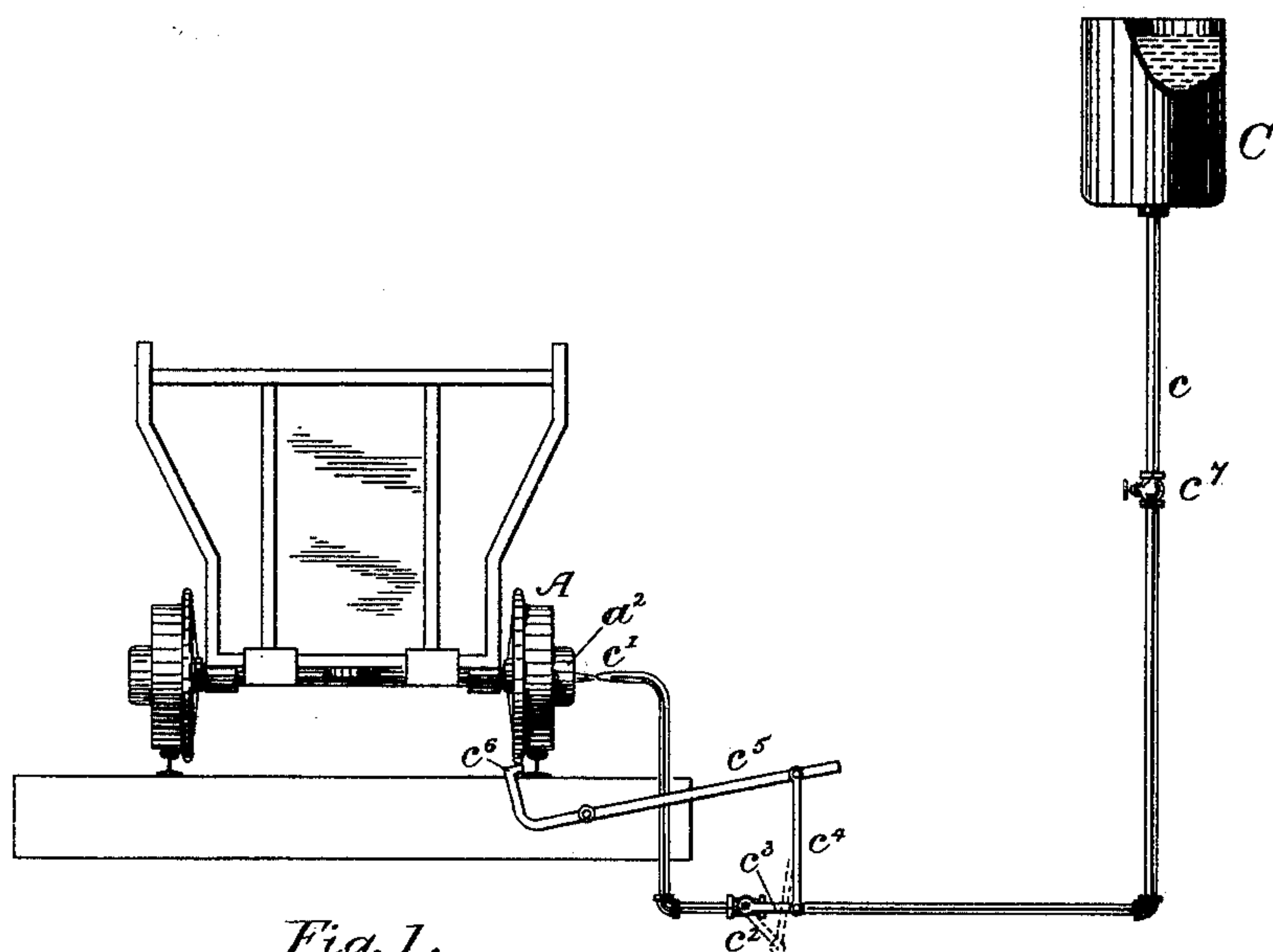


Fig. 1.

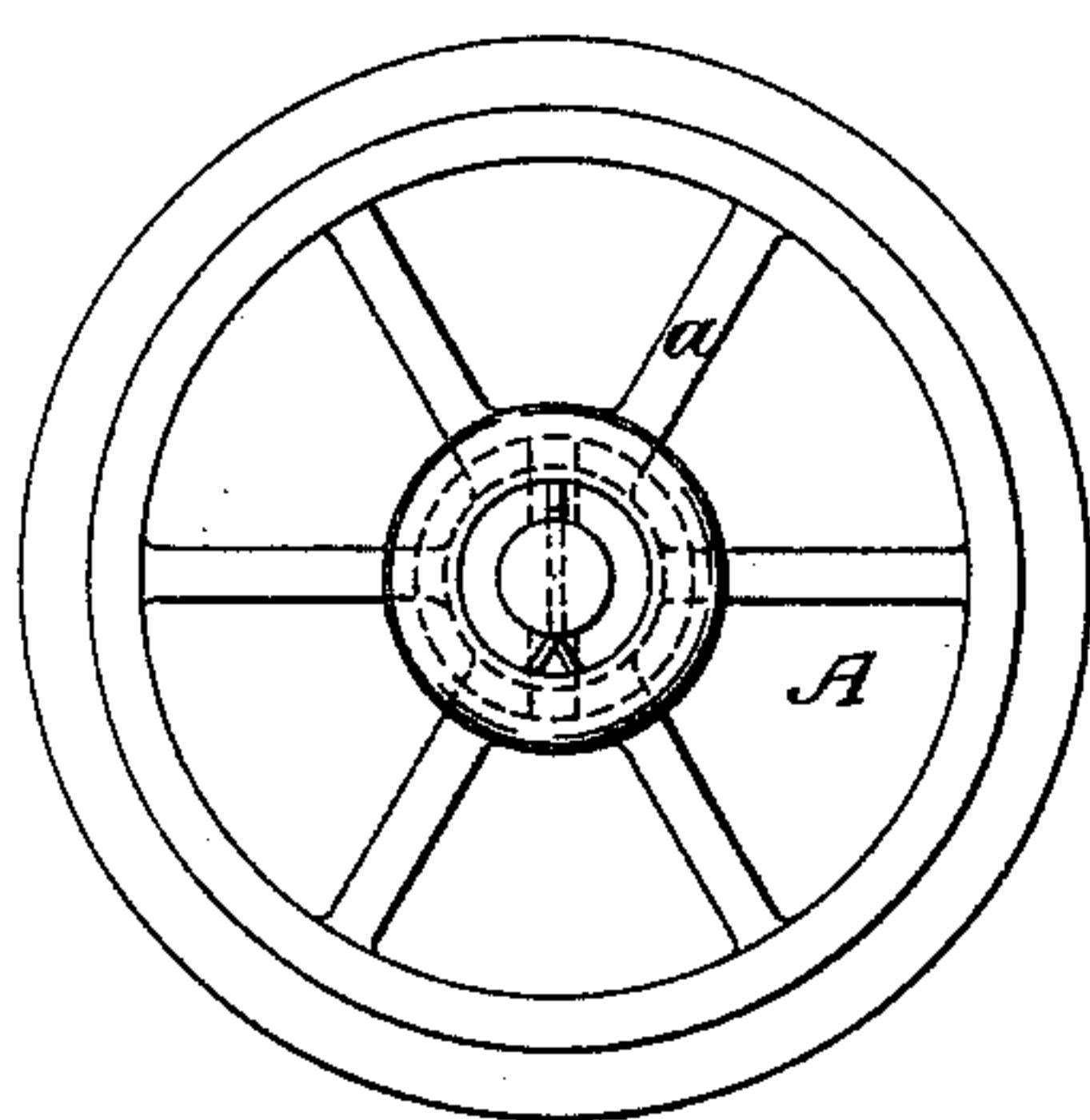


Fig. 2.

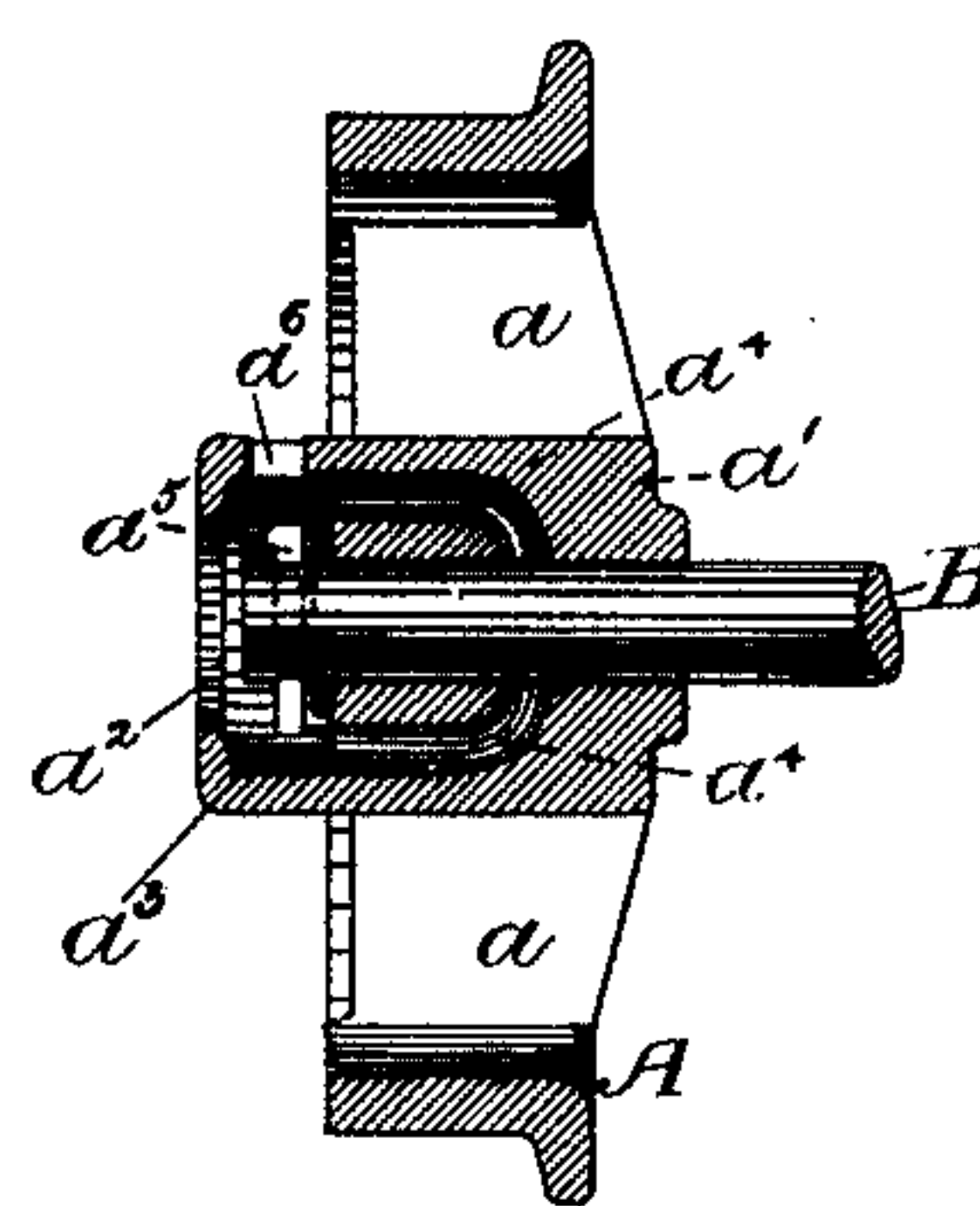


Fig. 3.

WITNESSES.

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# UNITED STATES PATENT OFFICE.

JAMES F. BEATTIE, OF WHEELER, PENNSYLVANIA.

## APPARATUS FOR OILING MINE-CARS.

SPECIFICATION forming part of Letters Patent No. 410,530, dated September 3, 1889.

Application filed May 2, 1889. Serial No. 309,374. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES F. BEATTIE, a citizen of the United States, residing at Wheeler, in the county of Fayette and State of Pennsylvania, have invented certain new and useful Improvements in an Apparatus for Oiling Mine-Cars; 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.

Where cars are used to transport material in mines and similar workings, the axle is usually made fixed, and the wheel is free to revolve thereon. The oiling is usually done by a boy whose duty it is to oil every wheel before starting the cars on a round trip. This oiling is frequently done in dark places, and to save time sometimes is done while the cars are in motion. If the boy does not attend strictly to his duty, many of the wheels do not receive oil, and those which do receive oil only get a small part of the oil which the boy attempts to put on them.

My invention relates to means for automatically oiling the cars in their transit past the oiling-station. To accomplish this result, I use a wheel of a peculiar construction having a large opening for oil in the end of its hub. This oil-opening is circular and concentric with the axis of the wheel. Communicating with this oil-opening is a circular oil-chamber of larger diameter than the oil-opening and concentric therewith. The axle extends through the wheel from the inner side, its end reaching over into the oil-chamber, one side of the oil-chamber forming the face of the bearing. The key or linchpin which holds the wheel in place is located within the oil-chamber and is inserted through the hole in the side of the oil-chamber, this hole afterward being stopped by a wooden plug. At the outer edge of the oil-chamber and located opposite each other two oil-passages enter. These oil-passages extend toward the center of the hub, and their inner ends curving connect with the axle at about the central part of the hub-bearing. At the oiling-station, located at a suitable distance from the track and a number of feet above the same, is an oil-tank. Leading from the oil-tank is a pipe which terminates in a squirt-nozzle, located

so that a jet of oil from the nozzle will enter the oil-opening of the passing wheel. A valve is located in the before-mentioned oil-pipe, which valve is connected by suitable mechanism with a trip-lever. A projection on this trip-lever forms a wiper which the flange of the wheel to be oiled strikes, so as to open the valve and squirt a jet of oil through the oil-opening into the oil-cavity.

An arrangement such as described is placed on each side of the track, so that both wheels on a given axle are oiled simultaneously. Only one of these arrangements will be shown and described, as that is all that is necessary to make the invention clear. It will be understood, however, that the two oiling mechanisms for the different sides of the cars may be entirely independent of each other, or may be connected so that one trip-lever and valve will serve for both oil-jets.

To make my invention more clear, I will now refer to the annexed sheet of drawings, which forms part of this specification, and in which—

Figure 1 represents the end view of a mine-car in position of passing the oiling-station, together with a clear view of my improved oiling device. Fig. 2 represents a side view of my improved wheel, and Fig. 3 a section of the same.

Like letters of reference refer to like parts throughout.

A is the wheel;  $a$ , the spoke thereof;  $a'$ , the hub;  $a^2$ , the oil-opening in the end of the hub;  $a^3$ , the oil-chamber;  $a^4$ , the oil-passages connecting the oil-chamber with the central part of the journal;  $a^5$ , the key or linchpin;  $a^6$ , the hole through which the linchpin is inserted.

B represents the axle.

After the wheel is placed on the axle B the linchpin  $a^5$ , which is in the form of a split cotter, is inserted through the opening  $a^6$ , after which the opening  $a^6$  is closed by driving in a wooden plug. The split end of the key may be separated by means of a cold-chisel through the oil-opening  $a^2$ .

In constructing the wheel A there is no machine work except boring the hole for the axle, the oil-opening, oil-chamber, and oil-passage being all formed by cores while the wheel is being cast.



C represents the oil-tank;  $c$ , the pipe leading from the same.

$c'$  represents a nozzle on the end of pipe  $c$ . This nozzle is so located that it may squirt a jet of oil into the oil-opening of the wheel  $a^2$ .

$c^2$  represents a valve in the oil-pipe  $c$ ;  $c^3$ , the lever which is connected to the valve  $c^2$  and forms part of it. The full-line position of the lever  $c^3$  shows the valve open. The dotted-line position shows the valve closed.

$c^4$  is a link connecting the free end of the lever  $c^3$  with one arm of the trip-lever  $c^5$ . The other arm of the trip-lever  $c^5$  terminates in the wiper  $c^6$ , which is located to be struck by the flange of the passing wheel.

$c^7$  is a stop-valve located in the pipe  $c$ , which may be closed while repairing the oiling mechanism; or, if cars are run in both directions on the same track, the valve  $c^7$  may be closed while the cars are passing in one direction, if it is only desired to oil them once per trip.

The operation of my invention is as follows: The tank  $C$  is filled with oil; the valve  $c^2$  is closed by the gravity of the levers and connecting mechanism; the valve  $c^7$  is open; oil passes from the tank  $C$ , through the pipe  $c$ , until the valve  $c^2$  is reached. We will now suppose a train of cars passing. As the flange of each wheel strikes the wiper  $c^6$ , the short arm of the lever  $c^5$  is depressed, the long arm raised, and through the connecting-link  $c^4$  the valve-lever  $c^3$  is raised to the full-line position, thus opening the valve  $c^2$  and causing the oil to squirt out of the opening  $c'$  and into the oil-opening  $a^2$  of the wheel  $A$ . The oil thus enters the oil-chamber  $a^3$ , and, through

the revolution of the wheel, works along the passage  $a^4$  and is delivered thereby upon the axle at the center of its bearing in the wheel. Immediately after the oil is squirted into the oil-opening the flange passes over and releases the wiper  $c^6$ , whereupon the valve is closed, through the gravity of the mechanism.

Having now fully described my improved apparatus and the manner of operating the same, what I claim as my invention, and desire to secure by Letters Patent, is—

1. In an apparatus for oiling cars, the combination of an oil-reservoir, a pipe connecting with the said reservoir, a valve located in said oil-pipe, a trip-lever connecting to said valve, whereby a passing wheel may open the valve, and a nozzle located at the end of said pipe and so directed that it will squirt a jet of oil into the oil-chamber of the passing wheel, substantially as specified and set forth.

2. In an apparatus for oiling the journals of car-wheels, a fixed nozzle located so as to squirt a jet of oil into the oiling-place of the passing wheel, in combination with a pipe connecting to the said nozzle, an oil-reservoir connected to said pipe, and an automatic valve located in the said pipe, for controlling the delivery of oil, substantially as specified and set forth.

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

JAMES F. BEATTIE.

Witnesses:

A. MONTGOMERY,  
JOSEPH MASTERS.