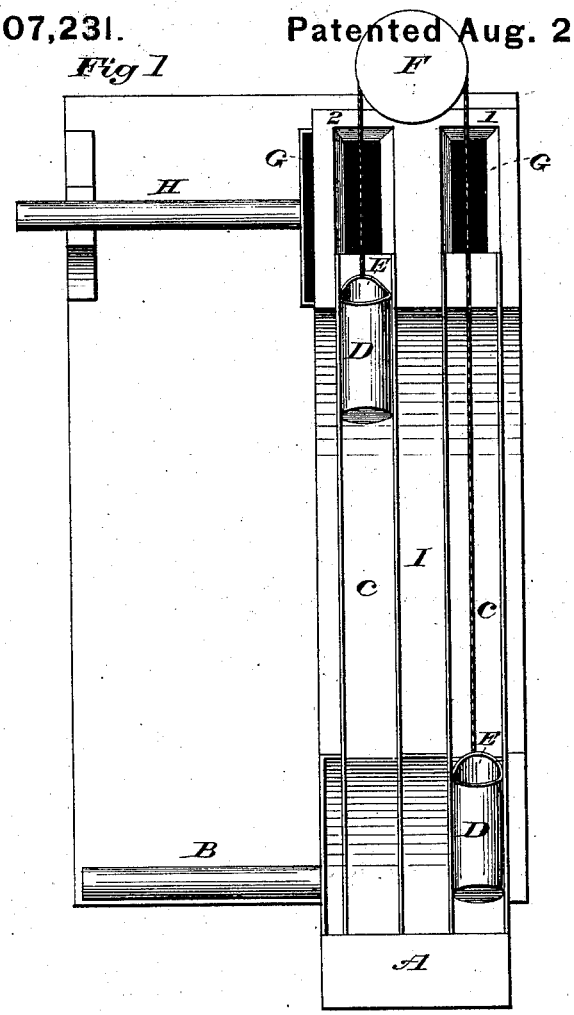
R. A. WILDER.

Means for Transporting Petroleum Oil.

No. 207,231. Patented Aug. 20, 1878.

Fig 1



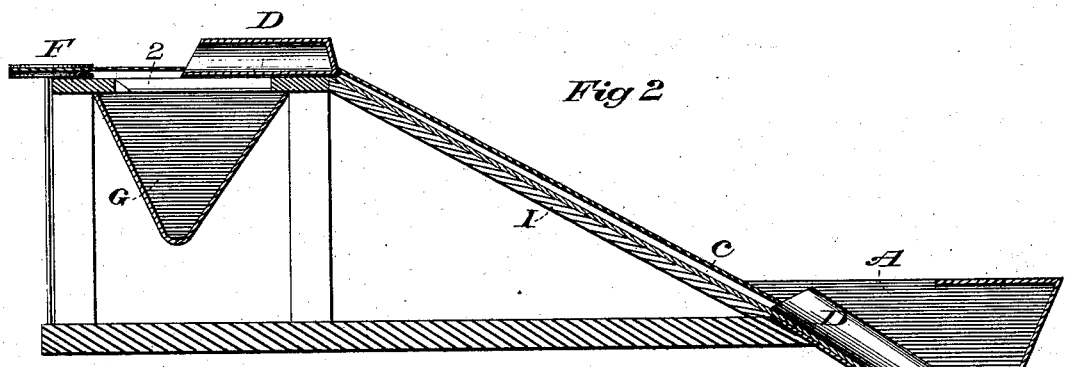


Fig 2

Witnesses:

M. E. Miller.

Wm. A. Albright

Inventor:

R. A. Wilder

UNITED STATES PATENT OFFICE.

RUFUS A. WILDER, OF CRESSONA, PENNSYLVANIA.

IMPROVEMENT IN MEANS FOR TRANSPORTING PETROLEUM-OIL.

Specification forming part of Letters Patent No. **207,231**, dated August 20, 1878; application filed June 19, 1878.

To all whom it may concern:

Be it known that I, RUFUS A. WILDER, of Cressona, county of Schuylkill and State of Pennsylvania, have invented a new and useful Improvement in the Transportation of Petroleum-Oil, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings.

The object of my invention is to elevate and transport petroleum-oil through receiving pipes and tanks, inclined hoisting-planes, and gravity-pipes, connected together and operated as one system, by means of which the oil is carried over the highest summits and to the most distant markets without detriment to its quality by unusual agitation, which results from other modes of transportation.

The invention is illustrated more in detail in the plane view, Figure 1, and in the vertical section, Fig. 2, of the accompanying drawings. In these it is not deemed necessary to show the power by which the hoisting machinery is operated.

The oil is brought to the receiving-tank A, at the foot of the inclined plane I, by means of the main pipe B. The tank A is so formed and placed that the tracks C C on the plane extend down into it, for the purpose of allowing the hoisting-tanks D D to descend into it to fill automatically. The tracks C C are constructed with a channel to catch the oil dripping from the hoisting tanks and ropes and convey it back to the tank A.

The hoisting-tanks D D are attached to the ends of a rope, E, and work alternately up and down the tracks after being filled and emptied at the foot and head of the plane. At the head of the plane, or near it, is placed the winding wheel or drum F, to be driven by suitable power, to raise and lower the oil-tanks. At the summit of the plane, on each track, is an opening, 1 and 2, into the receiving-tank G, through which the hoisting-tanks are emptied automatically by tilting them by any suitable means, or by valve-openings.

The tank G is constructed below the tracks at the head of the plane, and may be large or small as to capacity. Attached to, and opening from it, is a large main pipe, H, laid on a descending incline, through which the oil flows by gravity in the direction of the market.

It is evident that the parts of this system of transporting petroleum-oil by hoisting-planes and gravity-pipes may be varied in form, though not in principle of working. The tank A, for instance, may be raised above the tracks at the foot of the plane, and the hoisting-tanks D D may be loaded from it by gravity, and attached to, and detached from, the rope when full and empty. These tanks may also be constructed with wheels, or move up and down on guiding-rails along the track, according to the angle of the plane. Again, the rope may be substituted by bands or chains; likewise there may be different ways of handling the hoisting-tanks at the summit, as by detaching them from the rope and running them upon side tracks over reservoirs emptying into the main gravity-pipe H; but the methods herein set forth are deemed the best for the purpose of economy in operating.

It is further evident that a single plane may not be sufficient to overcome a lofty elevation, and that a series of them may be required, to be operated substantially as described, with longer or shorter gravity-pipes connecting them, according to the variations of the topography of the country passed through. Therefore I do not limit myself to the operation of the single plane and connections shown.

I claim—

1. The main pipe B and receiving-tank A, in combination with the inclined plane I, openings 1 and 2, summit-tank G, and gravity-pipe H, for the purposes substantially as described.

2. The channel-tracks C C, in combination with the tank A, the inclined plane I, summit-tank G, and gravity-pipe H, for the purposes substantially as described.

3. The hoisting-tanks D D, in combination with the main pipe B, the receiving-tank A, inclined plane I, hoisting-ropes E E, winding-

wheel F, openings 1 and 2, summit-tank G, and gravity-pipe H, for the purposes substantially as described.

4. The improved means of transporting petroleum-oil, consisting of the combination of the main pipe B, the receiving-tank A, the tracks C C, the inclined plane I, the tanks D D, the driving-rope E E, the winding-wheel F, the receiving-tank G, and the main gravity-pipe H, operating substantially as described.

R. A. WILDER.

Witnesses:
M. E. MILLER,
D. H. ALBRIGHT.