C. T. Harvey.

Touring

No. 86,395. Patented Feb. 2, 1869.

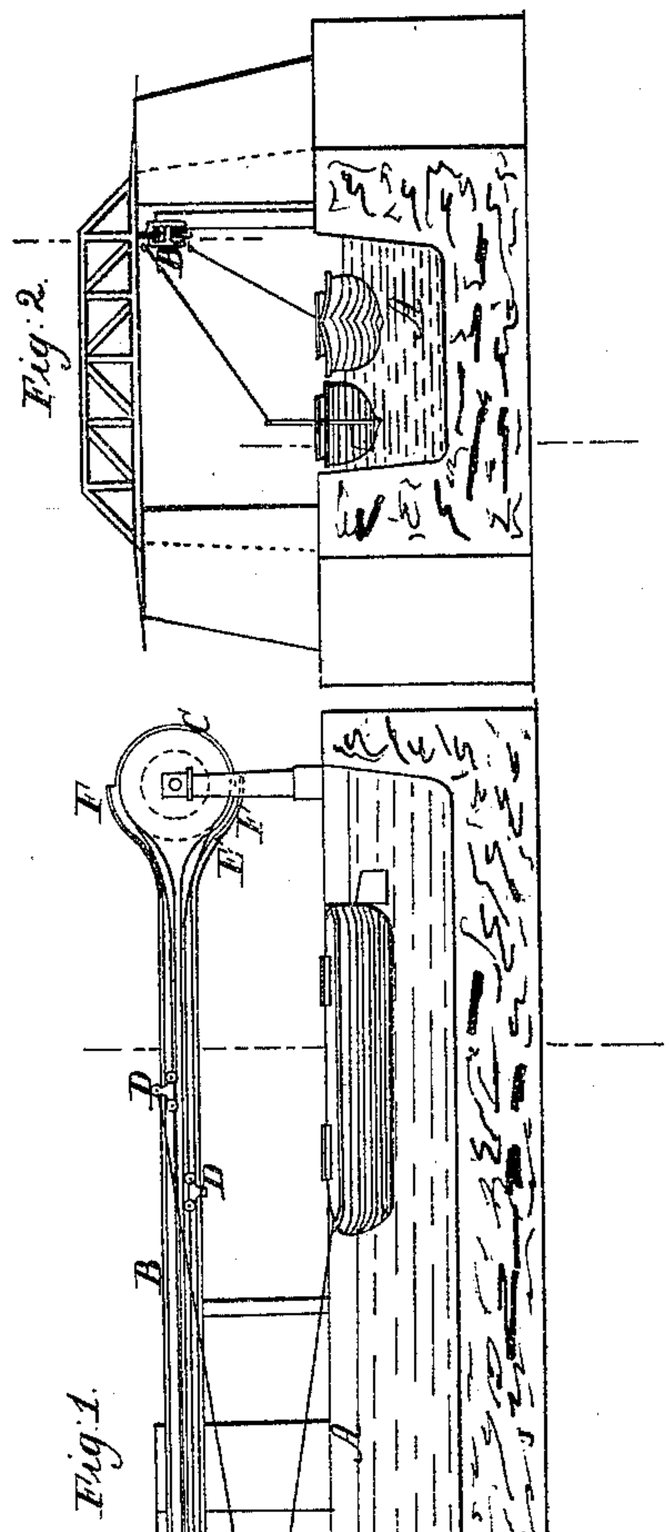

Fig. 1.

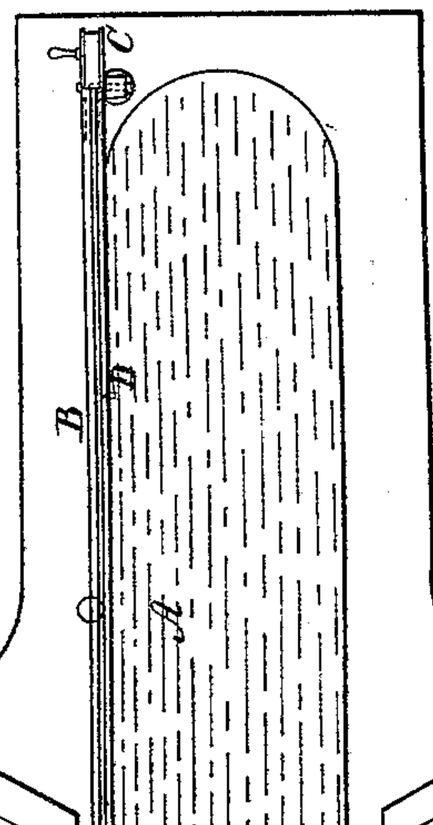

Fig. 3.

Witnesses;
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Inventor;
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By Vansantvoord & Hauff
his attys

United States Patent Office.

CHARLES T. HARVEY, OF TARRYTOWN, NEW YORK.

Letters Patent No. 86,395, *dated February* 2, 1869; *antedated January* 20, 1869.

IMPROVEMENT IN TOWING CANAL-BOATS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, CHARLES T. HARVEY, of Tarrytown, in the county of Westchester, in the State of New York, have invented a new and improved System of Towing Canal-Boats or other vessels; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which drawing—

Figure 1 is a longitudinal section of a canal, to which my invention is applied.

Figure 2 is a cross-section.

Figure 3 is a plan.

This invention relates to the moving of boats on canals, or other water-courses, by means of a peculiar application of parts of the apparatus which I have heretofore patented in connection with the propelling of cars and other bodies, as set forth in Letters Patent numbered 56,411, 63,887, 63,888, and 66,330.

In my present invention I show a mode of applying propelling-ropes or cables to the purpose of moving or towing boats or vessels on canals and water-courses.

The letter A designates a short section of a canal, along one of whose banks extends a section of the propelling-apparatus.

The letter B designates a cable-guide, in whose upper and lower sides are slots, or channels, in which an endless rope or cable is moved by a stationary engine or other motor, at one end of the cable-guide, the slots or channels and the cable being so arranged that the cable goes forward in one slot or channel, and returns in the other to the place of beginning, where is placed the driving-drum or propelling-shaft, by which motion is imparted.

The letter C designates the driving-drum in this example.

I make the cable-guides of proper length, according to the weight or size of the cable employed, and according to the amount of work to be done by it, and I support them upon posts or columns, in such a manner that their slots, or channels, will not be interfered with by the posts or columns, and so that their respective cables and the cable-heads or spurs can move freely along.

I do not, in this application, lay any claim to the form of the cable-guides, nor to the form of the cable-heads or spurs, nor to the form or construction of the driving-drum. Nor do I confine myself, in these particulars, to any particular form or construction, but use any of the modifications which have been patented or shown by me in their application to elevated and other railroads.

The cable-heads or spurs D are placed at frequent intervals upon the cable E, and they are so made and arranged, with reference to the cable-guide, that they cannot leave the slots or channels thereof, as will be clearly understood by referring to the drawing, and particularly to sectional figs. 1 and 2, where the heads or spurs are shown to be mounted on running gear, or wheels, which roll against and upon the bottoms of the slots or channels of the cable-guide.

The lower or under slot or channel in the said guide is the same as the upper one, but in a reversed position, so that the bent-over edges of the upper slot, or channel, which in that slot come over the wheels of the cable-heads, or spurs, and confine them in their proper places in the under slot or channel, form the bottom or track for said wheels.

The cable-heads, or spurs, can also be provided with lateral anti-friction wheels, so as to enable them to move in the slots or channels of the guide with ease, notwithstanding the strain of the work in towing draws them against the sides of the slots.

The method of towing or moving boats by this apparatus is shown in the drawing, the cable-heads, or spurs, while travelling in the upper slot, serving to tow boats in one direction, and the same cable-heads, or spurs, in their return course, towing other boats in the opposite direction, the connection of the boats with the cable being by means of tow-lines, which have on their free ends rings, hooks, or other fastenings, that hook upon or clasp the cable-heads, or spurs, and which are detached or unhooked automatically at the end both of the direct and return courses, by the elevation or enlargement of the sides of the cable-guides at its end, as shown in fig. 1, at F F, whereby the rings or fastenings of the tow-line are raised out of connection with the cable-heads, or spurs, and in that manner detached from the cable of one section, in readiness to be attached by an attendant or boat-hand, or by automatic means, to the cable of the next section, without delay or much loss of headway.

The line of a canal or water-course is provided with cables and cable-guides, from one end of the canal or water-course to the other, such cables and cable-guides being placed in close succession throughout the whole line, so as to form a continuous or consecutive series of cables and cable-guides, whereby a boat can be towed, by my invention, from either end of the canal to the other without interruption.

My invention enables boats that are being towed in opposite directions, to pass each other, without danger of collision or entanglement of their tow-lines, the boats whose tow-lines go to the cable-heads or spurs that are moving in the upper slot or channel taking the outer, or berme-bank, and being provided with hitching-posts G, which are elevated above their decks, so that their tow-lines will pass freely above the inside boat.

The driving-drums C of the several cables are turned by stationary engines or other suitable motors, and such drums may be of the kind described in my Letters Patent, No. 63,888, or of any other kind preferred.

One of the advantages of my invention, over the present method of towing boats by means of animals

travelling on a towing-path is, that a higher rate of speed can be obtained at a reduced cost, and that boats will be towed in a regular succession, and in due order, without advantage one over the other.

The towing-paths can, however, be preserved for use in special cases, and the posts or columns that sustain the cable-guides can be placed along the outer edge of the banks for that purpose, and their height be such as to cause the tow-lines that are attached to the cable-heads to clear any animals which may be towing on the banks.

I do not confine myself to the form here shown for constructing the cable-guides, because the guide can be varied to suit the form and construction of the cable-heads, or spurs, as suggested in my several patents relating to the propulsion of cars upon railroads.

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

1. The elevated cable-guide B, provided with passages, or channels, receiving the cable and the heads, substantially as and for the purpose described.

2. The cable-heads D, mounted on running gear within the channels, or passages, and forming the connecting-medium between the endless cable and the boat, substantially as described.

This specification signed by me, this 18th day of March, 1868, before two subscribing witnesses.

CHARLES T. HARVEY.

Witnesses:

J. C. POLLER,

J. VAN SANTVOORD.