OWEN COOGAN.

Improvement in Propulsion of Canal Boats.

No. 119,744.

Patented Oct. 10, 1871.

Fig. 1

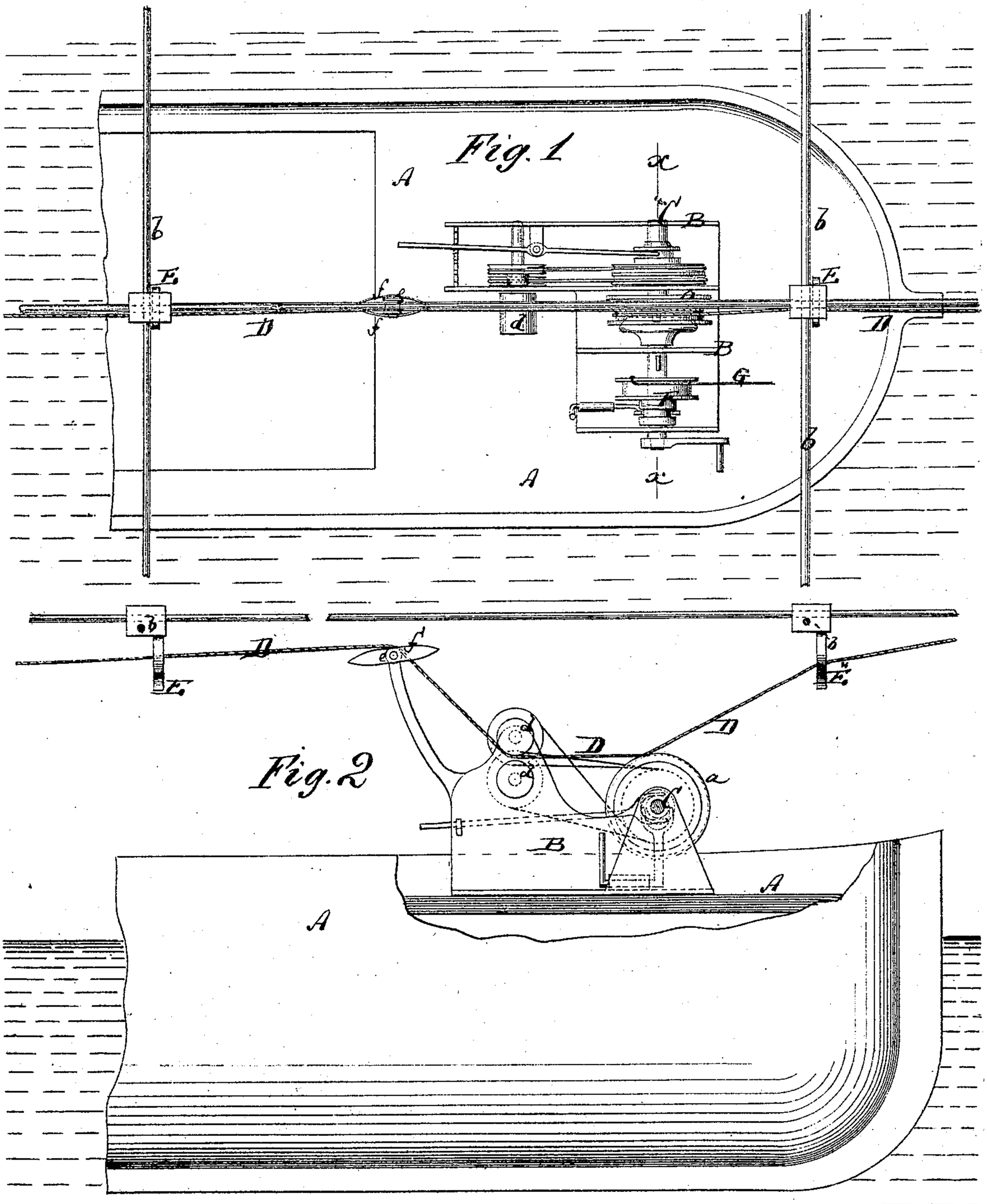

Fig. 2

Witnesses:

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Francis McAuliffe.

Fig. 4

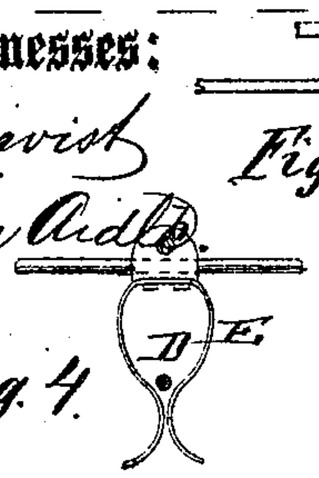
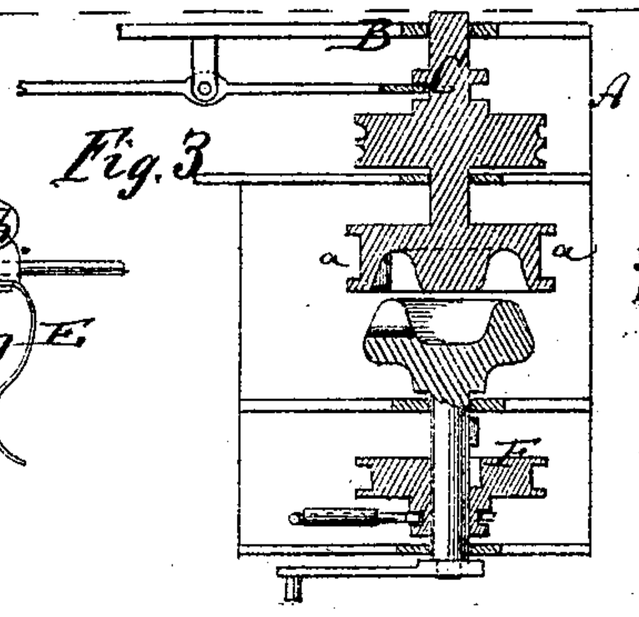


Fig. 3



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UNITED STATES PATENT OFFICE.

OWEN COOGAN, OF PITTSFIELD, MASSACHUSETTS.

IMPROVEMENT IN PROPULSION OF CANAL-BOATS.

Specification forming part of Letters Patent No. 119,744, dated October 10, 1871.

To all whom it may concern:

Be it known that I, OWEN COOGAN, of Pittsfield, in the county of Berkshire and State of Massachusetts, have invented a new and useful Improvement in Propelling Vehicles; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 represents a plan or top view of my improved mechanism for propelling vehicles. Fig. 2 is a side view, partly in section, of the same. Fig. 3 is a detail transverse section of the same on the line *x x*, Fig. 1. Fig. 4 is a detail transverse section of the spring-jaws that support the propelling-rope.

Similar letters of reference indicate corresponding parts.

This invention relates to a new mechanism for propelling canal-boats, river-boats, and wheeled vehicles; and consists chiefly in the employment of a propelling-rope, which is stretched over the water-course or road, and can be wound around a drum on the vehicle, so that the latter, when rotary motion is imparted to said drum, will be propelled by friction with the rope. The invention consists, also, in a means for suspending said rope above the vehicles so that the contact with the drum can be uninterruptedly sustained, and in improvements of the mechanism connected with the drum on the vehicle.

A in the drawing represents a portion of a canal-boat, car, or other vehicle. On the deck or upper portion of the same is a frame, B, in which are the bearings of a horizontal shaft, C, which carries a drum, *a*. Above the canal, river, or road to be traversed by the vehicle is suspended, along its entire extent, a rope or chain, D. The same is supported on **S**-shaped springs E E, which hang from cross-wires *b b*, that are at suitable intervals stretched across the road or canal. The wires *b* are supported on posts that are fastened in the ground on the sides of the road. The springs are arranged in pairs that close under or against the rope D, as is clearly shown in Fig. 4. A certain amount of slack is provided in the rope for every vehicle to be conveyed, either directly at its ends or by the application at stations of additional sections. Each boat or vehicle is proposed to be provided with a section of rope long enough to produce the required amount of slack. This section is at the starting-place fastened in the main rope, which has convenient snaps to admit the section. The slack is wound around the drum *a*, which is then revolved, and, by friction, causes the vehicle to be propelled along under the rope. As the vehicle approaches a pair of springs, E E, the rope will be drawn down from between them. Behind the shaft C are, on the vehicle, a pair of rollers, *d d*, between which the rope passes from the drum; and behind these is a small friction-wheel, *e*, held on a vertical arm at the same height as the suspended rope. The wheel *e* is between a pair of concave plates, *f f*, which resemble a shuttle. This shuttle enters between a pair of springs, E E, opening the same for the admission of the wheel *e*, by which the rope is replaced on said springs behind the vehicle. To permit the application of the rope around the drum the same can, with the sections of shaft whereon it is mounted, be made longitudinally movable, so that it can be carried aside when the rope is to be put on or taken away. At the end of the route a section of rope, equal in length to that attached at the start, is removed from the main rope and retained on the vehicle for further use; unless, as above described, the slack was found at the station in the body of the main rope. Where a vehicle having a drum and other appendages, as described, is to be used for pulling or towing other vehicles, I propose to provide it with an additional drum, F, for the tow-rope. This drum F, whenever the towing or pulling vehicle is brought to a stop in a lock or from other causes, is to be connected, by a clutch or otherwise, with the driving-machinery, and revolved so that it will wind up its rope G, and thereby still propel the vehicle with which it is connected. The latter can thus be constantly kept in motion. The length of the rope G wound around the drum F during the stop can be given out while the propelling vehicle is under motion with increased speed. The rollers *d d* behind the main drum *a* serve to keep the rope D stretched as it leaves said drum, to prevent it from becoming entangled.

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

1. The propelling-rope D, stretched above a water-course or road and suspended from springs

or yielding jaws, so that it can be wound over a drum on the vehicle to be propelled, and used substantially as described.

2. The springs E E, arranged in pairs to close under the rope D and support the same, but so that the rope can be conveniently withdrawn, as and for the purpose set forth.

3. The replacing-roller *e*, arranged on the vehicle within the shuttle *f*, which will open the supporting-springs or jaws and deposit the rope, as set forth.

4. The towing-drum F, arranged on a vehicle in connection with the main propelling-drum *a*, substantially as and for the purpose herein shown and described.

Witnesses: OWEN COOGAN.

W. J. COOGAN,

CLEMENT COOGAN.