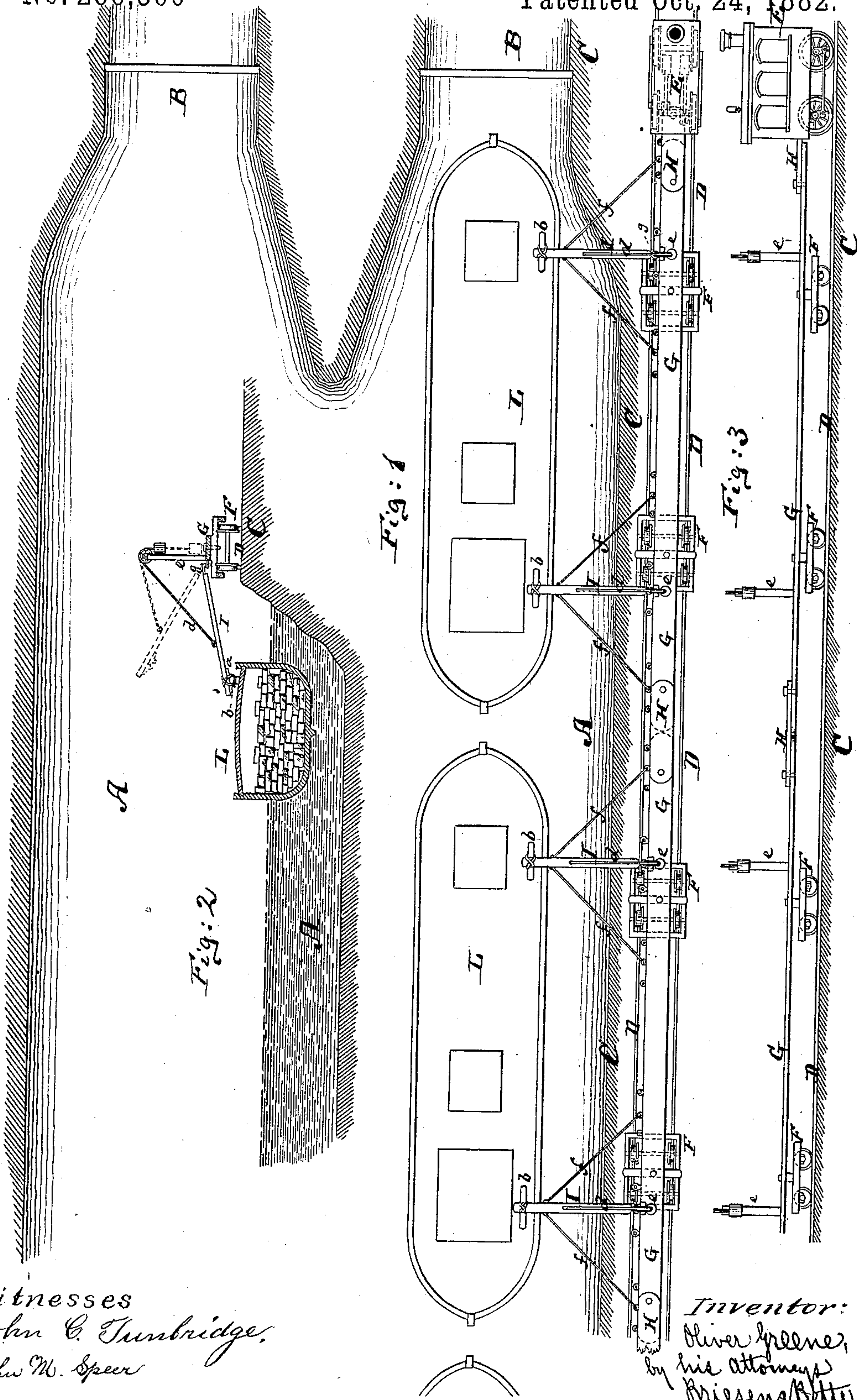


O. GREENE.
TOWING CANAL BOATS.

No. 266,360

Patented Oct. 24, 1882.



Witnesses
John C. Tunbridge,
John M. Spear

Inventor:
Oliver Greene,
by his attorneys
Priesner & Betts

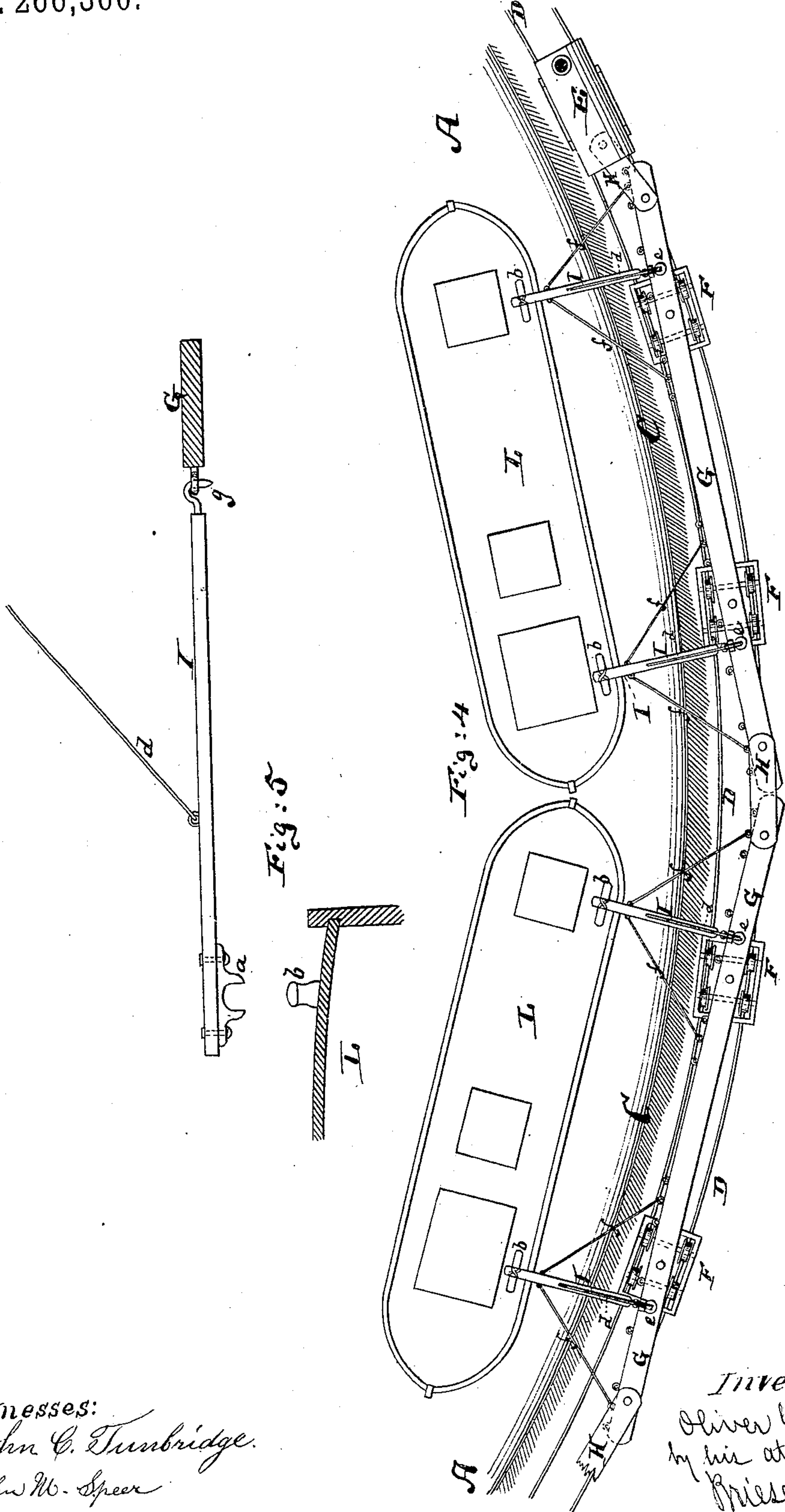
(No Model.)

2 Sheets—Sheet 2

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UNITED STATES PATENT OFFICE.

OLIVER GREENE, OF BUFFALO, NEW YORK.

TOWING CANAL-BOATS.

SPECIFICATION forming part of Letters Patent No. 266,360, dated October 24, 1882.

Application filed February 14, 1882. (No model.)

To all whom it may concern:

Be it known that I, OLIVER GREENE, of Buffalo, in the county of Erie and State of New York, have invented an Improvement in Apparatus for Towing Canal-Boats, of which the following is a specification.

Figure 1 represents a plan view of a canal and one of its banks with my improved apparatus connected to some boats. Fig. 2 is a cross-section of the same; Fig. 3, a side view of the apparatus. Fig. 4 is a top view of the apparatus on a bend or curve of the canal. Fig. 5 shows a cross-section of part of a boat and side view of the beam for joining it to the propelling apparatus.

The object of this invention is to transfer the power of a steam-locomotive, or of a motor driven on land by means equivalent to steam—such as compressed air or the like—to canal-boats for the purpose of moving them, so as to do away with the cumbersome, slow, and expensive method of towing them by animal-power, and with the destructive agencies that result from applying the propelling mechanism to the boats themselves.

The invention consists in joining the boats to locomotives or cars attached thereto by rigid but jointed braces, hereinafter described, and also in a new arrangement of the train itself that is adapted to connect with such boats, all as hereinafter more clearly specified.

In the drawings, the letter A represents a canal. B shows the entries to locks. C is the bank of the canal, along which, parallel or substantially parallel with the canal, is laid a track, D, on which a locomotive, E, is adapted to travel. This locomotive is shown to be coupled to trucks F F, that are arranged in pairs beneath platforms G G, to which said trucks are swiveled, so that each pair of trucks F and its platform G constitutes a sort of a car, and the cars of this kind are joined together, each pair by a plank, H, which is pivoted at each end to said platforms G, as shown in Figs. 1, 3, and 4, so as to constitute a continuous walk throughout the entire length of the train, and so, also, as to adapt the whole train to readily pass around curves without breaking the continuity, as is clearly shown in Fig. 4. By this connection I also avoid any jerk or surge of the cars that are propelled by the locomotive E,

and consequently any surge or jerk of the boats L that are connected therewith. Each car, or, if desired, the locomotive itself, is provided, as shown in the drawings, with two hinged beams, I, each beam being made of wood or other rigid material, that have clasps *a* at their outer ends adapted to engage over cleats *b* on the boat L, the cleat being, if desired, an ordinary cleat, such as is now used for the purpose of fastening ropes to such boats. The beam I, being hinged, as shown in Fig. 5, in suitable manner, at *g*, to the platform G of the car, can be fastened to the cleat *b* by a rope, or in any other suitable way, and is thus adapted on its joints *g* and *a b* to yield to any greater or less depth of water in the canal, following the boat as the same may ascend or descend in the canal or in a lock, and also to adapt itself to variations in the grade of the road-bed itself.

When the propelling-train is to be uncoupled from any one or more boats the connecting-beams I are first unfastened from the cleats on the boats, and are then raised by rope or chain *d*, that may, if desired, pass over a post, *e*, that projects from the car in proper proximity to the said beam; but the beam I may be lifted or withdrawn by any other suitable means. The said beams, being thus fastened to the train and boats, transmit the motion of the train to the boats. I have shown two such beams or connections between each boat and the train; but in many cases one connection might answer; in others more than two may be substituted. The beams I may, if desired, be properly braced or stayed by braces or cables *f f*, as clearly indicated in Figs. 1 and 4.

In practice this method of propelling canal-boats will be found less expensive than towing with animals, as one locomotive can move a great many boats, and do it more swiftly and more evenly than can be done by the ordinary method. The banks of the canal will not be injuriously affected by any washing which might be caused where the boats have the propelling power, and the canal will thus be preserved in good condition for a great length of time. Moreover, on the boat itself only one attendant is necessary under my system, where heretofore several more were absolutely needed.

I claim—

1. The method herein described of propelling

canal-boats by joining them by transverse rigid beams flexibly to a locomotive or train propelled on rails that are laid along the bank of the canal, substantially as described.

5 2. The propelling-car F G, provided with the hinged beam or beams I I, having clasps *a*, in combination with a boat having a cleat or rail adapted to be grasped by said clasp, substantially as specified.

10 3. The combination of the car F G with the beam or beams I, having clasps *a* and braces or cables *f*, and with the boat having cleat or rail adapted to be grasped by said clasp, substantially as specified.

4. The combination of the car or cars F G 15 with the beam I, having clasp or connection *a*, and with the lifting rope or chain *d* and post *e*, and with a boat having a cleat or rail adapted to be grasped by said clasp, substantially as described. 20

This specification of my invention signed this 11th day of February, 1882.

OLIVER GREENE.

Witnesses:

WILLY G. E. SCHULTZ,
GUSTAV SCHNEPPE.