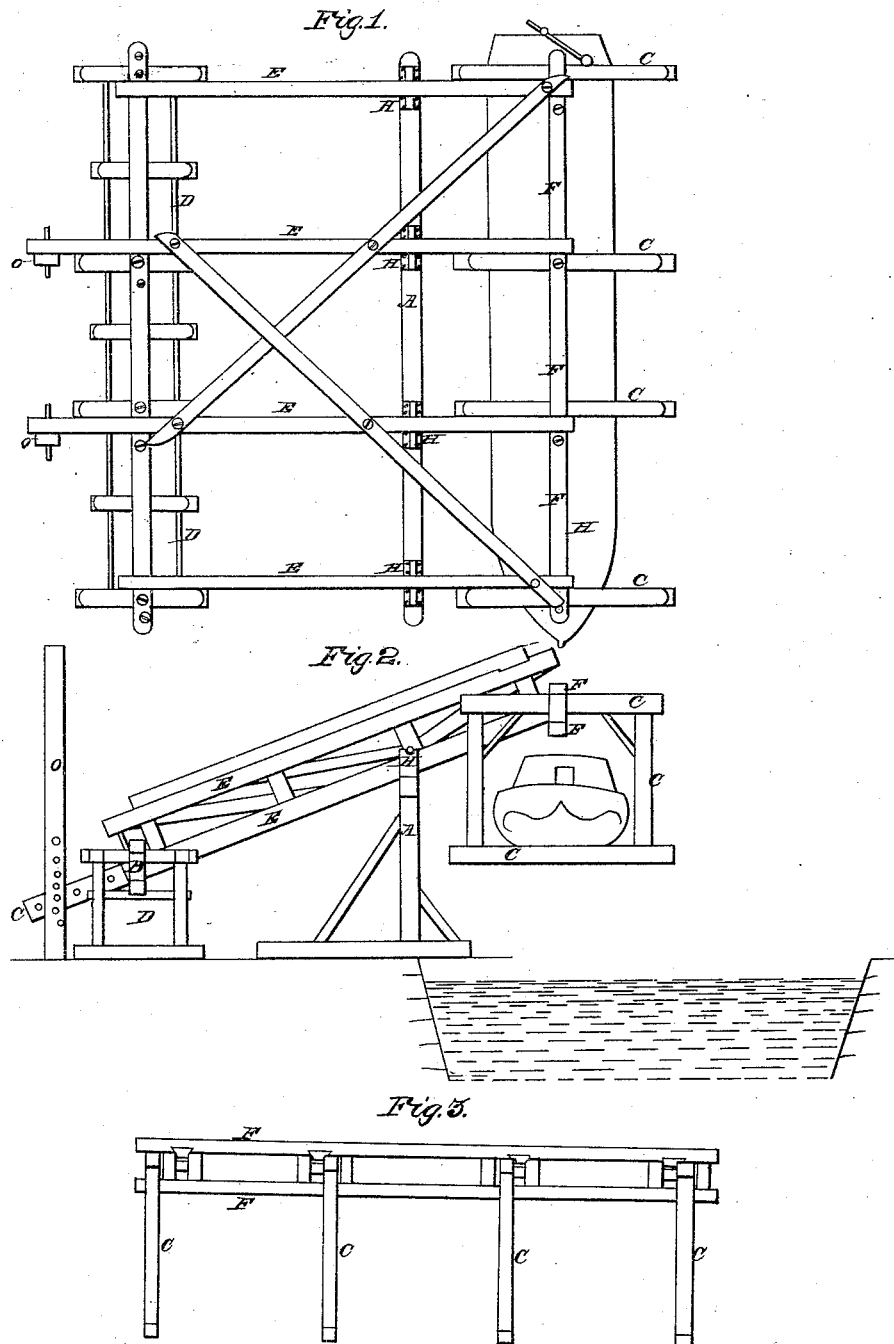


Penrose & Palmer.

Raising and Lowering Canal-Boats.

N^o 1143

Patented May 11, 1839.



UNITED STATES PATENT OFFICE.

S. F. PALMER, OF BEACH GROVE, AND N. R. PENROSE, OF BEAVER MEADOWS,
PENNSYLVANIA.

MACHINE FOR RAISING CANAL-BOATS FOR REPAIRING.

Specification of Letters Patent No. 1,143, dated May 11, 1839.

To all whom it may concern:

Be it known that we, S. F. PALMER, of Beach Grove, in the county of Luzerne and State of Pennsylvania, and N. R. PENROSE, of Beaver Meadows, in the county of Northampton and State aforesaid, have invented a new and useful Improvement in the Mode of Placing Canal-Boats in a Proper Situation for Repairs; and we do hereby declare that the following is a full and exact description of the same, reference being had to the annexed drawings of the same, making part of this specification.

The nature of our invention consists in raising a boat in a swinging position by means of levers or balance beams connected to frames, which may be easily changed from one position to another which is frequently necessary in order to work under the bottom of the vessel.

To enable others skilled in the art to make and use our invention we will proceed to describe its construction and operation.

Figure 1, top view; Fig. 2, end view; Fig. 3, front view.

1st, we erect a suitable number of wooden or stone posts on pillars (A, Fig. 2) at such distance apart as may be required for the length of a boat, fixing on the top of each a suitable metallic box or other contrivance for the fulcrum H of the beams E (Figs. 1 and 2) to work with the least friction. The beams or levers should be framed together (as in Fig. 1) and their fulcrum H placed at any required distance from the ends of the beams which project over the water and to which we suspend as many frames C by means of the long frame F Fig. 3 resting on metallic pivots at each of the aforesaid beams or levers. The four square frames C cross the long frame F at right angles and are firmly secured between the upper and lower parts of the long frame F by means of wedges or other contrivances. These suspended bearers or ways which are formed by the frames C are thus connected with the long frames F Fig. 3, for the purpose of making them portable and easily moved from one part of the boat to another when occasion may require, which will often occur, in order to make room to do the necessary repairs. The power to raise a boat is intend-

ed to be applied to the long ends of the levers at any required distance from the fulcrum. The trunk D, Figs. 1 and 2, is intended to receive water or other weight for the purpose of depressing the long ends of the levers and is composed of frames of a suitable size in the same form as C and F at the other end and suspended in the same manner and planked or lined in such manner as may be required to receive the weights intended. The levers and frames being thus formed and connected the operation will be as follows: The box D being empty a small force applied at *θ* will raise the long ends of the levers to their highest elevation which should be so as to bring the bottom piece of the frame as much under the water as will enable a boat to pass over them. The box D will then be supplied with water or other weight and a windlass or other contrivance at *c* will cause the box D to descend so as to elevate the boat as much as may be required, say 3 or 4 feet, from the surface of the water. The box D being thus put in operation will not need much variation in its weight and may be secured so as to lower the same boat and be left in a proper position to raise the next and so on. The boat being thus suspended the operation of careening is easily performed by swinging it a little one way or the other and securing it by temporary props or other contrivances.

The invention claimed and desired to be secured by Letters Patent consists in—

The mode of raising and suspending boats for repair by vibrating lever frames combined with longitudinal and transverse frames attached to the ends thereof, one set of transverse frames at the short ends of the lever frames containing the vessel to be raised and the other set of transverse frames at the long ends of the lever frames suspending a trunk of water for balancing the boat as before described.

S. F. PALMER.
N. R. PENROSE.

Witnesses to S. F. Palmer:

CLEMT. T. COOTE,
JOHN PIERCE.

Witnesses to N. R. Penrose:

A. W. PRATT,
T. H. M. CURLEY.