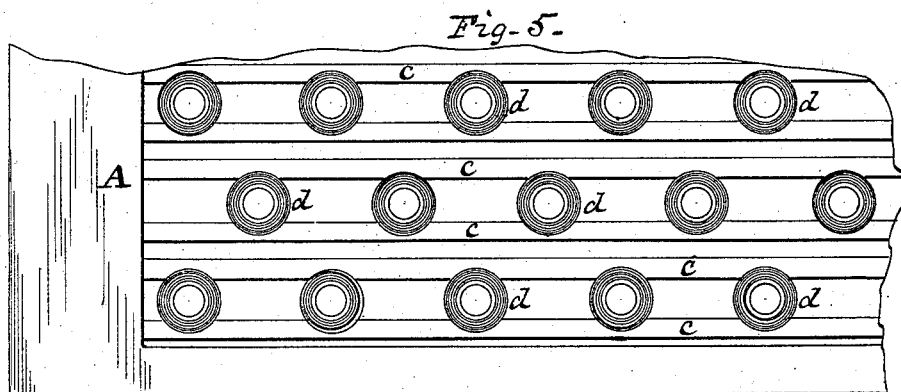
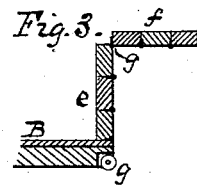
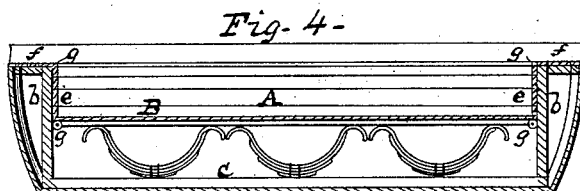
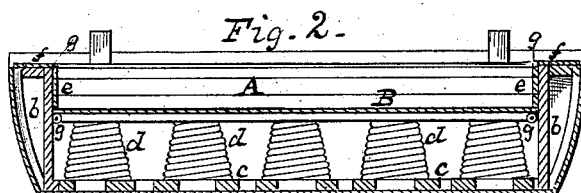
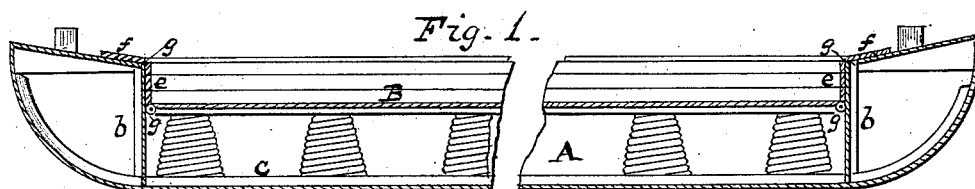


(No Model.)

T. H. MORGAN.
CONSTRUCTION OF BOATS.

No. 304,745.

Patented Sept. 9, 1884.



Witnesses:
J. N. McKinney
J. N. Barnes

Inventor:
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UNITED STATES PATENT OFFICE.

THOMAS H. MORGAN, OF PITTSBURG, PENNSYLVANIA.

CONSTRUCTION OF BOATS.

SPECIFICATION forming part of Letters Patent No. 304,745, dated September 9, 1884.

Application filed January 14, 1884. (No model.)

To all whom it may concern:

Be it known that I, THOMAS H. MORGAN, a subject of the Queen of Great Britain, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Boats, of which the following is a specification.

My invention relates to boats constructed and designed for the especial purpose of carrying freight or merchandise, but may be applied to boats of other construction.

The improvement I have made consists in providing a boat with a deck so combined with its hull as to admit of an up and down movement therein, and supporting the same on a series of springs, whereby the said deck will yield and gradually sink down in the hull to an extent allowable by the springs, and in a proportion equal to the weight of its load, and upon its removal rise again by the upward action of the springs, so that in loading or unloading the freight or cargo will always be on a level with the upper edge of the hull, and thus be in a position for ready and convenient handling. This deck is also provided with movable sides and ends, hinged thereto in such a manner as that when the deck is level with the top of the hull the movable sides and ends will extend outwardly and lie flat with the deck, but when the deck is depressed its hinged sides and ends will be drawn inside the hull and form a vertical inside shield or lining thereto, and by its intervention keep the freight from binding or rubbing against such portions of the hull as would, if not so protected, impede or prevent the free up or down movement of the deck.

To enable others to fully understand my invention, I will proceed to describe it by reference to the accompanying drawings, wherein—

Figure 1 represents in longitudinal vertical section a flat-bottomed boat provided with a movable platform-deck, supported upon a series of stout spiral springs; Fig. 2, a transverse vertical section of the same; Fig. 3, a small section of the deck, having hinged thereto movable or adjustable sides; Fig. 4, a transverse vertical section of a flat boat provided with a movable deck supported on semi-elliptical springs; Fig. 5, a plan of a portion of said boat, showing the relative position of its deck-supporting springs.

To put my invention into practice, the boat may be of any size and form; but I prefer to make use of an ordinary flat-bottomed boat, A, around the inside of which is erected a strong vertical wall, *b*, and along the bottom thereof a number of separate but parallel joists, *c*, or beams, upon which are placed at equidistant points a series of powerful springs, *d*, of such size, shape, and condition as are best calculated to answer the purpose for which they are intended. Upon these numerous springs a platform or deck, B, is arranged, and fitting loosely within the vertical walls *b* of the boat, so that when a weight sufficient to compress the springs is laid upon the deck it will, by reason thereof, gradually sink within the hull of the boat to an extent allowable by the springs, and in proportion to the weight of its load, as hereinbefore stated. The deck B is also provided with collapsible sides and ends, made in two or more pieces, *e, f*, pivoted together, and to the deck B by suitable hinges, *g*, so that when the deck is on a level with the upper portion of the boat they will constitute an outward and flat extension thereof; but when the deck is depressed by sufficient weight, its movable ends and sides will be drawn in and made to assume a vertical position within the hull of the boat and form an extra lining thereto of such a nature as to keep the freight or cargo from impeding or obstructing the free up or down movement of the deck while loading or unloading.

Having thus briefly described the nature of my invention, I claim—

1. A boat provided with a flat deck capable of an up and down movement within its hull, in combination with a series of springs placed underneath the deck and affording a yielding support thereto.

2. A boat provided with a movable deck resting upon a series of springs arranged within its hull, in combination with the extensible and collapsible sides and ends hinged or pivoted to said movable deck, substantially in the manner shown, for the purposes hereinbefore set forth.

THOMAS H. MORGAN.

Witnesses:

M. E. HARRISON,
J. N. MCKINNEY.