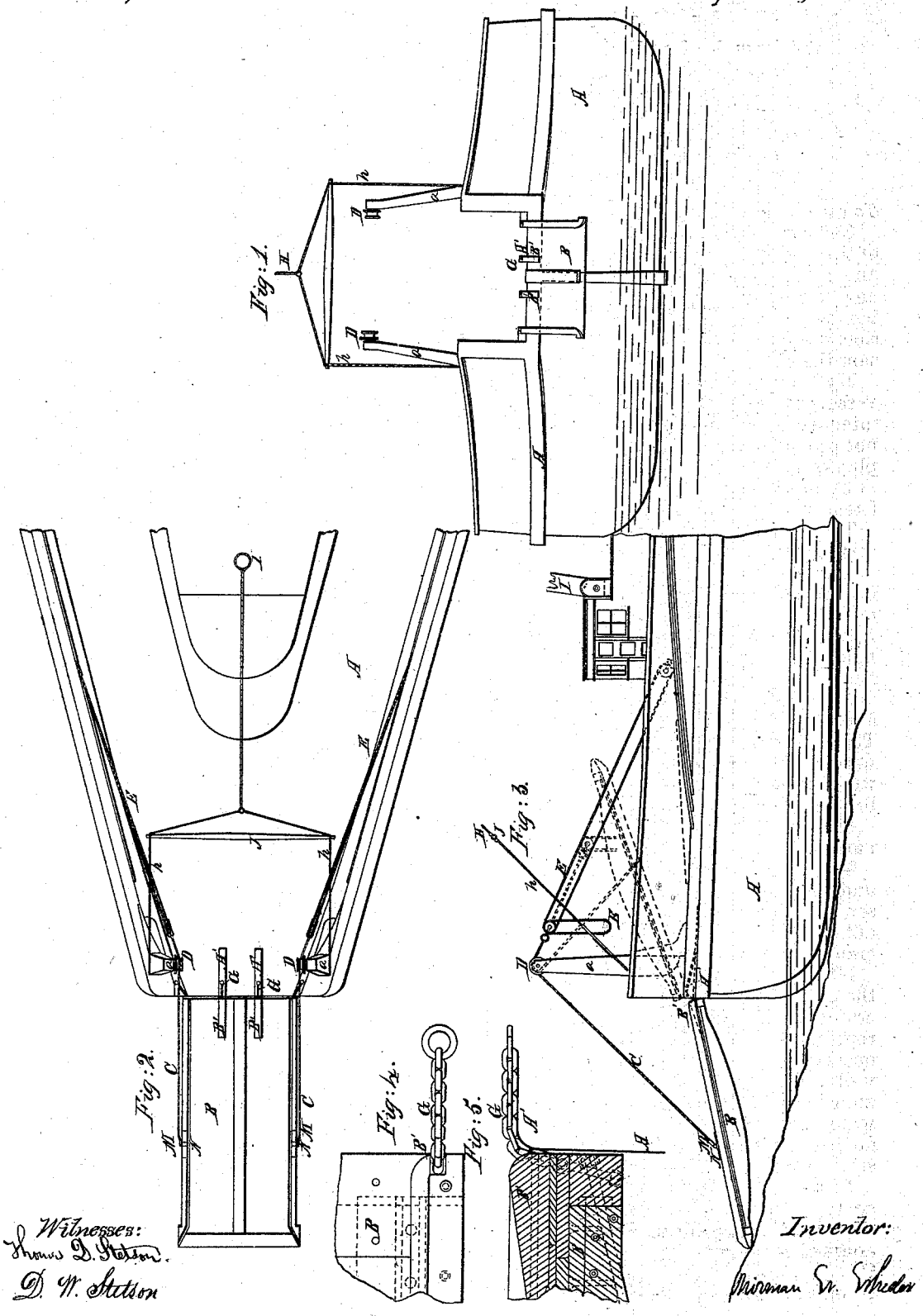
N. W. Wheeler.

Gangway.

No. 47,482. Patented Apr. 25, 1865.



Witnesses:
Thomas D. Stetson.
D. W. Stetson

Inventor:
Norman W. Wheeler

UNITED STATES PATENT OFFICE.

NORMAN W. WHEELER, OF BROOKLYN, NEW YORK.

IMPROVED LANDING-PLATFORM FOR STEAMBOATS AND OTHER VESSELS.

Specification forming part of Letters Patent No. 47,482, dated April 25, 1865.

To all whom it may concern:

Be it known that I, NORMAN W. WHEELER, of the city of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Bridge Attachments to Vessels; and I do hereby declare that the following is a full and exact description thereof.

My bridge is useful for a great variety of vessels to be used for various purposes, but is intended more especially for use in locations not provided with wharves and adequate gang-planks at each landing-place, and for vessels to be used in military operations, either in a friendly or in the enemy's country.

The accompanying drawings form a part of this specification.

Figure 1 is an end view of a light-draft boat having my improvement at the end in position for use. Fig. 2 is a plan view of the same. Fig. 3 is a side elevation of the same. In this figure the position of the bridge when being turned inboard out of use is also indicated in dotted lines. Fig. 4 is a plan view, and Fig. 5 a vertical section of a part on a larger scale. These figures are intended to show more clearly the form and relation of the parts which form the hinge or connection where the bridge is joined to the boat.

Similar letters of reference indicate like parts in all the figures.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation by the aid of the drawings and of the letters of reference marked thereon.

My improvement may be applied either at the end or side of the vessel, and may be operated by hand or by other power. I have represented it as applied at the end, and as operated by hand by the aid of one of the well-known modern sets of pulleys, &c., to afford mechanical advantage or purchase, which requires no description, as any other device—such as a windlass or the like—might serve with like effect.

In the drawings, A A, &c., is the hull of a steamer, and *a a* are stout uprights fixed thereon. B is what I term an "apron-bridge," adapted to be raised and lowered by chains C C, attached to eyes M, turning on bolts N on the bridge. These chains pass over sheaves D on the uprights *a a*, and are operated by men acting on the purchase E. The bridge B may be raised by these chains into a nearly perpendicular position, turning on the hinges by which it is connected to the hull A.

The arrangement of the parts is such that the bridge may be turned inward and laid upon the deck of the vessel A, and that when so placed it may be lifted by the same chains, C, and sheaves D, and the same mechanism, E, as when it is turned outside. The power of men, directly applied, or applied through the aid of a watch tackle or other device, (not represented,) may readily turn the bridge from its outward to its inward condition, or the reverse, when it is poised in a nearly perpendicular position.

The construction of the hinges is peculiar, and affords some very marked advantages, one of which is, that it allows the bridge to conform to inequalities in the ground upon which its outer end may rest, and another that it compels the bridge to travel inward at its hinged end as it is turned inboard. These hinges are formed of short lengths of chain G, and rounded bearing parts A′ and B′ on the parts A and B. The chains G are firmly secured at one end to the bridge B and at the other end to the hull A, and they apply against the rounded timber bearings, transferring their pressure, link by link, from the bearings A′ to the bearings B′ as the bridge is gradually turned inboard and reversing the operation as it is again turned outboard. The movement outboard by unrolling it off the curve on the parts B′, and allowing it to rest on the curve A′, allows the bridge to sink down with its inner end outside the entire hull A, so as to bring its upper face flush with the deck of the boat. The reverse operation raises the rounded parts B′ by rolling up the chains G thereon, and thus, as the operation proceeds gradually, takes the hinged end first upward, and finally inward, until the entire bridge lies upon the deck of the boat, so far inboard that no portion of it projects overboard, or even to the edge of the hull, and allows a stout bulwark to be interposed between itself and the outer line of the vessel, if desired. When, in consequence of bearing at one of the corners earlier than at the other, the bridge tends to rest unfairly and unevenly when in position for use, the

chain hinges by their flexibility, allow one side to lift at the hinged end sufficiently to ease it.

H is the forestay or gibstay attached at the upper end to a mast, I. (Not fully represented.) It is secured at the lower end to two chains, *h h*, which separate widely, and pass over the ends of a timber, J. They thence pass down to the uprights *a a*, or other suitable part on the deck. They are held secure to the ends of the stick J by staples or otherwise, and are so arranged as to leave a clear space for the traverse of the apron-bridge B, and also for any wagons or other high objects which may require to be shipped and landed. The stay H, being in its ordinary position from its upper end down to its junction with the parts *h h*, allows the use of a gib or stay sail thereon in the ordinary manner.

It is of course practicable to substitute ropes, leather, or the like for the chains G and *h*, and to substitute metal for timber for the whole orany part of the bridge B, hull A, or strut J.

It is obviously not essential that the posts *a a* be strictly upright or be intended for the purpose solely of carrying the sheaves D. They may be dispensed with, if desired, and the purchases be attached to gaffs carried on the mast, or to any other suitable support, so that the bridge B may be operated thereby in the same manner.

Having now fully described my invention, what I claim as new, and desire to secure by Letters Patent, is as follows:

1. The construction and use of an adjustable bridge, B, permanently attached to a vessel, A, and arranged to allow of its being turned inboard, and operated by the hoisting means in both positions, substantially in the manner herein set sorth.

2. In combination with an adjustable bridge, the yielding and rolling hinges G A′ B′, arranged to operate in the manner and for the purposes substantially as herein set forth.

3. The within described arrangement of the gibstay H, continuations *h h*, and rigid part I, for the purpose herein set forth.

NORMAN W. WHEELER.

Witnesses:

THOMAS D. STETSON,

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