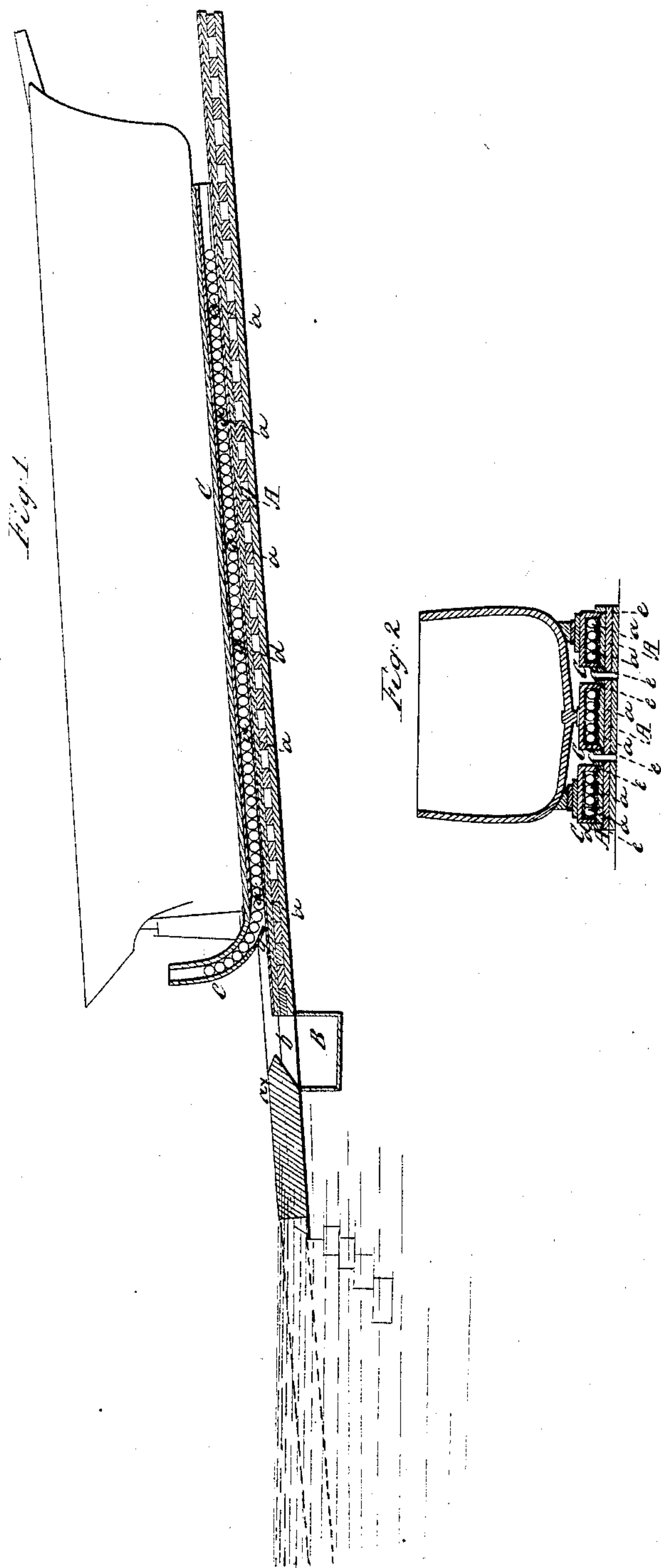


G. Conkling.

Marine Railway

Nº 21,534.

Patented Sept. 14, 1858.



UNITED STATES PATENT OFFICE.

GURDON CONKLING, OF CONKLINGVILLE, NEW YORK, ASSIGNOR TO W. T. CONKLING, OF SAME PLACE.

MODE OF LAUNCHING VESSELS.

Specification of Letters Patent No. 21,534, dated September 14, 1858.

To all whom it may concern:

Be it known that I, GURDON CONKLING, of Conklingville, in the county of Saratoga and State of New York, have invented a new and Improved Contrivance or Device for Launching Vessels; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a longitudinal vertical section of my invention. Fig. 2 is a transverse vertical section of do.

Similar letters of reference indicate corresponding parts in the two figures.

The object of this invention is to facilitate the starting of a vessel on its ways and thereby obviate the delay and embarrassment usually attending the launching of vessels especially those of large dimensions.

The invention consists in the employment or use of runners provided with balls and used in connection with ways as hereinafter shown and described, whereby the desired end is attained by very simple and economical means.

To enable those skilled in the art to fully understand and construct my invention I will proceed to describe it.

A, A, A, represents three ways which are inclined as usual. These ways should have their upper surfaces covered with metal in order to avoid abrasion, and the upper surfaces may be a plane, or they may be fluted or grooved longitudinally if desired, to form channels or guides for balls *a*, see Fig. 2.

Underneath the ways A, near their lower end or at points just above the contact of the ways with the water boxes B, are placed, one to each way, and an opening *b*, is made through each way directly over the box, said openings having their lower edges brought to a sharp edge or angle by having a basil both above and below. The surfaces of the ways below the openings *b*, are a trifle higher than the upper portions, see *a*^x, Fig. 1.

C, C, C, represent runners which are placed on the ways A, A, A. These runners are curved upward in front as shown at *c*, so as to form boxes or hoppers which communicate with the lower portion *d*. The lower portions *d*, of the runners have no bottoms nor back end pieces but have side pieces *e*, which extend down nearly to the surface

of the ways. In the boxes *c*, balls *a*, are placed, which pass down into the lower portions *d*, of the runners and form their bearing surface. These balls may be of cast iron and should be perfect spheres or as near such form as may be. The lower ends of the front part of the boxes *c*, are formed of a thin strip or plate *g*, the use of which will be presently shown.

I would remark that the ways A, A, A, as well as the runners C, C, C, may be constructed of wood, the upper surfaces of the ways as well as the under surfaces of the lower parts *d*, of the runner being faced with metal, metal might be wholly used, but that would be attended with more expense and would not be preferable.

The vessel is built on the runners and is properly blocked thereon, the vessel being braced and retained in proper position on the ways as usual. The runners C, have their lower portions filled with the balls *a*, and also the boxes *c*, so that the balls form an anti-friction medium between the runners and the ways.

When a vessel is ready to be launched, the usual braces which retain it are removed and the vessel readily descends on the ways A, as the balls *a*, diminish friction to a very great extent. The balls *a*, do not move with the runners they remain stationary, the runner having no back end pieces they are allowed to proceed without dragging the balls along with them, the balls being fed by their own gravity down the boxes *c*, into the lower portions *d*, of the runners as the runners descend, the strips or plates *g*, retaining the balls *a*, both in the runners and on the ways behind them. When the runners reach the front part of the ways below the openings *b*, the thin plates or strips *g*, are broken or "staved in" by the sharp lower edge of the openings *b*, and the balls *a*, pass out from the runners and fall through the openings *b*, into the boxes B, while the bottoms of the side pieces *e*, of the runners rest on the bottoms of grooves made in the lower parts of the ways, and the vessel descends into the water. The balls *a*, while they cause the vessel to start easily and overcome the ordinary difficulty attending the launching of vessels would, if not prevented, cause the vessel to be precipitated too rapidly into the water. The lower and higher portion *a*^x, of the surface of the ways therefore prevent

this too rapid descent, for the breaking of the plates *g*, checks the speed or descent of the vessel, and the runners slide on the lower parts *a*^x, of the ways without the balls. The
5 vessel therefore will gradually enter the water, while the balls will be gathered free from wet in the boxes B.

I am aware that balls have been used for raising vessels on ways, and they have also
10 been used as anti-friction devices in various ways.

I do not claim broadly therefore the em-

ployment or use of balls separately considered; but,

I claim as new and desire to secure by Letters Patent, 15

The runners C, balls *a*, and ways A, combined and arranged substantially as and for the purpose set forth.

GURDON CONKLING.

Witnesses:

WM. T. CONKLING,
ROBT. HUMPHREY.