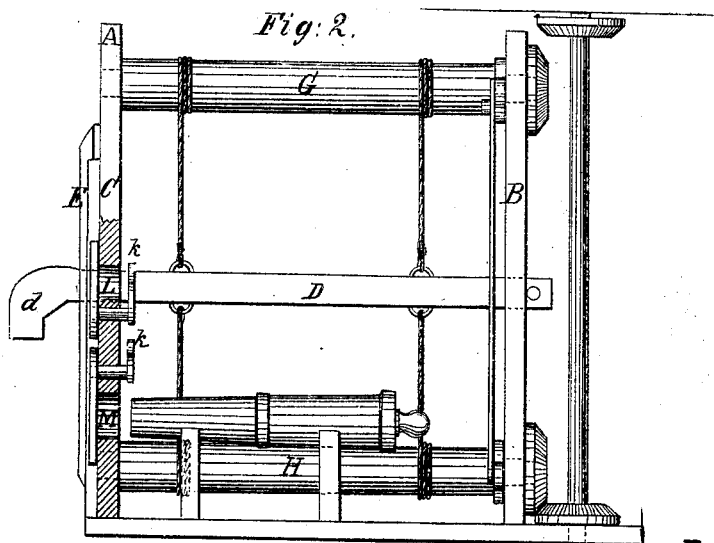
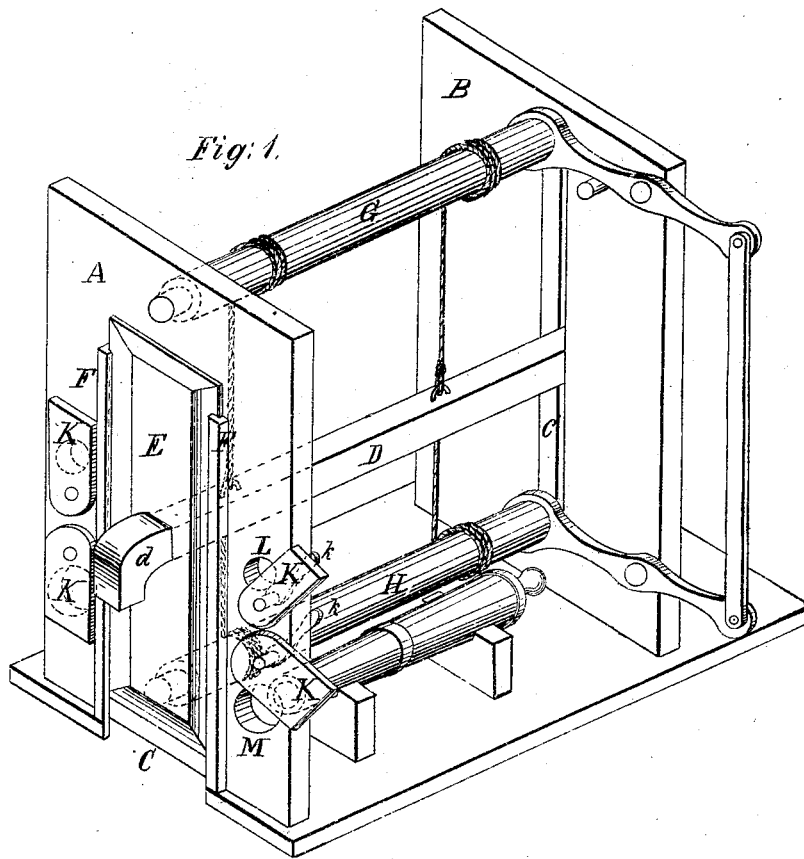


S. Riggs.
Building.

N^o 49,790.

Patented Sep. 5, 1865.



Witnesses:

James H. Layman

Inventor:

S Riffs
By Knight Bros
attorneys

UNITED STATES PATENT OFFICE.

SILAS RIGGS, OF BLANCHESTER, OHIO.

IMPROVED NAVAL GRAPPLING APPARATUS.

Specification forming part of Letters Patent No. **49,790**, dated September 5, 1865.

To all whom it may concern:

Be it known that I, SILAS RIGGS, of Blanchester, Clinton county, Ohio, have invented a new and useful Attachment to Gun-Boats and other Vessels of War; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification.

My invention relates to a provision or contrivance for capsizing the enemy's vessel, and to a contrivance for making the port-holes and loop-holes.

Figure 1 is a perspective view of my improvement. Fig. 2 is a longitudinal section thereof. A represents a portion of the boat's side.

B is a bulk-head, parallel therewith. Both A and B are slotted vertically (C) to permit the traverse of a bar, D, whose outer end is hooked downward, (*d*.)

E is a shield attached to the bar D just behind its hook *d*, which shield may be guided in vertical ways F on the outside of the boat.

G and H are windlasses, by means of which the bar D is elevated or depressed, the windlass G being employed to elevate the bar and the windlass H to depress it.

The windlasses G and H may be driven by any suitable connection with the steam-engine.

In operation the bar D is raised to a convenient height, and its hook *d* being engaged over the gunwale or bulwarks or rigging of the hostile ship, the bar is drawn down so as to capsize said ship.

K are masks or shutters, having handles *k* on the inside of the boat, so as to enable the optional closure or opening of the loop-holes L or of the port-holes M.

I claim herein as new and of my invention and desire to secure by Letters Patent of the United States—

The overhanging hooked bar D, shield E, vertical guides F, and actuating-windlasses G and H, or their equivalents, the whole being arranged and operating substantially as set forth.

In testimony of which invention I hereunto set my hand.

SILAS RIGGS.

Witnesses:

GEO. H. KNIGHT,
JAMES H. LAYMAN.