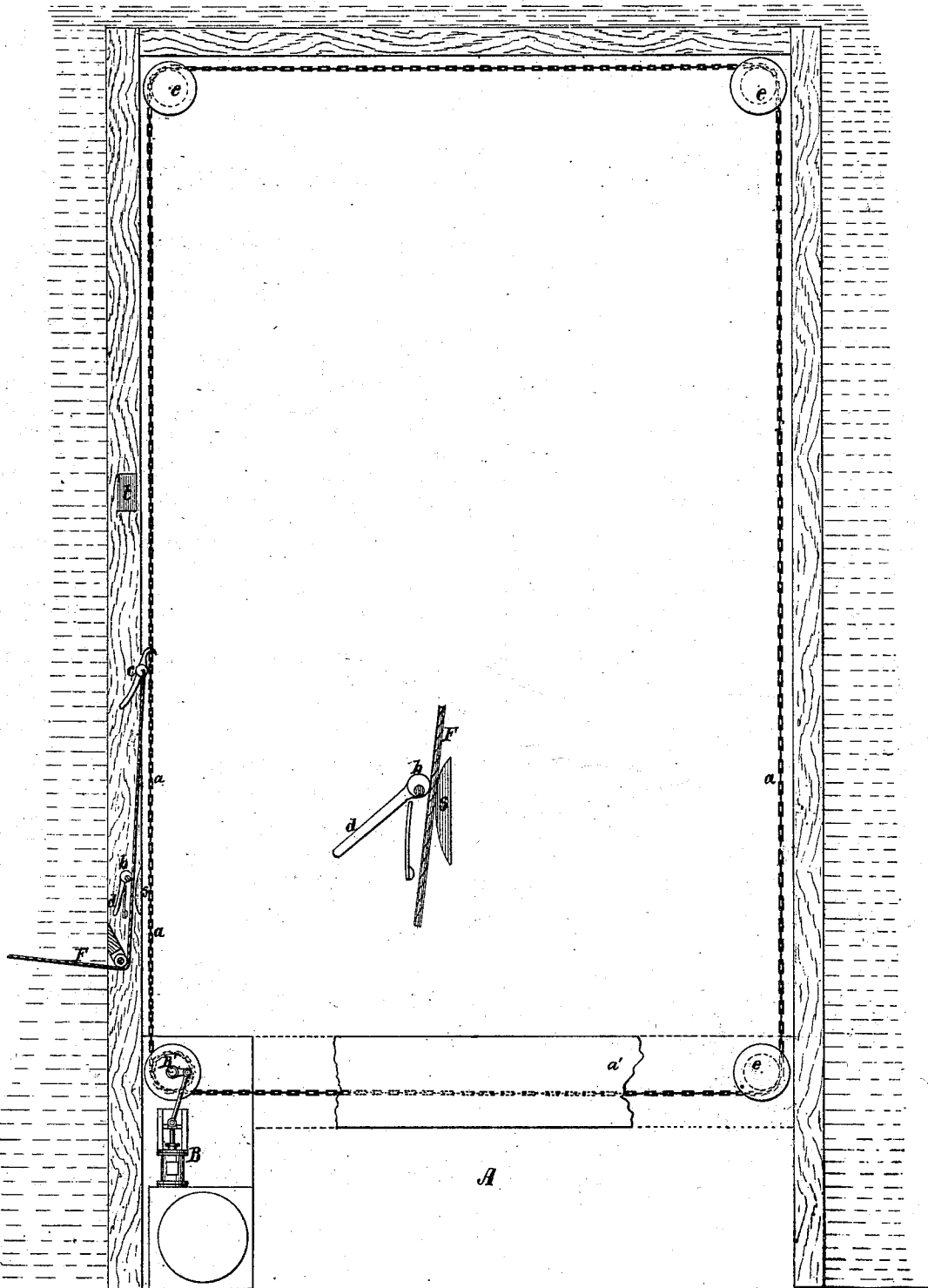


JAMES D. WARNER.

Improvement in Hoisting Apparatus.

No. 125,507.

Patented April 9, 1872.



Witnesses:

A. Bernhardt.

Gustave Dieter

Inventor:

J. D. Warner

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# UNITED STATES PATENT OFFICE.

JAMES D. WARNER, OF BROOKLYN, NEW YORK.

## IMPROVEMENT IN HOISTING APPARATUS.

Specification forming part of Letters Patent No. 125,507, dated April 9, 1872.

*To all whom it may concern:*

Be it known that I, JAMES D. WARNER, of Brooklyn, county of Kings and State of New York, have invented a new and Improved Hoisting Apparatus; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

My invention is an improvement in hoisting apparatus; and consists in the peculiar construction and arrangement of parts or devices, as hereinafter described.

In the drawing, representing a plan view of my invention, *a* indicates an endless chain arranged to run on pulleys *e e*, alongside the spring-piece on a pier. At the land end it is led thus under the roadway *A* or under a cover, *a'*, of any suitable kind. *B* is an engine operating a windlass, *B'*, around which the chain is wound, so as to give it the required "bite." The end of the hoisting-rope *F* is attached wherever needed by hooking on the crutch *C*. As soon as the required hoisting or drawing is done the clutch can be unhooked by pressing the handle *h* in toward the chain. Whenever there are goods being continually hoisted or drawn a certain required distance, the clutch

may be unhooked automatically by passing against the trip *t*. In order to prevent the goods running down before needed, when the clutch is unloosed the rope will jam, by the eccentric button *b*, (as soon as the action begins to retrograde,) against the side of the narrow passage of the brake, or the projection *s*. This is released as required by pressing in the handle *d*, or used to prevent the merchandise from being lowered too rapidly.

Hoisting may be done at several different places around the pier at the same time, whereby steam-power may be substituted for the horse or hand power now used to great advantage.

Having thus described my invention, I claim as new, and desire to secure by Letters Patent—

The improved hoisting apparatus formed of the endless chain *a a*, arranged, as shown, on pulleys *e e*, and the windlass *B'*, rope *F*, clutch *c*, trip *t*, and brake-button *b d*, as herein set forth.

The above specification of my invention signed by me this 29th day of May, 1871.

JAS. D. WARNER.

Witnesses:

GEORGE W. MABEE,  
T. B. MOSIER.