

A. Kieffer,
Windlass.

N^o 48,339.

Patented June 20, 1865.

Fig. 1

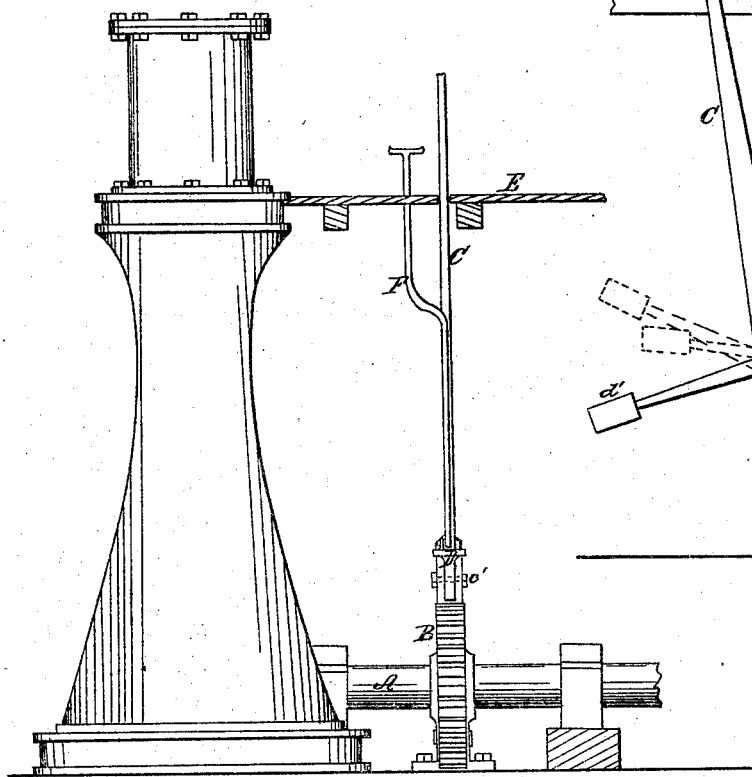
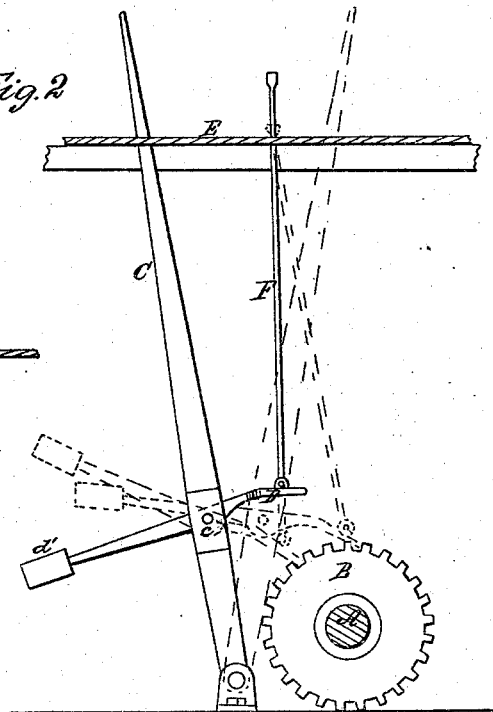


Fig. 2



Witnesses;
B. H. Muehle
Geo. Wallace

Inventor;
Antona Kieffer

UNITED STATES PATENT OFFICE.

ANTONA KIEFFER, OF BUFFALO, NEW YORK, ASSIGNOR TO HIMSELF AND JAMES KENNELLY, OF SAME PLACE.

IMPROVEMENT IN DEVICES FOR RELEASING SCREW-ENGINES.

Specification forming part of Letters Patent No. 48,339, dated June 20, 1865.

To all whom it may concern:

Be it known that I, ANTONA KIEFFER, of the city of Buffalo, county of Erie, and State of New York, (assignor to myself and JAMES KENNELLY,) have invented a certain new and Improved Device for Releasing Screw-Engines when Stopped on their Dead-Centers; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation thereof, reference being had to the accompanying drawings, and the letters of reference marked thereon, in which—

Figure I is a side elevation of a screw-propeller engine, showing the construction and mode of attaching my improved device thereto. Fig. II is a vertical transverse section of same.

The nature of this invention consists in the combination, with the prying-off wheel on the crank-shaft of a screw-propeller engine, of a prying-off lever and pawl, said lever leading directly (or through a combination of levers, as circumstances may require) to the engineer's room, in such manner that the engineer standing at his post, within reach of the throttle and reversing levers of the engine, may operate said prying-off lever when from unskillful management or other cause his engine stops on a dead-center, and by its action revolve the crank-shaft sufficiently to carry the engine past said dead-center and allow it to resume its motion.

Letters of like name and kind refer to like parts in each of the figures.

A represents the crank or screw shaft of a screw-propeller engine.

B represents a toothed or ratchet wheel, commonly called the "prying-off wheel," keyed or otherwise secured upon the crank-shaft A at any convenient point.

C represents a prying-off lever, having its fulcrum at *c'*, and carrying a pawl or dog, D, which may be made to engage the teeth of the prying-off wheel B when required. The lever C projects up through the engineer's platform or engine-room floor E at such point as to be within the reach of the engineer standing at his post at the throttle and reversing levers.

F represents a pawl-rod connected to the pawl D, and also leading up through the floor of the engine-room, in such manner that the engineer, by placing his foot thereon, may depress the pawl and cause it to engage the teeth of the prying-off wheel B. The pawl is counterbalanced, as shown at *d'*, so that upon re-

moving the pressure upon the pawl-rod it will disengage itself from the teeth of the prying-off wheel, and in that position remain until again required to be thrown into action. When, from unskillful management of the engineer in stopping or reversing his engine, it becomes caught on one of its dead-centers, (as frequently happens,) so that the pressure of steam on the piston is powerless to move or start the engine, the engineer, by placing his foot on the pawl-rod and throwing the pawl into the teeth of the prying-off wheel and giving a single vibratory movement to the prying-off lever, may revolve the crank-shaft past its dead-center and allow the engine to resume its motion. This can be accomplished instantly and without loss of time.

The device at present in use, so far as my knowledge goes, is simply a detached lever or bar, the end of which is inserted into the teeth of the prying-off wheel, and a fulcrum formed by resting it on a block or other temporary or imperfect device. This evidently requires the engineer to leave his post and go below, so that much time and trouble are required to release his engine when caught on the center. Tug-boat engines, which require to be frequently and quickly stopped and reversed, are peculiarly liable to this difficulty, and to them my invention is peculiarly applicable and of the first importance. Its use has and will in many instances, by giving a more quick and perfect control of the engine, avoid accident and destruction of property.

In applying my invention to engines of different construction it is evident that in some cases a compound lever or a combination of levers may be required to make the connection from the prying-off wheel to the engine-room; but all such modifications are considered as equivalents within the principle of my invention.

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

The counterbalanced pawl D, provided with a pawl-rod, F, in combination with the toothed wheel B and prying-off lever C, for the purposes and substantially as described.

ANTONA KIEFFER.

Witnesses:

GEO. W. WALLACE,
B. H. MUEHLE.