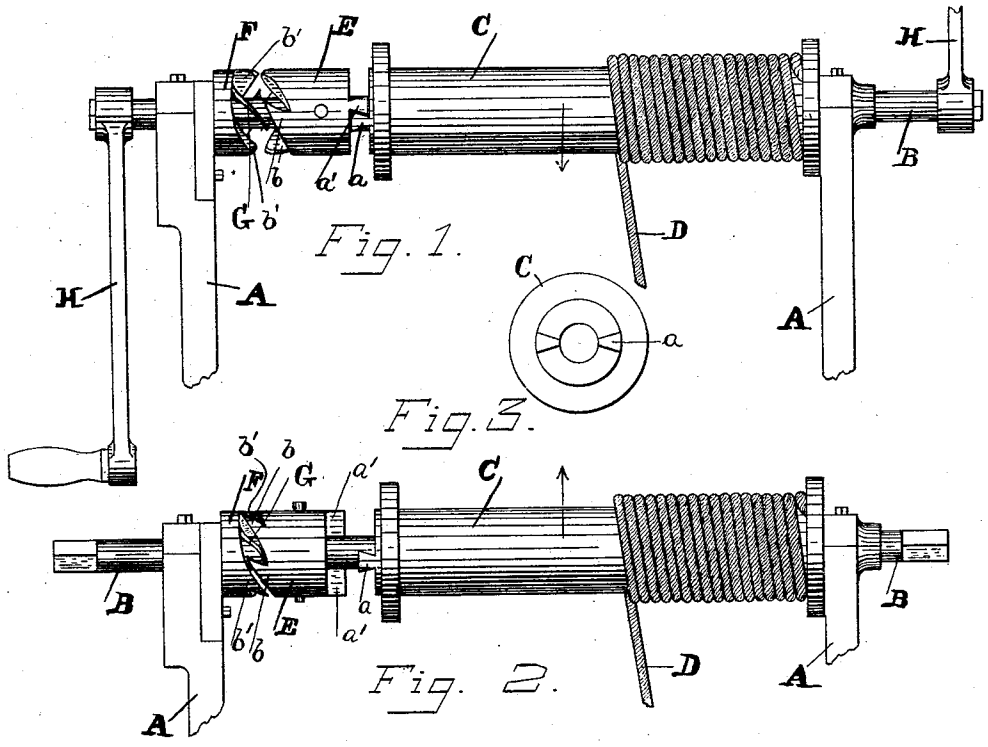
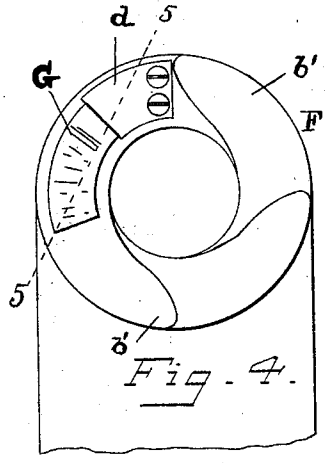
(No Model.)

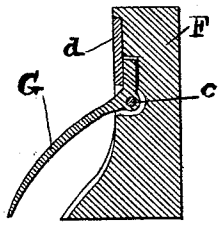
J. J. HAMBLIN.

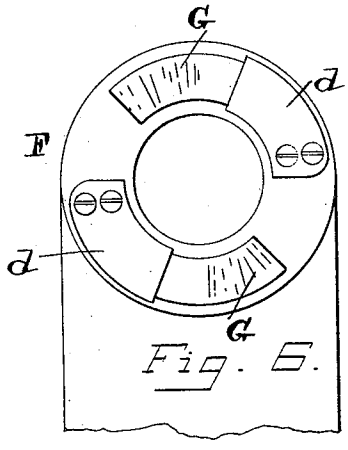
WINDLASS.

No. 483,113. Patented Sept. 20, 1892.









Witnesses:—

J. C. Mattoon

F. Parker Davis.

Inventor:—

Joshua J. Hamblin,

By Chas B. Mann

Attorney.

UNITED STATES PATENT OFFICE.

JOSHUA J. HAMBLIN, OF HEATHSVILLE, ASSIGNOR OF ONE-HALF TO CHAS. R. LEWIS, OF LEWISETTA, VIRGINIA.

WINDLASS.

SPECIFICATION forming part of Letters Patent No. 483,113, dated September 20, 1892.

Application filed March 5, 1892. Serial No. 423,840. (No model.)

To all whom it may concern:

Be it known that I, JOSHUA J. HAMBLIN, a citizen of the United States, residing at Heathsville, in the county of Northumberland and State of Virginia, have invented certain new and useful Improvements in Windlasses, of which the following is a specification.

This invention relates to an improved windlass, and is specially designed for use in oyster-dredging.

Many serious accidents occur in dredging by reason of the handles flying back upon the dredge encountering an obstruction, such as a large rock. My invention has in view to avoid such accidents by a construction whereby the windlass will be thrown out of gear with the handles upon the dredge encountering an obstruction. It affords automatic means for throwing the windlass in and out of gear at will. This is accomplished by the mechanism which will be hereinafter described and claimed, and which is illustrated in the accompanying drawings, wherein—

Figure 1 shows an elevation of the complete windlass with the parts in gear for winding. Fig. 2 shows a similar view with the parts thrown out of gear. Fig. 3 shows the inner face or end of the roller or spool; Fig. 4, an inside face view of the stationary clutch-block; Fig. 5, a section on line 5 5 of Fig. 4; Fig. 6, a similar view to Fig. 4, illustrating a modified construction.

Between two standards A is mounted a shaft B in suitable bearings, which permit it to revolve freely and also to slide longitudinally. A loose roller or spool C is mounted on this shaft between the standards, and the dredge-line D winds on said roller. This roller has on one end two projecting lugs *a*, diametrically opposite each other and of dovetail shape, with the narrow portion next the body of the roller. A clutch-block E is made fast on the shaft and has two lugs *a'* projecting from the face, which confronts that of the roller having the lugs *a*, and these lugs *a'* on the clutch-block have the same shape as those of the roller—*i. e.*, dovetailed—and are arranged to lock into the same, as shown in Fig. 1. A series of spirally-arranged clutch-teeth *b* are formed on the opposite end or face of the clutch-block. Another block F is fastened rigidly on the inner face of one of the standards A in any suitable manner, the shaft B passing loosely through it. This block has clutch-teeth *b'* on its face to lock with those of the block E. One or more of these teeth on the block F are made like spring-pawls. Figs. 1, 2, 4, and 5 show one tooth made in this way. It consists of a plate G, fitting in a recess in the face of the block and pivoted at the point *c*, beyond which point it projects from said face. A spring *d* bears on the plate G back of the pivot and holds it out. Fig. 6 shows the block provided with a plain face and two of such pawls. The standards A are set at such a distance apart that, with the roller C fitting against one of them and the lugs *a* and *a'* of the roller and clutch-block E interlocking, upon revolving the shaft B by means of cranks H on its ends to wind the line on the said roller the clutch-teeth *b* on said clutch-block will pass over the pawl G, slightly depressing it, and will clear the teeth *b'*. The line draws off to one side, and thereby keeps the end of the roller always against the standard. Should the dredge strike a snag, the reverse movement of the roller partly turns the clutch-block E back with it and causes one of its teeth to ride under the pawl G, which, engaging the inner inclined surface of the spiral tooth *b*, draws the block E and moves the shaft longitudinally, and thereby releases the block out of engagement with the roller, which is then free to revolve in the reverse direction independent of the shaft. At the same time that the one tooth locks under the spring-pawl the other teeth *b* of said clutch-block E interlock with the rigid teeth *b'* of the block F. Now it will be seen that upon turning the shaft again in the direction of the winding the clutch-block E is pushed away from the block F by its teeth riding over those of said stationary block F, and the shaft is moved lengthwise and the block E is again thrown into engagement with the roller, so that it will revolve it. It will be seen that with my arrangement the windlass is automatically thrown in and out of gear and the crank-handles are stopped from flying back upon the dredge striking a snag. It will be seen the operation is the same when two spring-pawls are employed and the rigid teeth dis-

pensed with, as illustrated in Fig. 6. The dovetailed shape of the interlocking lugs $a\,a'$ prevents them from becoming accidentally disengaged.

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

1. In a windlass, the combination of a shaft having suitable means for revolving it and allowed a longitudinal movement, a roller loose on said shaft and on which the line is wound, a clutch-block fast on the shaft and arranged to engage at one end with the roller and provided with teeth on the opposite end, and a pawl stationarily located to engage said teeth on the clutch-block, substantially in the manner described.

2. In a windlass, the combination of a shaft having suitable means for revolving it and allowed a longitudinal movement, a roller loose on said shaft and on which the line is wound, a clutch-block fast on the shaft and arranged to engage at one end with the roller and provided with spirally-arranged teeth on the opposite end, and a pawl stationarily located to engage said teeth on the clutch-block, and thereby both draw said block in toward it and push it away, according to the direction of rotation of the shaft, as described.

3. In a windlass, the combination of a shaft having suitable means for revolving it and allowed a longitudinal movement, a roller loose on said shaft and on which the line is wound, a clutch-block fast on the shaft and arranged to engage at one end with the roller and provided with teeth on the opposite end, and a pivotal spring-actuated pawl stationarily located to engage said teeth on the clutch-block, substantially in the manner described.

4. In a windlass, the combination of a shaft having suitable means for revolving it and allowed a longitudinal movement, a roller loose on said shaft and on which the line is wound, a clutch-block fast on the shaft and arranged to engage at one end with the roller and provided with teeth on the opposite end, and a stationary block having a number of clutch-teeth for engagement with those of the said clutch-block, one or more of said teeth arranged to give as the clutch-block teeth pass over it in the winding of the line, substantially as and for the purpose described.

5. In a windlass, the combination of a shaft having suitable means for revolving it and allowed a longitudinal movement, a roller loose on said shaft and on which the line is wound, said roller having lugs of dovetail shape projecting from one end, a clutch-block fast on the shaft and having dovetailed lugs arranged to engage those of the roller and also provided with clutch-teeth, and a pawl stationarily located to engage said teeth, substantially in the manner described.

In testimony whereof I affix my signature in the presence of two witnesses.

JOSHUA J. HAMBLIN.

Witnesses:
A. S. RICE,
J. A. DOBYNS.