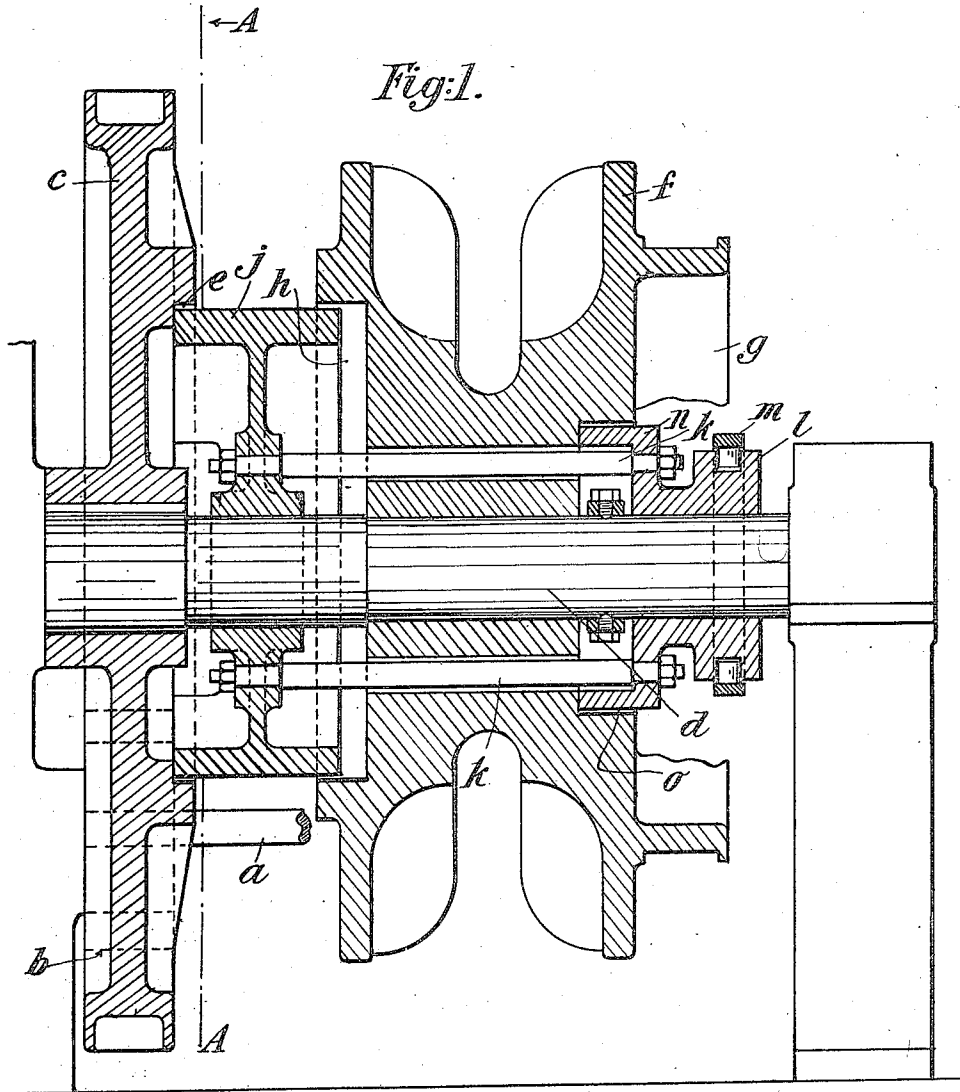


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CLUTCH FOR WINDLASSES.
APPLICATION FILED JUNE 25, 1920.

1,424,501.

Patented Aug. 1, 1922.
2 SHEETS—SHEET 1.



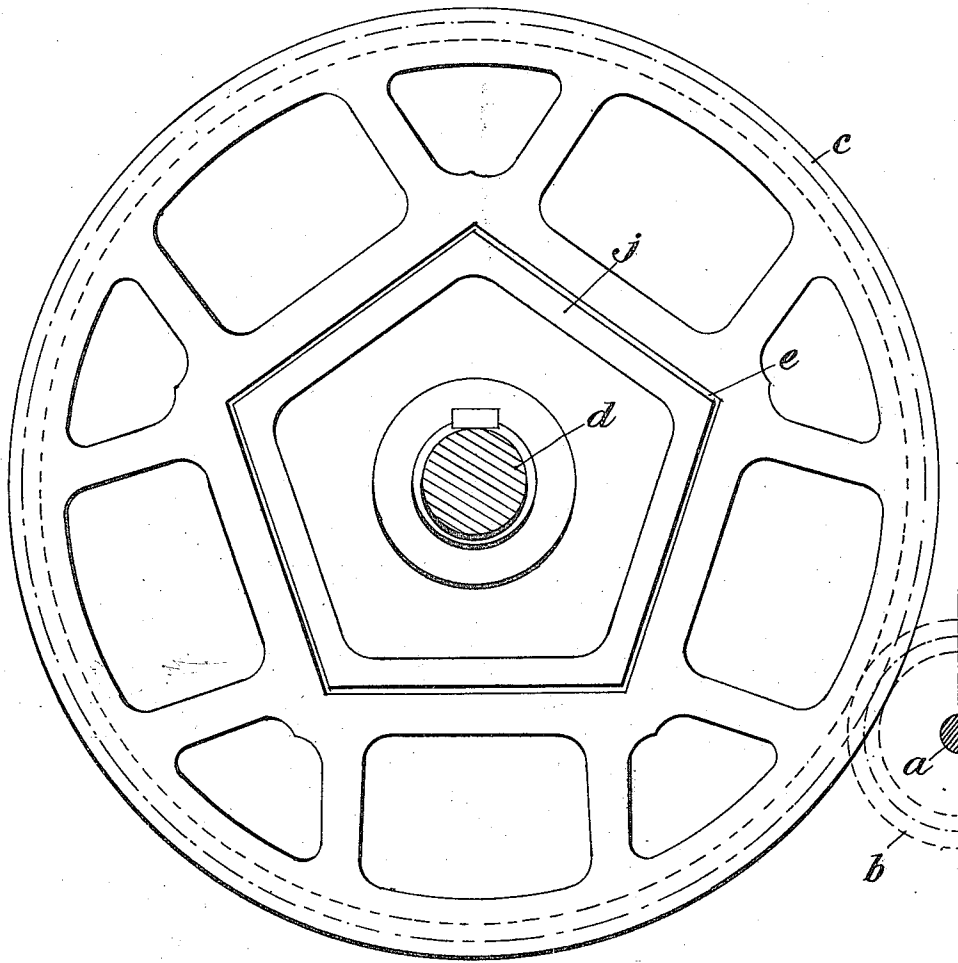
Inventors:
Stewart McIntosh.
John Spence Guild.
by their attorney, R. H. ...

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Fig. 2.



Inventors.
Stewart McIntosh
John Spence Guild.
by their Attorney Charles S. Fording.

UNITED STATES PATENT OFFICE.

STEWART McINTOSH, OF MONKSEATON, AND JOHN SPENCE GUILD, OF NEWCASTLE-UPON-TYNE, ENGLAND.

CLUTCH FOR WINDLASSES.

1,424,501.

Specification of Letters Patent. Patented Aug. 1, 1922.

Application filed June 25, 1920. Serial No. 391,665.

To all whom it may concern:

Be it known that we, STEWART McINTOSH, of Monkseaton, Northumberland, England, and JOHN SPENCE GUILD, of Newcastle-upon-Tyne, England, subjects of the King of England, have invented certain new and useful Improvements in Clutches for Windlasses, of which the following is a specification.

The invention relates to windlasses and more particularly to the means for engaging and disengaging the cable lifter or gipsy of a windlass with or from its driving gear for heaving in or paying out the anchor cable respectively.

According to one known method this engagement or disengagement is effected by sliding the intermediate driving pinion into and out of mesh with the main gear wheel, which has the disadvantage that stripping of the gear teeth is frequent and rusting fast of the main gear wheel and cable lifter on their shaft with consequent difficulty of removal therefrom for repairs is unavoidable.

According to another conventional method, the main gear wheel and cable lifter are clutched together, this being effected by a friction clutch on the main shaft which is inefficient, owing to slipping or binding of the clutch and side play of the cable lifter.

According to the present invention a positive drive is provided from the driving gear to the cable lifter by a slidable clutch, block, or drum of the positive dog type arranged on the main shaft between the main gear wheel and cable lifter, said clutch member being always in engagement with either the cable lifter or gear wheel and adapted to be moved axially into and out of engagement with the other member.

An embodiment of the invention is illustrated in the accompanying drawing, in which:—

Fig. 1 is a vertical section of the gear on the main shaft of a windlass, and

Fig. 2 is a section on the line A—A of Fig. 1.

Referring to the drawings *a* designates the intermediate driving shaft carrying the gear wheel *b* which is in constant mesh with and drives the main gear wheel *c*.

The gear wheel *c* is keyed to the main shaft *d* and is provided on one face with a polygonal recess *e*, said shaft having also

loosely mounted thereon the cable lifter *f* provided on the outer side as usual with the brake drum *g* and having on the side facing the gear wheel *c* a polygonal recess *h* corresponding in shape with the recess *e*, said recesses being preferably five-sided as shown, to accord with the number of snags on the cable lifter *f*.

Mounted loosely on the shaft *d* for axial sliding movement between the gear *c* and cable lifter *f* is the clutch member *j* which has a peripheral contour corresponding to the outline of the recesses *e h* and is arranged to be always in engagement with the recess *h*, the latter being of such depth as to allow the clutch member to be drawn back clear of the recess *e* when disengaged from the gear wheel *c*. In Fig. 1 the clutch member is shown in engagement with the recess *e* so that the gear wheel *c* and cable lifter are coupled together. The clutch member *j* is operated from the end of the windlass with the aid of rods *k* extending through boxes in the cable lifter and connecting said clutch member *j* with a sleeve *l* slidable on the outer end of the shaft *d*, said sleeve being actuated to effect the clutching and de-clutching operation by conventional means, such as a clutch fork *m*. This arrangement of the clutch operating mechanism enables the clutch to be operated by an attendant at the side of the windlass clear of all danger.

The sleeve *l* is provided with a polygonal flange *n* engaging in a correspondingly shaped recess *o* in the outer face of the cable lifter *f*, said sleeve serving to relieve the rods *k* of the driving strain to which they would otherwise be subjected.

Obviously the clutch device above described is applicable to both manually and power operated windlasses, and with the arrangement of two of such windlasses side by side as usual, the main shaft *d* could be extended to form a common shaft for both.

What we claim as our invention and desire to secure by Letters Patent of the United States is:—

1. In a windlass, the combination with a shaft, a cable lifter thereon having a polygonal recess in one of its side faces, a main driving gear wheel on said shaft having a polygonal recess in its side face, and a polygonal clutch member interposed between said lifter and gear wheel loose on the said

shaft and means for operating said clutch member to couple or uncouple said lifter and gear wheel thereby.

2. In a windlass, the combination with a shaft, a cable lifter thereon having a polygonal recess in one of its side faces, a main driving gear wheel on said shaft having a polygonal recess in its side face, and a polygonal clutch member interposed between said lifter and gear wheel loose on the said shaft and means for operating said clutch member to couple or uncouple said lifter and gear wheel, the clutch member permanently engaging with the cable lifter and being movable to engage or disengage from said gear wheel.

3. In a windlass, the combination with a shaft, a cable lifter thereon having a polygo-

nal recess in one of its side faces, a main driving gear wheel on said shaft having a polygonal recess in its side face, and a polygonal clutch member interposed between said lifter and gear wheel loose on the said shaft and means for operating said clutch member to couple or uncouple said lifter and gear wheel thereby said operating means extending through the cable lifter and being operable from the opposite side of the cable lifter.

In witness whereof we have signed this specification in the presence of two witnesses.

STEWART McINTOSH.
JOHN SPENCE GUILD.

Witnesses:

C. A. WALKER,
E. WALKER.