

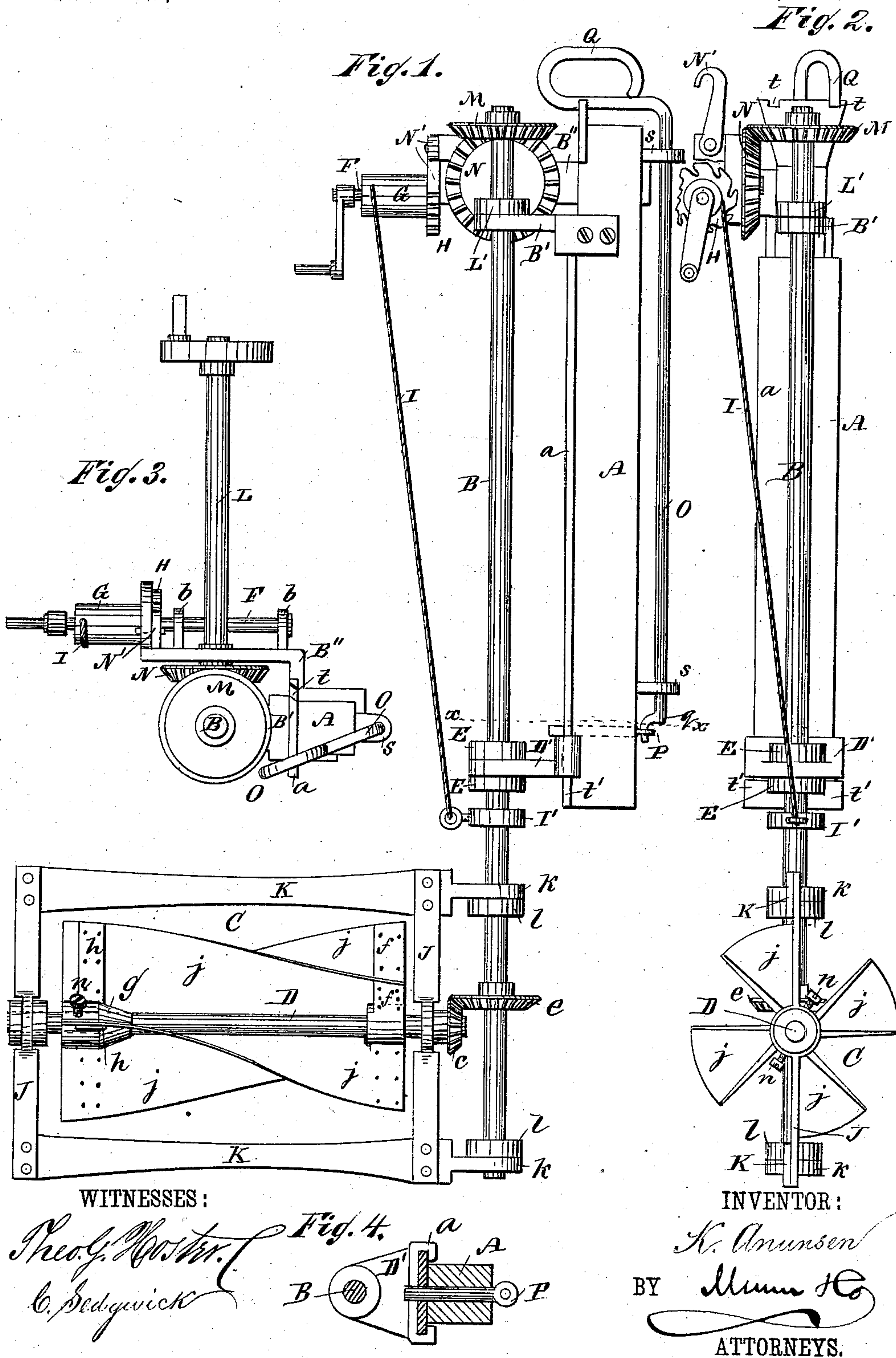
(Model.)

K. ANUNSEN.

AUXILIARY POWER WHEEL FOR SHIPS.

No. 255,560.

Patented Mar. 28, 1882.



UNITED STATES PATENT OFFICE.

KITTIL ANUNSEN, OF WINCHESTER, WISCONSIN.

AUXILIARY POWER-WHEEL FOR SHIPS.

SPECIFICATION forming part of Letters Patent No. 255,560, dated March 28, 1882.

Application filed January 18, 1882. (Model.)

To all whom it may concern:

Be it known that I, KITTIL ANUNSEN, of Winchester, in the county of Winnebago and State of Wisconsin, have invented a new and Improved Means for Obtaining Power upon Ships, of which the following is a full, clear, and exact description.

The object of this invention is to provide means whereby power for operating the pump for removing the bilge-water from the hold of the vessel or for other purposes may be derived from the forward movement of the vessel.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of my invention. Fig. 2 is a front elevation. Fig. 3 is a plan view thereof, and Fig. 4 is a sectional plan view taken on the line *xx* of Fig. 1.

The operative parts of the apparatus are secured to the vessel by any suitable means attached to the bar A. This bar is faced with the plate *a*, which projects past its sides, as shown in Fig. 4, and is provided near its upper end with the fixed bracket B'. Below this bracket, upon the plate *a*, is placed the sliding bracket D'. In these brackets is journaled the main vertical shaft B, which receives rotary motion from the horizontal shaft D of the water-wheel C, the motion being imparted through the beveled pinion *c*, secured upon the inner end of the shaft D, and the beveled cog-wheel *e*, secured upon the shaft B. The water-wheel C is composed of the said shaft D, which is provided with the radial arms *f* near its forward end, the pointed or conical hub *g*, which is provided with the radial arms *h*, placed upon the shaft, and the blades *j*, of sheet metal, secured to the said arms *f* and *g*. The shaft D of the water-wheel is journaled in the vertical cross-pieces J J, secured to the horizontal arms K K, which latter are formed with the perforated heads *k k*, through which the shaft B passes, and these horizontal arms, and consequently the water-wheel C, are held in proper position relative to the shaft B, so that the cog-wheels *c* and *e* mesh with each other by means of the collars *l l*, secured upon the shaft B, as clearly shown in Fig. 1. The con-

cal hub *g* of the water-wheel is secured to the shaft D by the set-screws *n n*, and by means of these set-screws the hub may be loosened and turned upon the shaft D, so that the pitch of the blades *j* of the wheel may be varied or adjusted to suit the wheel to the speed of the vessel, or so that a greater or less power may be derived from the wheel, as desired.

The rotary motion which the shaft B derives from the water-wheel is transmitted to the horizontal crank-shaft L, to which the plunger-rod of the pump (if a reciprocating pump is used) is attached by means of the beveled cog-wheel M, secured upon the upper end of the shaft B, and the beveled cog-wheel N, secured upon the end of the said shaft L, which shaft is journaled at one end in the bracket B'', secured upon the bar A, upon the opposite side of the bar to that upon which the bracket B' is secured, as shown in Fig. 3. This shaft L therefore is permanent in its position relative to the bar A; but the shaft B may be raised to lift the water-wheel out of the water to throw it out of action, and lowered to submerge the wheel when its action is needed. When the shaft B is lowered its proper position relative to the cog-wheel N is determined by the collar L', fixed upon the shaft above the bracket B', and the shaft is caused, when raised or lowered, to move parallel with the bar A by means of the sliding bracket D', which is held between the collars E E, secured upon the shafts, and slides upon the plate *a*. The plate *a* is formed with the shoulders *t' t'*, upon which the sliding bracket D' rests when at its lowest position, as shown in Figs 1 and 2.

The means by which the shaft B and water-wheel are raised and lowered consists of the crank-shaft F, journaled in the extensions *b b*, of the bracket B'', drum G, secured upon the shaft, and the rope or chain I, which is attached to the drum and to the cramp-plate or collar I', placed loosely upon the shaft B, as shown in Figs 1 and 2. The crank-shaft F is provided with the ratchet-wheel H, and immediately above the ratchet-wheel is pivoted to the bracket B'' the pawl N', by which the shaft B and water-wheel may be held in any desired position.

When the water-wheel is lowered into the

water for action the shaft B and the wheel are held against any upward movement by the action of the waves or rising or falling of the vessel by means of the pin P, which passes
 5 through the bar A and plate *a* and projects over the upper edge of the sliding bracket D', as clearly shown in Figs. 1 and 4. This pin is adapted to be moved in its socket for locking and unlocking the said sliding bracket by
 10 means of the rod O, which is held in the projections *s s*, secured to the bar A, and is bent at its lower end to form the crank *q*, which is inserted in the eye of the bolt, and is also bent at its upper end to form the handle Q, which
 15 reaches over the top of the bar A, and is adapted to rest in the notches *t t*, made in the upper end of the plate *a*, for holding the bolt out or in, as desired.

It will be understood that the inner end of the shaft L will be journaled in a post or other suitable support fixed to some part of the vessel near the pump.

My invention is more especially intended for sailing-vessels which have no steam-power, and it is more especially intended, as above
 25 stated, for operating a pump; but I do not confine myself to any particular use or application of my invention, as it can be applied to any vessel and used for any purpose.

30 When the shaft F is turned by hand-power applied to its crank the rope or chain I will be wound upon the drum and the cramp-collar will clutch the shaft in the well-known manner, and by this means, upon continuing the rotation of the shaft F, the shaft B and its
 35 water-wheel will be raised from the water, and by means of the pawl and ratchet may be held at any desired point of elevation. Upon disengaging the pawl from the ratchet the
 40 shaft and wheel may be lowered again for submerging the wheel in the water, which wheel will be caused to be forcibly and rapidly revolved by its travel through the water, as will be clearly understood. By this means any
 45 work upon the ship which is now ordinarily done by hand can be done by positive mechanical power.

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

1. The combination, with the water-wheel shaft D, gear *c e*, and shaft B, provided with collars E L', of the bar A, having plate *a*, the bracket-bearing B', fixed to said bar, and the sliding bracket D', as and for the purpose
 50 specified. 55

2. The combination, with the water-wheel shaft and shaft B, having collars *l l*, of the vertical cross-pieces J J, the horizontal arms K K, having perforated heads *k k*, and the cog-
 60 wheels *c e*, as and for the purpose specified.

3. The combination, with the shaft B, connected by bevel-gear with the water-wheel shaft, and having collars E, the brackets B' D', and the bar A, having plate *a*, of the detachable pin P, projecting through the bar and plate and over the bracket D', for the purpose
 65 specified.

4. The combination, with the shaft B and water-wheel C, of the shaft F, drum G, rope I,
 70 and cramp-collar I', substantially as and for the purposes set forth.

5. The bar A, faced with the plate *a* and provided with the bracket B', in combination with the sliding bracket D', shaft B, wheel C,
 75 and means for raising and lowering the shaft and wheel, substantially as described.

6. The combination, with an eyebolt or pin, P, movable in its socket, of the rod O, having crank *q*, the bar A, having projections *s s*, and
 80 the plate *a*, having notches *t*, as and for the purpose specified.

7. The water-wheel formed of the shaft D, having the fixed arms *f*, the collar *g*, having the arms *h*, and of the blades *j*, the collar being adapted to be turned upon the shaft, as
 85 and for the purposes set forth.

KITTIL ANUNSEN.

Witnesses:

GEORGE GARY,
 SAM. W. LARSEN.