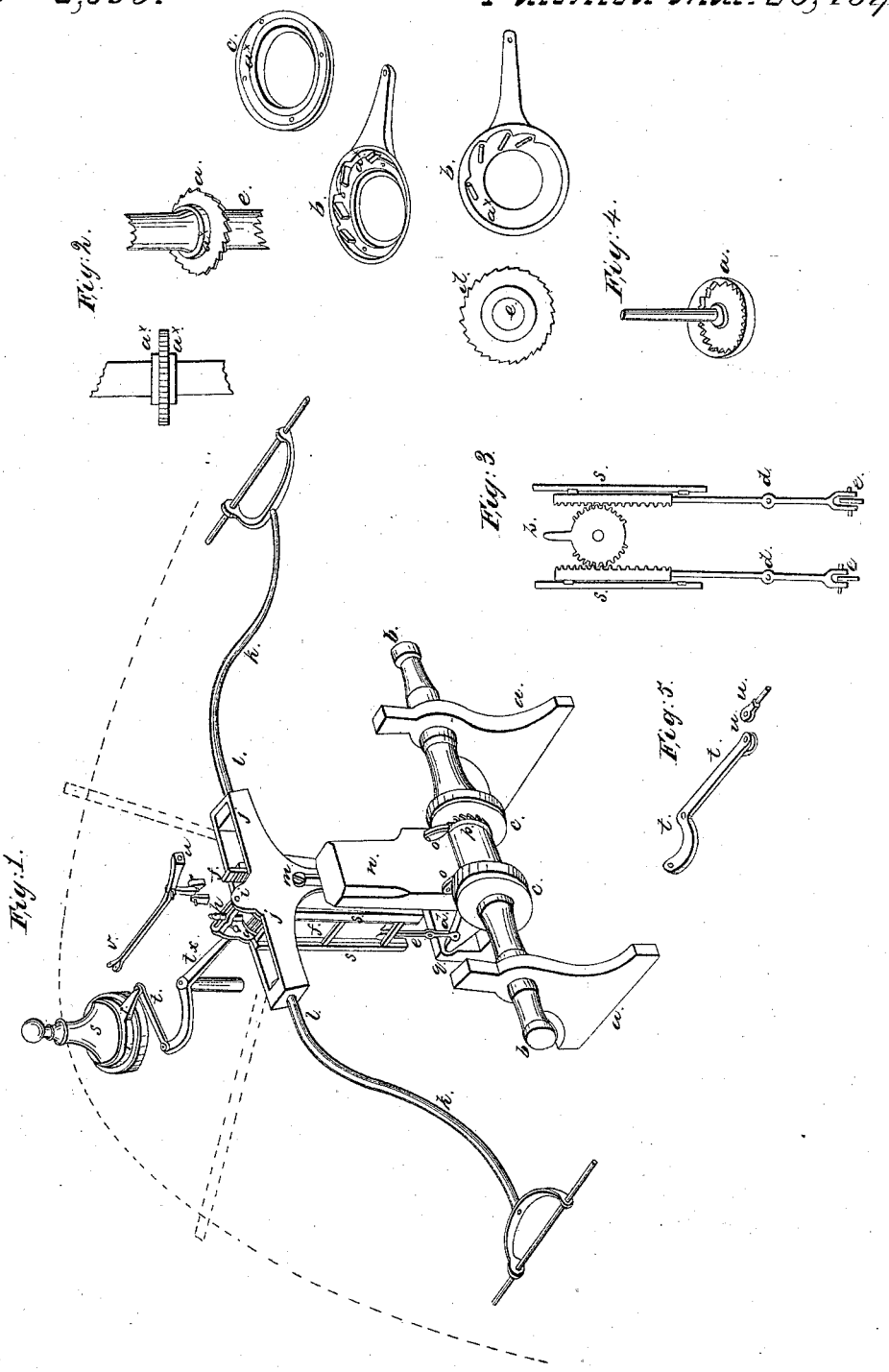
W. Holmes,

Windlass and Capstan.

No. 2,508. Patented Mar. 23, 1842.



UNITED STATES PATENT OFFICE.

WM. HOLMES, OF BALTIMORE, MARYLAND.

METHOD OF WORKING SHIPS' WINDLASSES AND CAPSTANS.

Specification of Letters Patent No. 2,508, dated March 23, 1842.

To all whom it may concern:

Be it known that I, WILLIAM HOLMES, of the city of Baltimore and State of Maryland, have invented a new and useful Improvement in the Method of Working Windlasses and Capstans of Vessels; and I do hereby declare that the following, with the accompanying drawing, is a full and exact description.

The leading part of the improvement consists in the combination of a perpetual lever with the windlass, and a brake or lever and a section pinion and rack which drives the perpetual lever.

The windlass is placed in the usual way on the chocks, *a*, *a*, Figure 1, on the windlass *b*, *b*, are two perpetual levers, *c*, *c*, to be particularly described hereafter; the ends of these levers, one as at *d*, is connected with connecting rods, as one at *e*, and to the racks *f*, *f*, which racks work in a section pinion *g*. This pinion has a stem projecting as, *h*, which projection passes through the cross piece *i*, *i*, of the middle of the brake, as, *j*, *j*; the ends of the brake, as *k*, *k*, may be detached from the middle, where they are attached at *l*, *l*, and laid out of the way when required. *m*, is the center or fulcrum bolt on which the brake plays. *n*, is the main bit supporting the frame of the brake.

o, *o*, are hands which fall into two ratchets, one of which is seen at, *p*, as additional security to the levers, *c*, *c*. *q*, is a stay or chock into which the ends of the perpetual levers fall to prevent a reaction of the windlass.

It will be seen, the motion of the brake, as it is connected with the pinion, and the racks working in the pinion, and the racks, by means of the rods *d*, *d*, being connected with the levers *c*, *c*, that, the levers *c*, *c*, work alternately.

It is now necessary to explain the construction of the perpetual lever to show how the windlass is made to revolve.

Fig. 2 shows a section of the windlass, or, a shaft, or the spindle of a capstan.

a is a ratchet on the shaft; and of which there is one at each place *c*, *c*, Fig. 1, this ratchet is inclosed by the perpetual lever, *b*, *b*, under Fig. 2 is the body of the perpetual lever, (one is a perspective, the other a downward view of the same) showing the pawls or hands; this, with the cover to it, as *c*, forms a case inclosing the ratchet on the shaft.

d, is the ratchet on the shaft *e*, *e*, Fig. 2 corrsponds with *b*, *b*, Fig. 1.

Fig. 3, is a side view of the section pinion and racks *g*, and *f*, *f*, Fig. 1.

s, *s*, Fig. 1, is one stationary side guide against which the rack moves up and down, and *s*, and *s* Fig. 3 is both the guides for the racks.

h, is the projecting stem as *h*, Fig. 1, which passes through the cross piece *i*, *i*, Fig. 1, of the middle of the brake to vibrate the section pinion, and consequently to move alternately up and down the racks, and accordingly the levers, as one seen at *d*, *e*, Fig. 1.

d, *d*, Fig. 3 are joints in the connecting rods as above *d*, of Fig. 1. *e*, *e*, Fig. 3 shows the joining of the rods of the racks with the perpetual levers.

One or more perpetual levers may be placed on the capstan spindle for working the capstan. Fig. 4 shows the capstan spindle.

a is the usual pawl bed or plate, but I use pawls at every inch, or rather, the ratchet teeth are one inch apart, and 4 or more pawls or hands.

e, Fig. 2 may show the manner of attaching the ratchet to the spindle.

r, *r*, Fig. 1, shows the perpetual lever on the spindle.

s shows the body of the capstan.

t, *t*, Fig. 1, show rod and lever to convey motion to perpetual lever *r* from the brake.

t, *t*, Fig. 5, is the same as *t*, *x*, Fig. 1.

u, *u*, shows a double joint to connect the lever *t* with the frame or cap of the brake Fig. 1 so that the capstan may be worked at the same time with the windlass.

v, Fig. 1, shows a lever which may be connected with the perpetual lever, so that the capstan may be worked by hand; *u* is a socket to receive a rod to lengthen the lever.

When describing the perpetual lever it should have been mentioned that there are shoulders as *a x* and *a x* and *a x* in Fig. 2, and corresponding cavities in the case as *a x*, *a x* under *b*, and *b*. The main pressure

of the lever comes against these shoulders *a x*, *a x*.

What I claim as my invention and desire to secure by Letters Patent is—

The method of constructing the brake with the plates *j*, *j*, and cross piece *i*, *i*, in combination with the projecting stem *h*, of the pinion for the purpose and in the manner described.

WILLIAM HOLMES.

Witnesses:
MOSES CHASE,
JOHN W. POST.