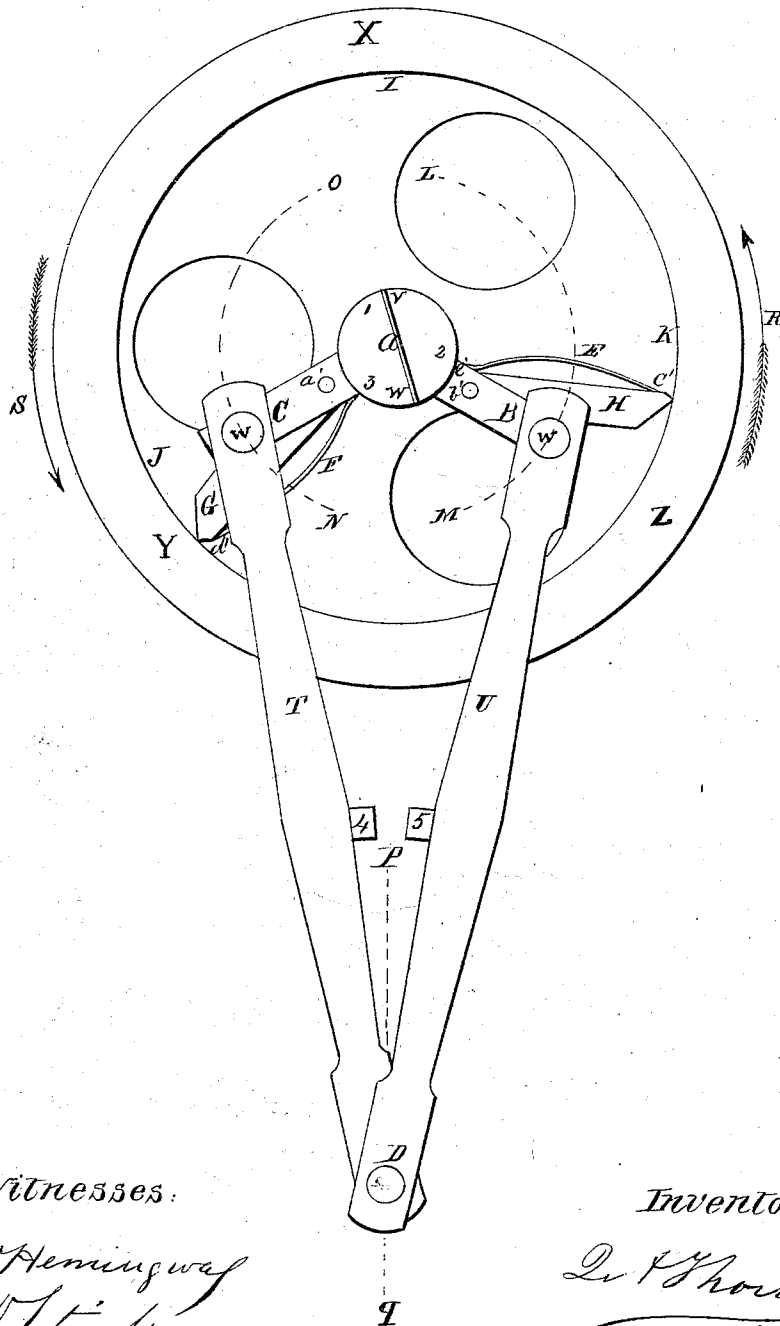


Q. A. THOMAS.
Pitman and Crank Motion.

No. 147,803.

Patented Feb. 24, 1874.



Witnesses:

Wm Hemingway
W. W. Stickney

Inventor:

Q. A. Thomas

UNITED STATES PATENT OFFICE.

QUINCY A. THOMAS, OF OXFORD, MICHIGAN.

IMPROVEMENT IN PITMAN AND CRANK MOTIONS.

Specification forming part of Letters Patent No. **147,803**, dated February 24, 1874; application filed August 2, 1873.

To all whom it may concern:

Be it known that I, QUINCY A. THOMAS, of Oxford, county of Oakland and State of Michigan, have invented certain Improvements in Pitman and Crank Motion, of which the following is a specification:

X Y Z represent a fly-wheel. T and U represent two pitmen attached to the common wrist D; I J K, a flange or band secured to the spokes of the fly-wheel; A B and A C, two levers attached to the common center A, and secured to the pitmen T and U at the points *w w*; 1 2 3, the cap of pivot, around which oscillate the levers A B and A C within the limits of the dotted arcs O N and L M; G and H, two pawls, secured to the levers A B and A C at the points *a'* and *b'*; E and F, two springs; V W, slot in which to insert screw-driver; 4 and 5, projections from pitmen T and U.

When the pitmen T and U are forced upward in the direction of P, the pawl H is thrown by the spring E against the inner surface of the flange I J K at the point *c*, and firmly stayed by means of the toggle-joint formed by the lever A B and the pawl H in the angle A *b'* *c'*, forced into action by the pitman U, and carrying with it the fly-wheel in the direction of the arrows R and S. While the pitman U is thus acting, the pitman T forces the toggle-joint A *a'* *d'* in a device exactly similar to that attached to the pitman U, already described, in an opposite direction, relieving the pawl G. When the wrist D reaches a point, P, and the levers B and C the points O and L, the two pitmen T and U come in contact at the projections 4 and 5, arresting

farther progress in the direction of P, relieving by their contact the pawl H. When the motion of the pitman is reversed in the direction of Q, the pawl G is brought to act in a manner similar to that already described by the pitman T, and the pawl H is relieved at the same time, carrying the fly-wheel in the direction indicated by the arrows R and S. When the wrist D reaches the point Q, and B and C reach M and N, the motion of the pitmen is again arrested by the contact of the pitmen at the points 4 and 5. Thus the pitmen act alternately in opposite directions, but always carrying the fly-wheel in the same direction.

I am aware that double pitmen have been connected to a treadle, and to separate toggle-jointed levers which are sleeved upon a common shaft; but in this construction the toggle-jointed levers are connected together by the wrist of the pitman, so that the lever holding the friction-pad which is brought in contact with the rim of the wheel is made so short that the purchase is too short to give bite enough to cause the device to act at all times; and such construction I do not claim; but

What I claim, and desire to secure by Letters Patent, is—

The combination of the pitmen T and U, pivoted to the levers A C and A B at *w* and *w*, the pawls G and H, pivoted at the points *a'* and *b'*, with springs E and F, substantially as and for the purposes hereinbefore set forth.

Q. A. THOMAS.

Witnesses:

WM. HEMINGWAY,
W. W. STICKNEY.