D. K. Peoples.

Paddle Wheel.

No. 30,087. Patented Sept. 18, 1860.

FIG. 1.

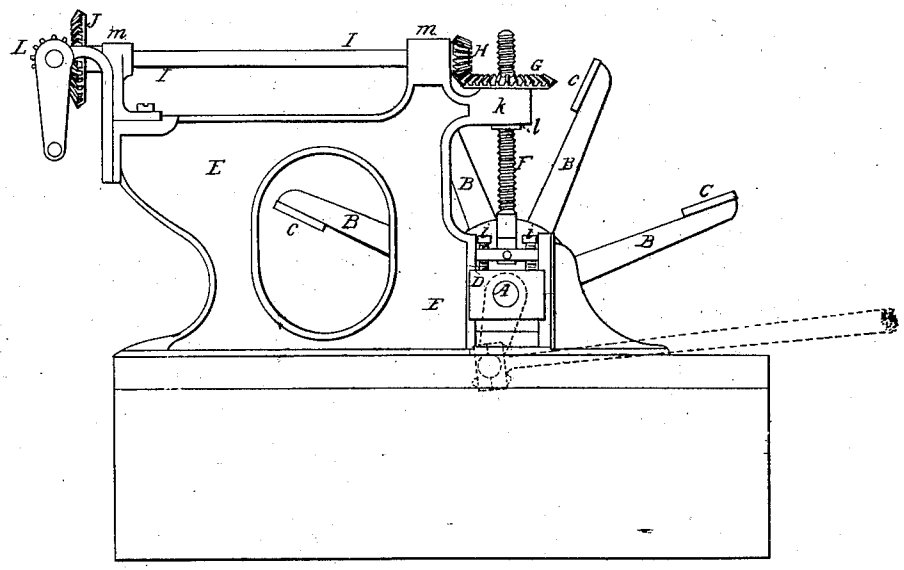


FIG. 2.

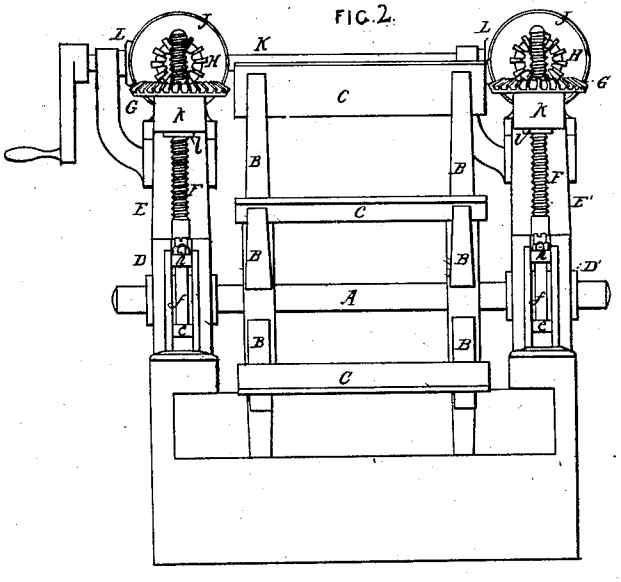
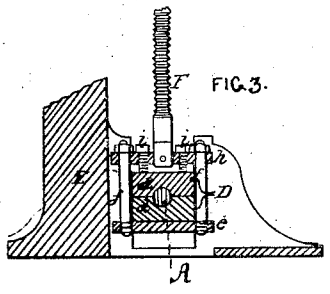


FIG. 3.



Witnesses:

Henry Howson

Charles C. Foster

Inventor

Daniel K. Peoples

UNITED STATES PATENT OFFICE.

DANIEL K. PEOPLES, OF PHILADELPHIA, PENNSYLVANIA.

STERN PADDLE-WHEEL.

Specification of Letters Patent No. 30,087, dated September 18, 1860.

To all whom it may concern:

Be it known that I, DANIEL K. PEOPLES, of the city of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Adjusting Paddle-Wheels for Steamboats; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing and to the letters of reference marked thereon.

My invention relates to an improved mode of raising and lowering paddle wheels so that the extent of the dip of their floats or paddles may be regulated to suit the amount of the load carried by the boat, and my invention consists in combining the shaft of a paddle wheel and the horizontal or diagonal engine or engines which operate the same, with sliding bearing blocks, certain screws, and the system of gearing described hereafter, or its equivalent, the whole being arranged and operating substantially in the manner explained hereafter, so that the said paddle shaft may be raised and lowered at pleasure without materially affecting the proper relative position of the different parts of the engine.

In order to enable others skilled in the art to make and use my invention I will now proceed to describe its construction and operation.

On reference to the accompanying drawing which forms a part of this specification, Figure 1, is a side view illustrating my improvement in adjusting paddle wheels. Fig. 2, an end view, and Fig. 3, a detached sectional view of the adjustable bearings.

Similar letters refer to similar parts throughout the several views.

A represents the shaft, B the arms, and C the paddles or floats of a paddle wheel such as is used at the sterns of river steam boats in connection with horizontal or diagonal steam engines, the connecting rod and crank of one of which are shown in red lines Fig. 1. The opposite ends of the shaft A, turn in the bearing blocks D and D′; the former being arranged to slide in guides formed on the standard E, and the latter in guides on the standard E′ both standards being secured to the framework of the boat in a suitable position near the stern.

The adjustable bearing blocks are constructed in the following manner: Each block D, (best observed on reference to Fig. 3,) consists of two halves *d* and *d′* having concave recesses adapted to the shaft, the lower half resting on a plate *e* which is connected to a plate *h* by means of the bolts *f f*, two set screws *i i* passing through this upper plate and bearing with their points on the upper half *d* of the box, to which half is connected the screw F one of which is applied to each standard in the manner described hereafter.

Each screw F is adjusted to and passes through a nut *l* which turns freely but can have no vertical movement in the projection *k* of the standard, above which the nut is furnished with a bevel wheel G gearing into a bevel pinion H on the shaft I which turns in suitable projections *m m* on the standard, the opposite standard being furnished with a similar system of gearing for operating the opposite screw.

Each shaft I is furnished with a bevel wheel J and a simultaneous revolving motion is imparted to the two shafts by a transverse shaft K furnished with two bevel pinions L L one of which gears into the bevel wheel J of one of the shafts I and the other into the similar bevel wheel of the opposite shaft.

It will be readily seen that by turning the shaft the two screws F are turned and consequently the opposite ends of the shaft A may be raised or lowered simultaneously and that the extent of the dip of the paddles in the water may be regulated to suit the load carried by the boat. It will also be seen that although the paddle wheel is completely under the control of the screws, the upper halves of the boxes may be adjusted to the lower halves and maintained tight against the shaft by the set screws *i i* without interfering with the screws F F or the gearing for operating the same.

It should be understood that the above mode of adjusting paddle wheels can only be applied to such as are used in connection with horizontal or diagonal steam engines so situated that the raising or lowering of the shaft by the movement of the blocks can have little or no effect as regards the changing of the relative position of the crank, cylinder, piston, and other parts of the engine—in other words, the center of the cylinder should be as nearly as possible in a line passing through the center of the paddle shaft and at right angles or nearly so to the slides in which the bearing blocks move and this when the shaft is situated midway be-

tween the two extremities of its vertical movement.

I do not desire to claim broadly the adjustability of paddle wheels by means of screws, as the latter have been resorted to heretofore for the purpose of raising and lowering the side wheels of steam boats; but

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

Combining the shaft A of a paddle wheel and the horizontal or diagonal engine which operates the same with the sliding bearing blocks D and D′, the screws F F, and the system of gearing herein described, or its equivalent, the whole being arranged and operating substantially as and for the purpose herein set forth.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

DANIEL K. PEOPLES.

Witnesses:

JOHN WHITE,

HENRY HOWSON.