

# UNITED STATES PATENT OFFICE.

JAMES H. ECHOLS, OF LYNCHBURG, VIRGINIA.

## PULLING UP ROPE YARNS.

Specification of Letters Patent No. 60, dated October 20, 1836.

*To all whom it may concern:*


Be it known that I, JAMES H. ECHOLS, of the town of Lynchburg, in the county of Campbell and State of Virginia, have invented a new and useful mode of pulling up hand-spun rope yarn spun at a ropewalk, of any size suitable for rope or twine on bobbins or spools as it is spun by means of an overhead track, of which the following is a full and exact description.

It is an overhead box way made of plank, and fastened to the underside of the joist or beams of the ropewalk, and so constructed in the inside as to carry little cars or carriages, the box-way must have an uninterrupted opening in the bottom, and each car or carriage, (which must not be less in number than the number of spinners) must have a tweezer or peg fastened to the underside, and to come down through the opening in the box-track to which the spinners when they spin out fasten their threads.

For a short ropewalk an uninterrupted twine, or wire with followers on them made to slip backward, and forward will answer the purpose, instead of the plank box-track above described, the followers are hung to the string or wire by wire staples or they may be fixed on wooden pulleys as in the model.

The ropewalk wheels, whirls, spindles, &c., are such as are in common use at all establishments.

We will take, say, a company of four spinners. They have two sets of wheels, whirls, &c., one at each end of the ropewalk with hooks in the joists or beams over head to put their threads in as they spin along with this overhead fixture right in the center of the walk over the heads of the spinners, the spinners upon the plan I am describing must have two wheel boys, or turners, one at each end. And there must be at each end also two separate wheels, with bands, whirls, spindles, &c., to work the bobbins on. These bobbin wheels are very simple, made to work by hand, or they could be worked by power, and are so constructed as to work the bobbin as it lies on the spindle in a horizontal direction. The four spinners now commence at one wheel, and spin down to the other wheel at the other end of the ropewalk, throwing their threads in the hooks over their heads on one side of the box-track, (or over-head fixture) taking care that the hooks on either side of the

box-track, or overhead fixture shall be so arranged that the one nearest to the track on either side shall be a little higher than the second one, and the second a little higher than the third, the third a little higher than the fourth, so that the row say eight hooks four on each side of the track will have some resemblance of the letter A, though spread out wide more in this shape , the four spinners after getting down find the little cars or carriages over their heads, they each put his thread in the tweezer or round the peg in the car and turn round, and spin up from off the other wheel on the other hooks that are on the opposite side of the track. And while they are spinning up the wheel boy or turner that turned for them to spin down is putting up their first spun threads on bobbins with the bobbin wheel, the operation of which brings up the car or follower, which holds on to the end of the thread, and the box-track or fixture being above the highest hooks lifts the thread very neatly out, which makes the operation simple, convenient, and beautiful, by the time the wheelboy gets up the four threads the spinners will be up to their first wheel, again, where they find their cars or carriages ready to fasten their threads to, they then turn about, and spin down again on their first side, and in the meanwhile their second wheelboy is putting up their second set of threads on the bobbin wheel below, which he has done by the time the spinners get down again. By this plan the spinners lose no time in walking back to their wheel, and the time of both the wheel boys are filled up in turning, and putting the yarn on bobbins alternately.

The advantages set forth by this plan of work are as follows: First the turning of rope yarn from off the bobbins in sizes as you want to make the rope, you put the threads through the gage, and use a tube to force back the extra tar instead of a nipper. Another advantage is it prepares it for making white rope for rigging, &c., on what is termed the patiat plan, which is the most approved plan now in use, it puts it on the bobbins at once when it is ready to be made into rope. Another, and by far the most important advantage is that the spun stuff put on bobbins, neatly spliced together makes one continual thread for perhaps a dozen times the length of the ropewalk or more, which prepares it for being



made into rope or twine of any kind or quality that may be wanted by machinery similar to the spindles, and flyers and heart motion of cotton factory machinery, this last  
5 named advantage of this improvement is no doubt to produce a great change in the manufactory of twine, and cordage made of hemp or flax.

I am using a machine now for making  
10 twine, and find great advantage from it. There are various ways in which this improvement may be used to advantage though they are of less importance and perhaps not necessary to name, as any change will readily suggest itself to practical men.  
15

What I claim as new and as my own in-

vention, and discovery, and for which I ask exclusive privilege is—

The over-head box-way with cars or carriages, or the twine or wire with followers  
20 for the convenience of putting up rope-yarn, or yarn for twine on spools or bobbins, thereby placing it in a convenient shape to be manufactured into rope or twine of any kind or size upon the different kinds of ma-  
25 chinery, now in common use, and to which I lay no claim.

JAMES H. ECHOLS.

Witnesses:

SAMUEL STEEL,  
B. WOODWARD.