

(No Model.)

T. V. ALLIS.  
WIRE ROD REEL.

No. 458,760.

Patented Sept. 1, 1891.

Fig-2.

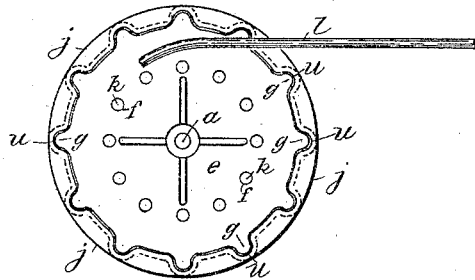


Fig-1

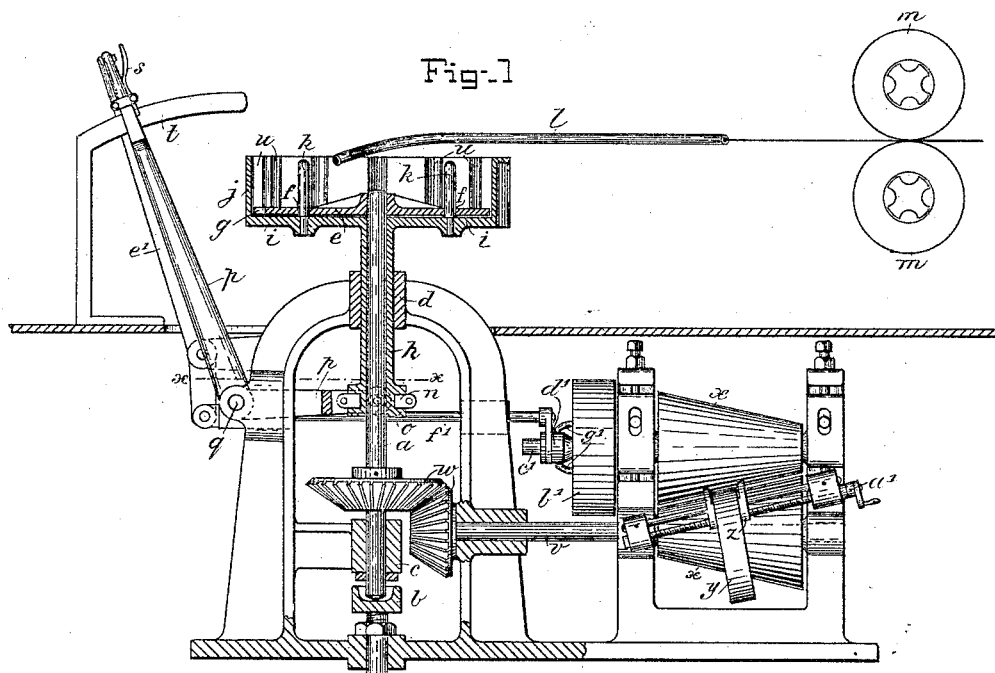
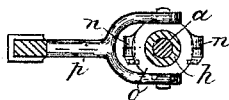


Fig-3.



WITNESSES:

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INVENTOR:

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By A. O. Thayer.  
atty

# UNITED STATES PATENT OFFICE.

THOMAS V. ALLIS, OF NEW YORK, N. Y.

## WIRE-ROD REEL.

SPECIFICATION forming part of Letters Patent No. 458,760, dated September 1, 1891.

Application filed November 15, 1890. Serial No. 371,566. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS V. ALLIS, a citizen of the United States, and a resident of New York city, in the county and State of New York, have invented new and useful Improvements in Wire-Rod Reels, of which the following is a specification.

My invention consists in an improved contrivance of reels for receiving and coiling wire rods as delivered direct from the rod-rolling mill without allowing them to run out and loop on the floor; also to facilitate the discharge of the rods from the reel when coiled, as hereinafter fully described, reference being made to the accompanying drawings, in which—

Figure 1 is a sectional elevation of my improved reel and side elevation of some of the driving-gear, and it shows the rod-guide and a pair of rolls from which the rods are delivered to the reel. Fig. 2 is a top view of the receptacle in which the coil is formed, and Fig. 3 is a detail of some of the working parts in horizontal section on line *x x* of Fig. 1.

On the top of a vertical shaft *a*, having suitable bearings, as at *b c d*, or in any approved arrangement, so that said shaft projects a suitable distance above its supports, I mount a disk or table *e*, as large as the diameter of the coils to be made and having a series of vertical holes *f* through it in a circle equal to the inside diameter of said coils, and I prefer to make said disk with projections *g* from the periphery at intervals along the same. Under said table and on a sleeve *h*, fitted on shaft *a* and preferably extending down through the upper bearing for said shaft, I arrange the disk *i*, or it may be arms of a spider having a vertical curb *j*, surrounding table *e* and of a height above said table equal to or greater than the thickness of the coil to be made. Said disk *i* is provided with a series of vertical stud-pins *k*, adapted to project through the holes *f* of the table, said stud-pins projecting upward about the same height as the curb *j* and forming the inside limit. The curb *j* forms an outside wall, between which and the stud-pins is the annular space in which the coils are to be laid, the rods being delivered into said space from the guide-tube *l*, through which they run from the last pair of rolls *m* of the rod-mill. The sleeve *h* is

fitted to slide up and down freely on the shaft and in the bearing at *d*, and its lower end is supported on the ring *n*, to which it is connected by its grooved hub *o*, said ring having its support in the forked end of an elbow-lever *p*, in which it is properly pivoted. Said lever has a fulcrum *q* at its elbow suitable for shifting the sleeve up and down, and the lever is provided with a latch *s* and a notched catch-bar *t* for holding up the disk in the position represented in Fig. 1 for receiving the rods within its curb.

It will be seen from the foregoing description that when a coil is to be discharged it will be instantly relieved of confinement between the stud-pins and the curb by unlatching lever *p* and shifting it forward, so as to let them drop to the level of the table *e* or below. The coil may then be readily thrust off sideways onto a car or other receptacle. The pins and the curb can then be shifted up and latched again preparatory to receiving another coil. The curb *j* is made with grooves *u* in the inside, providing space for the projections *g*, or it may be slotted for them. The projections are provided for extending outward under the outermost layers of the coil for more effectually preventing them from wedging in the space between the periphery of the table and the inner wall of the curb, as they might be liable to do if both were made in true circles with allowance for expansion and contraction. The shaft *d* is geared with the driving-shaft *v* by the bevel gear-wheels *w*.

For a means of readily changing the speed of the reel while in motion and to adjust it accurately to the delivery of the rods I employ the belt-gripping cone-pulleys *x*, with the slack belt *y* between them, and the belt-shifter *z* and shifting-screw *a'*, by which it will be seen that the speed can be easily and accurately gaged, as may be required, which will be indicated by the slackness or tightness of the rods as they pay onto the reel. The reel has to be stopped quickly when the coils are to be removed, for which any kind of friction-clutch may be employed. What I represent for the purpose consists of a driving-pulley *b'* on the shaft *c'* of one of the cone-pulleys, with a sliding cone *d'* connected with the clutch-lever *e'* by the rod *f'* and working between the jaws *g'*, which by being forced

apart by the cone clutch the pulley and the shaft together and release them when the cone is shifted back in the well-known manner of such clutches.

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

1. The combination, with the rotating table having the series of pin-holes, of the disk below having the stud-pins and curb projecting  
10 above said table through the holes and around it, respectively, and adapted to be lowered to the level of the table, and shifting devices for controlling said disk, substantially as described.

15 2. The combination, with the rotating table having the series of stud-pin holes and the peripheral projections, of the disk below having the stud-pins, the grooved curb projecting above said table and adapted to be

lowered to the level of the table, and shifting  
20 devices for controlling said disk, substantially as described.

3. The combination, with the rotating table having the series of stud-pin holes, of the disk  
25 below fitted to the shaft of the table by the sleeve and having the series of stud-pins and the curb projecting above said table, and the lever coupled with the sleeve and adapted for lowering and raising said disk, substantially  
30 as described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 14th day of November, 1890.

THOMAS V. ALLIS.

Witnesses:

ANSON P. THAYER,  
W. J. MORGAN.