N. VAN LOON.

MACHINE FOR MAKING WIRE-ROPE.

No. 187,943. Patented Feb. 27, 1877.

Fig. 1.

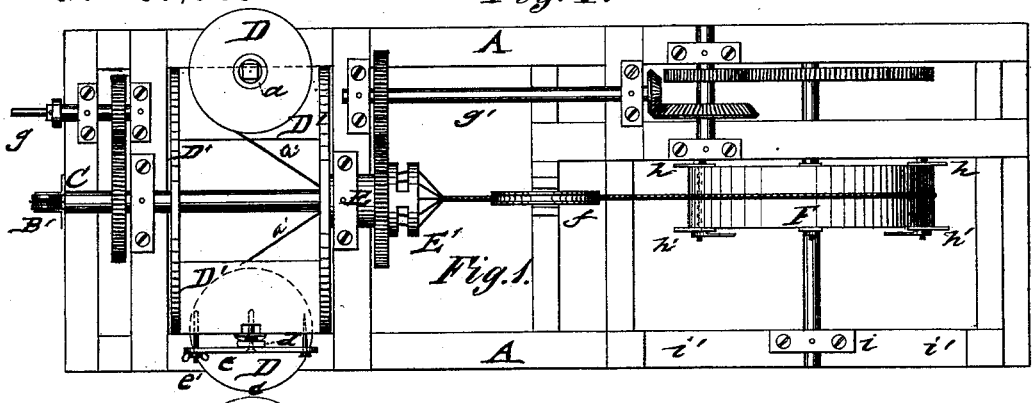

Fig. 2.

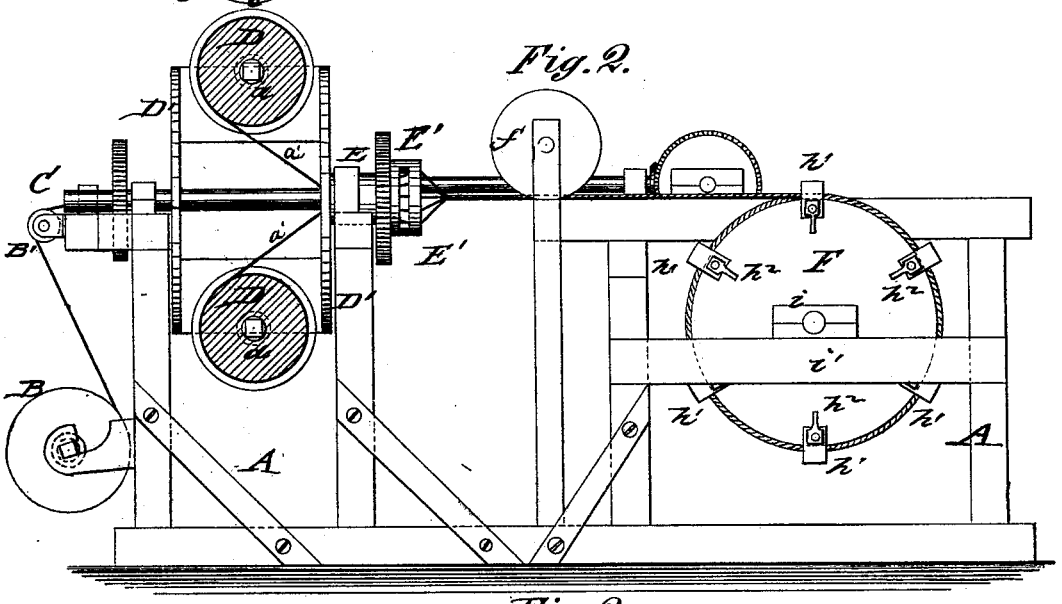

Fig. 3.

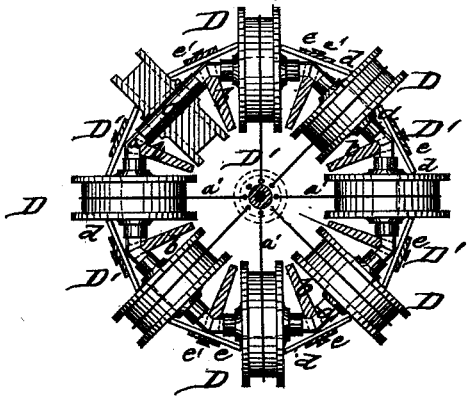

Fig. 4.

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NICHOLAS VAN LOON, OF ST. CLOUD, MINNESOTA.

IMPROVEMENT IN MACHINES FOR MAKING WIRE ROPE.

Specification forming part of Letters Patent No. **187,943**, dated February 27, 1877; application filed July 11, 1876.

To all whom it may concern:

Be it known that I, NICHOLAS VAN LOON, of St. Cloud, in the county of Stearns and State of Minnesota, have invented a new and Improved Machine for Making Wire Rope, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a top view, Fig. 2 a sectional side elevation, and Fig. 3 a vertical transverse section on line *c c*, Fig. 1, of my improved machine for making wire rope; and Fig. 4 a detail front view of the spinning disk or die.

Similar letters of reference indicate corresponding parts.

The invention relates to an improved machine for making wire ropes of any size in a rapid and perfect manner; and the invention consists of a system of wire-carrying bobbins or wheels mounted in a rotable frame, having a hollow shaft or axis, on the inner end of which is fixed a perforated die or spinning-disk. The wires wound upon said bobbins pass through the spinning-disk, and are wound around a core or wire which passes through the hollow shaft, as hereinafter described.

The invention further relates to the means for steadying the aforesaid bobbins in the rotable frame.

In the drawing, A represents the supporting-frame of my improved wire-rope machine, and B the bobbin or spool, from which the central or core wire of the rope is unwound. The wires composing the exterior portion of the rope are wound on separate bobbins D, which are mounted loosely on fixed shafts *a*, seated in bearings *b* of a rotable frame, D′, the said pulleys being retained and steadied in a position radial to the axis C of the rotable frame D′, by means of cross-pieces *d* secured by clamp-plates *e* and set-screws *e′*. (See Figs. 1 and 3.)

The exterior wires *a′* pass from the radial pulleys D through holes of the revolving frame D′, formed in a circle concentric with the axis C, into a guide-cylinder, E, and issue thence through the holes of a spinning die or disk, E′.

The rope is formed by the rotation of the wheel-frame and disk, the wires *a′* being thus wound or laid spirally around the central wire which passes from bobbin B over pulley B′, and thence through shaft or axis C and disk E′. The rope thus formed passes below or around a stretching-pulley, *f*, to a drum, F, on which the finished rope is wound up.

The machine is set in motion by hand or power, as desired, the starting-crank *g*, when worked by hand, being near the supply-bobbins, a gear-wheel of the crank-shaft meshing with a gear-wheel on the shaft of frame D′, which again gears, by a cog-wheel on guide-cylinder E, with an intermeshing-wheel of a transmitting-shaft, *g′*, which imparts, by intermediate gearing, motion to the winding-drum. The stretching of the end of the wire-rope by the drum, in connection with the turning of the pulley-frame and continuous feeding of the wires, forms the rope at the spinning die or disk.

The drum F is provided at one side with fixed lugs *h*, for retaining the wire rope on the drum, and at the other with movable lugs h^1, which are attached by means of clamp-screws h^2, to be detached or carried to the inside of the circumference of the drum F, when the coil of rope is to be taken off the drum.

The side bearing *i* of the drum is removable from the drum-shaft, and also the cross-piece *i′*, to which the bearing is attached, from frame A, so that the coil may be conveniently removed from the drum without detaching the same from the supporting-frame.

The machine is easily operated by revolving the crank after the wires are stretched, and ropes of every desired thickness and number of wires manufactured by the same in a rapid and uniform manner.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The drum F, provided at one side with the fixed lugs *h h*, and at the other side with the movable lugs h^1 h^1 attached to said drum by the clamp-screws h^2 h^2, substantially as described, and for the purpose set forth.

2. The drum F, provided with fixed and movable lugs, constructed as described, in combination with the removable cross-piece *i'*, and detachable side bearing *i*, substantially as and for the purpose set forth.

3. The combination of the radially-supported wire-guiding pulleys or wheels with lateral steadying-pieces and clamp devices, substantially as specified.

NICHOLAS VAN LOON.

Witnesses:
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