

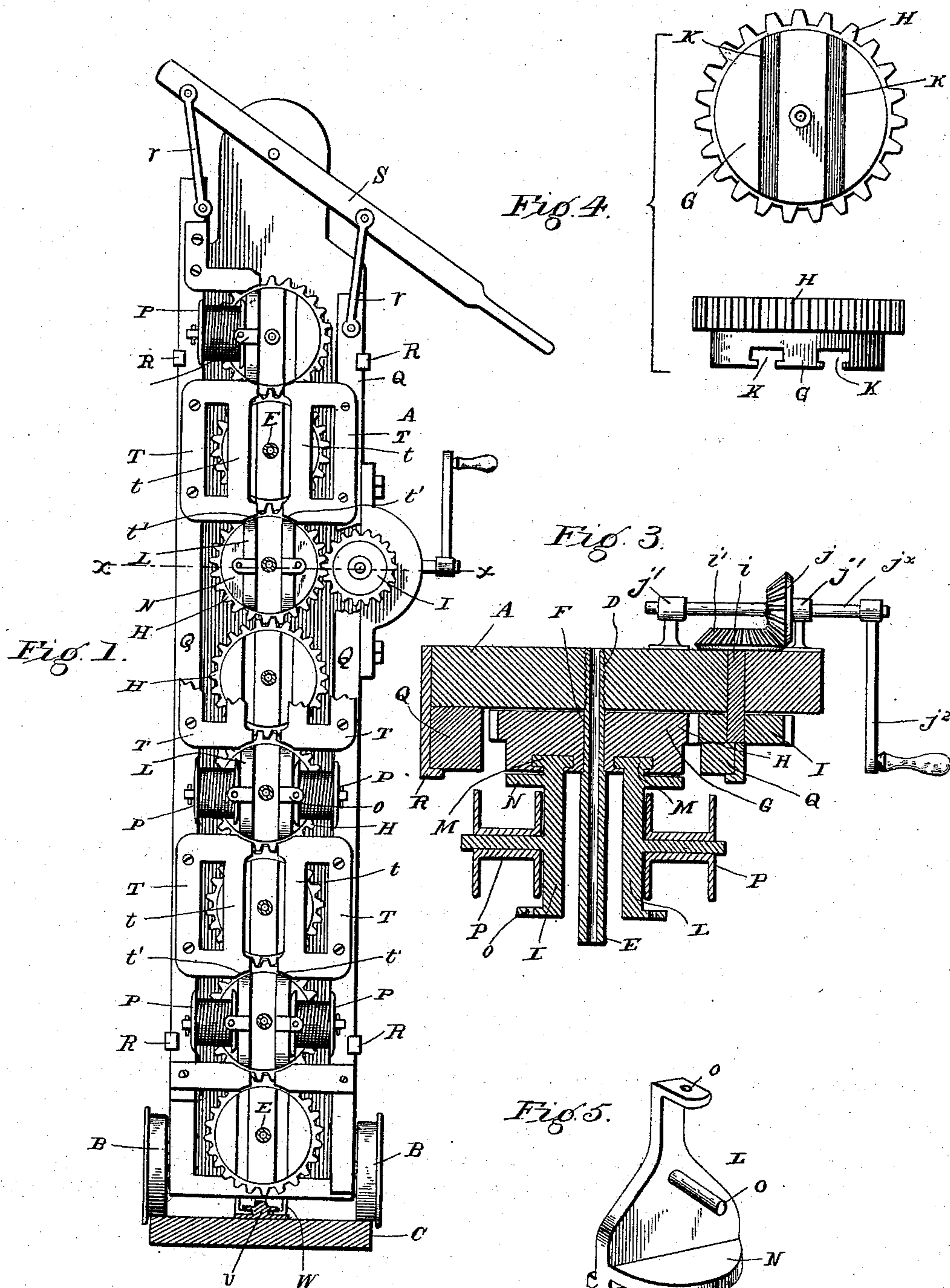
(No Model.)

2 Sheets—Sheet 1.

J. C. POPE.
WIRE FABRIC MACHINE.

No. 505,607.

Patented Sept. 26, 1893.



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Fig. 2.

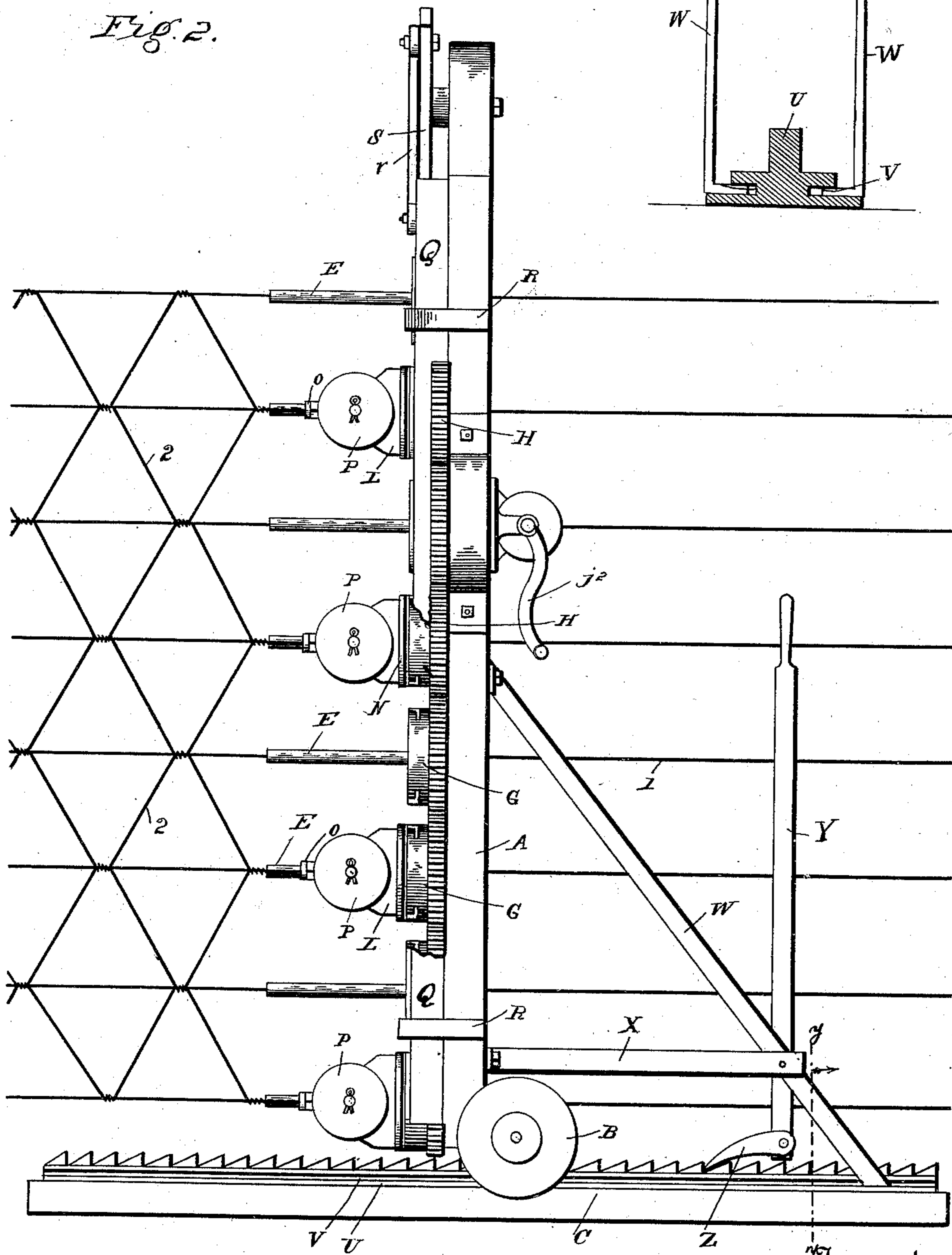
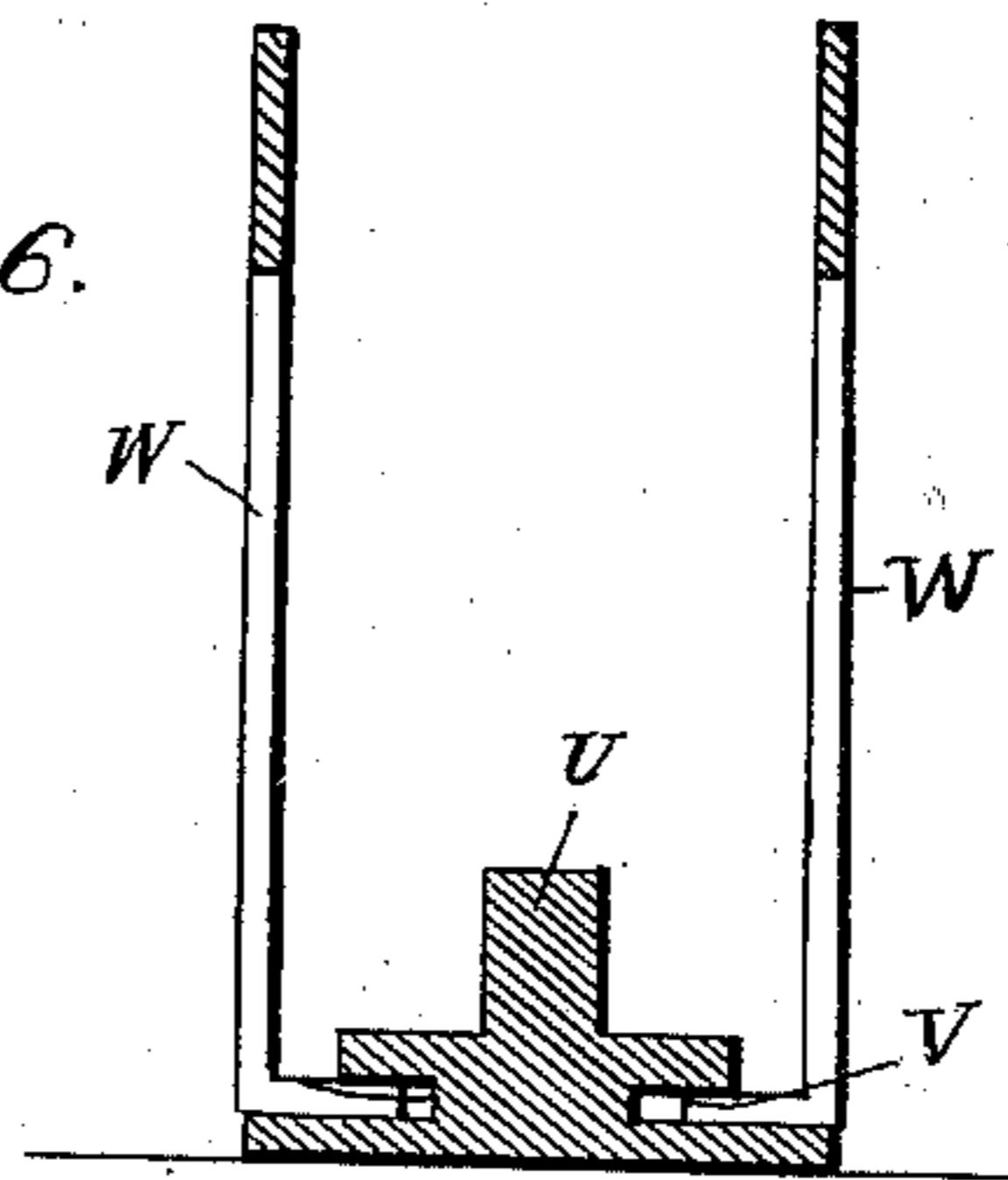


Fig. 6.



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UNITED STATES PATENT OFFICE.

JOHN C. POPE, OF FOX, ILLINOIS, ASSIGNOR TO ALVA L. KITSELMAN AND
DAVIS M. KITSELMAN, OF RIDGEVILLE, INDIANA.

WIRE-FABRIC MACHINE.

SPECIFICATION forming part of Letters Patent No. 505,607, dated September 26, 1893.

Application filed May 2, 1893. Serial No. 472,676. (No model.)

To all whom it may concern:

Be it known that I, JOHN C. POPE, a citizen of the United States, residing at Fox, in the county of Kendall and State of Illinois, have
5 invented a new and useful Wire-Fabric Machine, of which the following is a specification.

This invention relates to wire fabric machines; and it has for its object to provide certain improvements in machines of this
10 character which are specially adapted for being moved along in a straight line, during work, for the purpose of weaving a line of woven wire fencing.

To this end the main and primary object of
15 the present invention is to simplify the construction of wire fabric or wire fence machines, so as to render the same very easily manipulated, while at the same time quite efficient in operation to quickly weave a line
20 of fabric or fencing.

With these and other objects in view which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination and arrangement of parts hereinafter more fully
25 described, illustrated and claimed.

In the accompanying drawings:—Figure 1 is a front elevation of a wire fabric machine constructed in accordance with this invention.
30 Fig. 2 is a side elevation partly in section of the same, showing the machine in operative position. Fig. 3 is an enlarged transverse sectional view on the line $x-x$ of Fig. 1. Fig. 4 is a detail elevation and top view of
35 one of the twister wheels. Fig. 5 is an enlarged detail in perspective of one of the shiftable spool carriers. Fig. 6 is an enlarged detail sectional view on the line $y-y$ of Fig. 2.

Referring to the accompanying drawings,
40 A represents the upright frame of the machine, supported at its lower end on the opposite flanged traveler wheels B, which are adapted to move on opposite side edges of the stationary ground track C, which will be more
45 particularly referred to as providing means whereby the machine can be easily moved along as the weaving progresses.

The frame A, is illustrated as being a single vertical upright frame piece, which is of
50 a suitable height to adapt it for weaving any height of fence, and is provided with a lon-

gitudinal series of regularly spaced threaded openings D, which receive the inner threaded ends of the stationary elongated warp wire tubes E. The warp wire tubes E, may of
55 course be secured at their inner ends into the upright frame A, so as to align with the openings or perforations D, therein, and project a distance beyond one side of the frame so as to form guides for the longitudinal line or
60 warp wires L. The elongated tubes E, which project a distance beyond one side of the frame A, are provided adjacent to such frame with the reduced spindle portions F, which form bearings for the vertical series of inter-
65 meshing twister wheels G.

A twister wheel G, is loosely journaled on each of the tubes E, alongside of the frame A for a fixed rotation, and each twister wheel is provided at its inner sides and edges with
70 the cog gear H, which intermeshes with the corresponding gear of the adjacent vertically aligned wheels, so that when one wheel is put in motion, a simultaneous motion will be communicated to every wheel in the ver-
75 tical series, in order to weave the weft wires onto the longitudinal warp wires.

Motion is communicated to the vertically aligned series of twister wheels G, by means of the small drive pinion I, secured on one
80 end of the counter-shaft i , journaled at one side of the frame A, and carrying at its other end the beveled gear wheel i' . The beveled gear wheel i' , meshes with a corresponding gear j , keyed on the shaft j^x , which is jour-
85 naled in bearing brackets j' , at the rear side of the frame A, and carries at its outer extremity, the crank handle j^2 , by means of which the operator turns the twister wheels, in twisting the meeting weft wires around
90 the warp wires or onto each other.

The twister wheels G, are provided in their outer faces or sides, opposite their cog gears, with the parallel rabbeted grooves K, which are arranged on each side of the tubes E,
95 which project through the wheels, and said rabbeted grooves K, are designed to be aligned with the corresponding grooves of the adjacent wheels, in order to provide means for shifting the sliding spool carriers L, carried
100 thereby. The sliding spool carriers L, are single castings having at their inner edges

the flanged slide tongues M, which register with the rabbeted grooves of the twister wheels, and are adapted to slide in the aligned grooves, so that the carriers can be shifted from wheel to wheel. The said carriers L, are further provided near their slide tongues with the laterally extended guide or rest flanges N, which are adapted to overlap the outer faces of the twister wheels, and have circular edges corresponding to the circle of the wheels so that the carriers are held in position in each of the wheels, during rotation, as will be more clearly seen in connection with the shifting devices to be presently described, and the said spool carriers are further provided with the off-standing spool spindles O, and the perforated guide lugs o, at their outer extremities, to form guides for the weft wires 2, carried on the wire spools P, which are mounted on the spindles O, and adapted to be shifted with the carriers from twister wheel to twister wheel.

As is well understood by those skilled in the art, during the operation of weaving the weft wires onto the warp wires, every alternate twister wheel is active, and, except when twisting on the top and bottom wires, when there is an uneven number, carry the spools in pairs, so that the weft wires can be either twisted together or onto the warp wires, and after being twisted, these spool carriers must then be shifted to those twister wheels which were previously inactive, so that the weaving of the fabric or fence may be properly effected. In order to provide for easily and quickly shifting the spool carrier from one wheel to another, I employ the oppositely moving slide bars Q. The oppositely moving slide bars Q, are held in a sliding position at opposite side edges of the frame A, by means of the flanged guide clips R, secured to opposite side edges of the frame and embracing the outer edges of said slide bars, and to the upper ends of each of said bars are pivotally attached the links r, connected to opposite portions of the shifting lever S, pivoted to the top of the frame A, to provide means for easily moving the slide bars up and down.

Fixedly secured to the front faces of each of the opposite slide bars Q, are the oppositely arranged shifting plates T. The shifting plates T, are approximately rectangular in shape and are provided with the adjacent inner side portions t, which are adapted to cover or partly cover the slots of the twister wheels which are inactive, and the inner covering side portions t', of the shifting plates, terminate at their extremities in the curved shifting edges t''. The curved shifting edges t'', of the shifting plates, correspond to the curvature of the guide flanges N, of the spool carriers, so that when the active wheels carry the spool carriers around therewith, the said curved shifting edges, of the shifting plates, hold the spool carriers into the shifter wheels, and prevent the same from working into the grooves of the inactive wheels. On the other

hand, when the parallel grooves of the entire vertical series of wheels have been brought into perfect alignment with each other, by manipulating the lever S, the shifting plates slide the spool carriers into the adjacent twister wheels, it being apparent that, when shifted, the spool carriers in one wheel will be shifted into an upper and a lower wheel, respectively.

From the foregoing it will be apparent how a line of wire fabric or wire fence can be easily woven from the machine described, and now returning to the means for moving the machine along as the weaving progresses, it will be seen that the stationary ground track C, is provided with a longitudinal ratchet flange U, at each side of the base of which are formed the longitudinal guide grooves V. The longitudinal guide grooves V, receive the lower flanged ends of the diagonal combined brace and guide arms W, secured at their other upper ends to the frame A, and braced from the same by the off-standing brace bars X. Pivoted between the guide arms W, is the vertical dog lever Y, to the lower end of which is pivoted the gravity dog Z, which engages the ratchet flange U, in order to provide for drawing the machine along the ground to advance the weaving.

It is now thought that the construction, operation, and many advantages of the herein-described wire fencing or fabric machine will be readily apparent to those skilled in the art, and I will have it understood that changes in the form, proportion and the minor details of construction as embraced within the scope of the appended claims may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

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

1. In a wire fabric machine, the upright frame piece having a series of regularly spaced openings, stationary elongated warp wire tubes fitted at one end in said openings, a vertically aligned series of intergeared twister wheels loosely journaled on said stationary tubes and having parallel face grooves, shiftable spool carriers having tongues registering with the grooves in said wheels, and shifting devices for sliding the spool carriers from one wheel to the other, substantially as set forth.

2. In a wire fabric machine, a vertically aligned series of intergeared twister wheels having parallel rabbeted grooves, and shiftable spool carriers having flanged slide tongues adapted to fit in the rabbeted grooves of said twister wheels, substantially as set forth.

3. In a wire fabric machine, the upright movable frame having a longitudinal series of wire openings, elongated wire tubes secured at their inner ends in said openings, and

provided near the frame with reduced spindle portions, grooved twister wheels journaled on the spindle portions of said tubes and having cog gears intermeshing, and shiftable spool carriers having tongues fitting the grooves of said twister wheels, substantially as set forth.

4. In a wire fabric machine, the frame, a vertical series of elongated warp wire tubes fitted at their inner ends into the frame, a vertically aligned series of intergeared twister wheels journaled on said tubes alongside of the frame and having parallel rabbeted grooves in their outer faces at each side of said tubes, and shiftable spool carriers having flanged slide tongues adapted to fit in said rabbeted grooves, substantially as set forth.

5. In a wire fabric machine, the combination of vertically aligned intergeared twister wheels having rabbeted grooves in their outer faces adapted to be aligned, and shiftable spool carriers having flanged slide tongues adapted to fit in the rabbeted grooves of the wheels, laterally extended guide flanges overlapping the outer faces of the wheels, off-standing spool spindles, and perforated wire guide lugs at their outer extremities, substantially as set forth.

6. In a wire fabric machine, the combination of a series of intergeared twister wheels having parallel grooves in their outer faces, shiftable spool carriers having tongues fitting the grooves of the wheels, and laterally extended curved guide flanges N overlapping the outer faces of the wheels at one side of the grooves therein, and oppositely and vertically moving shifting plates having curved shifting edges adapted to fit the curved guide flanges of the carriers, substantially as set forth.

7. In a wire fabric machine, the upright movable frame, a vertically aligned series of intergeared twister wheels mounted on said frame and having parallel rabbeted grooves in their outer faces adapted to be aligned, shiftable spool carriers having flanged slide tongues fitting the face grooves of the wheels,

and off-standing curved guide flanges N overlapping the outer faces of such wheels, oppositely moving slide bars arranged at opposite edges of the frame, and oppositely arranged shifting plates attached to each of said slide bars and having adjacent inner side portions, and curved shifting edges t' at the extremity of said side portions adapted to fit the curved guide flanges of the carriers, substantially as set forth.

8. In a machine of the class described, the combination of the stationary ground track having a longitudinal ratchet flange and longitudinal guide grooves at the base of such flange, the traveling machine frame carrying flanged traveler wheels adapted to move on the opposite side edges of said track, combined brace and guide rods attached to the machine frame and having lower flanged ends fitting said longitudinal guide grooves, and a vertical dog lever pivoted between said arms and carrying a gravity dog adapted to engage said ratchet flange.

9. In a wire fabric machine, the upright frame having openings, stationary warp wire tubes secured to said frame and aligning with the openings therein, a series of aligned twister wheels loosely journaled on said stationary tubes, and shiftable spool carriers mounted to slide on said wheels, substantially as set forth.

10. In a wire fabric machine, the upright frame having openings, stationary warp wire tubes fitted at one end in said openings, a series of aligned twister wheels loosely journaled on said stationary tubes, and shiftable spool carriers having a sliding tongue and groove connection with the twister wheels, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN C. POPE.

Witnesses:

JOHN FITZGERALD,
GEORGE F. POPE.