(No Model.)

# C. CONNER.

## WIRE WRAPPING OR COVERING MACHINE.

No. 298,179. Patented May 6, 1884.

Fig. 1.

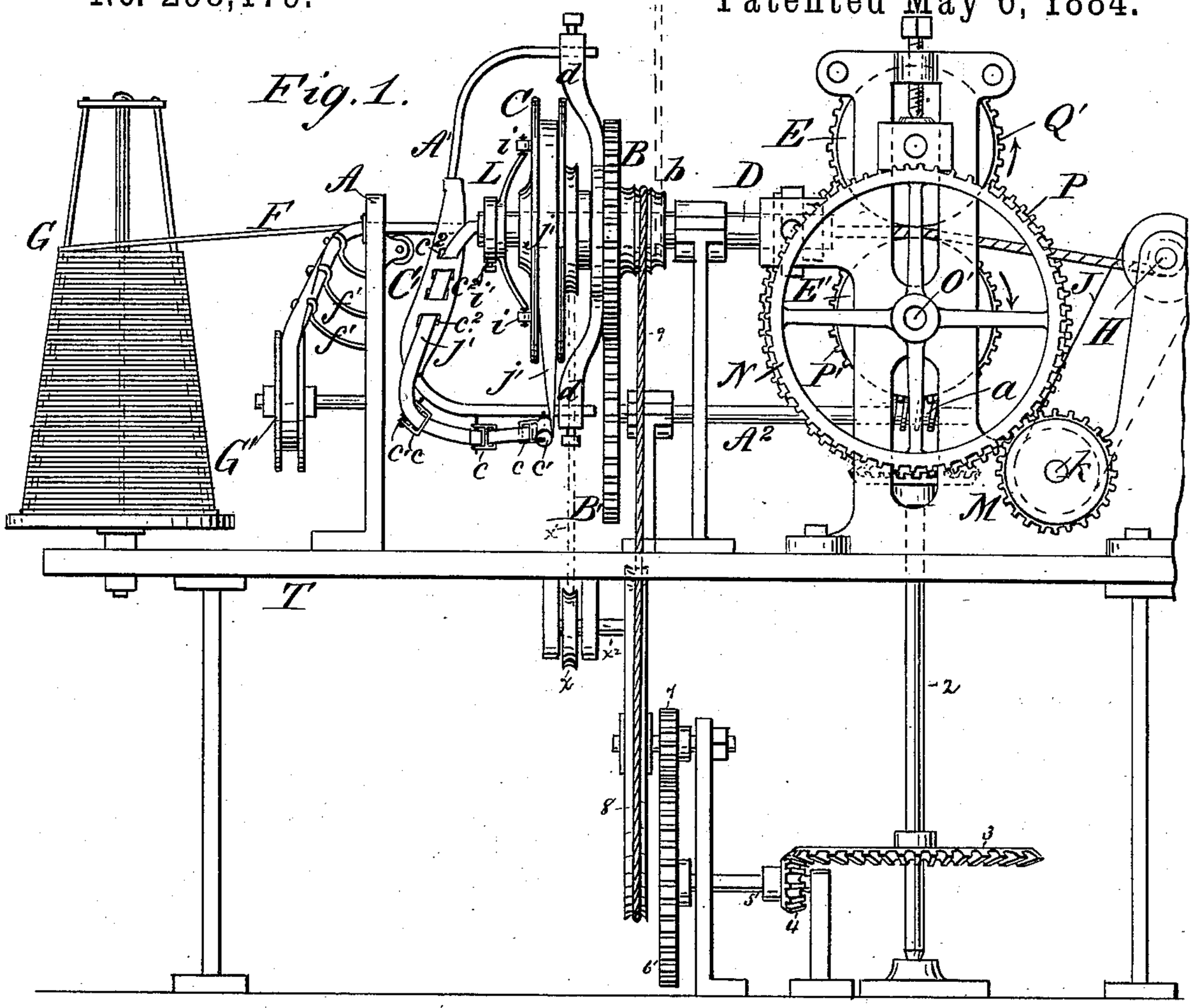



Fig. 2.

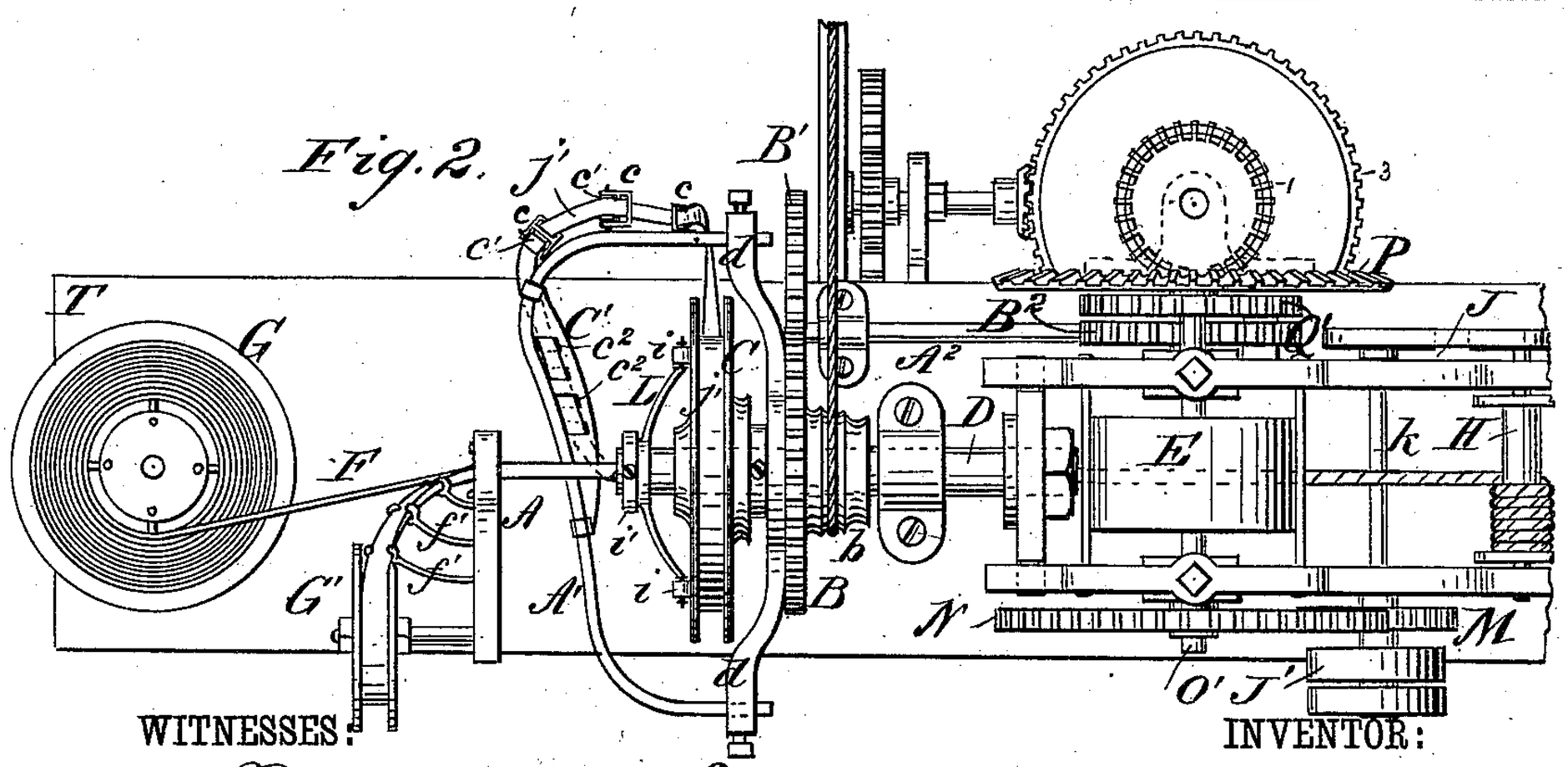
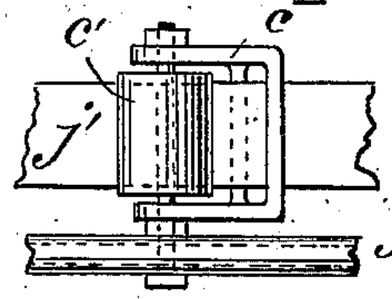



Fig. 3.

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# UNITED STATES PATENT OFFICE.

CHARLES CONNER, OF ASHTABULA, OHIO.

## WIRE WRAPPING OR COVERING MACHINE.

SPECIFICATION forming part of Letters Patent No. 298,179, dated May 6, 1884.

Application filed June 15, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES CONNER, of Ashtabula, in the county of Ashtabula and State of Ohio, have invented a new and useful Improvement in Wire Wrapping or Covering Machine, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

This invention relates to wire wrapping or covering machines such as shown and described in Patent No. 278,099, dated May 22, 1883; and it consists, principally, of such arrangement of the gearing and other parts of the machine that the power for driving it may be applied either from an overhead shaft directly to the principal moving parts of the machine, or by the mechanism shown in said patent, as may be desired; also, of a bow or rod and tension and guide plates for the ribbon, arranged to be carried around the wire for wrapping the ribbon spirally upon it, thus avoiding the necessity of carrying the ribbon-reel bodily around the wire, as in said patent; and, also, of the construction, arrangement, and combination of parts, all as hereinafter described and claimed.

In the drawings, Figure 1 is a side elevation of my new and improved wire wrapping or covering machine. Fig. 2 is a plan view of the same; and Fig. 3 is a detail plan view of a portion of the bow or rod, showing one of the friction-rollers and plates for guiding the strip or ribbon.

In this machine, instead of attaching the reel C, on which the wrapping strips or ribbon *j'* is wound, to a plain revolving disk, as in my above-mentioned patent, I journal it loosely upon the sleeve D; and in place of the plain revolving disk mentioned in said patent, I journal upon the sleeve D the cog-wheel B, which is provided upon one side with the cone-pulley *b* and upon the other with the radial arms *d d*, in the outer ends of which are held, by set-screws or by other similar means, the ends of the bent rod or bow A', to which is attached the ribbon tension-plate C', guide-plates *c c*, and friction-rollers *c' c'*. The cog-wheel B meshes with the cog-wheel B', arranged below upon the horizontal shaft $A^2$. This shaft $A^2$ has the worm *a* keyed upon it, which meshes with the cog-wheel $B^2$, secured upon one end of the shaft O'. The beveled cog-wheel P, which is normally keyed to the shaft O', is adapted to be easily loosened or unkeyed therefrom. The cog-wheel P' meshes with the cog-wheel Q' on a shaft above the shaft O', and upon the other end of the shaft O' is secured the large cog-wheel N, which meshes with the cog-wheel M on shaft K, which communicates motion through belt J to winding-drum H, so that when wheel P is unkeyed from shaft O', and power is applied to cone-pulley *b*, and cog-wheel B revolved, the rubber drawing-rollers E E' and drum H will be revolved through this system of gearing above described, for drawing the wire, F, to be covered from reel G through sleeve D, and winding it upon drum H, as will presently appear. The rod or bow A', when the cog-wheel B is revolved, will be carried rapidly around the wire F and reel C, so that the ribbon *j'*, passing first from reel C through guide-plates *c c*, then through the slots $c^2$ $c^2$ in the tension-plate C', thence to the wire, will be carried around and spirally wrapped upon the wire in front of the sleeve D, the same as in said patent.

L is a tension device for the reel C. It is made bow-shaped, and is provided at its ends with the small rubber rollers *i i*, and is placed loosely upon the sleeve D, so that the rollers *i i* will bear against the side of the reel C, as shown, and it is adapted to be adjusted upon the sleeve D to exert a greater or less pressure upon the reel by means of the adjustable collar *i'*, placed upon the sleeve D.

The plates *c c* are provided for the purpose of guiding the ribbon *j* from the reel C to the tension-plate C', and for preventing the ribbon from becoming twisted, and it is provided with rollers *c' c'* for preventing the ribbon from binding in the plates and from becoming broken or torn at its edges. The eye-plate A, spool G, and guides *f' f'* are the same as in my above-mentioned patent, and the system of gearing below the main table T of the machine is also the same as in said patent; and it will be understood that when the cog-wheel P is unkeyed from shaft O' and the machine operated by power applied directly to pulley *b* this gearing remains idle.

When it is desirable to use the lower mech-

anism, the worm *a* is unkeyed and removed from contact with the cog-wheel P′, which is firmly keyed to the shaft O′. The wheel J′ transmits the power to the beveled gear-wheel P through the gears M N and shaft O′, and the gear-wheel P gears with a beveled gear-wheel 1 on the vertical shaft 2. Near the lower end of the shaft 2 is fixed a beveled gear, 3, meshing with a beveled pinion, 4, on a short horizontal shaft, 5, which in turn has a cog-wheel, 6, gearing with a pinion, 7, on a short shaft mounted on a standard, and carrying a pulley-wheel, 8, the cord 9 of which passes over the pulley *b* on the wheel B and operates said wheel and its connected parts.

When the machine is operated by the mechanism just described, the worm *a* is unkeyed from the shaft $A^2$ and removed from contact with gear P′, and when the machine is operated from the pulley *b* and overhead shafting the beveled gear-wheel P runs idly on its shaft, and the worm *a* is moved into mesh with the gear P′ and securely keyed to shaft $A^2$. By this arrangement the machine may be used in factories where there is overhead shafting; or it may be used where there are engines to which it may be connected by suitable belting.

The shaft $X^2$, carrying pulley X, is mounted in suitable hangers below the table, and has a friction-wheel (not shown in the drawings) bearing on the periphery of the large pulley 8. A cord, X′, leads from said pulley to a pulley on the side of the reel. By disconnecting cord 9 from pulley 8 and connecting cord X′ with pulley X and the reel-pulley, said reel may be revolved for winding ribbon thereon. When the machine is in operation, the cord X′ is disconnected. I have briefly described this arrangement, as I make no claim to it. I have also briefly described the mechanism below the table, deeming a more detailed description unnecessary, as it is fully described in my former patent before referred to.

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

1. The combination of the sleeve D, cog-wheel B, arms *d*, and bow A′ and its plate C′ with the wheel B′, worm-shaft $A^2$, worm *a*, yielding drawing-rollers E E′, drum H, and suitable gearing for connecting said rollers and drum with said worm-shaft, substantially as set forth.

2. The wheel B, provided with arms *d* and bow A′, in combination with plates C′, provided with the series of guide-plates *c c*, rollers *c′*, and slots $c^2$ $c^2$, and suitable mechanism for revolving the said wheel and devices secured thereto, all arranged substantially as herein shown and described.

3. The combination of the gear-wheel B, sleeve D, arms *d*, bow A′, plate C′, provided with the series of guide-plates *c c*, rollers *c′*, and slotted at $c^2$ $c^2$, with the reel C, friction device L, and adjusting-collar *i*, also mounted on sleeve D, and suitable mechanism for operating the wheel B, substantially as set forth.

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Witnesses:
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