

(No Model.)

C. D. ROGERS.
Device for Coiling Wire.

No. 229,915.

Patented July 13, 1880.

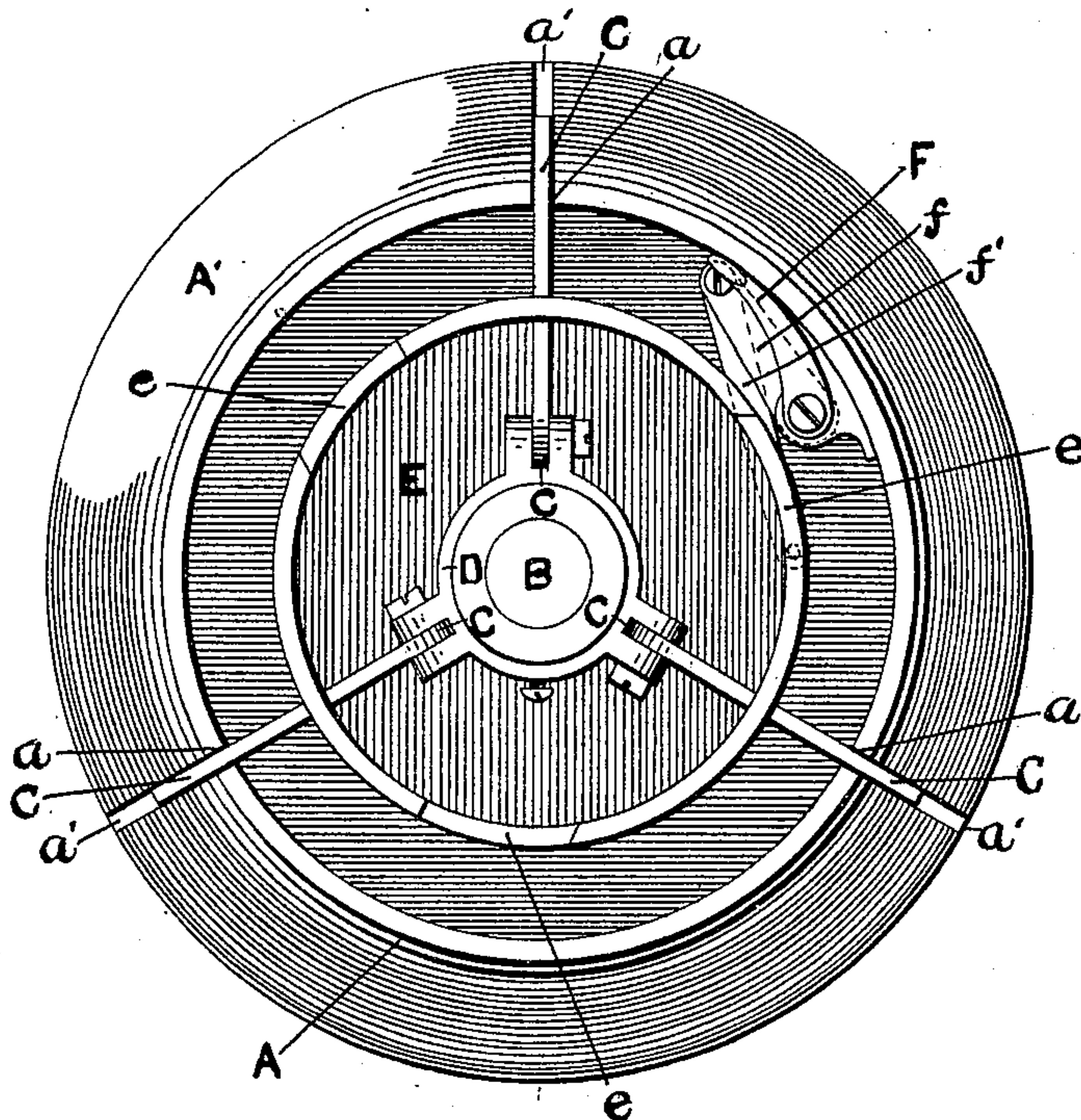
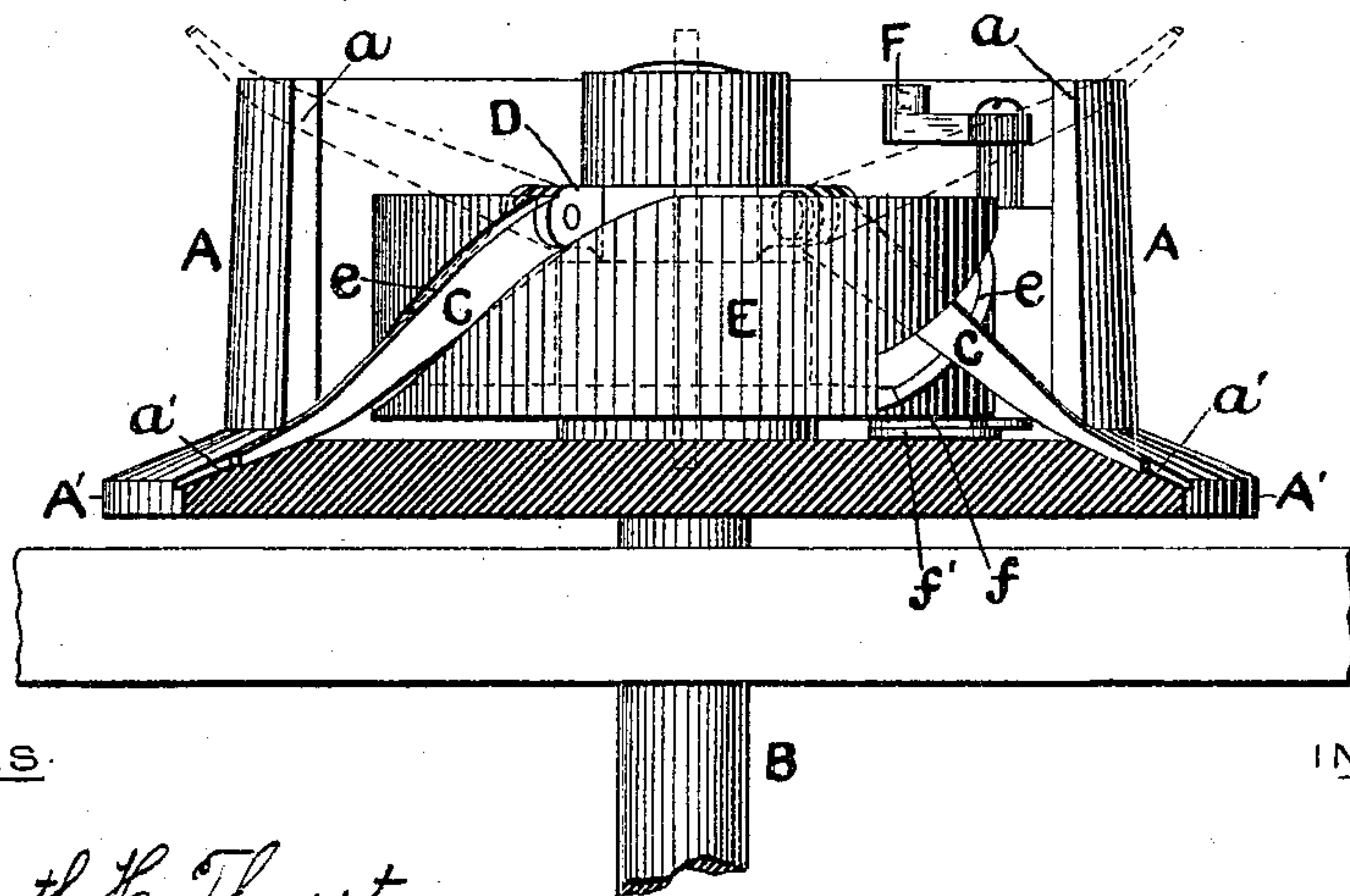


FIG. 1.



WITNESSES.

INVENTOR.

Wilmarth H. Thurston.

J. Knight.

FIG. 2.

Charles D. Rogers

UNITED STATES PATENT OFFICE.

CHARLES D. ROGERS, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR TO THE
AMERICAN SCREW COMPANY, OF SAME PLACE.

DEVICE FOR COILING WIRE.

SPECIFICATION forming part of Letters Patent No. 229,915, dated July 13, 1880.

Application filed March 3, 1880. (No model.)

To all whom it may concern:

Be it known that I, CHARLES D. ROGERS, of the city and county of Providence, and State of Rhode Island, have invented a new and useful Improvement in Machines for Drawing Wire; and I do hereby declare that the following specification, taken in connection with the accompanying drawings, forming a part of the same, is a full, clear, and exact description thereof.

My invention relates to wire-drawing machines which employ a revolving drum upon which the wire is coiled as it leaves the draw-plate; and my improvement consists in combining with the winding-drum of such machinery suitable means for stripping the heavy coil from the winding-drum and bringing it to such position that it can be conveniently handled for removal from the machine.

I am aware that machines for making wire ferrules have heretofore possessed the capacity of cutting off a length of previously-coiled wire and of discharging the length so cut off by the retreat of its supporting-arbor; also, that in other machines for the same purpose the wire has been coiled upon an arbor to form the ferrules, and the outer end of the coil forced gradually beyond the outer end of said arbor, because of the coiling of the wire upon the arbor at the opposite end of the coil and against an abutting surface, and that when a ferrule has been cut from the coil thus formed said ferrule could drop freely from the end of the arbor.

I am also aware that in machines for coiling rods and wire the reels thereof have been provided with stripping devices, whereby, when the reeling operation is completed, the coil of rods or wire may, through a hand-lever, be pushed from the horizontal supporting-pins of the reel and the coil allowed to fall upon its edge. So far as my knowledge extends, however, no wire-drawing machine prior to my invention was ever provided with means whereby the coil of drawn wire upon the coiling-drum could be lifted mechanically above said drum, nor any machine provided with means of any kind for facilitating the labor of disengaging the coil of drawn wire from the drum

upon which it is tightly wound under the heavy tension always incident to the drawing operation.

Referring to the drawings, Figure 1 shows a top view of a coiling-drum embodying my improvement; and Fig. 2 represents the same in elevation, a portion being cut away the better to show the parts.

The coiling-drum A is of the usual form, and is mounted upon the driving-shaft B, so as to rotate therewith. This drum is provided with vertical slots *a*, to receive and guide two or more arms, C, which are hinged to a collar, D, secured to the shaft B, and the flange A' of the drum is grooved, as at *a'*, to receive the ends of the said arms, thereby allowing the coil of wire to rest upon said flange and above the plane of the ends of the arms.

Loosely mounted upon the shaft B, and within the drum, is a cylindrical disk, which is slotted in spiral lines, as at *e*. The hinged arms C pass through these spiral slots *e*, the faces of which slots act as cams upon the arms when the disk E is rotated and raise them, as shown in dotted lines in Fig. 2.

The rotation of the disk E, and consequent raising of the arms C, is effected by turning a crank, F, which is mounted on the vertical wall of the drum, and is connected with the disk E by means of jointed links *ff'*, as shown in Fig. 1.

The operation of my improved device is substantially as follows: A desirable amount of wire having passed through the draw-plate and been coiled upon the drum A, the ends of the wire are secured to the body of the coil, which rests upon the flange A' and above the outer ends of the arms C. The crank F is then turned toward the center of the drum, which causes a partial rotation of the annular disk E, and consequently the arms C are made to ride up the faces of the respective inclined planes *e* to the elevation indicated by dotted lines in Fig. 2. A further rotation of the annular disk E to a small extent causes the slots *e* to run clear of the arms C, when the latter will be supported in their elevated position upon the top edge of the disk E.

It is obvious that the coil of wire will be

stripped by the arms from the winding-drum and brought to a position where it can be easily handled for removal.

After the coil of wire has been removed the crank F is returned to its original position, causing the disk E to revolve in the opposite direction and the arms C to pass into the slots e and be lowered, when the drum will be again ready to receive wire from the draw-plate.

Although I have shown and described a crank and arms connected with the disk E for the purpose of partially rotating said disk, I am aware that the base of the disk may be a gear, and that a pinion meshing with said gear may be secured to the crank-shaft for the purpose of moving the disk, and thereby raising the arms. I am also aware that the disk may be dispensed with, and a loosely-mounted gear having cams or inclined planes upon its surface be used in its place.

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

1. In a wire-drawing machine, the combination, substantially as described, of the coiling-drum, two or more arms projecting outwardly beyond the vertical wall of said drum, and

suitable mechanism for raising and maintaining said arms in an elevated position, as set forth.

2. In a wire-drawing machine, the combination of the slotted coiling-drum, the driving-shaft for the same, two or more arms passing outwardly through said drum, two or more cams loosely mounted on said shaft, and suitable mechanism for causing a partial rotation of said cams, substantially as described.

3. In a wire-drawing machine, the combination of the slotted coiling-drum, the driving-shaft for the same, two or more arms passing outwardly through said drum, an annular disk loosely mounted on said shaft and provided with cams, and suitable mechanism for partially rotating said disk, substantially as described.

4. The combination of the slotted coiling-drum A, shaft B, hinged arms C, multiple cam-disk E, and rotating mechanism F *ff'*, substantially as and for the purpose specified.

CHARLES D. ROGERS.

Witnesses:

WILMARTH H. THURSTON,
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