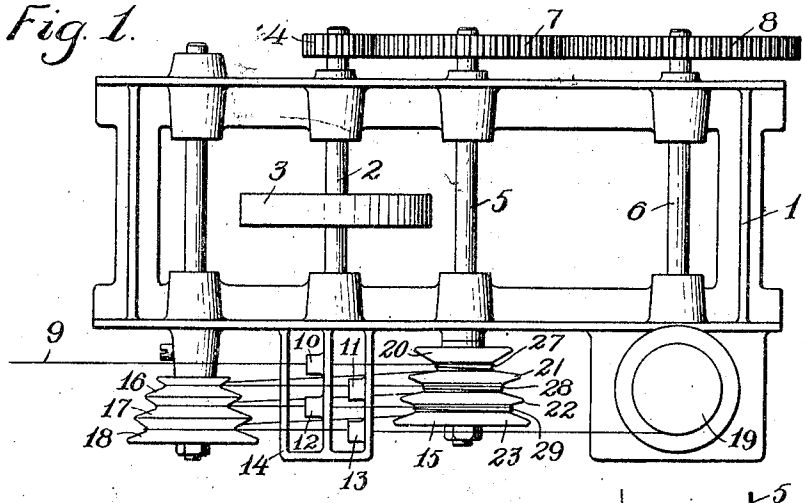
R. L. MORGAN.

WIRE DRAWING MACHINE.

APPLICATION FILED JAN. 4, 1909.

1,103,609. Patented July 14, 1914.

Fig. 1.



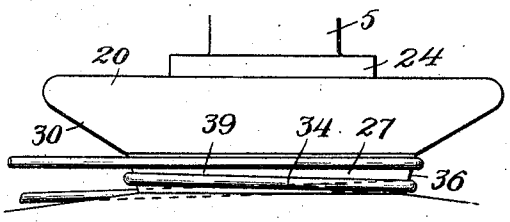


Fig. 3.

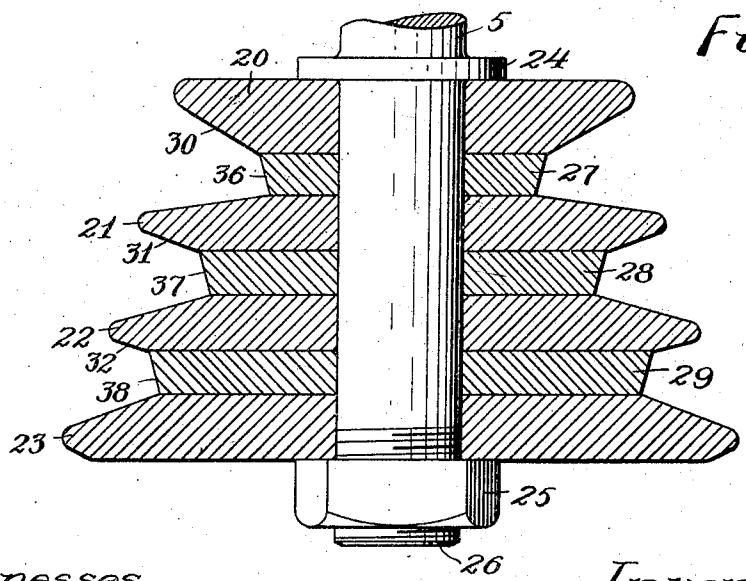


Fig. 2.

Witnesses

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RALPH L. MORGAN, OF WORCESTER, MASSACHUSETTS.

WIRE-DRAWING MACHINE.

1,103,609. Specification of Letters Patent. Patented July 14, 1914.

Application filed January 4, 1909. Serial No. 470,648.

To all whom it may concern:

Be it known that I, RALPH L. MORGAN, a citizen of the United States, residing at Worcester, in the county of Worcester and Commonwealth of Massachusetts, have invented a new and useful Improvement in Wire-Drawing Machines, of which the following is a specification accompanied by drawings, forming a part of the same, in which—

Figure 1 is a plan view of a wire drawing machine embodying my invention. Fig. 2 is a central sectional view of a wire drawing capstan embodying my present invention. Fig. 3 is a detached view of a portion of a wire drawing capstan embodying my present invention, and illustrating the operation of the same.

Similar reference figures refer to similar parts in the different views.

My invention relates to an improvement in capstans for continuous wire drawing machines, and it has for its object to prevent the crowding of the wire against the casting off flange, and this object is accomplished by the construction and arrangement of parts as hereinafter described and pointed out in the annexed claim.

Referring to the accompanying drawings 1 denotes the framework of a continuous wire drawing machine in which is journaled a driving shaft 2 provided with a pulley 3, having a belt connection with a convenient source of power. The shaft 2 is provided with a pinion 4 which imparts motion to the shafts 5 and 6 through the gears 7 and 8. The wire 9, to be drawn, is usually taken from a coil or reel and is successively drawn through the die boxes 10, 11, 12 and 13 supported in the usual manner in a die box 14. A longitudinal movement is imparted to the wire by which it is drawn through the reducing dies by means of a capstan 15 carried on the shaft 5. As the wire leaves the capstan 15 it passes beneath the die box 14 and is carried around the scored idler pulleys 16, 17 and 18 respectively, which serve to change the direction of the wire and return it to the next succeeding die. As the wire is delivered from the last die held in the box 13, it is wound into a coil upon the revolving drum 19, which draws the wire through the final die and winds it in a coil in the usual manner in machines of this class. Motion is imparted to the drum 19 by a geared connection, not shown, with the shaft 6.

The capstan 15 which embodies my present invention is constructed as shown in sectional view in Fig. 2, and consists of a series of disks 20, 21, 22 and 23, which are held between a collar 24 on the shaft 5, and a nut 25 held upon the screw threaded end 26 of the shaft 5. Clamped between the disks are metallic wire seats 27, 28 and 29. The disks 20, 21 and 22 project beyond the peripheries of the wire seats and are provided with beveled surfaces 30, 31 and 32, as is common in wire drawing capstans, said beveled projecting surfaces forming casting off flanges which crowd the wire as it is coiled one or more times around the wire seats toward the seats.

My present improvement consists in forming the wire seats with beveled surfaces, as shown at 36, 37 and 38, Fig. 2. The position of the wire when coiled upon the seat is illustrated in Fig. 3, in which the complete coil of wire 34 has been moved away from the beveled surface 30 or casting off flange of the disk 20 by the tensile strain imparted to the wire, so that there is a clear space between the coils of wire upon the wire seat 27, as shown at 39, Fig. 3.

The seats 27, 28 and 29 are preferably formed of a metal harder than the wire to be drawn, to insure the slipping of the wire over the beveled peripheries of the seats.

I claim,

In a wire drawing capstan, a spindle having a collar, a plurality of spaced disks of different diameters, arranged on said spindle in order of size, a plurality of spaced wire seats of different diameters, interposed in alternating relation to said disks, and arranged in order of size, each of said disks being beveled on each surface from the edge of the adjacent wire seat to its periphery, to form casting off flanges, and each of said wire seats having its peripheral surface at an oblique angle to the axis of said spindle, and forming an obtuse angle with the adjacent beveled surface of one of the adjacent disks, and means carried on said spindle for holding said disks and said wire seats against said collar.

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