No. 725,473. PATENTED APR. 14, 1903.

J. H. O'DONNELL.

DRAWING ROLL OR HEAD FOR WIRE DRAWING MACHINES.

APPLICATION FILED FEB. 26, 1902.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 2.

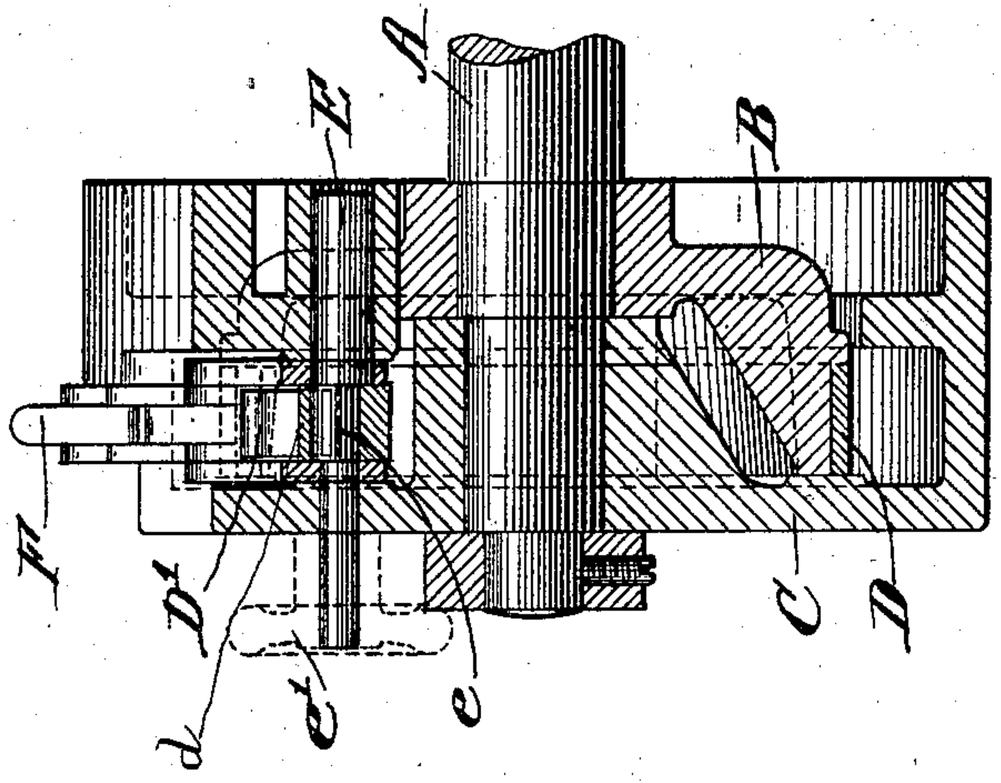


Fig. 1.

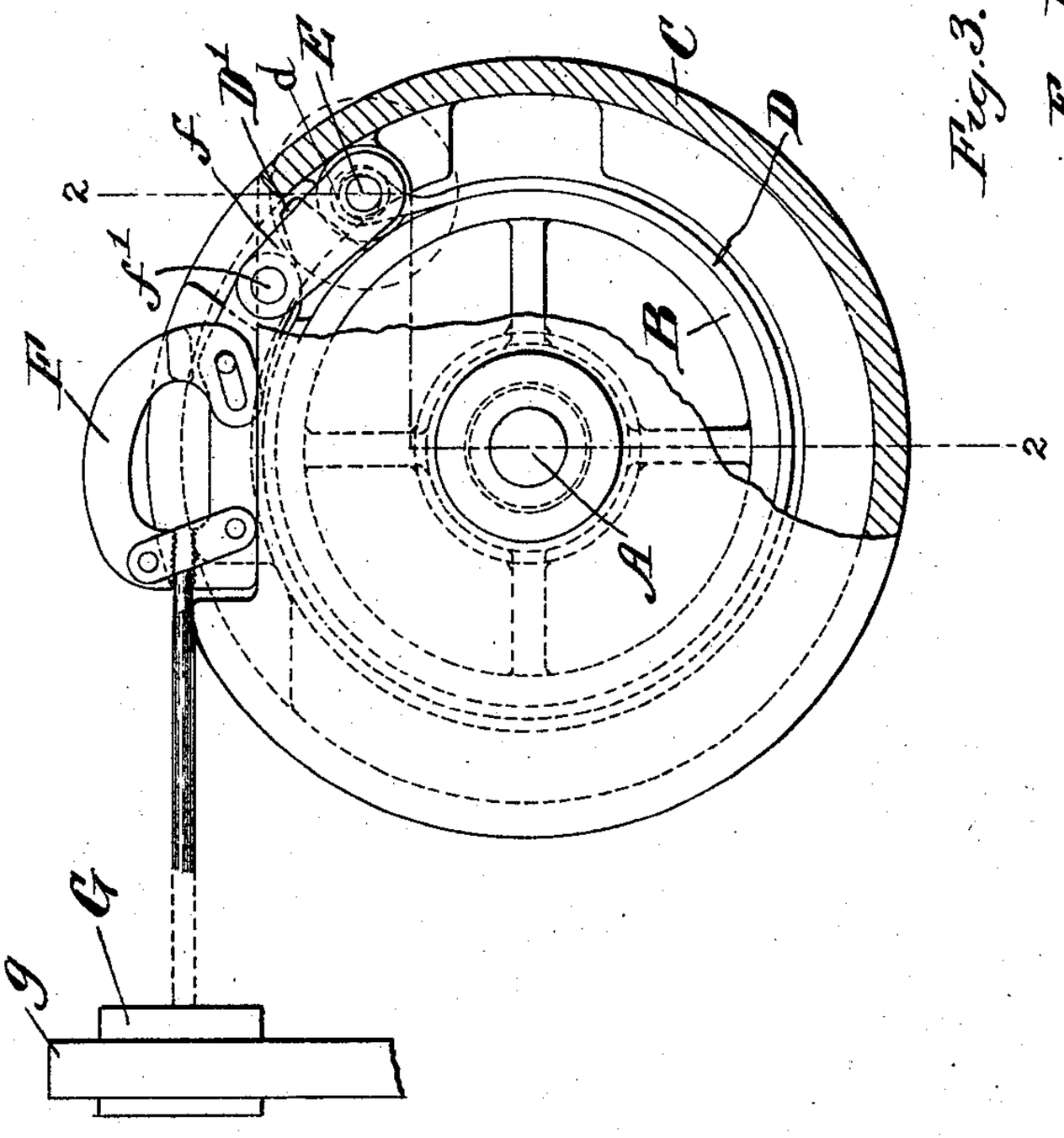
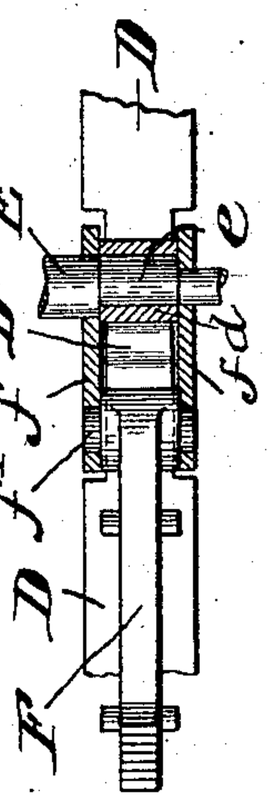


Fig. 3.



WITNESSES

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Fig. 5.

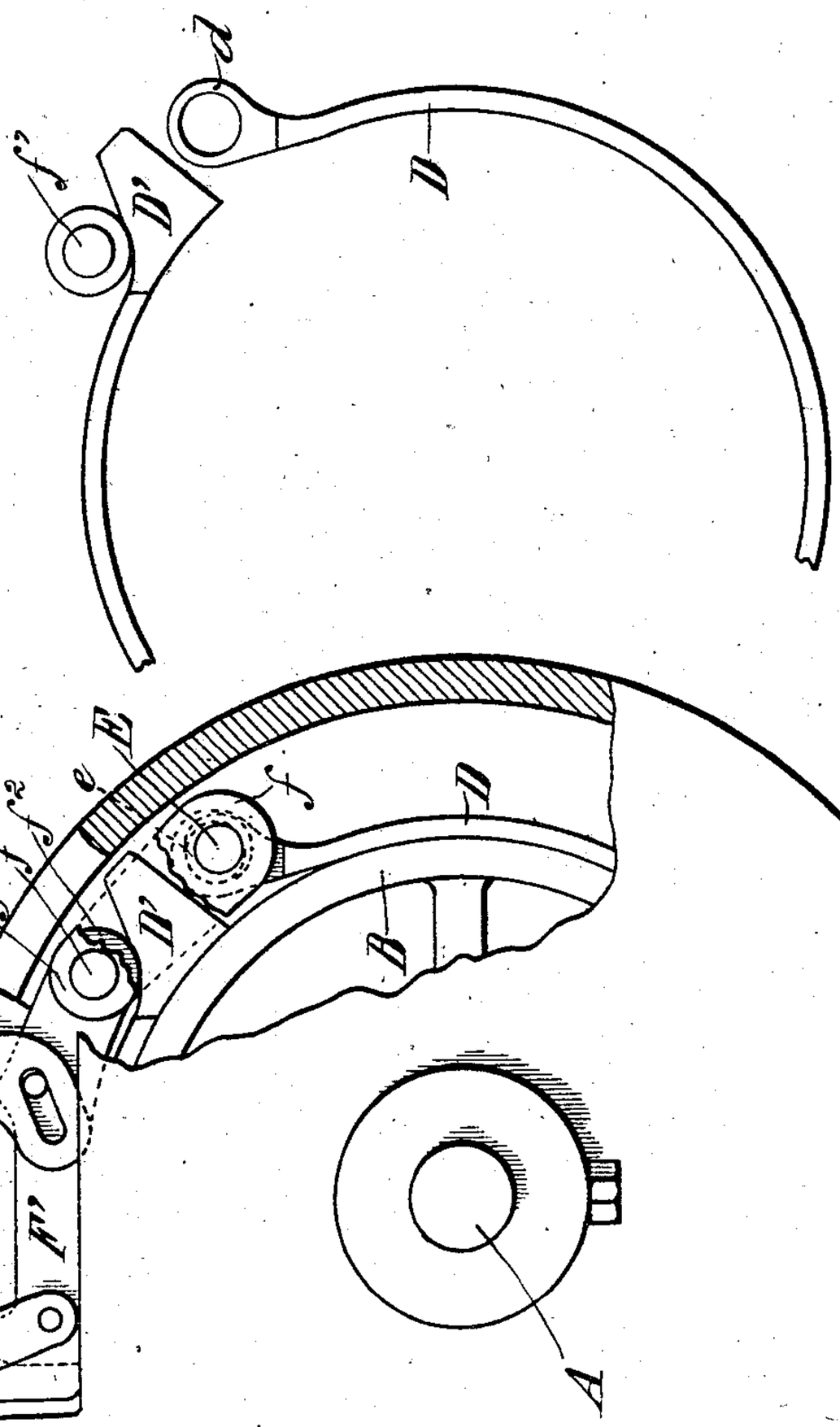

Fig. 4.

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UNITED STATES PATENT OFFICE.

JOHN H. O'DONNELL, OF WATERBURY, CONNECTICUT.

DRAWING ROLL OR HEAD FOR WIRE-DRAWING MACHINES.

SPECIFICATION forming part of Letters Patent No. 725,473, dated April 14, 1903.

Application filed February 26, 1902. Serial No. 95,678. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. O'DONNELL, a citizen of the United States, residing in the city of Waterbury, county of New Haven, and State of Connecticut, have invented certain new and useful Improvements in Drawing Rolls or Heads for Wire-Drawing Machines, of which the following is a specification.

My invention relates to drawing rolls or heads for wire-drawing machines, and particularly to that class of rolls or heads which are employed in stringing drawing-dies on wire.

I will describe a drawing roll or head embodying my invention and then point out the novel features thereof in the claims.

In the accompanying drawings, Figure 1 is a view, partly in side elevation and partly in vertical section, of a drawing roll or head embodying my invention. Fig. 2 is a transverse sectional view taken on the line 2 2 of Fig. 1. Fig. 3 is a detail view. Fig. 4 is a view similar to Fig. 1, on an enlarged scale. Fig. 5 is an enlarged detail taken from Fig. 4. Similar letters of reference designate corresponding parts in all of the figures.

A designates a shaft which may be rotated continuously or at intervals.

B designates a rim which is keyed on the shaft A, so as to be rotated with the shaft.

C designates a roll which is loosely mounted upon the shaft A. The roll is here shown as being hollow or recessed, so as to receive the rim B.

D designates a strap or band which surrounds the rim B, one end *d* of which is connected with a stud or pin E, suitably journaled in the roll C, and the other end of which terminates in a wedge D′, adjacent the pin or stud E. The wedge may conveniently be formed from the end of the strap. The strap or band D is adapted when tightened about the rim to cause the roll C to rotate with the rim B. The stud or pin E is provided with an eccentric portion *e*, and it is with this eccentric portion that one end of the strap D is connected. The connection between the end of the strap and the eccentric is such that when the stud or pin E is rotated by a handle or handpiece *e′* the strap will be moved or permitted to move.

F represents a gripping device which is located in the usual chamber provided for it in the roll, and the inner extremity f^2 of its lower member F′ is connected by links *f* with the stud or pin E. The links *f* are loose on the stud or pin E, and a pin *f′* is passed through the gripping device and the ends of the links *f*, adjacent the gripping device, so that a pivotal connection will be formed. The part f^2 of the gripping device F is also adapted to coact with the wedge D′, and the band or strap is therefore narrow at this point in order that it may fit between the links *f*.

G represents a die which is loosely supported in a holder *g*.

The operation of the roll is as follows: The roll C is turned on the shaft A to bring the gripping device into position to grasp the end of a wire which has been passed through a die. In this movement the end f^2 of the gripping device is lifted on the wedge, thereby loosening the strap about the rim, or the stud or pin may be turned to move the strap to loosen it about the rim. After the end of the wire has been gripped by the gripping device the strap is tightened about the rim by operating the eccentric *e* and the roll thereby caused to rotate with the rim. As tension is put upon the wire the tendency of the links *f* is to move to a horizontal plane or in line with the wire. It will be seen, therefore, when this occurs that the pin *f′* will engage the wedge D′ and cause a further tightening of the strap about the rim. After a sufficient length of wire has been drawn through the die the rotation of the roll may be stopped by turning the stud or pin to have the eccentric move the strap to loosen it about the rim B. It will be seen that the roll may be stopped at any point by simply turning the stud or pin, thereby loosening the strap.

What I claim as new is—

1. The combination in a drawing-roll, of a continuously-rotating shaft, a rim fixed on said shaft, a roll loose on said shaft and means for providing for a gradual and frictional connection between the roll and rim comprising a friction-band carried by the rim, and mechanism for adjustably tightening the same carried by the roll to have the roll rotate with the rim.

2. The combination in a drawing-roll, of a shaft, a rim fixed on said shaft, a roll loose on said shaft, a strap or band surrounding said rim and having a wedge-shaped free end, wire-gripping devices carried by the roll and a part connected with said gripping devices and coacting with the wedge upon the band for tightening the strap or band about the rim by the tension of the wire-gripping devices.

3. The combination in a drawing-roll, of a shaft, a rim fixed on said shaft, a roll loose on said shaft, wire-gripping devices carried by the roll, and means for operatively connecting the roll and rim comprising a strap or band surrounding said rim and connected at one end with an eccentric portion of a stud or pin, and the stud or pin rotatably mounted in the roll, and means connected with the band for adding tension from the gripping devices thereto.

4. The combination in a drawing-roll, of a shaft, a rim fixed on said shaft, a roll loose on said shaft, and means for operatively connecting the roll and rim comprising a strap or band which surrounds the rim, one end of which is connected to an eccentric portion of a rotatable stud or pin, and the other of which is provided with a wedge, located in advance of the said stud or pin and a part which coacts with the wedge.

5. The combination in a drawing-roll, of a shaft, a rim fixed on said shaft, a roll loose on said shaft, a gripping device, a stud or pin having an eccentric portion and carried by said roll, a link connection secured at its rear end to the stud or pin, a band or strap surrounding said rim, one end of which is connected with the eccentric portion of the stud and the other end of which is provided with a wedge which coacts with the forward end of the link.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN H. O'DONNELL.

Witnesses:
WILLIAM S. PRISSM,
ROGER S. WOTKYNS.