

1,379,181.

T. GORE.
WIRE DRAWING MACHINE.
APPLICATION FILED JAN. 22, 1920.

Patented May 24, 1921.
2 SHEETS—SHEET 1.

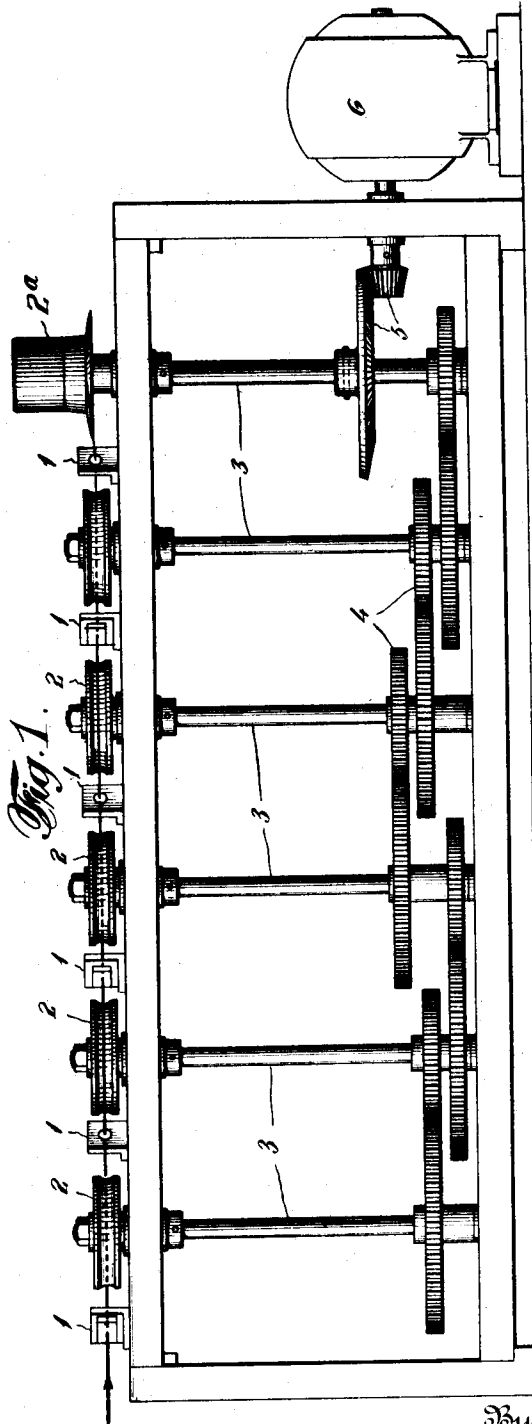
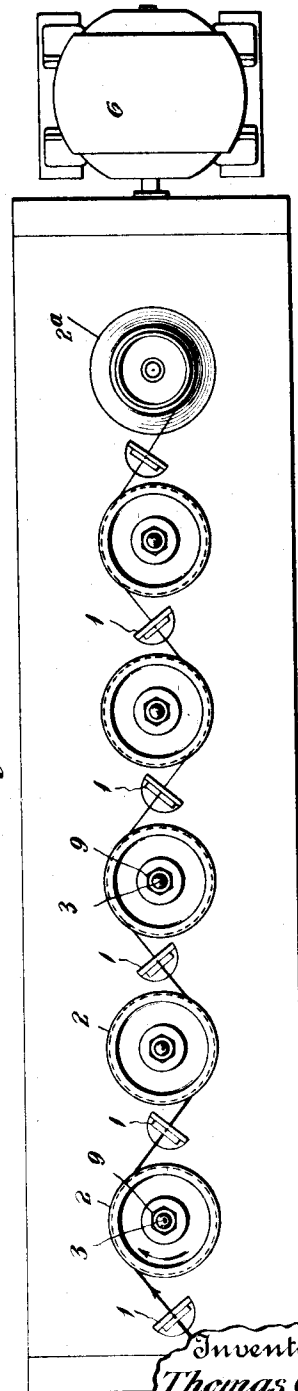


Fig. 2.



By his Attorney

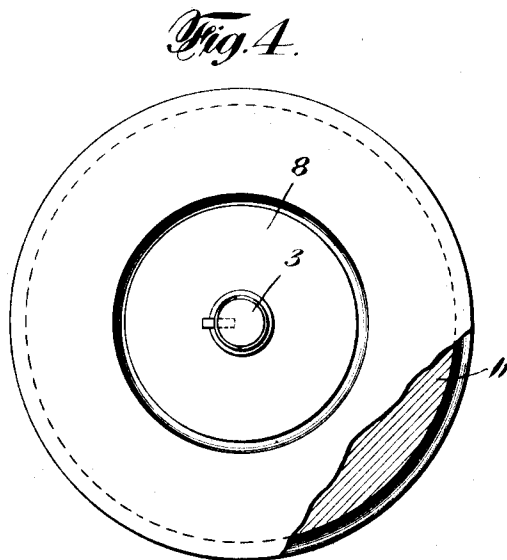
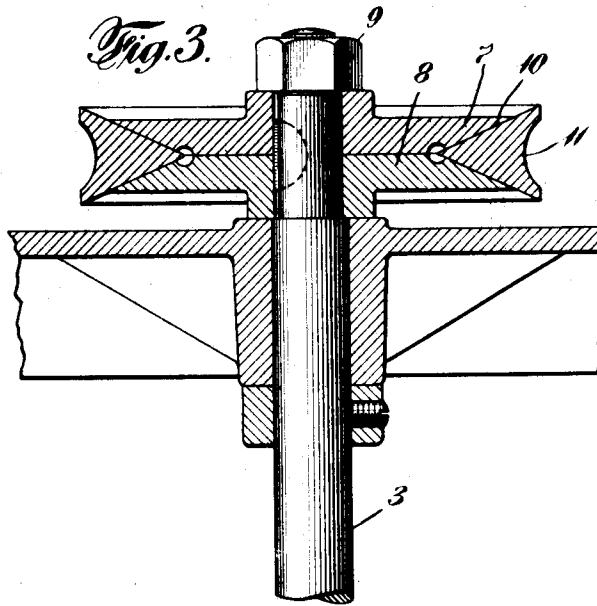
W. V. Becken

Inventor
Thomas Gore

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UNITED STATES PATENT OFFICE.

THOMAS GORE, OF BROOKLYN, NEW YORK.

WIRE-DRAWING MACHINE.

1,379,181.

Specification of Letters Patent.

Patented May 24, 1921.

Application filed January 22, 1920. Serial No. 353,143.

To all whom it may concern:

Be it known that I, THOMAS GORE, a citizen of the United States, and a resident of the borough of Brooklyn, in the city of New York, county of Kings, and State of New York, have invented certain new and useful Improvements in Wire-Drawing Machines, of which the following is a specification.

10 The present invention relates to continuous wire drawing machines in which the wire is drawn and forwarded through a series of dies to a finishing or coiling block or spool.

15 In drawing wire by this process each pass through a die elongates the wire and reduces its cross-section, and it is apparent that the wire must be moved with an increased speed each time it has passed through a die. It is, however, impossible to obtain a uniform reduction and elongation of the wire, and, in consequence, the wire either lags behind or moves faster than the speed of the forwarding drum around which it passes. This causes a slippage between the wire and the drum that produces scoring of the surface of the drum and roughens or mars the surface of the wire and affects adversely its qualities of elongation, torsion and tensile strength.

30 In the art, as heretofore practised, it has been attempted to prevent slippage between the wire and drum by means of elaborate and complicated systems of differential gearing, counterweights, ratchet and pawl constructions, springs, and clutches or the like.

40 The main object of my invention is to obtain effective and reliable compensation by exceedingly simple and inexpensive means, and the invention consists in placing a floating ring or differential member around the circumference of each drawing drum so that slippage when it occurs will take place between the floating ring and drum instead of between the drum and the wire as heretofore.

50 In the accompanying drawings, the invention is disclosed in a concrete and preferred form in which:

Figure 1 is a side elevation, in more or less diagrammatic form, of a continuous wire drawing machine embodying my invention.

55 Fig. 2 is a plan view of Fig. 1,

Fig. 3 is a sectional view of one of the forwarding drums showing one form of compensating ring.

Fig. 4 is a view in elevation of one of the forwarding drums, with member 7 removed and parts broken away and in section.

1 indicates a plurality of dies and 2 is a series of drawing and forwarding drums, the last one 2^a of the series being in this instance a finishing or coiling block or spool. The dies and drums may be any required number and may be arranged in any suitable relation with respect to each other, and may be driven by any suitable transmission mechanism such as belts and pulleys, but, as here shown, each drum is mounted on a shaft 3 and a train of reduction gears 4 is employed to drive each successive drum 2 at a speed that is greater than the preceding drum. The finishing block is here driven by bevel gears 5. Motion is here obtained from motor 6. The wire is passed several times around each drum in a well-known manner.

The individual drum consists of a main portion composed of two halves 7 and 8 keyed fast to shaft 3 and held in position by lock nut 9. Between these two halves is formed an annular groove 10 that may be of any suitable conformation and which is here shown as V-shaped in cross section. Seated in this groove is an annulus or ring 11 constituting a floating differential or compensating member. The shaft 3 is driven at a given speed and if the speed of the wire is in proportion to that of the shaft no slippage will occur, but if the wire lags or moves faster than its proper speed with reference to the shaft, slippage will occur between the drum and the ring.

I claim:

1. A continuous wire drawing machine comprising: a plurality of dies and a series of drawing and forwarding drums, means for driving, at increased speed, each successive drum of the series, and a floating ring on the surface of each drum to compensate automatically for differences between the surface speed of the drum and the speed of travel of the wire passing over said drum.

2. A drawing and forwarding drum for a wire drawing machine consisting of a main portion, and a floating annulus surrounding said main portion and capable of movement in either direction during rota-

tion of the main portion to compensate automatically for differences between the surface speed of the annulus and the speed of travel of the wire passing over said annulus.

5 3. A drawing and forwarding drum for a wire drawing machine consisting of a main portion composed of two halves form-

ing an annular groove, and a floating annulus seated in said groove.

Signed at New York, in the county of 10
New York and State of New York, this
19th day of January 1920.

THOMAS GORE.