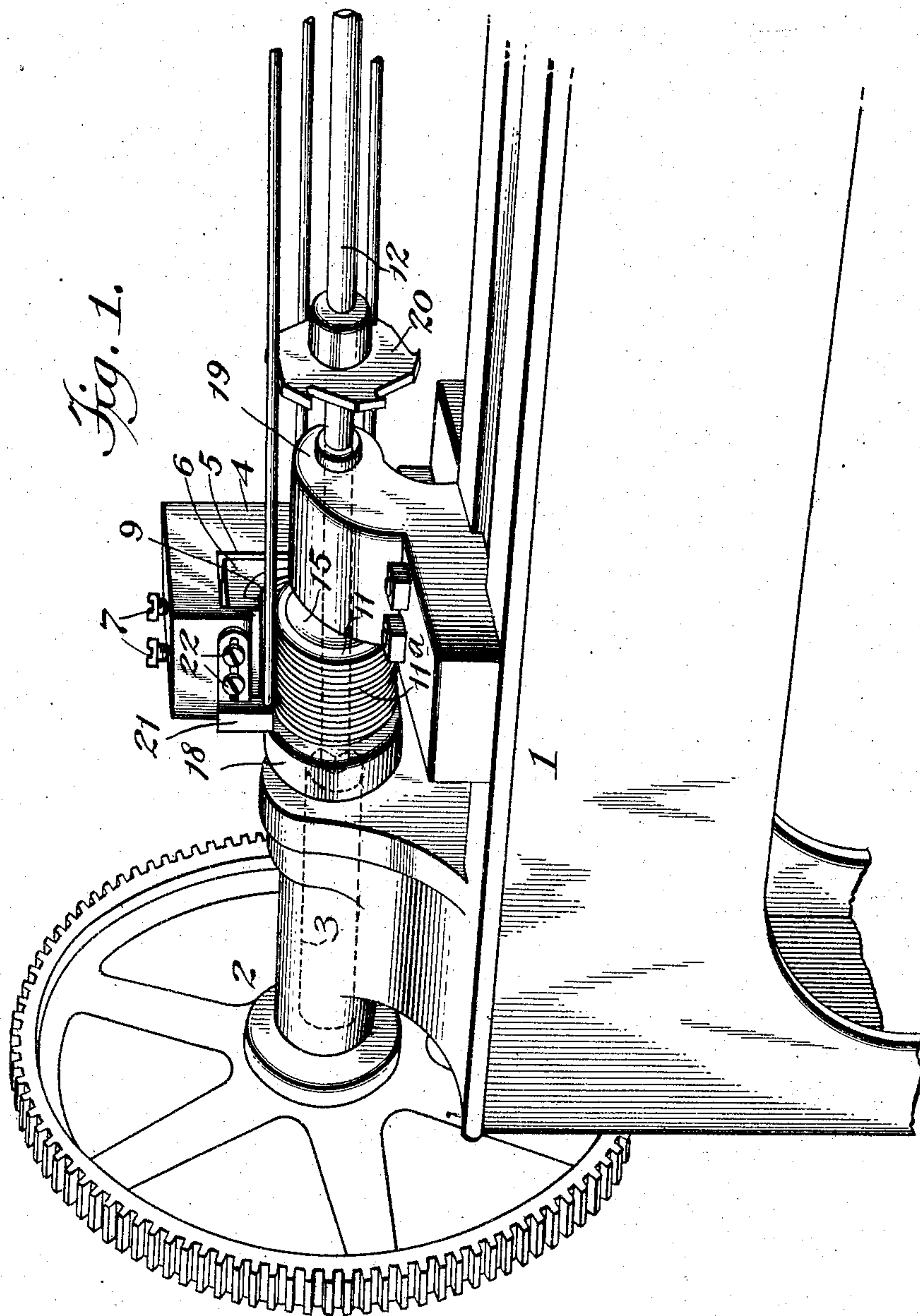


No. 780,527.

PATENTED JAN. 24, 1905.

J. L. REPLOGLE & M. OWENS.
THREAD ROLLING MACHINE.
APPLICATION FILED FEB. 10, 1904.

2 SHEETS—SHEET 1.



WITNESSES:

A. R. Appleman
A. B. Blackwood

INVENTORS

Jacob Leonard Replogle,
Moses Owens

BY

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ATTORNEY

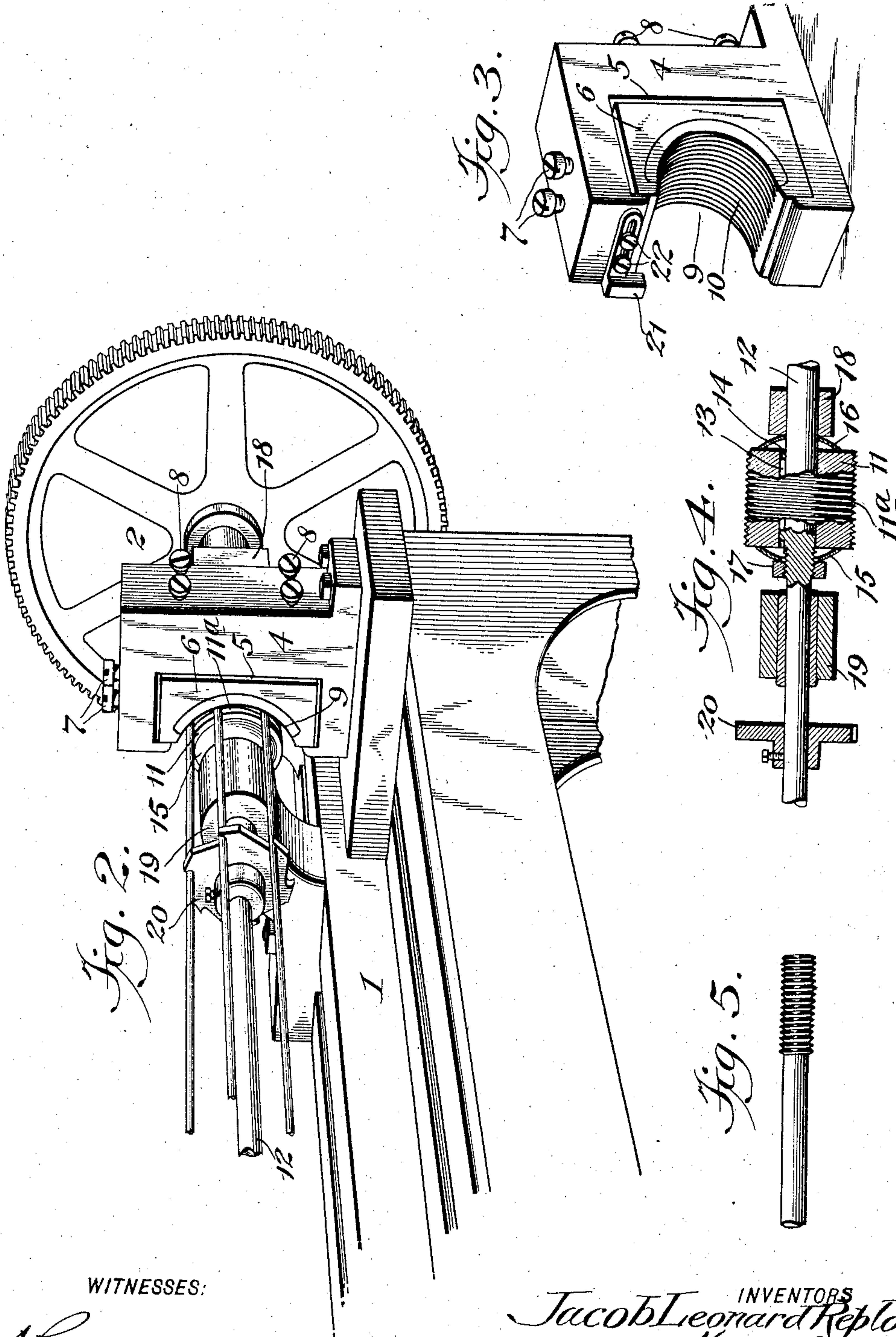
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UNITED STATES PATENT OFFICE.

JACOB LEONARD REPLOGLE AND MOSES OWENS, OF JOHNSTOWN,
PENNSYLVANIA, ASSIGNORS TO THEMSELVES AND HERBERT H.
WEAVER, OF JOHNSTOWN, PENNSYLVANIA.

THREAD-ROLLING MACHINE.

SPECIFICATION forming part of Letters Patent No. 780,527, dated January 24, 1905.

Application filed February 10, 1904. Serial No. 192,900.

To all whom it may concern:

Be it known that we, JACOB LEONARD REPLOGLE and MOSES OWENS, citizens of the United States, and residents of Johnstown, in the county of Cambria and State of Pennsylvania, have invented certain new and useful Improvements in Thread-Rolling Machines, of which the following is a specification.

Our invention relates to thread-rolling machines.

It has for its object to provide a device for rolling and upsetting threads on bolts, rods, &c., either in hot or cold condition, without cutting away any of the metal, thus preserving their full strength, such device adapted to be constructed in connection with suitable operating mechanism to constitute an independent machine or to serve as an attachment for any turning-machine.

It has for a further object to provide a device of the character set forth combining advantages in point of perfect operation, simplicity, adjustability, strength, and inexpensiveness of manufacture.

In the drawings, Figure 1 is a perspective view looking at the front of one end of a turning-machine having our device attached thereon. Fig. 2 is a perspective view looking at the rear of one end of a turning-machine having our device attached thereon. Fig. 3 is an enlarged detail perspective view of the stationary die and its frame. Fig. 4 is a horizontal sectional view of the rotary die and its shaft and the ratchet carrier or support. Fig. 5 is a view in elevation of a rod or bolt threaded by our machine.

Corresponding parts in all the figures are denoted by the same reference characters.

Referring to the drawings, 1 designates the base of a turning-machine, 2 the driving-head, and 3 the hollow spindle, this mention of parts being considered sufficient to give a proper understanding of the connection and operation of our device therewith. We will now proceed to describe it in detail, said device comprising a frame 4, bolted to one side of the base 1 adjacent the head 2 and having a lateral rectangular recess 5, in which a rectangu-

lar die 6 is adjustably held by means of screws 7 and 8, projecting through the top and side walls of the frame into engagement with the top and rear walls, respectively, of the die, said die being provided with a lateral semi-circular recess 9, the face of which is provided with threads 10. It will be noted that a proper space is allowed between the rectangular die and the rectangular recess, so as to permit of the adjustment of the die in said recess.

A cylindrical die 11, having exterior threads 11^a, is located partially within the recess in said die 6, so as to be spaced therefrom, said die being adjustably held on a rotary shaft 12 by means of a longitudinal feather 13 thereon engaging a longitudinal groove 14 in the inner circumference of the rotary die and concavo-convex disks 15 and 16 on said shaft bearing against each end and held in contact at one end by a nut 17 and at the other end by an arm or support 18, secured to the frame 4. The disks 15 and 16 at each side of the roller or die preferably have a spring action, whereby they operate as adjusting-disks and eliminate all danger of wrong pitch of thread and, furthermore, insure, in case of rerolling, the threads finding their respective grooves. The adjusting disk or spring thus regulates the revolving die and insures proper alinement with the same, so that perfect pitch of thread is secured.

The shaft 12 at one side of the rotary die extends through the arm 18, which serves as an outer bearing therefor and is secured in the inner end of the operating-spindle 3 and on the other side of said rotary die extends through an arm or support 19, which serves as an inner bearing therefor.

A ratchet-wheel 20, which serves as a carrier or support for the rods or bolts upon which threads are to be formed, is secured on the shaft 12 to the right of the inner bearing or support 19.

For the purpose of regulating the length of the threaded portions to be cut on the rods or bolts a guide 21 is adjustably secured to a lateral face of the upper part of the die by means of screws 21 passing through an elon-

gated slot therein and engaging holes 22 in the die, whereby it will be seen that the gage may be adjusted longitudinally.

It will be understood that by the longitudinal adjustment of the revolving die it can be properly alined with the stationary die, and consequently a perfect pitch of thread insured, and that by the adjustment of the stationary die the space between said dies for the passage of the rods can be properly regulated.

It will be especially noted that our improved construction and arrangement provides an attachment adaptable for use in connection with the driving-head of any machine of customary type, that it enables the effective rolling of rods either hot or cold, and that instead of cutting away any of the metal the diameter of the rod can be upset or increased by the pressure of rolling, and thereby greatly enhance the strength of the same.

The operation is as follows: The machine being in operation and the guide having been adjusted to give the desired length of thread, each rod or bolt, one at a time, is rested against a tooth of the carrier and the end pushed against the guide, whereupon it will be carried down between the dies and delivered out at the bottom with a thread cut thereon.

We do not desire to be understood as limiting ourselves to the details of construction and arrangement as herein described and illustrated, as it is manifest that variations and modifications may be made in the features of construction and arrangement in the adapta-

tion of the device to various conditions of use without departing from the spirit and scope of our invention and improvements. We therefore reserve the right to all such variation and modification as properly fall within the scope of our invention and the terms of the following claims.

Having thus described our invention, we claim and desire to secure by Letters Patent—

1. A thread-rolling machine, comprising a base-frame, a rotatable shaft having thereon a longitudinally-adjustable cylindrical die, an adjustable spring-disk on each side of said die for adjusting it and a stationary die having a semicircular threaded recess into which the cylindrical die projects, substantially as described.

2. In a thread-rolling-machine, the combination, with a rotatable shaft, and a threaded die mounted upon and longitudinally movable on said shaft, of adjusting-springs governing the longitudinal movement of said die in both directions.

3. In a thread-rolling machine, a threaded rotatable die, and tensional means bearing against the ends of said die for governing its longitudinal adjustable status.

In testimony whereof we have signed our names in the presence of the subscribing witnesses.

J. LEONARD REPLOGLE.
MOSES OWENS.

Witnesses:

B. J. PICKING,
D. J. JONES.