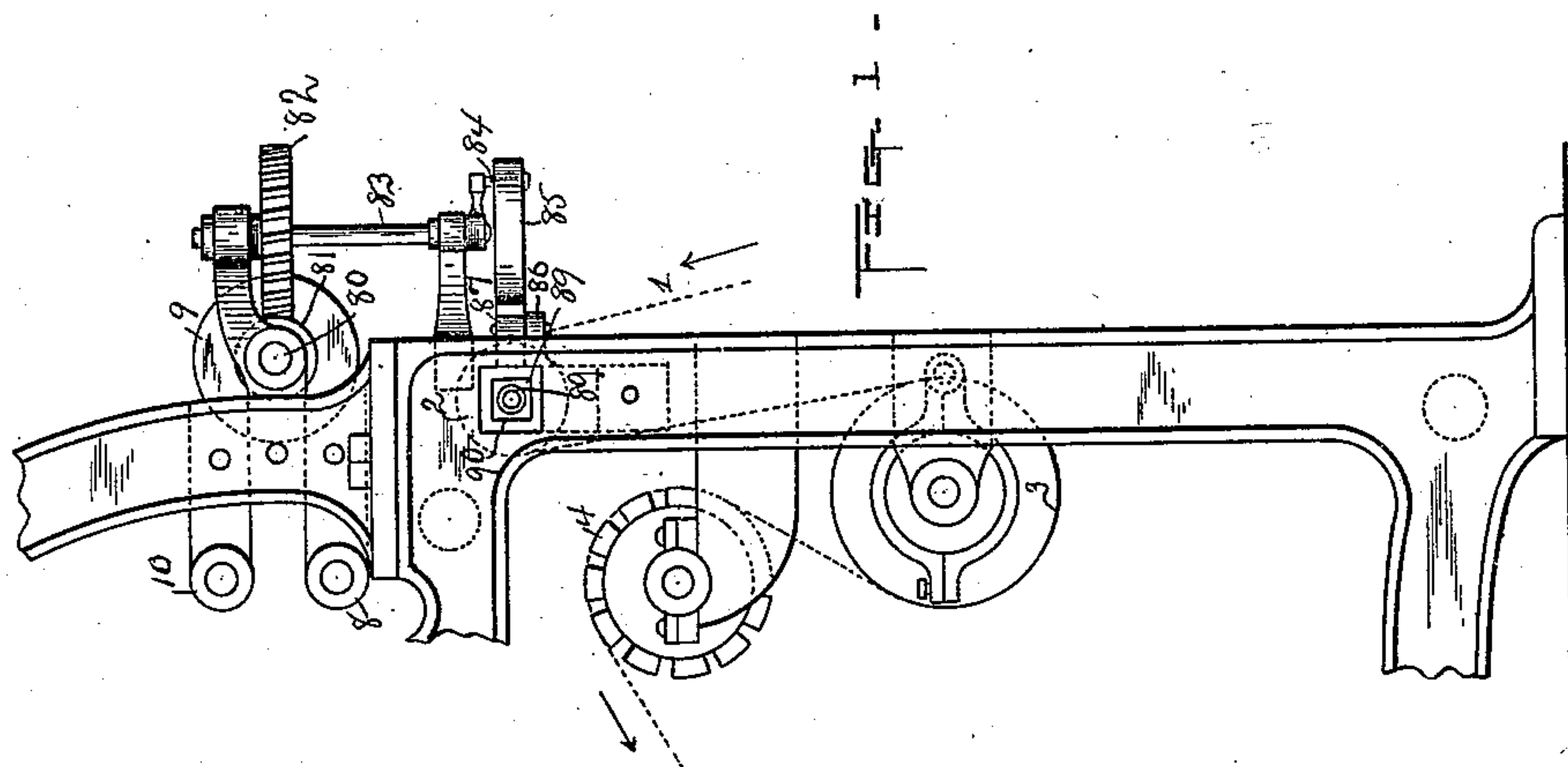
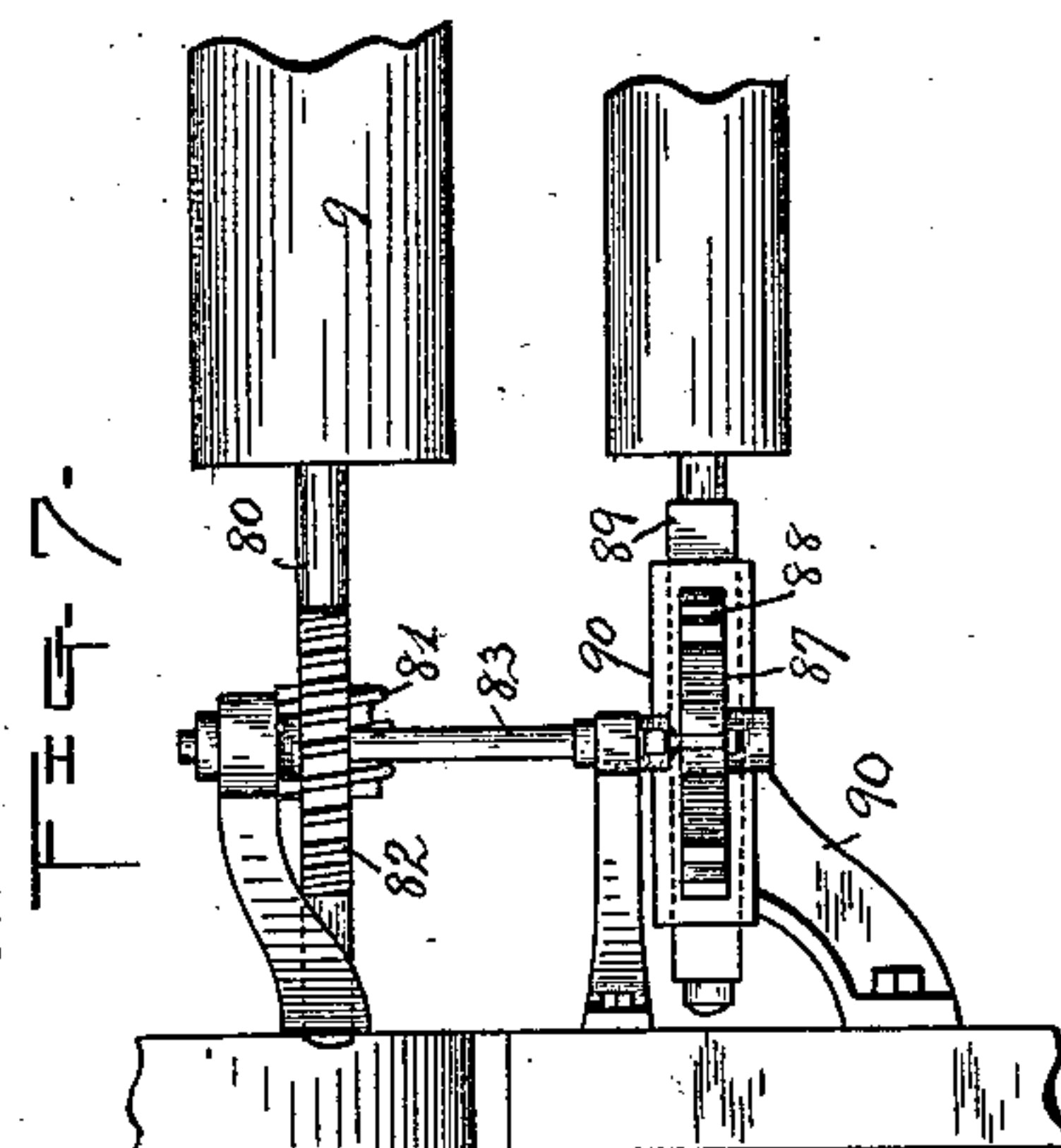
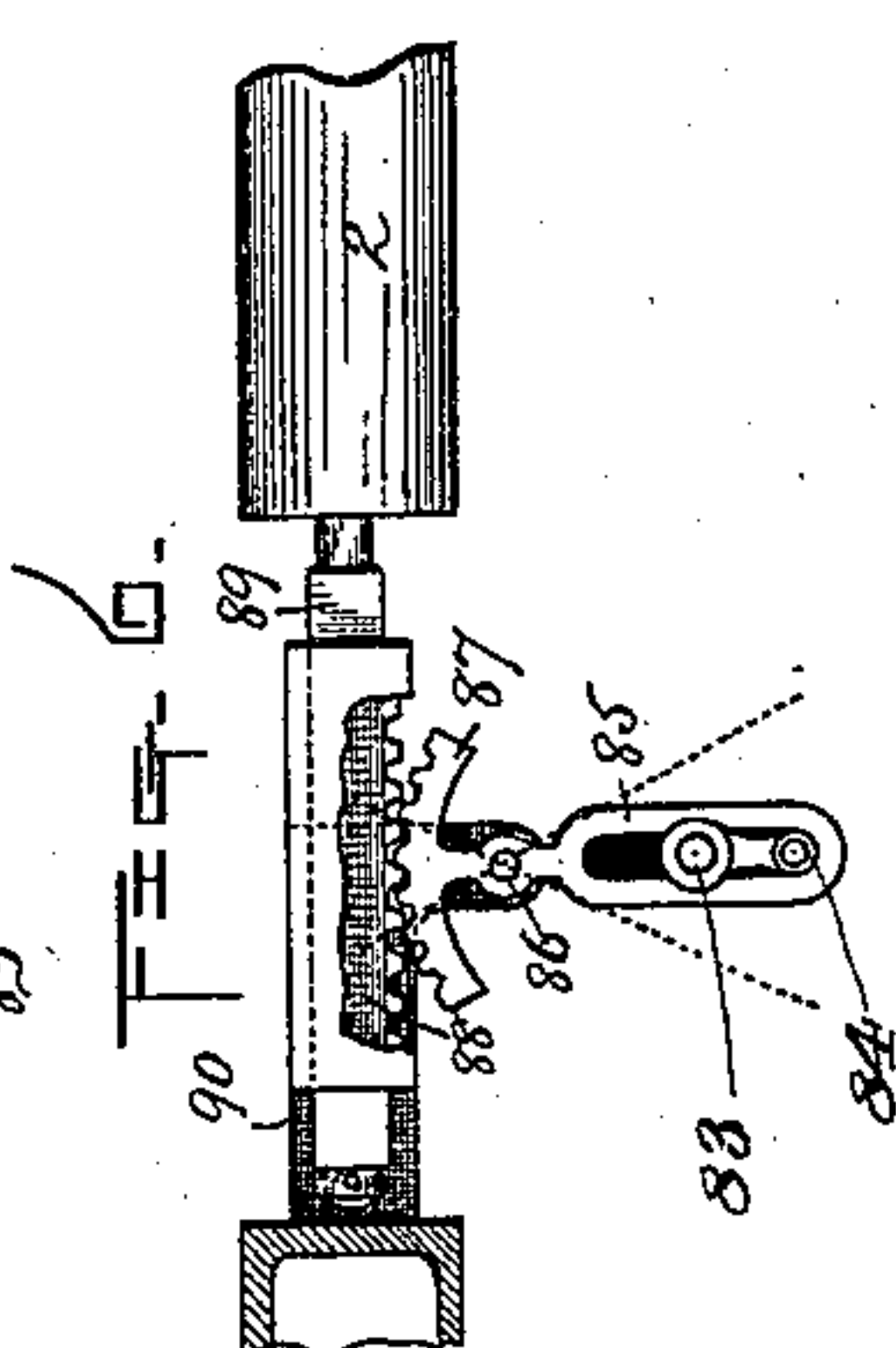
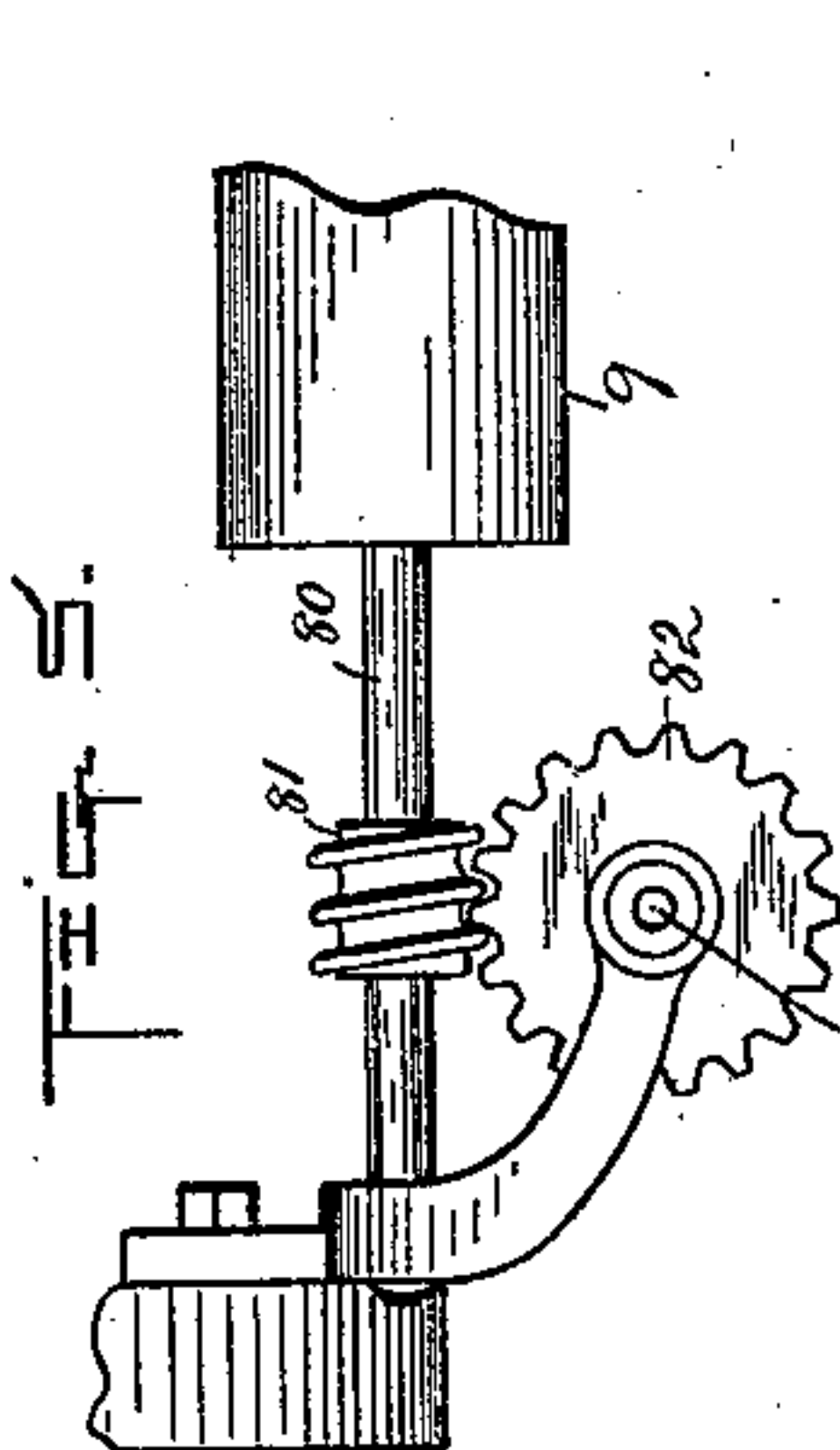
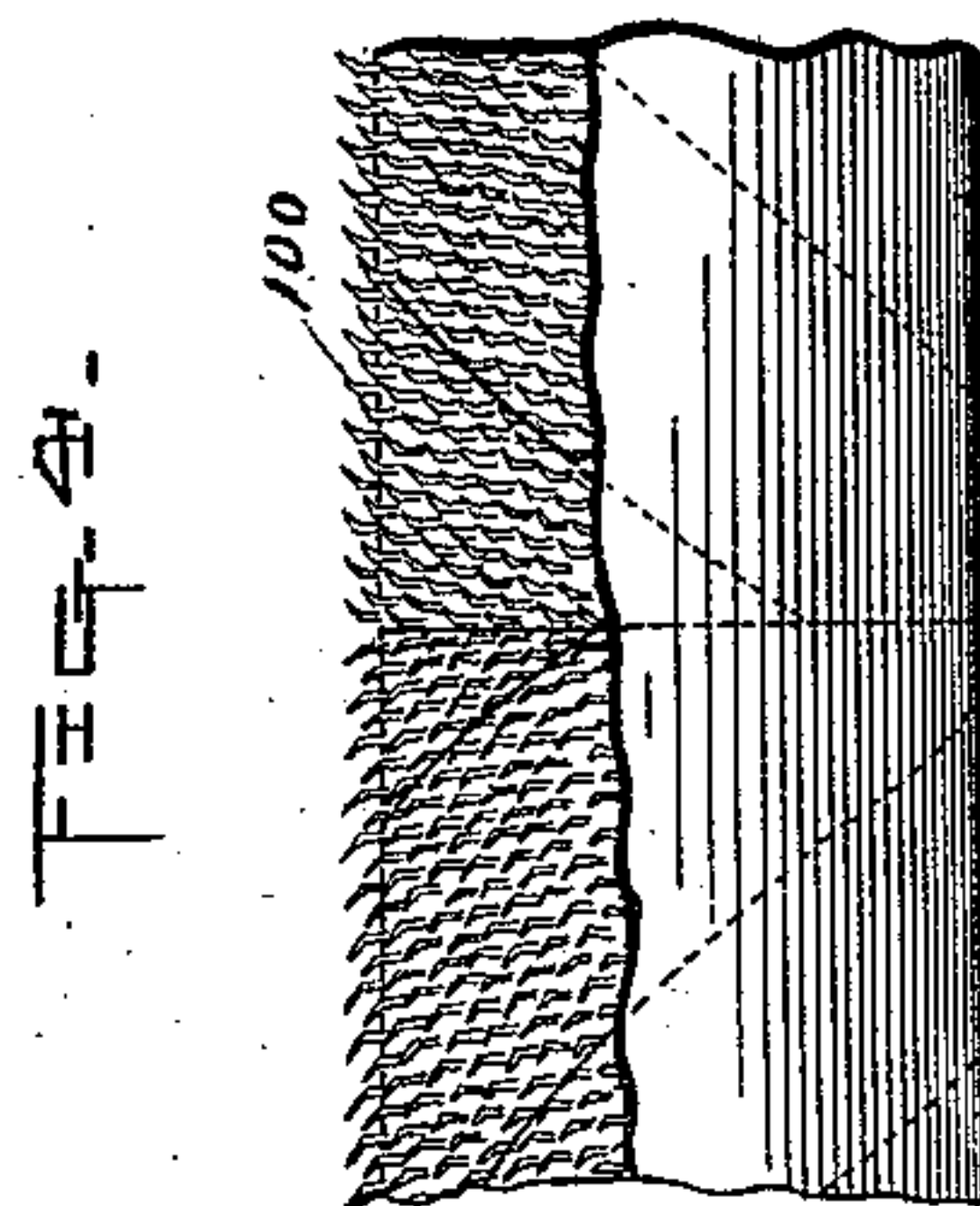
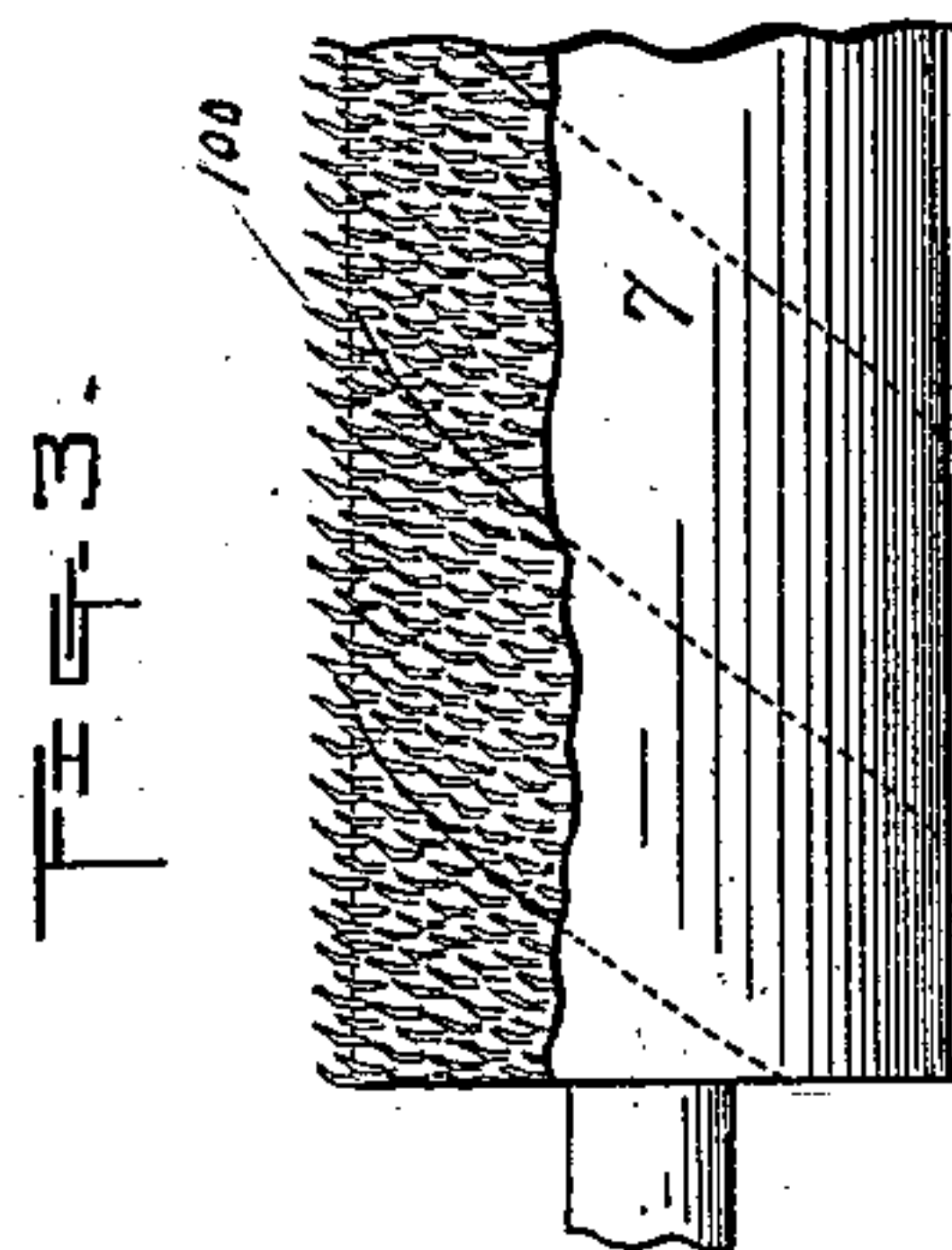
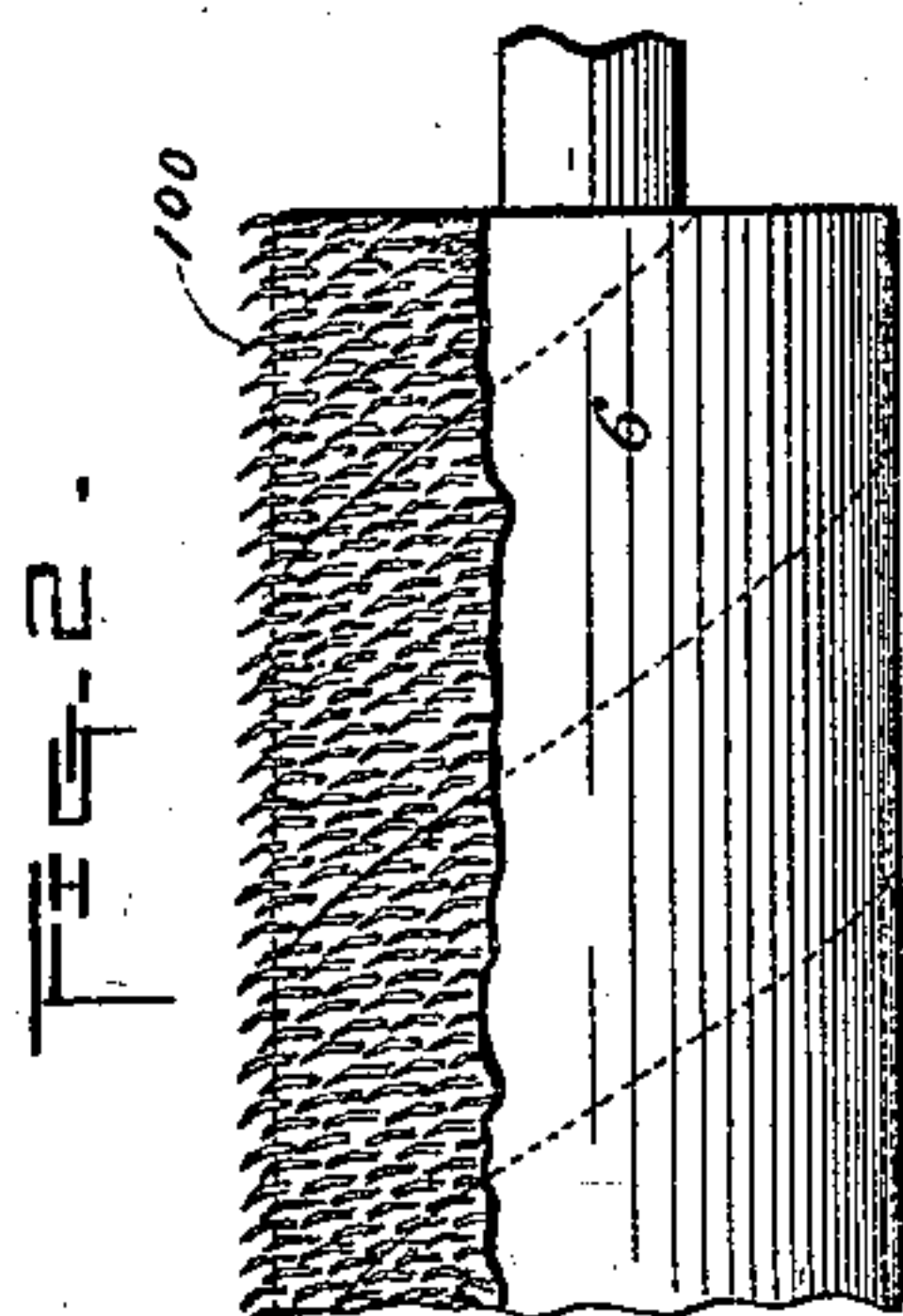


(No Model.)

D. GESSNER.
CLOTH NAPPING MACHINE.

No. 561,220.

Patented June 2, 1896.



Witnesses:
J. Greer
Fred Kemper.

Inventor:
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By Efford & Low. Atty

UNITED STATES PATENT OFFICE.

DAVID GESSNER, OF WORCESTER, MASSACHUSETTS.

CLOTH-NAPPING MACHINE.

SPECIFICATION forming part of Letters Patent No. 561,220, dated June 2, 1896.

Application filed September 19, 1890. Serial No. 365,513. (No model.)

To all whom it may concern:

Be it known that I, DAVID GESSNER, of Worcester, in the State of Massachusetts, have invented a new and useful Improvement in Cloth-Napping Machines, of which the following is a specification.

My invention is applicable to napping-machines of the character referred to in Patent No. 458,185, dated August 25, 1891, in which the napping-rollers are mounted revolvably on wheels or spiders that are fastened to the main cylinder-shaft.

One part of my invention consists in the construction of the napping-rollers, and another part consists in the construction of the mechanism for feeding the cloth to the napping-rollers.

In the accompanying drawings, Figure 1 shows a portion of the napping-machine frame and the mechanism by which the cloth is fed into the napping-machine and two of the guide-rollers, each of which assists in holding the cloth in tangential contact with the napping-cylinder. Fig. 2 shows one form of construction of the napping-rollers, on which the wires of the clothing substantially all incline in one axial direction. Fig. 3 shows the companion roller of the above, in which companion roller the wires of the clothing substantially all incline in the opposite axial direction. Fig. 4 shows the construction of a napping-roller in which the wires on opposite sides of the central transverse plane incline substantially in opposite directions. Figs. 5, 6, and 7 are details of the feeding mechanism.

The cloth enters the machine at 1 and pursues the course indicated by the dotted lines. It passes over roller 2, to which roller a longitudinally-reciprocating motion is imparted, the object of which is to cause the cloth to pursue a zigzag course over the nappers and thereby bring into play various napping-wires to as equal an extent as possible, so that the wear of the wires will be as nearly as possible from one end of the napping-rollers to the other, and the capacity will thereby be preserved of treating with uniformity the different widths of cloth that may be run through the machine. The cloth next passes successively around the roll 3, the stretcher 4, and thence to a series of rollers similar to 8 and 10, by which it is held, in passing to roller 8

and from roller 10, in tangential contact with the surface of the napping-cylinder. As the cloth passes from the guide-roller 8 to the guide-roller 10 it passes around the draft-roll 9, which is driven by any suitable means.

The following mechanism (shown in Figs. 1, 5, 6, and 7) is employed for imparting a longitudinally-reciprocating motion to the roller 2: Upon the shaft 80 of the draft-roll 9 is mounted a worm 81, which drives a worm-gear 82, fixed on the shaft 83, bearing a crank-pin 84, operating in a slotted piece 85. This slotted piece is pivoted at 86 and is prolonged on the opposite side of the pivot into the segment 87, which engages with the rack 88, formed on the sleeve 89, which forms a bearing for the roller 2 and which is mounted so as to slide longitudinally in the bracket 90.

The construction of the napping-rollers shown in Figs. 2 and 3 may be more particularly described as follows: The barrels of the rollers are covered with the usual fabric bearing the protruding wires 100. This covering fabric, which is called "clothing," is so placed, however, that certain of the wires incline toward the opposite ends of the machine. In Figs. 2 and 3 this difference of inclination takes place between the wires on different rolls.

In Fig. 4 the difference in direction is between the wires located on the same napping-roller on opposite sides of the central transverse plane. In the latter case the inclination of the wires is always in a direction from such central transverse plane.

The angle of inclination at which the wires are set in the clothing may be varied as required. As a convenient means of applying the wire clothing I propose to wind the barrels of the several napping-rollers spirally, as indicated in Figs. 2, 3, and 4.

By having the inclination of the wires arranged in the manner aforesaid the tendency is for the cloth to keep its width in passing through the machine.

I claim—

1. In a napping-machine, a series of napping-rollers covered with card-clothing having the napping-wires inclined in opposite axial directions, substantially as described.

2. In a napping-machine, a napping-roller covered by card-clothing having the wires in-

clined on the same roller in opposite axial directions, substantially as described.

3. In a machine for napping cloth, in combination with the feed-rollers, mechanism
5 communicating a longitudinally-reciprocating motion to one of said feed-rollers, the said mechanism being driven from the feeding mechanism, whereby the speed of zigzag mo-

tion imparted to the cloth is regulated by the speed of the feeding mechanism, substantially as described. 10

DAVID GESSNER.

Witnesses:

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