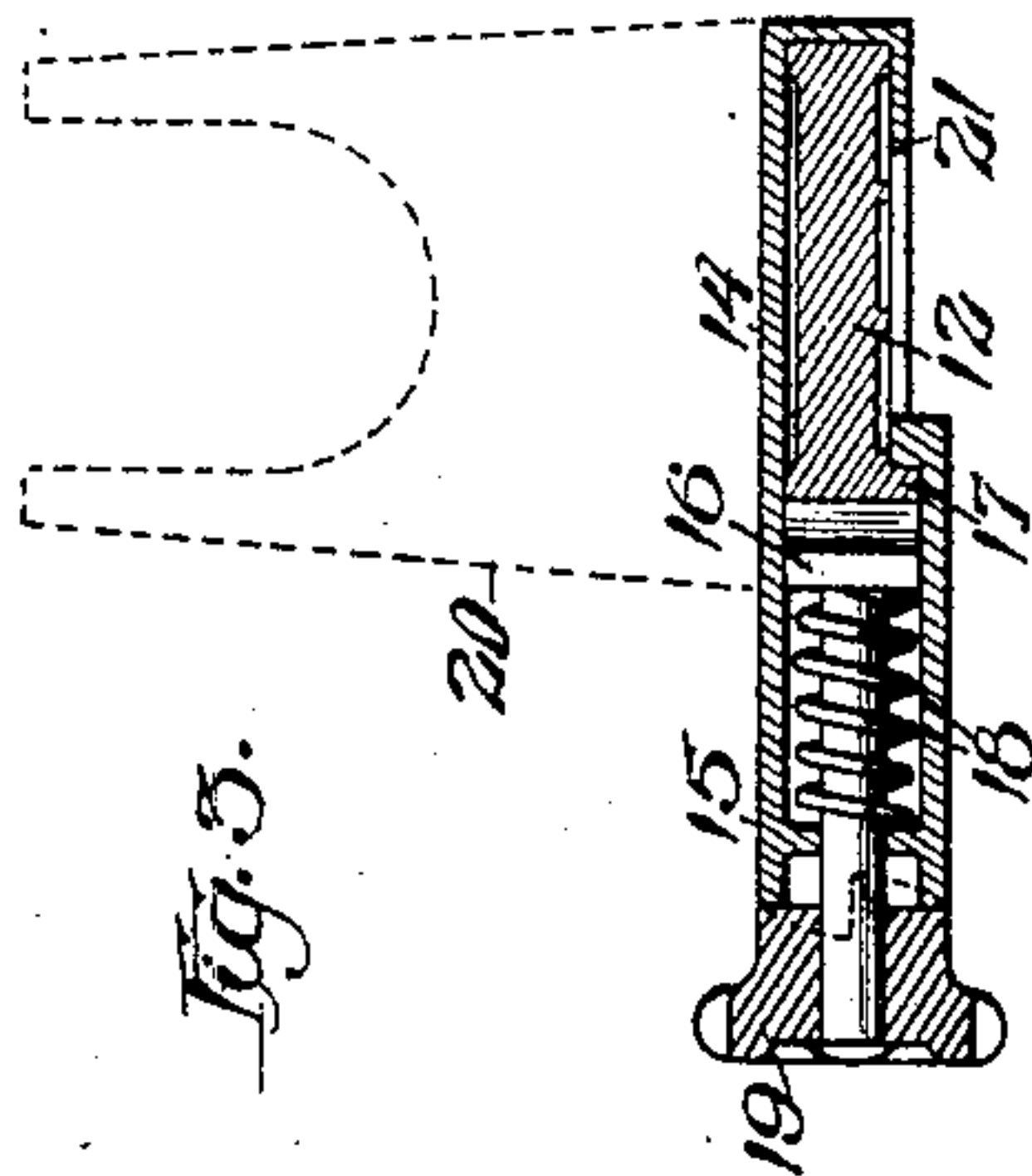
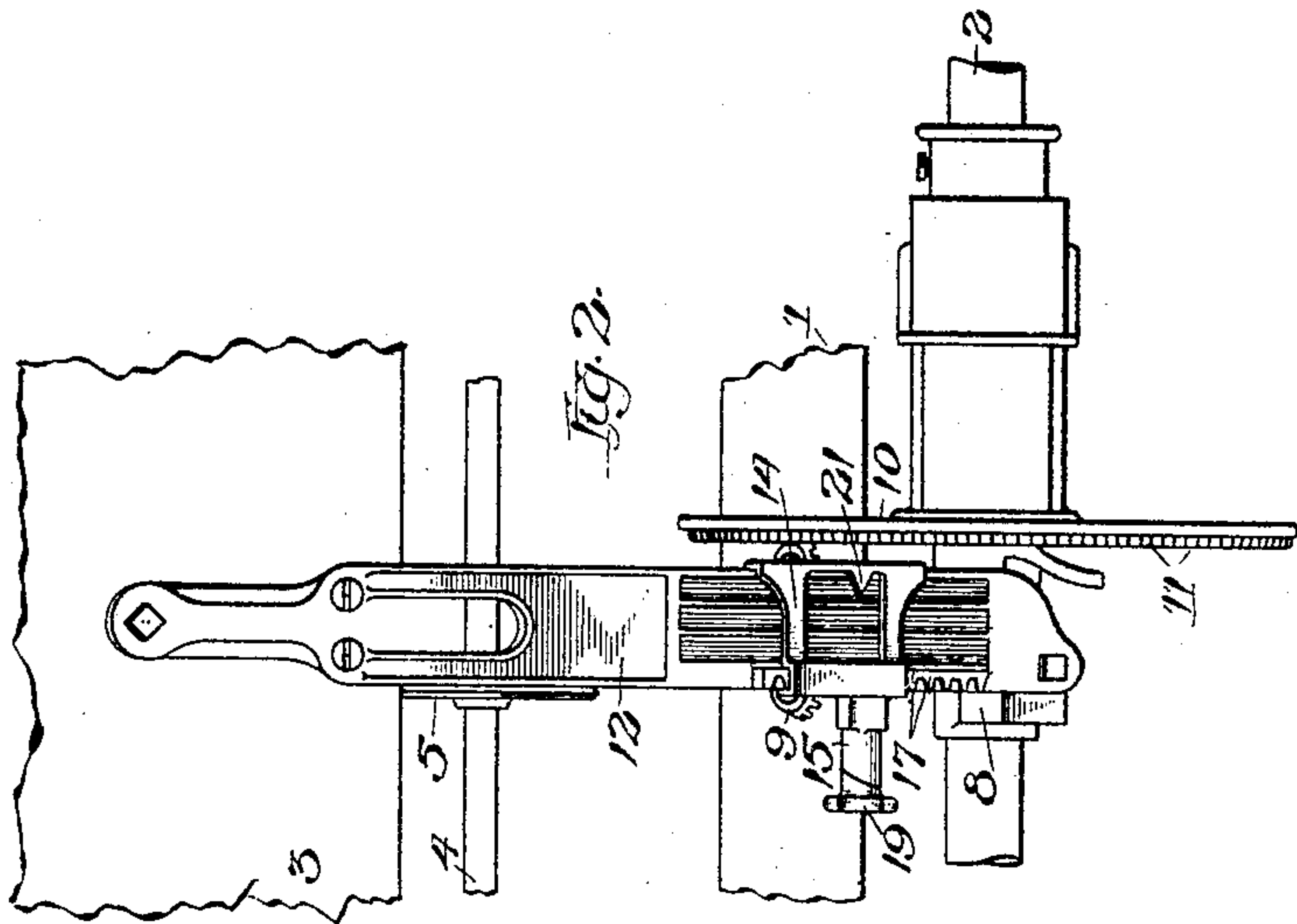
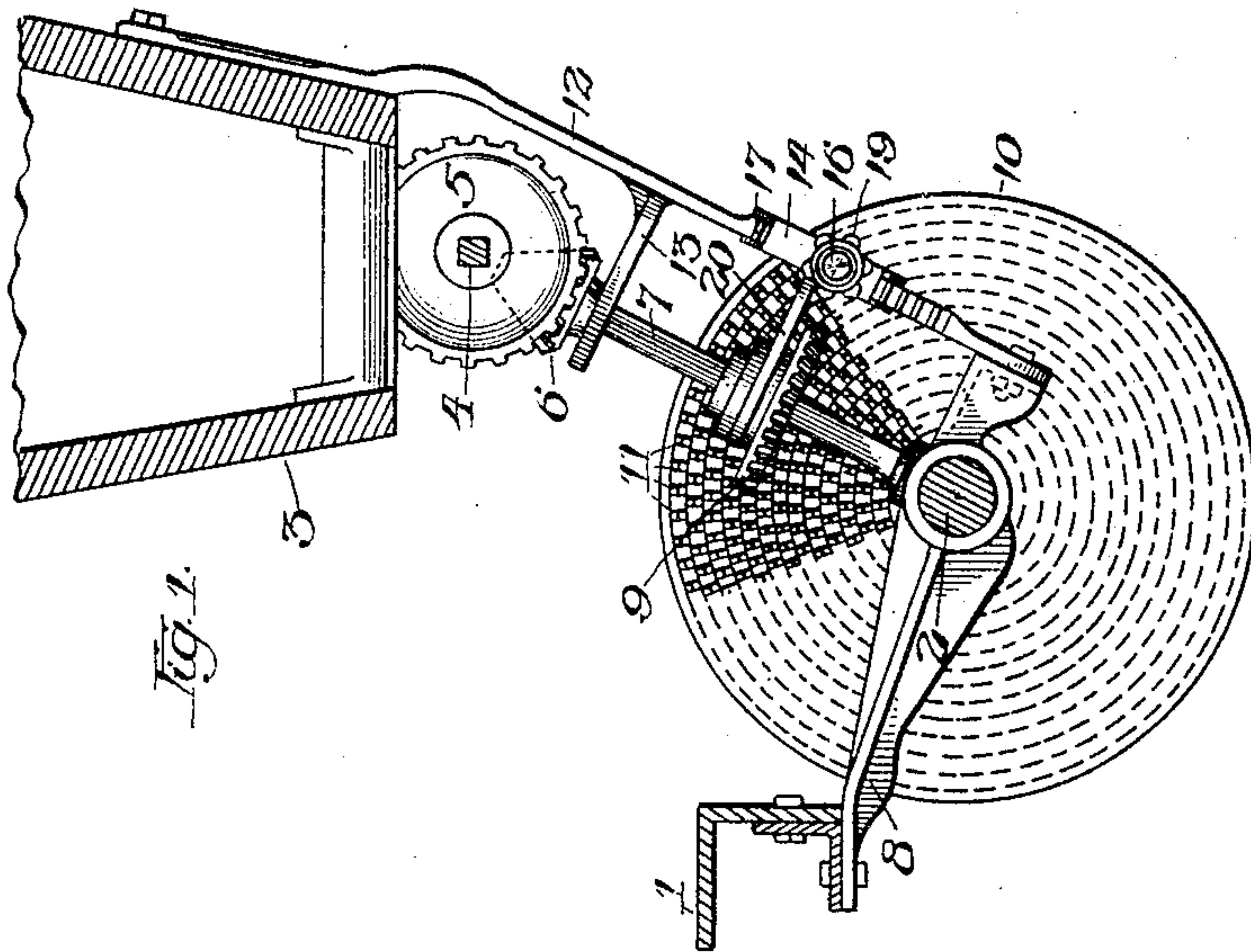


No. 803,554.

PATENTED NOV. 7, 1905.

H. J. CASE.
SPEED CHANGING MECHANISM FOR GRAIN DRILLS.
APPLICATION FILED MAY 13, 1905.



Witnesses:
D. H. Alfred
J. M. Daggett.

Inventor:
Henry J. Case.
By E. W. Burgess
Attorney.

UNITED STATES PATENT OFFICE.

HENRY J. CASE, OF OWOSCO, NEW YORK, ASSIGNOR TO INTERNATIONAL HARVESTER COMPANY, A CORPORATION OF NEW JERSEY.

SPEED-CHANGING MECHANISM FOR GRAIN-DRILLS.

No. 803,554.

Specification of Letters Patent.

Patented Nov. 7, 1905.

Application filed May 13, 1905. Serial No. 260,332.

To all whom it may concern:

Be it known that I, HENRY J. CASE, a citizen of the United States, residing at the town of Owosco, in the county of Cayuga and State of New York, have invented certain new and useful Improvements in Speed - Changing Mechanism for Grain-Drills, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof.

This invention relates to speed-changing mechanism for grain-drills; and it consists of a disk secured to the driving-axle and having concentric lines of teeth formed thereon with which a pinion is adapted to engage and means for adjusting the pinion radially relative to the face of the disk in position to engage with any of the different lines of teeth, comprising a sleeve mounted to slide upon a fixed toothed bar and having a sliding detent carried by a hollow stem integral with the sleeve and adapted to engage with the toothed bar, its objects being to provide a mechanism that may be easily manipulated and that will insure a proper engagement of the pinion with the disk in any position to which it may be adjusted. These objects are attained by the mechanism illustrated by the drawings accompanying this application, in which—

Figure 1 represents a sectional elevation of part of a grain-drill with the invention attached thereto. Fig. 2 is a rear elevation of Fig. 1, and Fig. 3 is a sectional detail of part of the adjusting mechanism.

The same numerals refer to like parts throughout the several views.

1 represents a portion of the frame. 2 is the driving-axle. 3 is the hopper. 4 is the shaft upon which the grain-distributors are mounted. 5 is a bevel-wheel secured to the shaft 4, and 6 is a pinion secured to the inclined shaft 7 and meshing with the bevel-wheel 5. The inclined shaft is journaled at its lower end in a casting 8, secured to the frame portion 1 and forming a bearing for the driving-axle 2. The inclined shaft 7 is preferably square in its body portion, and a pinion 9 is mounted thereon and adapted to slide lengthwise thereof. A disk 10 is journaled on the axle 2, having concentric rows of teeth 11 on its surface adapted to mesh with the pinion 9 as it is adjusted radially therewith, the surface being parallel with the inclined shaft, and any of the common

forms of clutch mechanism may be used to connect it with the power-transmitting means secured to the axle. A plate 12, having its lower end secured to the casting 8, extends upward parallel with the inclined shaft 7 and has its upper end secured to the hopper, and an inwardly-projecting forked arm 13 integral therewith embraces the hub of bevel-pinion 6 in a manner to hold it in engagement with the bevel-wheel 5. A sleeve 14 is designed to slide upon the plate and is provided with a laterally-projecting hollow stem 15, adapted to receive a detent 16, that engages with the toothed edge 17 of the plate for the purpose of securing it at any desired position of adjustment. The detent is pressed inward to engage with the teeth by means of a coiled spring 18 surrounding it and operative between a shoulder formed on the detent and an annular flange upon the inner surface of the hollow stem and is disengaged therefrom by means of a hand-wheel 19, rotatably mounted upon the outer end of the detent and having a cam-surface engaging with an opposing cam-surface upon the outer end of the hollow stem. Integral with the sleeve is an inwardly-projecting forked arm 20, adapted to engage with a circumferential channel formed on the hub of the pinion 9 in a manner to move the pinion lengthwise of the shaft as the sleeve is adjusted upon the plate. The teeth upon the rack are so arranged that when the detent is engaged therewith the pinion is in position to mesh properly with the disk and is held firmly in that position, and the means for adjustment are convenient and easily manipulated. The plate is provided with the usual index, and a pointer 21 indicates the position of the pinion 9 relative to the disk.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a change-speed mechanism for grain-drills, the combination of a frame member, an axle, an axle-bearing secured to said frame member, a disk mounted on the axle and provided with concentric rows of teeth on the surface thereof, a shaft mounted adjacent said disk and parallel therewith, a pinion slidably mounted on said shaft and adapted to mesh with the teeth on said disk, and having a circumferential channel on the hub thereof means for adjusting said pinion on the shaft comprising a bar mounted parallel with the shaft and secured to said axle-bearing, a sleeve adjust-

ably mounted on said bar, a hollow stem integral with said sleeve, a spring-pressed detent mounted in said hollow stem and having one end engaging with said bar, a hand-wheel
 5 rotatably mounted upon the opposite end of said detent and having a cam-surface engaging with an opposing cam-surface on said hollow stem, and a forked arm integral with said sleeve and engaging said channel.

10 2. In a change-speed mechanism for grain-drills, the combination of a frame member, an axle, an axle-bearing secured to said frame member, a disk mounted on the axle and provided with concentric rows of teeth on the surface thereof, a shaft mounted adjacent to said
 15 disk and parallel therewith, a pinion slidably mounted on said shaft and adapted to mesh with the teeth on said disk, means for adjusting the pinion on the shaft comprising a bar
 20 mounted parallel with the shaft and having a toothed surface longitudinally disposed relative to the shaft, a sleeve adjustably mounted on said bar and supporting said pinion, a hollow stem integral with said sleeve, a spring-
 25 pressed detent mounted in said hollow stem and having one end engaging with said toothed surface, a hand-wheel rotatably mounted upon the opposite end of said detent and having a cam-surface engaging with an
 30 opposing cam-surface on said hollow stem.

3. In a change-speed mechanism for grain-drills, the combination of a frame member, an

axle, an axle-bearing secured to said frame member, a distributor-shaft, a bevel-gear secured to said distributor-shaft, a disk mounted on said axle and provided with concentric rows of teeth on the surface thereof, a shaft mounted adjacent said disk and parallel with the toothed surface thereof, a pinion slidably mounted on said shaft and adapted to mesh with the teeth on said disk, a second pinion mounted on said shaft and meshing with the bevel-wheel on the distributor-shaft, means for adjusting said first-mentioned pinion on its shaft, comprising a bar mounted parallel with the shaft and having a toothed surface longitudinally disposed relative to the shaft, a forked arm integral with said bar and operative to hold said second pinion in engagement with the bevel-wheel on the distributor-shaft, a sleeve adjustably mounted on said bar and adjustably supporting said first-named pinion, a hollow stem integral with said sleeve, a spring-pressed detent mounted in said hollow stem and having one end engaging with said toothed surface, and means for releasing said detent.

In witness whereof I hereto affix my signature in presence of two witnesses.

HENRY J. CASE.

Witnesses:

J. H. SMITH,
 A. R. EBINGER.