

No. 755,255.

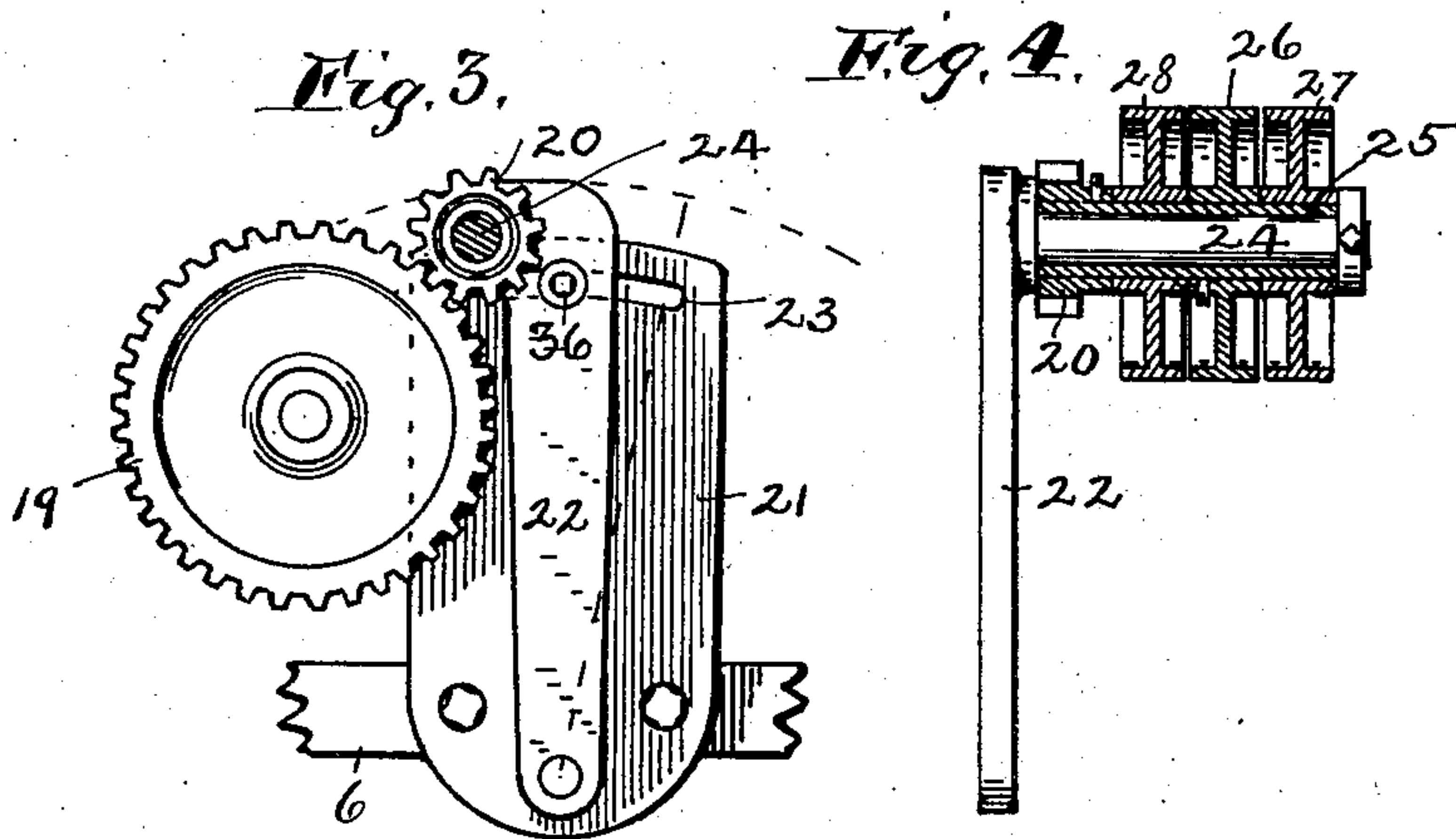
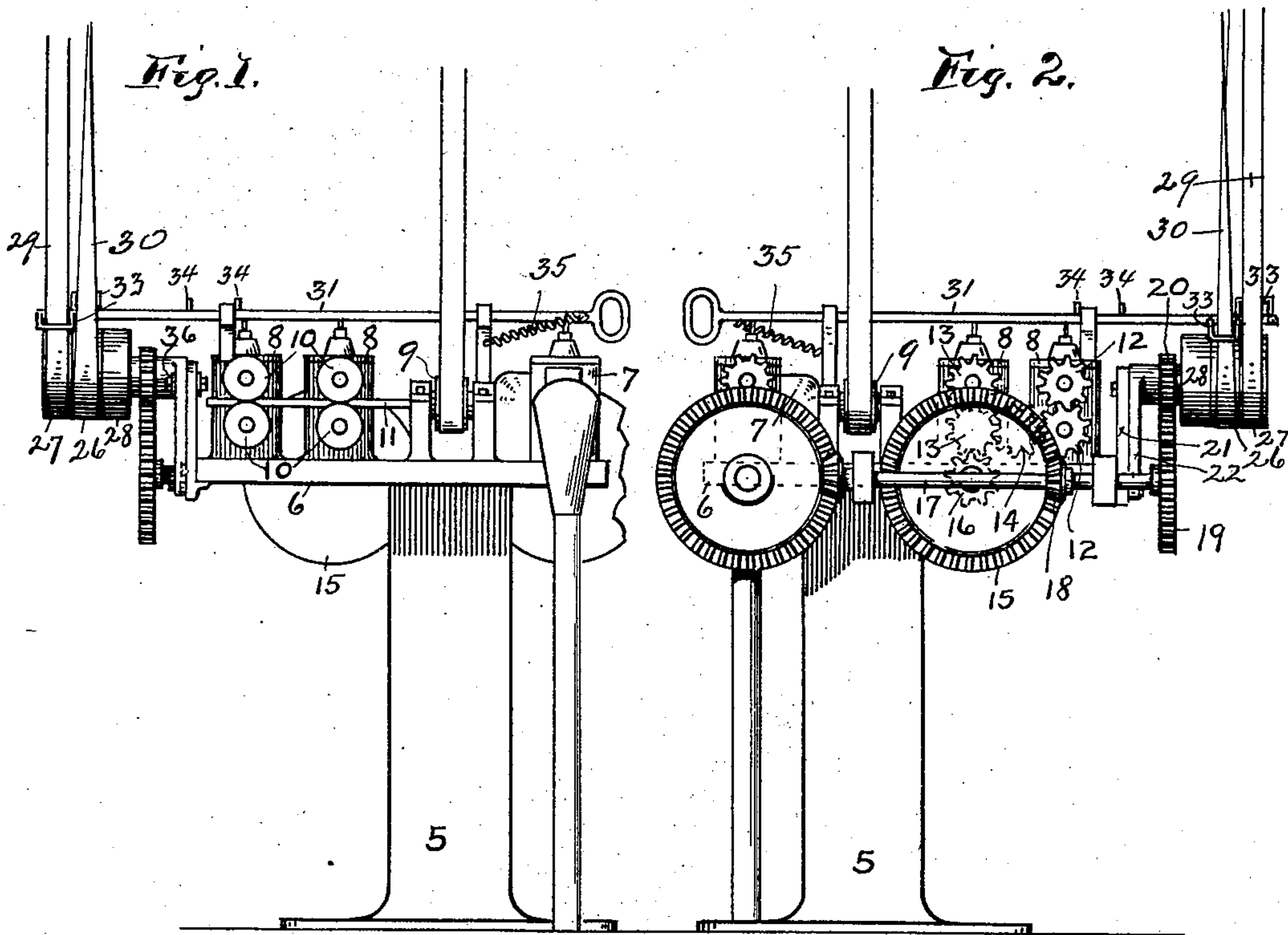
PATENTED MAR. 22, 1904.

M. P. STUTSMAN.

DOWEL MACHINE.

APPLICATION FILED JUNE 16, 1903.

NO MODEL.



Witnesses,

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UNITED STATES PATENT OFFICE.

MARTIN P. STUTSMAN, OF CUMBERLAND, INDIANA.

DOWEL-MACHINE.

SPECIFICATION forming part of Letters Patent No. 755,255, dated March 22, 1904.

Application filed June 16, 1903. Serial No. 161,655. (No model.)

To all whom it may concern:

Be it known that I, MARTIN P. STUTSMAN, a citizen of the United States, residing at Cumberland, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Dowel-Machines, of which the following is a specification.

This invention relates to improvements in machines for turning wooden dowels; and the objects of the invention are, first, to provide means for changing the gear, so as to change the speed of the machine, and, second, to provide a more efficient means for reversing the direction of movement of the machine.

I accomplish the objects of the invention by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a view in front elevation of a machine embodying my invention; Fig. 2, a rear elevation of same; Fig. 3, a detail showing the adjustable arm for supporting the driving-pulleys; and Fig. 4, an edge view of said arm, showing the pulleys and the sleeve on which they are mounted in vertical section.

Like characters of reference indicate like parts throughout the several views of the drawings.

5 is the base of the machine, 6 the bed-plate 7 a housing, within which is a bit or cutter (not shown) for turning the excess wood off of the piece from which the dowel is to be made. This is driven by belt connection with the pulley 9.

8 8 are stands which each support a pair of feed-disks 10 10, between which the finished dowel 11 runs and by which said dowel is fed through the machine. The shafts on which said feed-disks are mounted have the cog-wheels in pairs 12 12 and 13 13, the lower wheels of each pair of which are geared together by the wheel 14.

Mounted transversely of the machine at the rear is a shaft having the large bevel-wheel 15 and the small spur gear-wheel 16, which latter wheel has driving engagement with the lower wheel 13.

Mounted at the rear of the machine and extending longitudinally thereof is the shaft 17, having the bevel-pinion 18, the teeth of which

mesh with those of the wheel 15. Mounted on the outer end of this shaft is the spur gear-wheel 19, which is driven by engagement with the pinion 20.

The mechanism thus far described is old and in common use.

Heretofore the pinion 20 has been mounted on a fixed shaft and the only means for changing the relative speed of the shafts on which the pinion and the wheel 15 are mounted was by changing both gears. My invention contemplates the changing of the relative speeds by changing only the pinion and shifting the shaft on which the pinion is mounted to accommodate this change.

21 is a plate bolted in a fixed vertical position to the end of the bed-plate 6, and 22 is an arm pivoted at its lower end to the lower end of the plate 21. The plate has the slot 23, near its upper end, concentric with the said pivot. This arm carries the shaft 24, on which a sleeve 25 is loosely mounted. The sleeve has the fixed pinion 20 adjacent to the arm 22, and mounted farther out upon it also in a fixed manner is the pulley 26, and upon each side of the pulley 26 are the pulleys 27 and 28, respectively, loosely mounted on said sleeve.

29 is a straight and 30 a crossed belt, both of which, driven by a suitable motor, are in constant movement, but only one of which at a time is upon the fixed pulley 26, the one not on pulley 26 being upon one or the other of the said loose pulleys.

31 is a longitudinally-adjustable rod mounted above the pulleys in standards 32 32. This rod has the loops 33 33, through which the belts pass and by which upon the movement of the rod the belts are shifted on said pulleys. The limit of movement of the rod is fixed by the pins 34 34, which contact with one of the standards 32. By means of a spring 35 the rod will be held normally in position to cause the belts to drive the machine in a forward direction. It is sometimes desirable, however, to reverse the machine, so as to cause the dowels under formation to be fed backward. Such reversal is obtained by shifting the rod in opposition to the spring, and as soon as the trouble is over the simple re-

lease of the rod by the operator will cause it by the action of the spring to be moved longitudinally in the proper direction to shift the belts, so as to run the machine straight ahead. This is one of the important features of my invention.

When it is desired to change the speed of the machine, the bolt 36, which secured the arm to the slotted plate, is loosened and the arm moved to the right or left, as required, and a pinion of the size to give the desired change in speed is substituted for the one removed, after which the arm is secured by again tightening the bolt 36.

Having thus fully described my invention, what I claim as new, and wish to secure by Letters Patent, is—

1. In a feed mechanism for dowel-machines, a cog-wheel on a fixed shaft, an arm adjustable about a pivot outside of the axis of the fixed shaft, said arm carrying a second shaft, a cog-wheel mounted on the second shaft and engaging the first cog-wheel, a belt-pulley mounted in a fixed manner on said sleeve and a pair of loose pulleys, one on each side of the fixed pulley, to which power is applied, and a straight and a crossed belt to apply such power.

2. In a feed mechanism for dowel-machines, a cog-wheel mounted on a fixed shaft, a fixed plate at right angles to the shaft on which said wheel is mounted, an arm pivoted at one side of the axis of the shaft to said plate said plate having a slot concentric with the said pivot, a bolt passing through the arm and

through the slot of the plate and means to tighten the bolt to secure the arm, a shaft carried by said arm, a sleeve mounted on the last shaft, a cog-wheel mounted on the sleeve in a fixed manner said last cog-wheel engaging the first, a belt-pulley mounted in a fixed manner on said sleeve and a pair of loose pulleys, one on each side of the fixed pulley, to which power is applied and a straight and a crossed belt to apply such power.

3. In a feed mechanism for dowel-machines, a fixed shaft, a cog-wheel mounted thereon, a shaft adjustable in its distance from said first shaft to permit of the introduction thereon of cog-wheels to mesh with the first-named cog-wheel, of different sizes to change the speed of the feed, a sleeve loosely mounted on the adjustable shaft, a cog-wheel mounted in a fixed manner on the sleeve, a pair of loose pulleys mounted on said sleeve, one on each side of the fixed pulley, a straight and a crossed belt operating on said pulleys, a shifting-rod, loops carried thereby to engage and cause the belts to move from one pulley to the next by the longitudinal movement of the rod, guides to hold the rod and a spring to return the rod to a normal position.

In witness whereof I have hereunto set my hand and seal at Indianapolis, Indiana, this 17th day of May, A. D. 1903.

MARTIN P. STUTSMAN. [L. s.]

Witnesses:

JOHN B. SHERWOOD,
JOSEPH A. MINTURN.