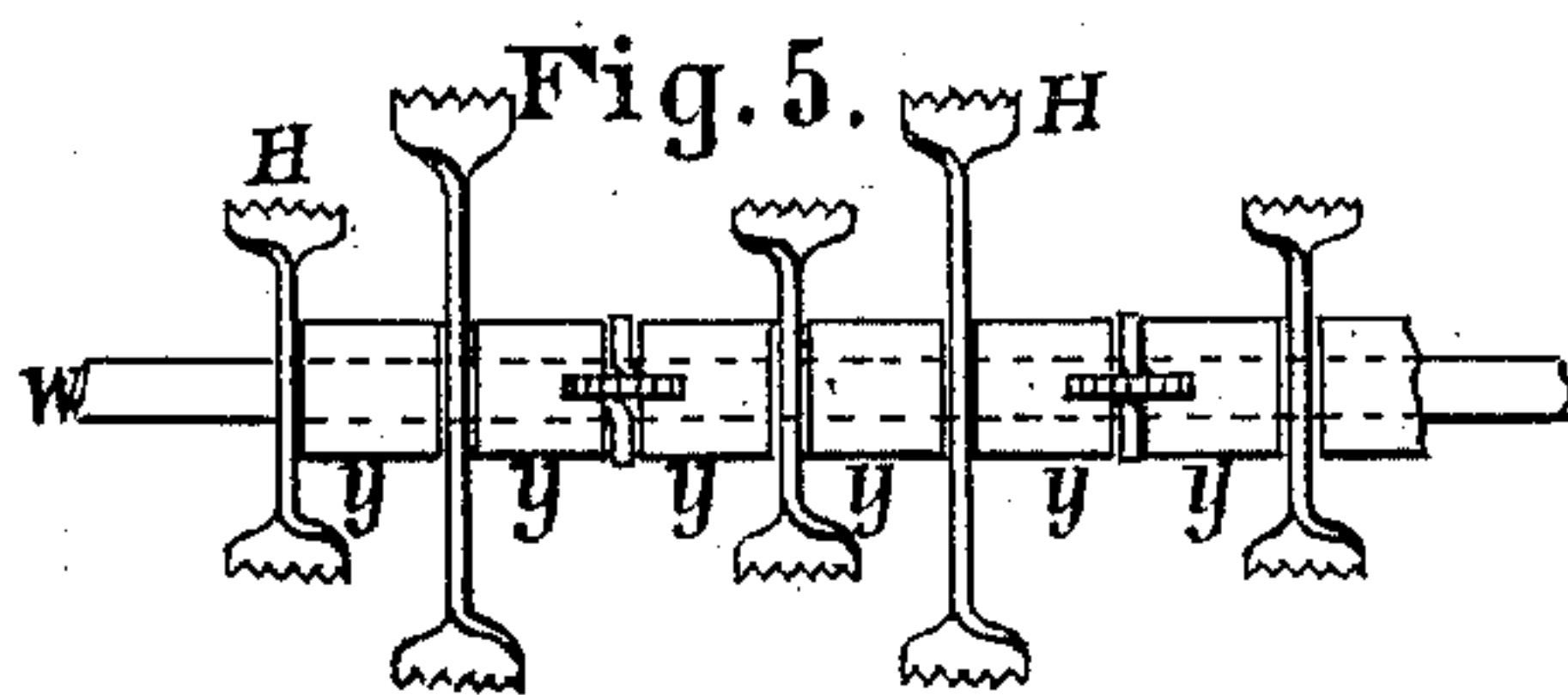
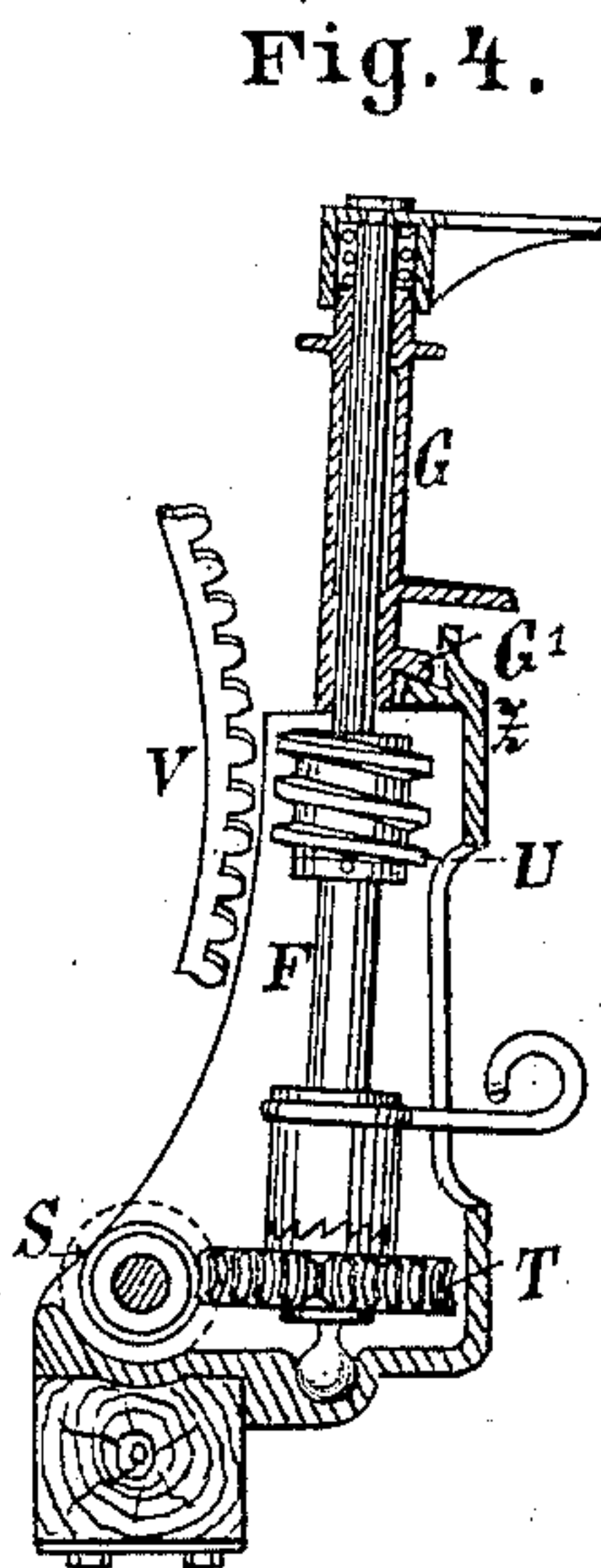
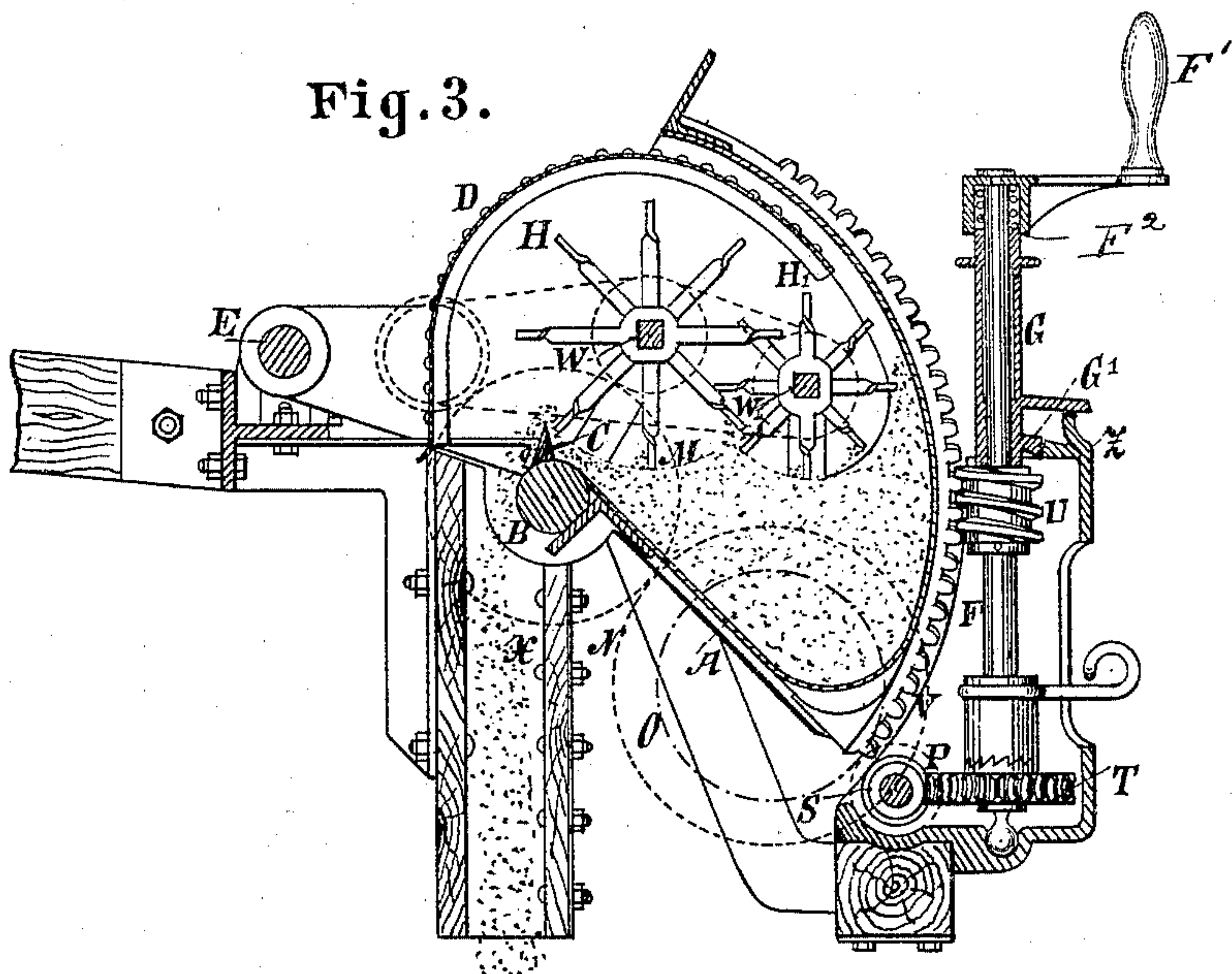
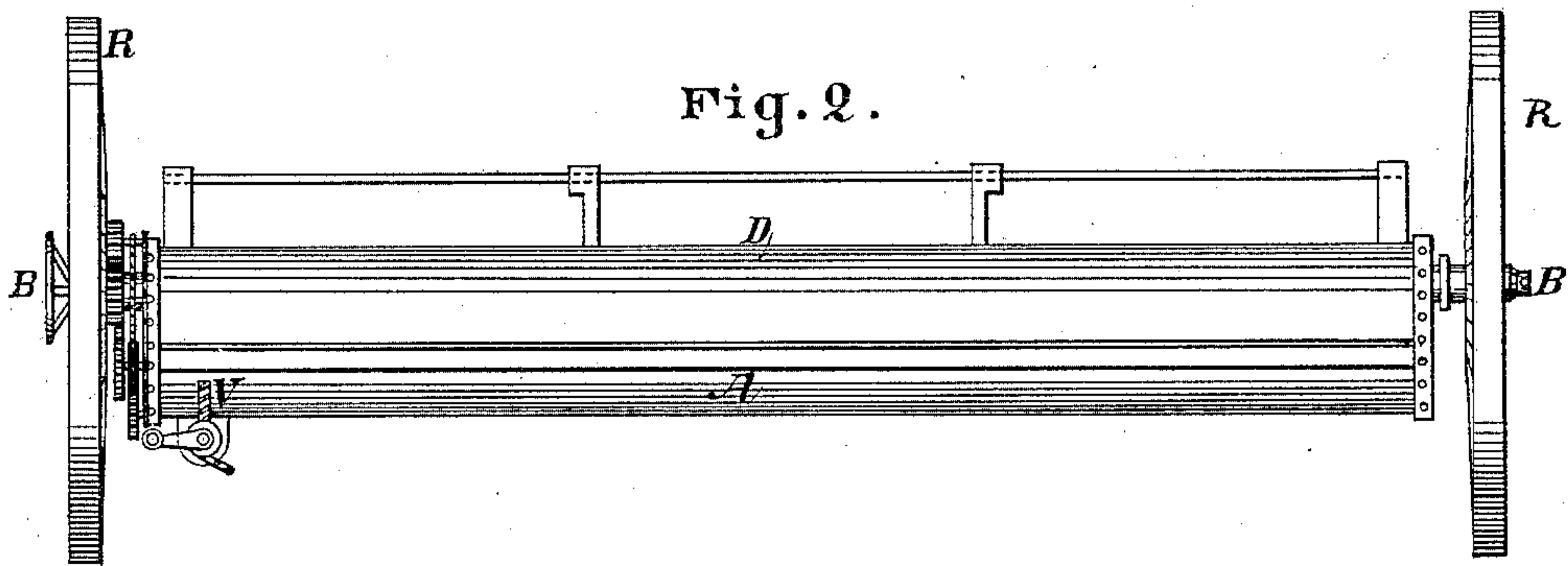
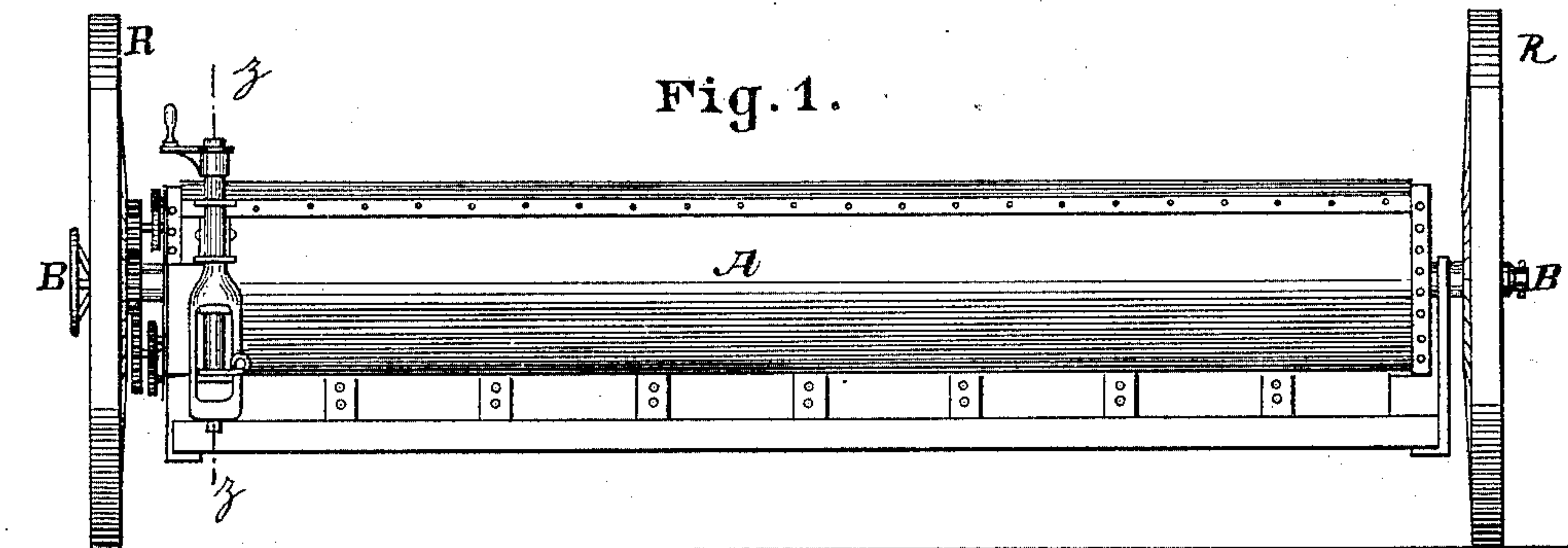


(No Model.)

C. NAUMANN.  
MANURE DISTRIBUTER AND GRAIN DRILL.

No. 467,517.

Patented Jan. 26, 1892.



Witnesses:  
*Wm. Schulz.*  
*A. Goughman.*

Inventor:  
*C. Naumann*  
by his attorneys  
*Roeder & Briesen*



# UNITED STATES PATENT OFFICE.

CHARLES NAUMANN, OF SCHLETTAU, GERMANY.

## MANURE-DISTRIBUTER AND GRAIN-DRILL.

SPECIFICATION forming part of Letters Patent No. 467,517, dated January 26, 1892.

Application filed August 12, 1891. Serial No. 402 488. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES NAUMANN, of Schlettau, in Saxony, Empire of Germany, have invented certain new and useful Improvements in Manure - Distributers and Grain-Drills, of which the following is a specification.

This invention relates to a manure-distributer and grain-drill of novel construction; and it consists in the various features of improvement more fully pointed out in the claims.

In the accompanying drawings, Figure 1 is a rear view of the distributer and drill; Fig. 2, a front view thereof; Fig. 3, a section on line *z z*, Fig. 1; Fig. 4, a side view of the worm and segment, showing them disengaged; and Fig. 5, a detail of part of one of the agitators.

The letters R R represent the two bearing-wheels of the machine mounted upon the axle B, to which the containing-box A is secured. The box A is provided near one end with a toothed segment V, which transmits motion to the box from one of the wheels R in the following manner: Fast on wheel R is a wheel M, engaging wheel N. Upon the spindle of this wheel is fast the pinion O, engaging worm S, that in turn is engaged by wheel T, secured to shaft F. This shaft is provided with the worm U, that intergears with the segment V, and thus, as the machine is drawn over the ground, the box A is gradually raised to deliver its contents.

The degree of speed imparted to the box A may of course be readily determined by the proportions of the gearing.

To the frame of the machine there is secured a bar C, over which the manure is delivered to a chute X, that protects it against the wind.

The agitators or distributing-wheels H H' are fixed upon two parallel shafts W W' and consist of a series of sheet-metal arms terminating at their ends in blades. The arms are separated from each other by collars or sleeves *y* upon the shaft, Fig. 5, and they are so arranged that the blades of one wheel pass between the blades of the other wheel. The shaft W receives its motion by suitable gearing from the wheel M and in turn transmits

motion to shaft W' by a belt, as indicated by dotted lines, Fig. 3.

D is the cover of box A. It turns on a horizontal axle E, at the front of the machine and is supported when the machine is in action, upon the ends of the bar C.

When the box A has been raised in the manner described until it is entirely empty, it must be brought back to its original position to be refilled. For this purpose the shaft F revolves in a vertical sleeve G, that can be raised for a short distance to disengage the worm U from the segment V, Fig. 4. The sleeve when in its lowermost position is retained in place by a projection G', that engages a corresponding projection Z upon the frame of the machine. The shaft F is provided with a handle F', between which and sleeve G a spring F<sup>2</sup> is interposed. When the box A is to be refilled, the sleeve G is raised until the projection G' is clear of projection Z. The shaft F can then be turned back until the worm U is disengaged from segment V. Thus the box A is free and can be brought back to its original position. The release of toothed segment V may be made automatic by providing the box A with a stop that engages sleeve G when the box has reached its highest position and is empty.

What I claim is—

1. The combination of box A with segment V, a worm U, engaging the segment and raising the box, and with gearing that revolves the worm, substantially as specified.

2. The combination of box A with segment V, a worm U, engaging the same, a delivering-bar C, chute X, and agitators H H', substantially as specified.

3. The combination of box A with segment V, shaft F, worm U, movable sleeve G, having projection G', and with projection Z, engaging the same, substantially as specified.

In testimony whereof I hereunto sign my name, in the presence of two subscribing witnesses, this 25th day of July, 1891.

CHARLES NAUMANN.

Witnesses:

DANIEL B. HUBBARD,  
MINNA REIFERT.