

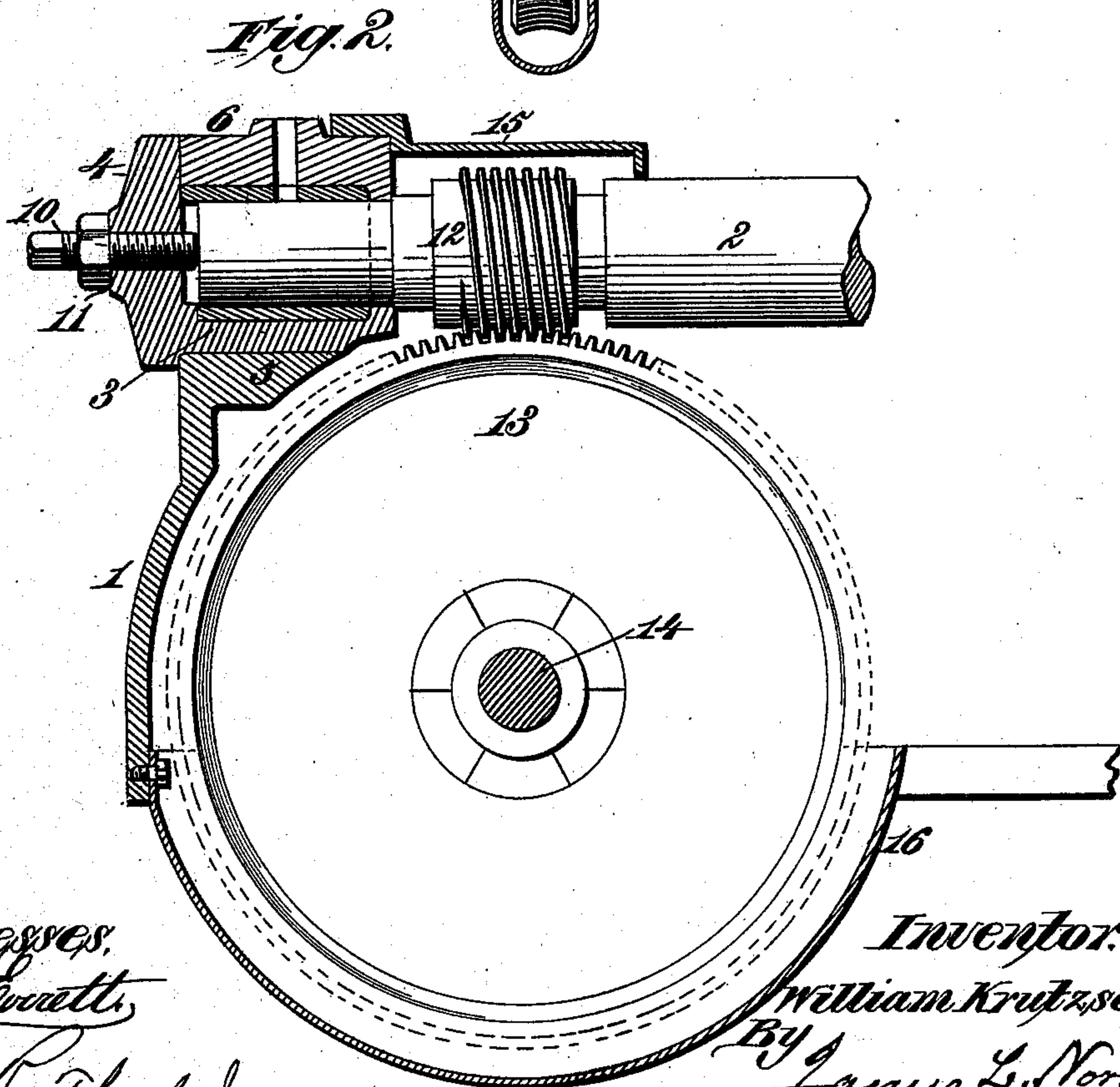
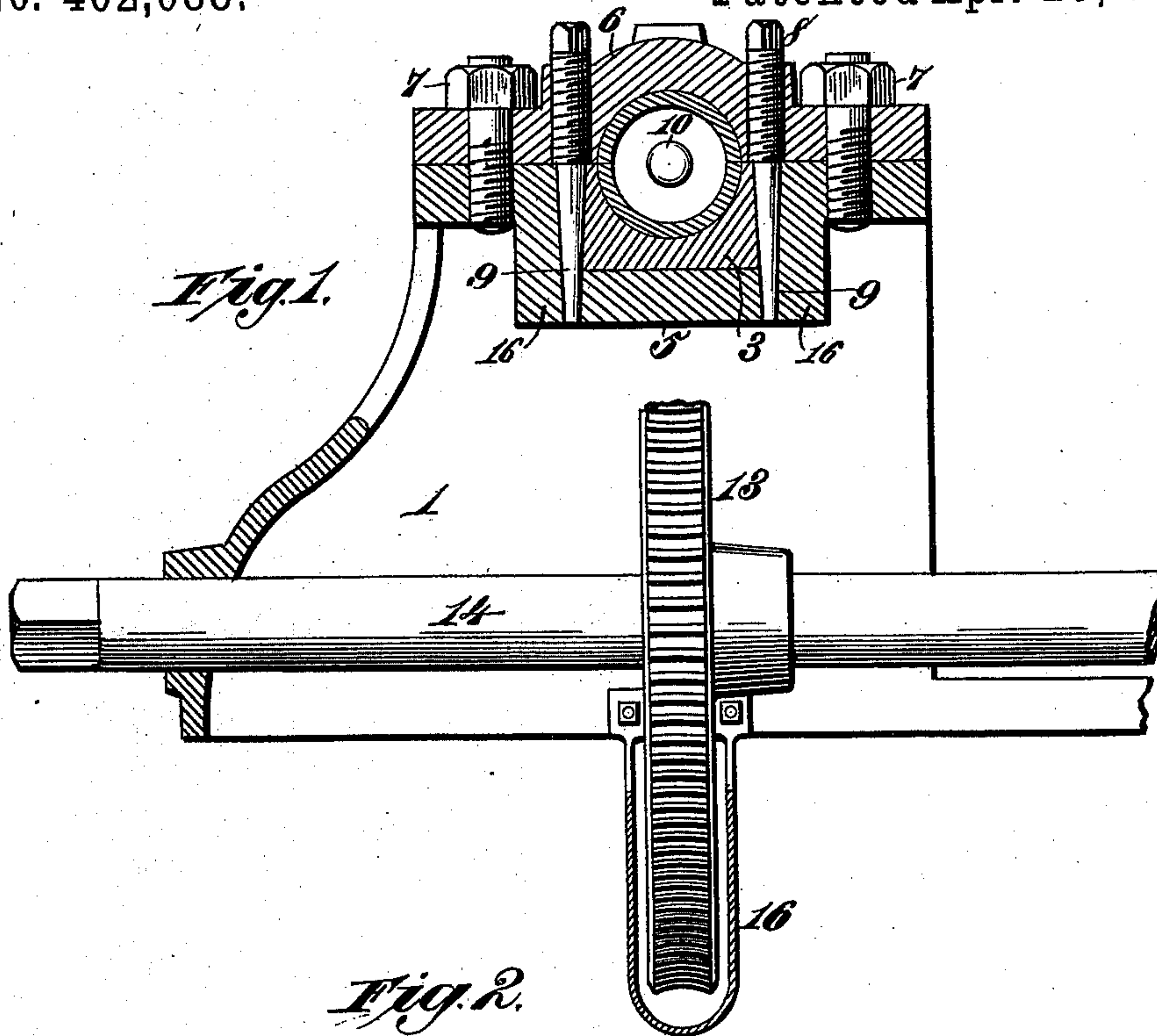
(No Model.)

2 Sheets—Sheet 1.

W. KRUTZSCH.  
TOBACCO CUTTING MACHINE.

No. 402,088.

Patented Apr. 23, 1889.



Witnesses:  
*Robert Everett*  
*J. A. Rutherford*

Inventor:  
*William Krutzsch*  
By *James L. Norris*  
*Atty.*

(No Model.)

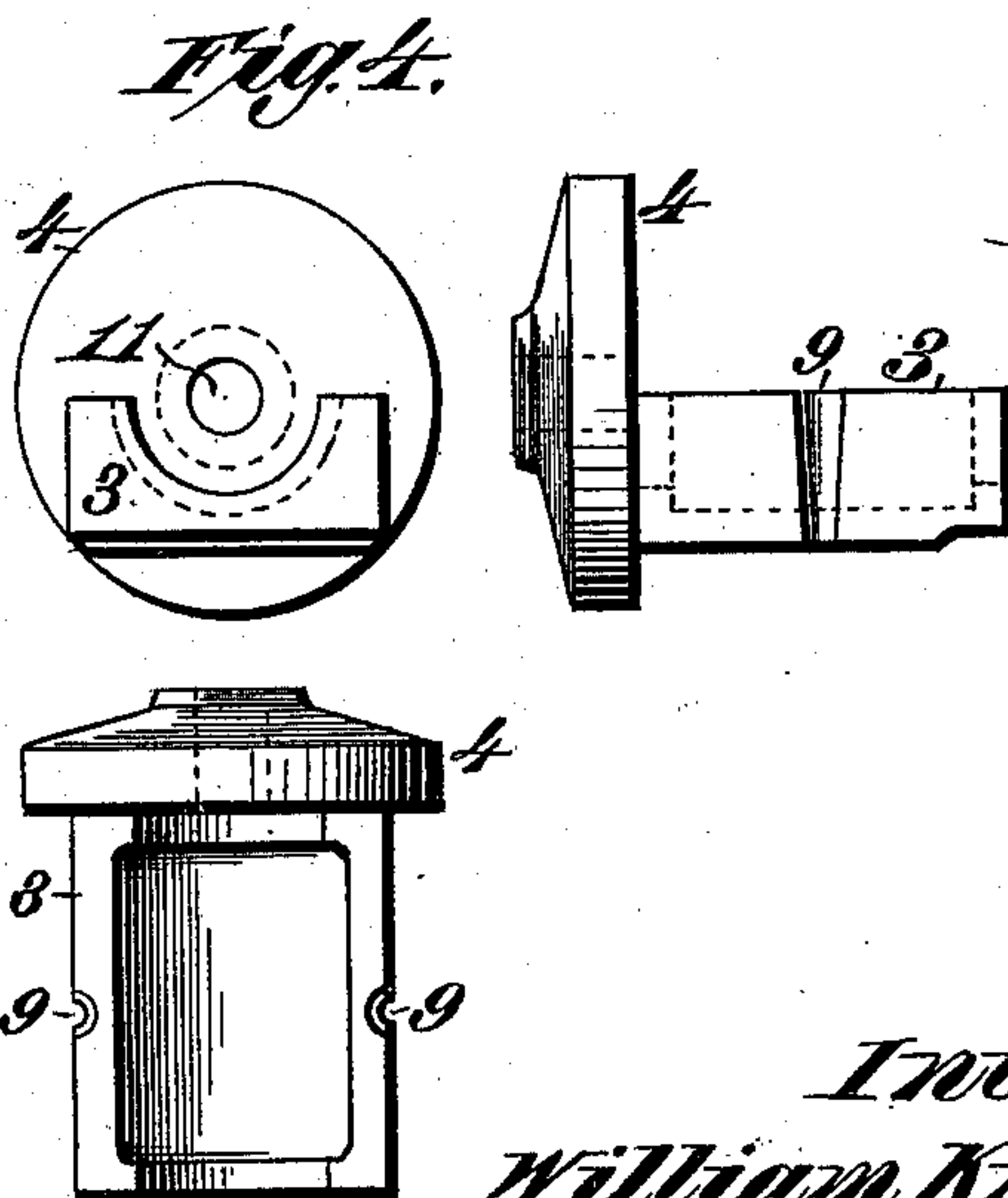
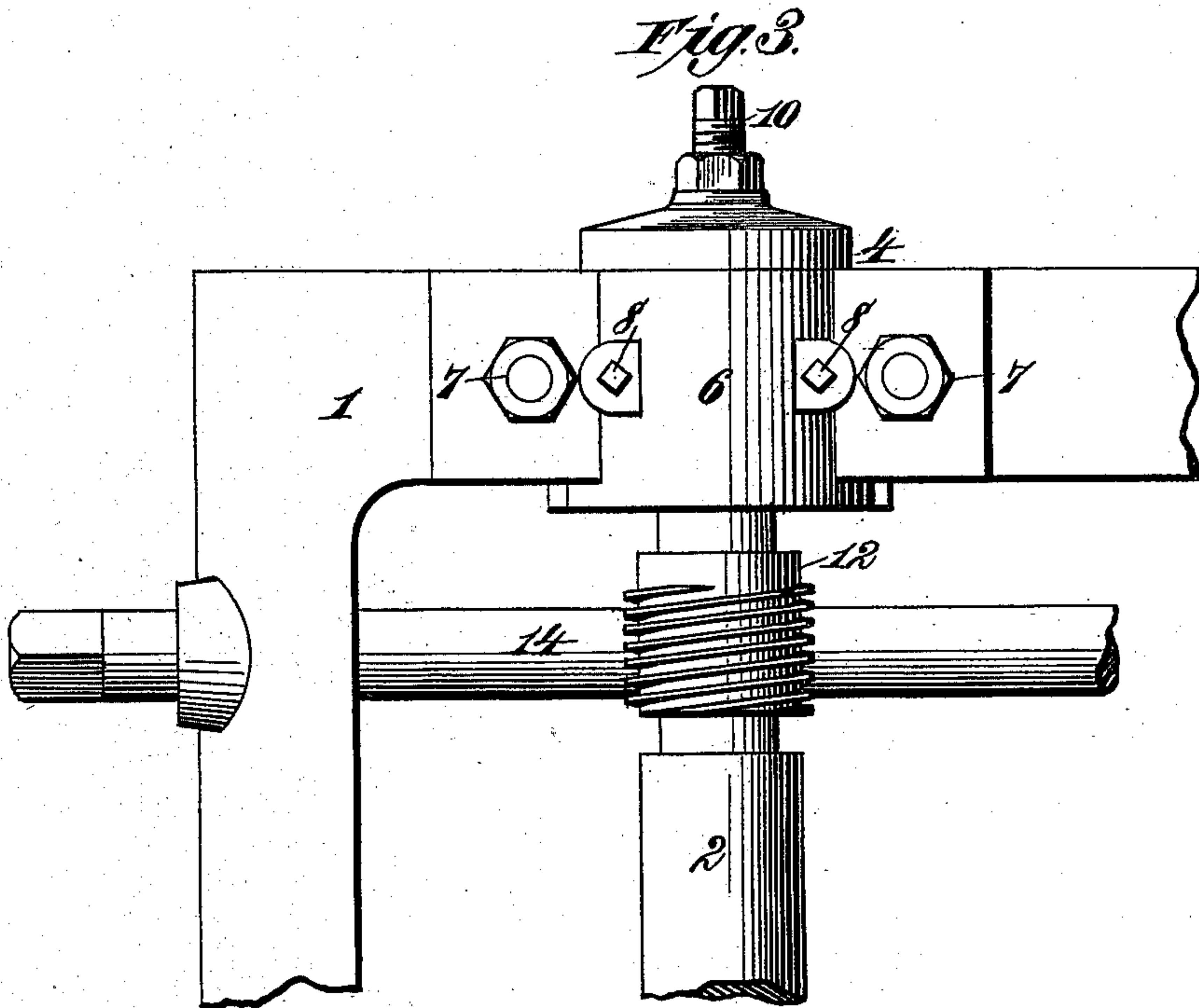
W. KRUTZSCH.

2 Sheets—Sheet 2.

TOBACCO CUTTING MACHINE.

No. 402,088.

Patented Apr. 23, 1889.



Witnesses.  
*Robert Smith,*  
*J. A. Matherford,*

Inventor:  
*William Krutzsch.*  
By  
*James L. Norris,*  
*Atty.*



# UNITED STATES PATENT OFFICE.

WILLIAM KRUTZSCH, OF DAYTON, OHIO, ASSIGNOR TO THE BUCKEYE IRON AND BRASS WORKS, OF SAME PLACE.

## TOBACCO-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 402,088, dated April 23, 1889.

Application filed December 19, 1888. Serial No. 294,065. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM KRUTZSCH, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented new and useful Improvements in Tobacco-Cutting Machines, of which the following is a specification.

This invention relates to tobacco-cutting of the general character described in Reissued Letters Patent No. 6,728, granted to W. H. Pease, November 2, 1875, in which an automatic and continuous feed of the tobacco is obtained by means of conveying endless chains and chain-carrying rollers geared positively together and driven, through suitable worm-gearing, from the shaft that carries the rotary cutting-knives, whereby a uniform relative speed of the feeding and cutting devices is secured.

In this machine the fineness of the cut may be determined by changing the velocity of either the feeding or cutting device. The revolution of the knives being at a given rate, an increased feed will produce a coarse cut and a decreased or slower feed the opposite. This change in the feed is usually accomplished by removing the cutter-shaft on which the worm-gear is formed or securely attached and replacing said shaft with another having a fixed worm-gear of different pitch, as may be required to produce the desired feed.

The many objections incident to the removal and interchanging of the cutter-shaft and fixed worm-gear are obviated by my invention; to which end it consists in the features of construction and combination of devices hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1 is a cross-sectional elevation, Fig. 2 a sectional side elevation, and Fig. 3 a plan, of a portion of a tobacco-cutting machine illustrating my invention. Fig. 4 shows end and top views of the lower part of the journal-box.

The numeral 1 designates a portion of the frame of the machine, and 2 is a portion of the rotary cutter-shaft, to which the cutting-knives (not shown) are attached.

One end of the cutter-shaft 2 is supported in a journal-box that comprises a lower part,

3, having a disk-shaped flange, 4, at one end. This lower box or part, 3, is supported between the stationary jaws 16 of a pillow-block, 5, mounted on the machine-frame. A cap or upper box, 6, rests on the pillow-block above the lower box, 3, and is held in place by means of screw-bolts 7, as shown in Figs. 1 and 3. By means of taper-screws 8, passed through the cap 6 into tapering recesses 9 between the sides of the lower box, 3, and the jaws 16 of the pillow-block 5, Figs. 1 and 4, the several parts are held solidly together to afford a firm bearing for the cutter-shaft journal. The end-thrust of the cutter-shaft 2 is received by a set-screw, 10, passed through an aperture, 11, in the center of the disk flange 4 on the outer end of the lower part of the journal-box.

On the cutter-shaft 2 is placed a detachable worm-gear, 12, which meshes with a worm-wheel, 13, on a shaft, 14, as shown. This shaft 14 carries at its other end a gear, (not shown,) which transmits the motion of said shaft to the gears, through which the feed-chain-carrying rollers are actuated, as described in the hereinbefore-mentioned patent. It will thus be seen that the feeding and cutting devices move with a uniform relative speed.

By providing the cutter-shaft 2 with a detachable worm-gear 12 that can be easily removed and replaced by another of different pitch the speed of the feeding devices can be adjusted without replacing the entire cutter-shaft, as heretofore required in this class of machines. The removal and interchanging of the detachable worm-gear 12 are effected by first removing the cap 6 and taper-screws 8, and then withdrawing the lower box, 3, after which the worm-gear 12 can be slipped off the shaft 2, a new one put on, and the shaft-bearings and their fastenings replaced.

To the cap 6 is attached a projecting hood or guard, 15, for the worm-gear 12, and beneath the worm-wheel 13 is an oil-trough, 16, which partially incloses said wheel, as shown in Figs. 1 and 2.

What I claim as my invention is—

1. The combination of the machine-frame having a pillow-block, the feed-chain-operating shaft carrying a worm-wheel, the cutter-



shaft, the worm detachably mounted on the end portion of the cutter-shaft, and a journal-box removably mounted on the pillow-block, supporting the ends of the cutter-shaft 5 outside the worm and having a detachable cap for replacing the worm by another to change the speed of the feed-chain-operating shaft, substantially as described.

2. The combination of the machine-frame 10 having a pillow-block provided with two stationary jaws, the feed-chain-operating shaft having a worm-wheel, the cutter-shaft, the worm detachably mounted on the cutter-shaft, and the removable journal-box supporting 15 the end of the cutter-shaft outside the worm, and comprising a lower section detachably held between the jaws of the pillow-block, and the top cap detachably bolted to the pillow-block for replacing the worm by another to 20 change the speed of the feed-chain-operating shaft, substantially as described.

3. The combination of the machine-frame having a pillow-block provided with two jaws, a feed-chain-operating shaft having a worm- 25 wheel, a cutter-shaft having a detachable worm, a journal-box comprising a lower section removably located between the jaws of the pillow-block, and a top cap detachably

secured to the pillow-block, and screws having tapering portions located between the 30 said jaws and the lower section of the journal-box, substantially as described.

4. The combination of the machine-frame having a pillow-block provided with two jaws, the journal-box comprising the lower section 35 removably located between the jaws, and a top cap detachably bolted to the pillow-block, the screws having tapering portions extending between the said jaws and the lower section of the journal-box, and the shaft having 40 a removable worm, substantially as described.

5. The combination of the machine-frame having a pillow-block provided with two jaws, a journal-box composed of a lower section removably located between the jaws, and a cap 45 removably secured to the pillow-block, and screws having tapering portions arranged between the jaws and the lower section of the journal-box, substantially as described.

In testimony whereof I affix my signature in 50 presence of two witnesses.

WILLIAM KRUTZSCH.

Witnesses:

J. H. ECKERT,

JOHN L. H. FRANK.