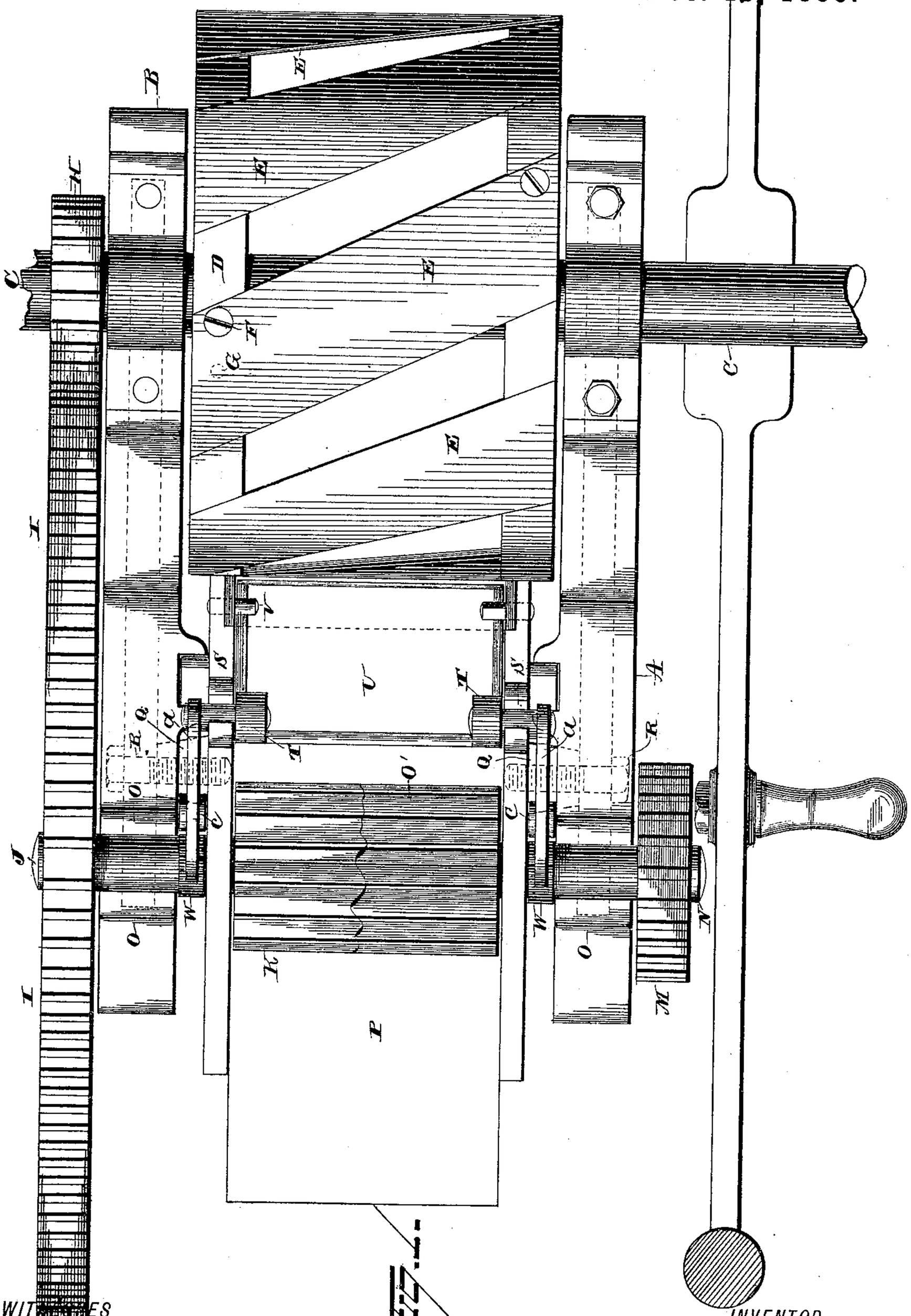
(No Model.)

3 Sheets—Sheet 1.

F. W. MILLER.

STRAW CUTTER.

No. 332,272. Patented Dec. 15, 1885.



WITNESSES

E. Mottinghaw

Geo. F. Downing

INVENTOR

F. W. Miller

By Prasmow

Attorney

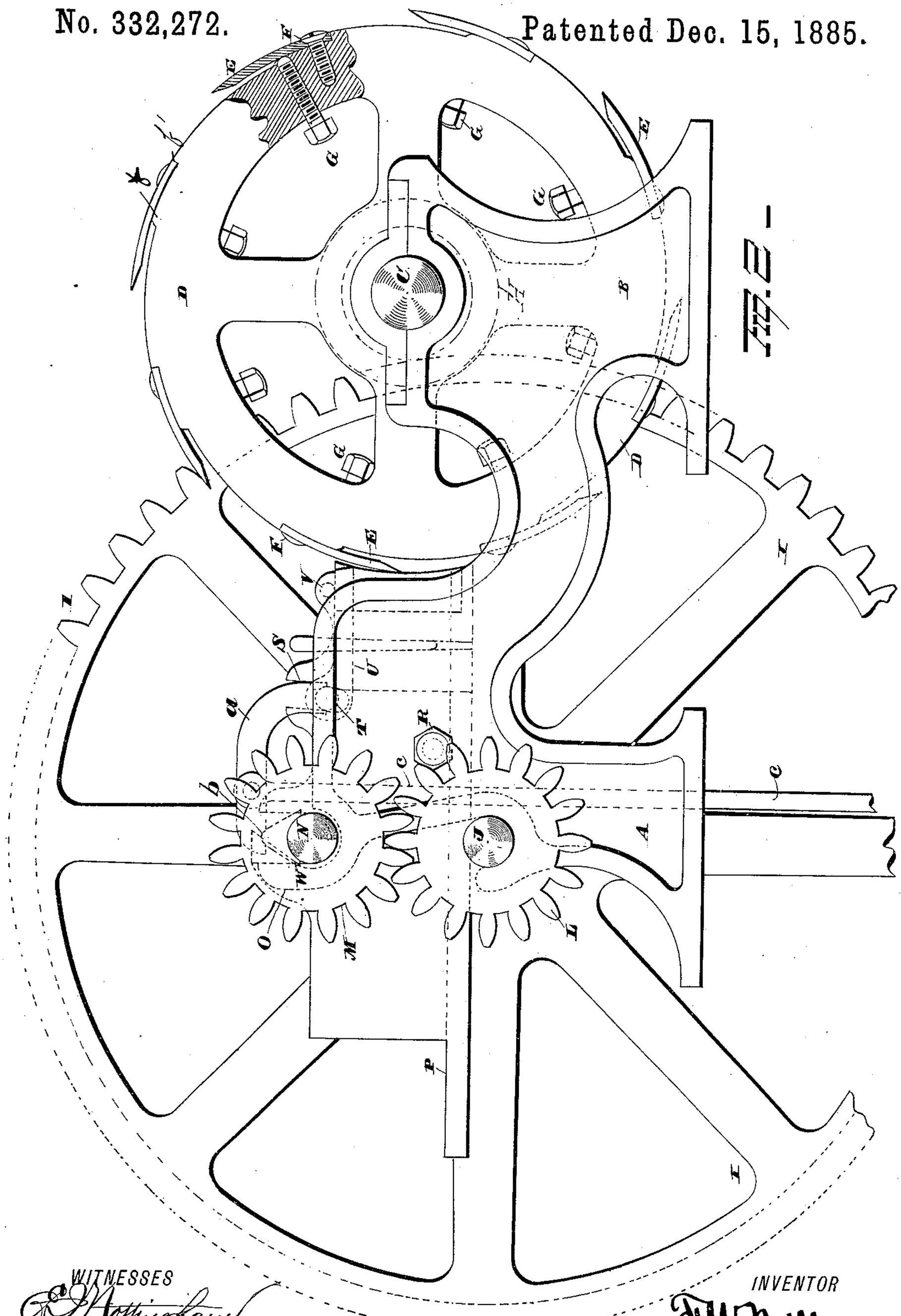
(No Model.)

3 Sheets—Sheet 2.

F. W. MILLER.

STRAW CUTTER.

No. 332,272. Patented Dec. 15, 1885.



WITNESSES

D. Whitehead.

Geo. F. Downing.

INVENTOR

F. W. Miller.

By his Attorney

B. F. Simmons.

(No Model.)

3 Sheets—Sheet 3.

F. W. MILLER.

STRAW CUTTER.

No. 332,272. Patented Dec. 15, 1885.

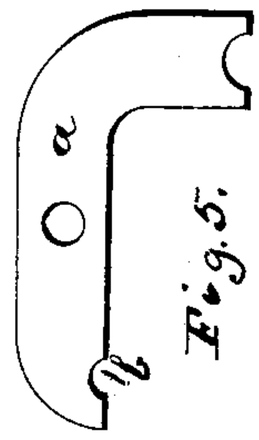


Fig. 5.

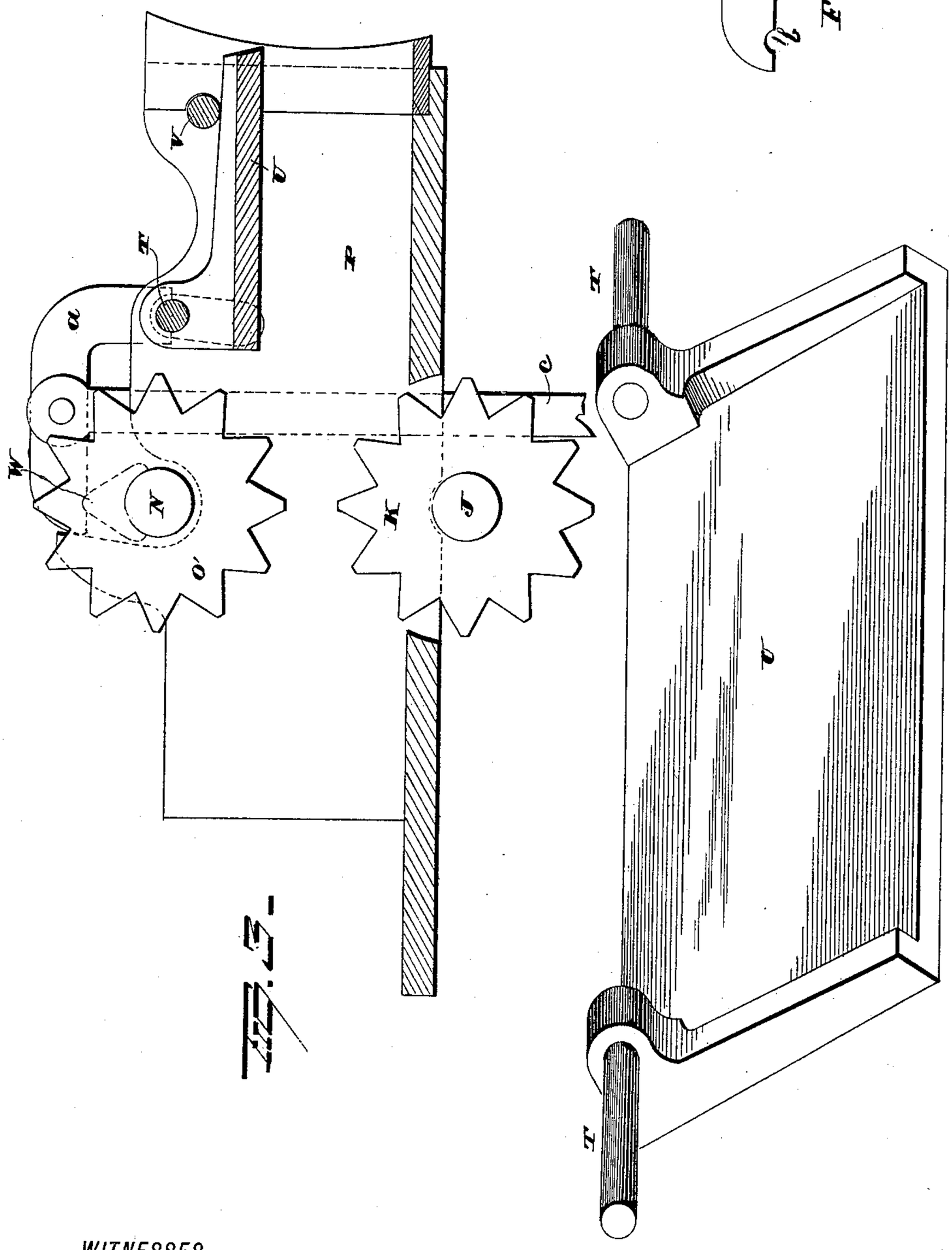


Fig. 4.

Fig. 3.

WITNESSES

C. D. Nottingham

Geo. F. Downing.

INVENTOR

F. W. Miller.

By H. A. Simmons.

Attorney

UNITED STATES PATENT OFFICE.

FREDRICK W. MILLER, OF MUSKEGON, MICHIGAN.

STRAW-CUTTER.

SPECIFICATION forming part of Letters Patent No. 332,272, dated December 15, 1885.

Application filed April 21, 1885. Serial No. 162,966. (No model.)

To all whom it may concern:

Be it known that I, F. W. MILLER, of Muskegon, in the county of Muskegon and State of Michigan, have invented certain new and useful Improvements in Straw-Cutters; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in straw-cutters, the object of the same being to provide improved means in a machine of this character for adjusting the position of the knives upon the cylinder. A further object is to provide means whereby the feed will be regulated and held to the knives automatically. A further object is to provide a vibrating feed-trough. A further object is to provide a machine of the above character which shall be simple and economical in construction and durable and efficient in use; and with these ends in view my invention consists in the certain features of construction and combinations of parts, as will be hereinafter fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan view of my invention. Fig. 2 is a view of the same in side elevation. Fig. 3 is a vertical section through the feed-hopper. Fig. 4 is a view in perspective of the apron, and Fig. 5 is a view in side elevation of the compound lever.

A and B represent the front and rear standards of the straw-cutter. To the upper section of the latter is journaled the shaft C, to which are rigidly secured the cylinders or disks D, having the knives E, secured on the raised seats *f* by means of screws F, and bearing against shoulders *f'*. The knives E are made of any suitable elastic metal, and are adjusted on the cylinders to any desired cut by means of the set-screws G, which pass through the cylinders and impinge against the bottom of the knives. It will be observed that as the knives are elastic and are constantly forced against the cylinder by means of the screws F they are effectively and conveniently elevated by means of the set-screw G. The shaft is operated by means of suitable lever or in any other manner which may be preferred, and is provided with a suitable balance-wheel, as shown. To one end of the shaft is secured the pinion H, which meshes with the spur-wheel I, the said wheel being secured on the shaft J, which is journaled in the standards A, the shaft being provided with the rigidly-secured fluted feed-roller K. To the opposite end of the shaft J is rigidly secured the spur-wheel L, which meshes with the spur-wheel M, secured to the shaft N, which is mounted in the extended open arms O of the standard A, the said shaft N being provided with a feed-roller, O', rigidly secured thereon and constructed similarly to the roller K, with which the teeth mesh, and between which the straw is fed to the cutters. The bottom of the table or feeding-trough P is slotted for the reception of the lower feed-roller, K, and is provided with the bosses Q, adapted to receive the tap-bolt R, by means of which the said table is secured to the side frames of the machine in such manner as will permit the rear end thereof to be elevated or depressed, as desired, for the purpose of adjusting the face of the trough relative to the cutters. In the rear of the roller O' the upper portion of the trough is provided with the open recesses S, in which are mounted the arms T of the apron U. The forward upper portion of the trough is provided with the laterally-projecting lugs V, against which rests one end of the apron. This apron has an up-and-down movement in the recesses S, and when straw is introduced in the trough this apron rests thereon and holds it compactly on the bottom of said trough. The ends of the shaft N are provided with the sleeves W, the upper sides of which converge upwardly and form a narrow bearing for the front end of the compound lever. The compound lever *a* is provided at one end with the transverse groove *b*, which rests upon the apex of the sleeve W. The opposite end of the lever *a* is also grooved, and the end thereof is adapted to rest upon the arms T of the apron. To the lever is pivoted the forked rod *c*, the opposite end of the said rod being provided with a suitable weight, by means of which the lever is forced downward upon the shafts N and the arms T, thereby causing the upper roller and apron to press upon the feed passing through the trough, and at the same time enabling the parts to conform to the irregular quantities of straw which constantly pass therethrough.

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

1. In a straw-cutter, the combination, with feed-rollers and a pivoted trough, substantially as described, of a drum having raised seats and shoulders on its peripheries, the cutters secured on said seats and bearing against the shoulders, and the screws for adjusting the cutters, all of the above parts combined and operating substantially as set forth.

2. In a straw-cutting machine, the combination, with feed-rollers, of a trough pivoted beneath the upper roller, the cutter end of the trough being provided with a hinged apron for compressing the straw, substantially as set forth.

3. In a straw-cutting machine, the combination, with a vertically-yielding feed-roller and a vertically-yielding apron located at the cutter end of the trough, of a weighted bar for holding said roller and apron in depressed adjustment, substantially as set forth.

4. In a straw-cutter, the combination, with a cutter and a tilting feed-trough, of a vertically-movable apron secured to the trough.

5. In a straw-cutter, the combination, with a cutter and a feed-trough, of a vertically-movable feed-roller, a vertically-movable apron, levers bearing on the roller and apron, and a weighted rod secured to said levers, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

FREDRICK W. MILLER.

Witnesses:
A. S. PARRISH,
F. ANBEAULEY.