

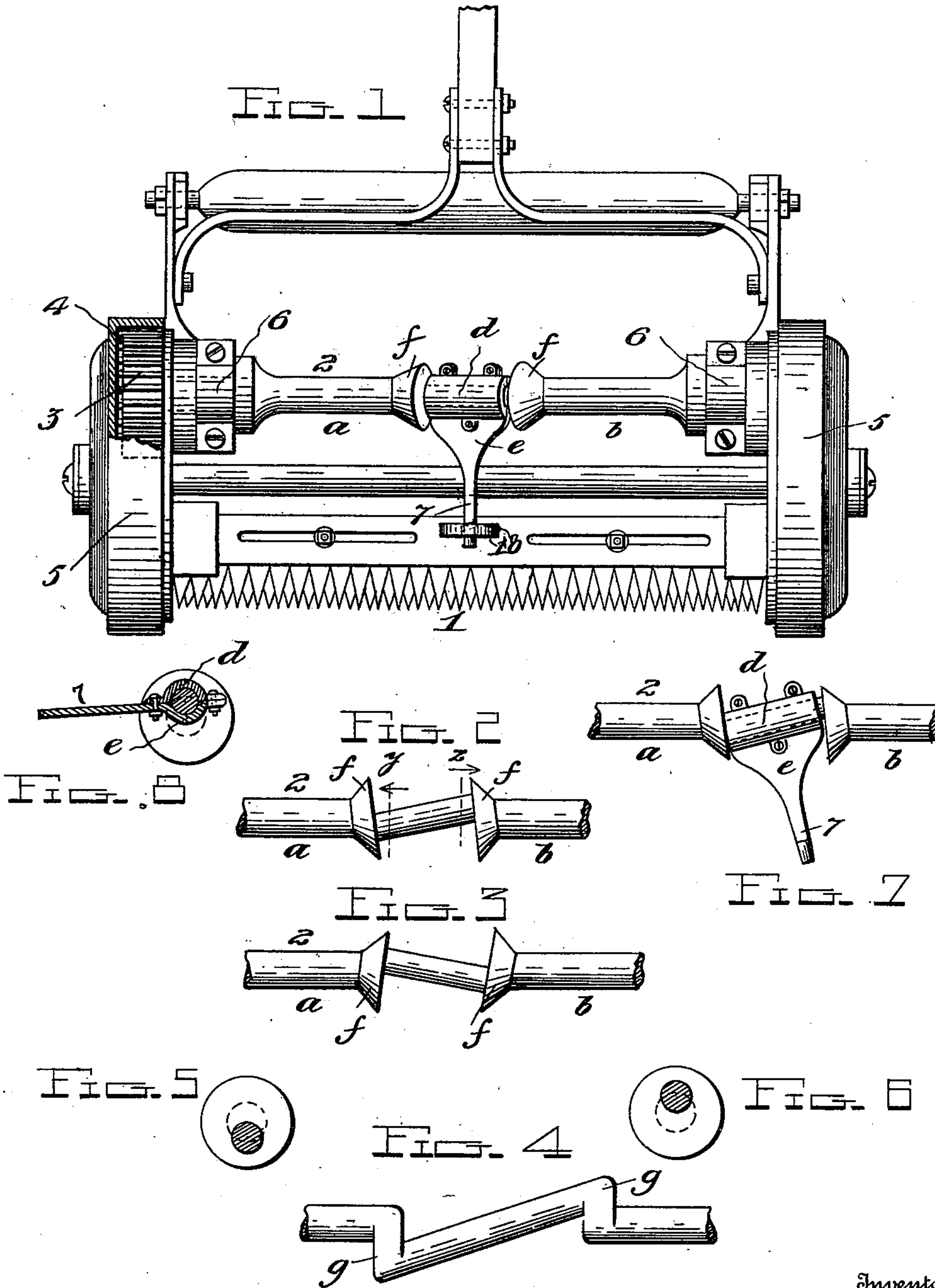
No. 668,537.

Patented Feb. 19, 1901.

S. J. MILLER.
MECHANISM FOR CONVERTING MOTION.

(Model.)

(Application filed June 8, 1900.)



Witnesses
J. A. Griesbauer Jr.
J. A. Griesbauer Jr.
by *Stephen J. Miller*
A. B. Wilson & Co.
Attorneys.

UNITED STATES PATENT OFFICE.

STEPHEN J. MILLER, OF DANBURY, CONNECTICUT.

MECHANISM FOR CONVERTING MOTION.

SPECIFICATION forming part of Letters Patent No. 668,537, dated February 19, 1901.

Application filed June 6, 1900. Serial No. 19,319. (Model.)

To all whom it may concern:

Be it known that I, STEPHEN J. MILLER, a citizen of the United States, residing at Danbury, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Mechanism for Converting Rotary into Reciprocating Motion, or vice versa; and I do 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.

The invention relates to mechanism for converting rotary into reciprocating motion, or vice versa.

The object of the invention is to provide simple, durable, and inexpensive means whereby rotary motion may be converted into reciprocating motion, or vice versa.

With this object in view the invention consists in certain features of construction and combination of parts, which will be hereinafter fully set forth.

In the accompanying drawings, Figure 1 is a plan view of a lawn-mower, illustrating the application of my invention. Fig. 2 is a similar view of the drive-shaft in one position. Fig. 3 is a similar view showing it in another position. Fig. 4 illustrates another form of the drive-shaft. Fig. 5 is a sectional view looking in the direction of the arrow Y. Fig. 6 is a similar view looking in the direction of the arrow Z. Fig. 7 is a detail view of the arm and crank-shaft sleeved together, and Fig. 8 is a sectional view through the same parts.

In the accompanying drawings, 1 denotes a reciprocating part or a part to be reciprocated, and in the present instance is shown as the movable sickle-bar of a lawn-mower, and 2 denotes the rotary part or the part to be rotated, and in the present instance consists of the drive-shaft of a lawn-mower and is provided with pinions 3 in mesh with the internal gear 4 of the supporting-wheels 5. The drive-shaft 2 has two cranks *a* and *b*, which, as shown in Figs. 2 and 3, may be in the form of disks *f*, or, as shown in Fig. 4, may be in the form of arms *g*. These cranks project in diametrically opposite directions and are arranged at obtuse angles to the shaft and are connected together by an obliquely-arranged pin that is secured to the cranks eccentric to their axis and at diametrically

opposite points to the axis. The shaft is journaled in bearings 6 and has no endwise movement.

7 denotes an arm sleeved to the pin. The sleeve preferably consists of two parts *d* and *e*, which are bolted or riveted together. The free end of the arm is connected to the reciprocatory part 1 by means of a projection 10, having an eye for the end of arm 7 to loosely enter.

When motion is imparted to the shaft, it will be transmitted to the part 1 and converted into a reciprocatory motion.

While I have shown and described the invention as applied to a lawn-mower, I would have it distinctly understood that I do not wish to be restricted to its application in this connection, but reserve to myself the right to use the movement for converting rotary into reciprocating motion, or vice versa.

From the foregoing description, taken in connection with the accompanying drawings, the construction, operation, and advantages of my improved mechanism for converting rotary into reciprocating motion, or vice versa, will be apparent without requiring an extended explanation.

It will be seen that the machine is exceedingly useful for the purpose for which it is designed and may be placed upon the market at a comparatively small cost.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus fully described my invention, what is claimed as new, and desired to be secured by Letters Patent, is—

The combination of a rotary shaft and a reciprocatory part, the former being provided with cranks projecting in opposite directions and connected at their ends by a pin, said cranks being arranged at an angle to the shaft, and an arm sleeved to the pin and loosely connected to the reciprocatory part, substantially as set forth.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

STEPHEN J. MILLER.

Witnesses:

JOHN F. MARSH,
CHAS. W. MURPHY.