

No. 744,661.

PATENTED NOV. 17, 1903

F. M. WOLFE.
LAWN MOWER.

APPLICATION FILED OCT. 10, 1902.

NO MODEL.

2 SHEETS—SHEET 1.

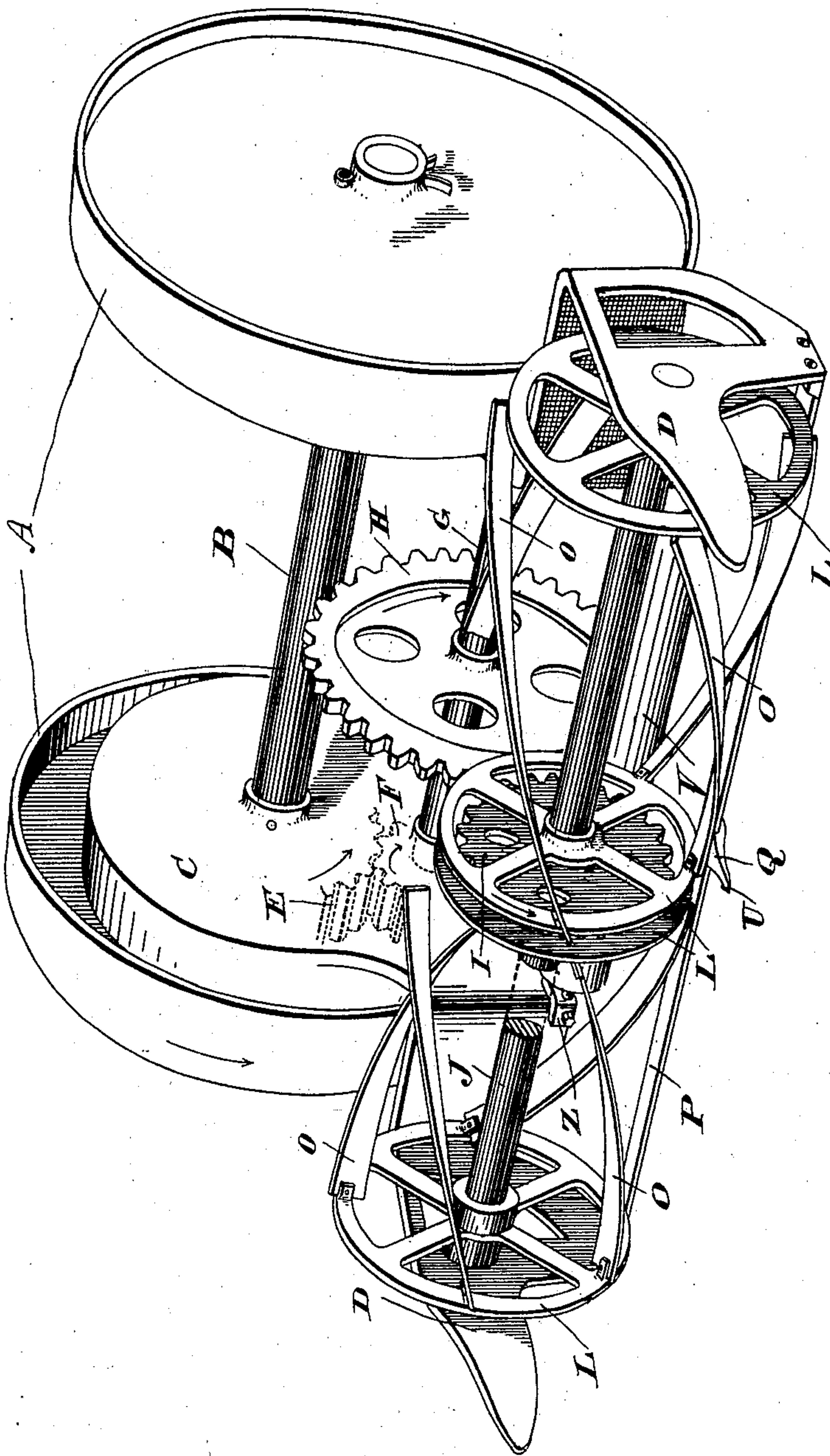


Fig. 1.

Witnesses.

W. H. Smith.

J. E. Hinters.

Inventor:

J. M. Wolfe,
by Eustace R. Case.
atty.

F. M. WOLFE.
LAWN MOWER.

APPLICATION FILED OCT. 10, 1902.

NO MODEL.

2 SHEETS—SHEET 2.

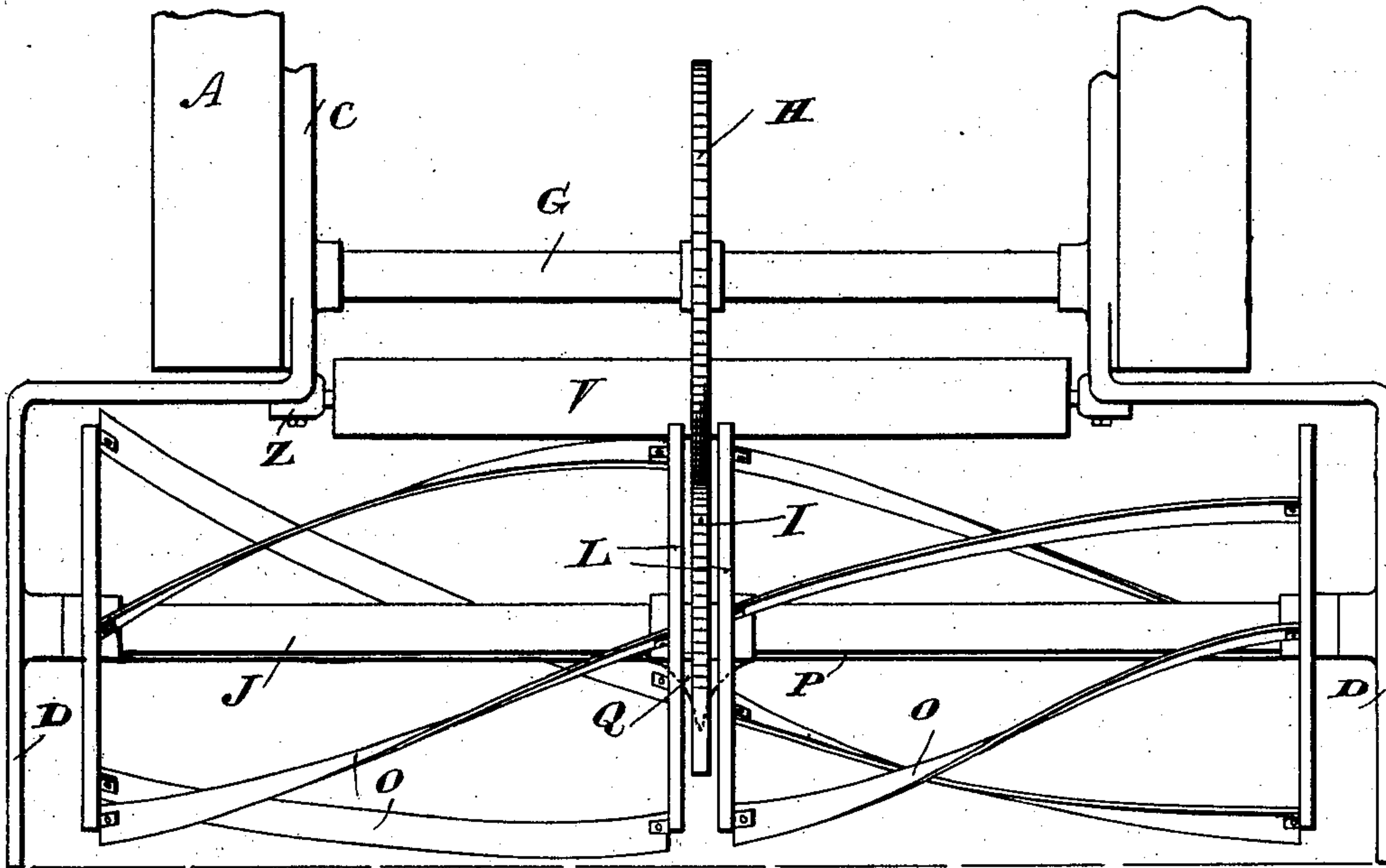


Fig. 2.

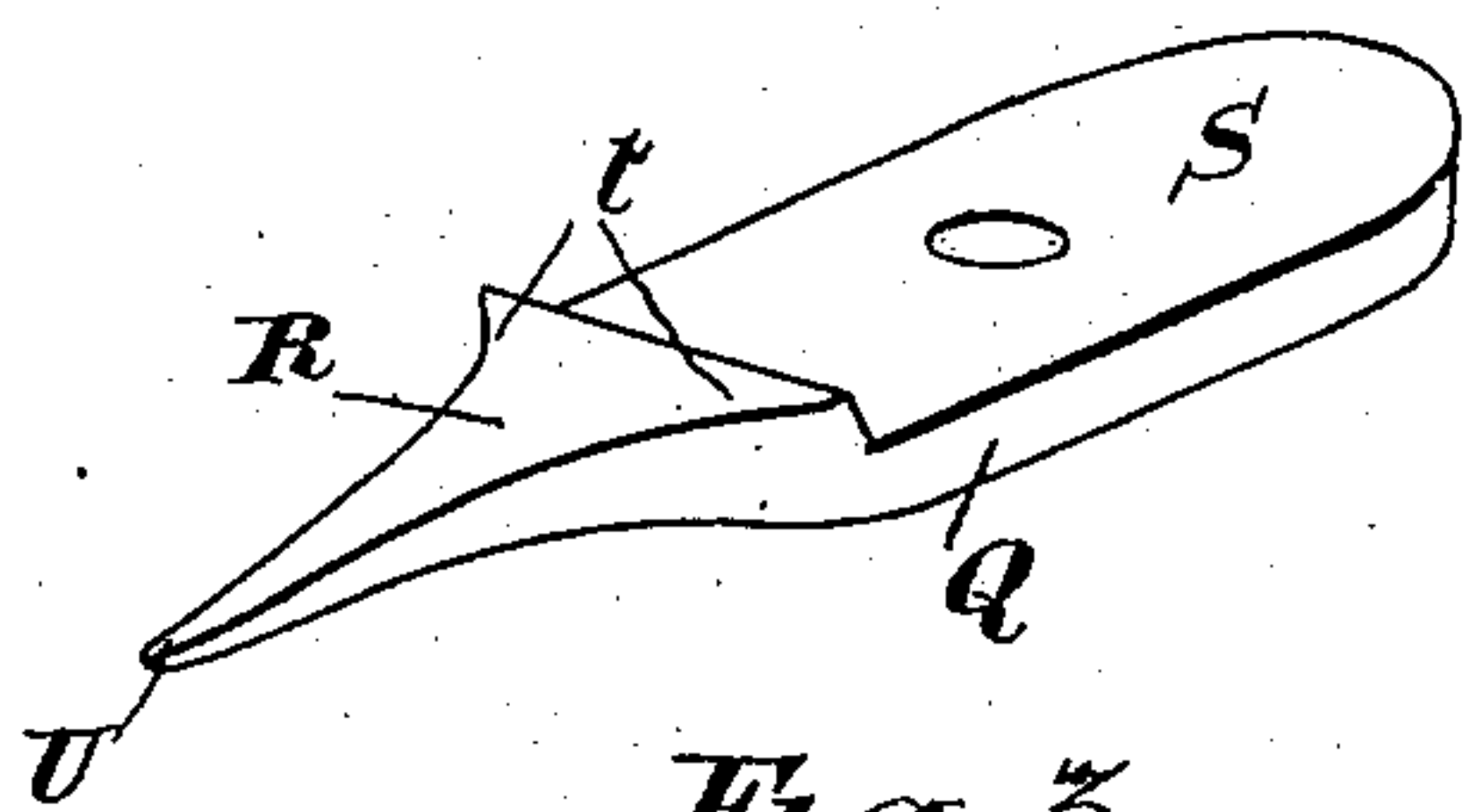


Fig. 3.

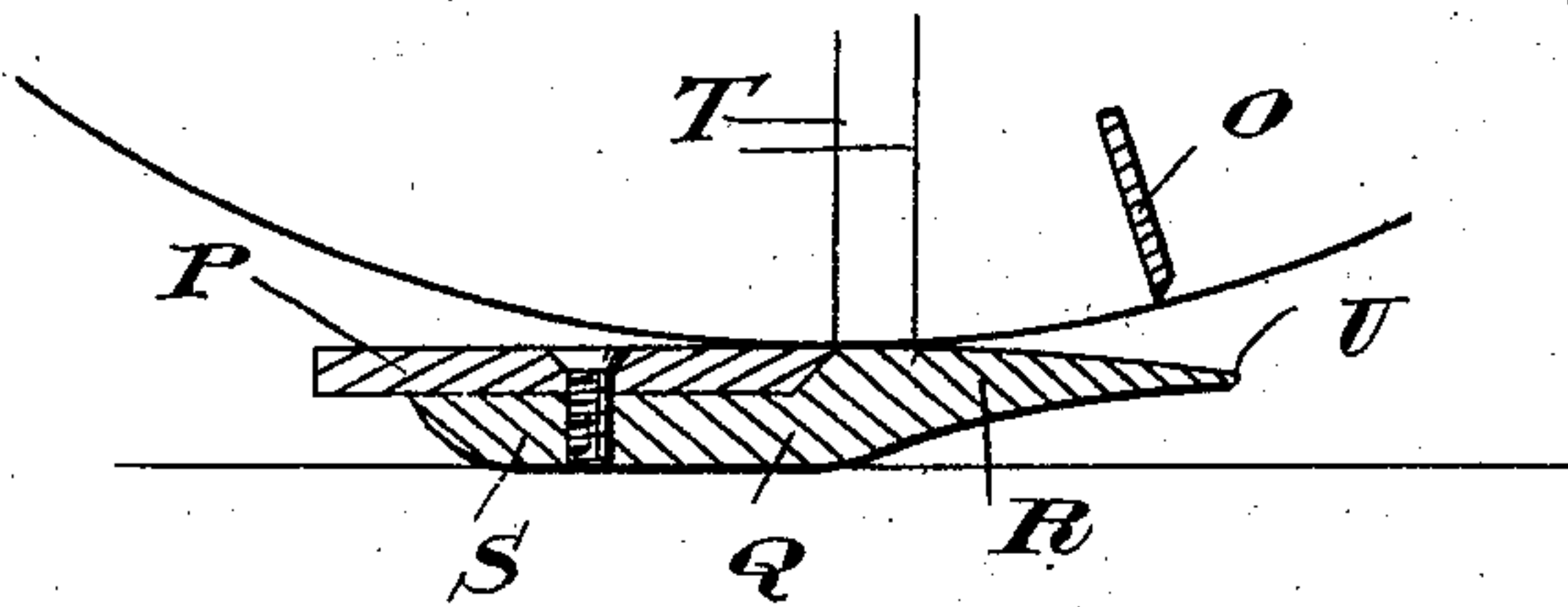


Fig. 4.

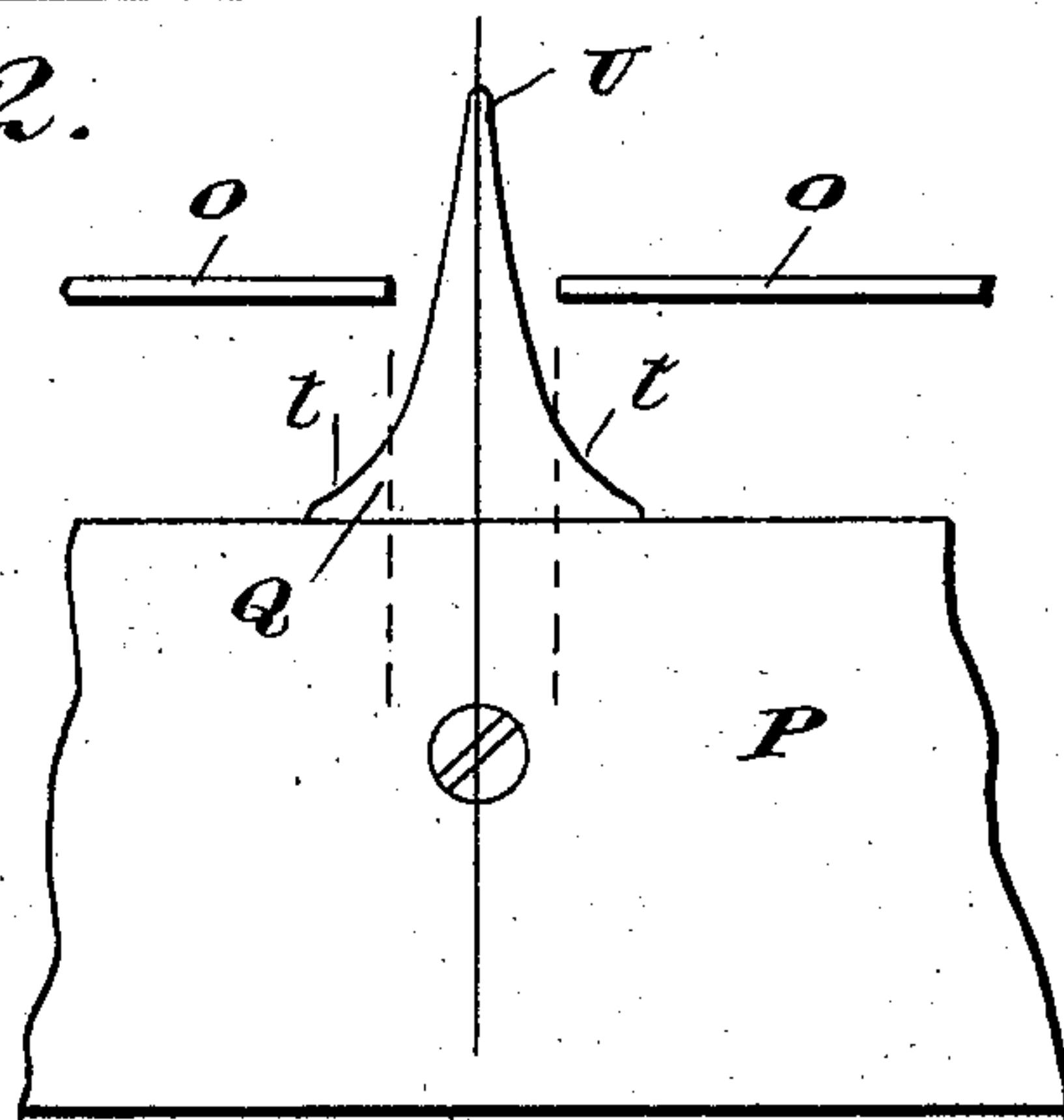


Fig. 5.

Witnesses.

W. H. Smith.
J. C. Hunter.

Inventor.

F. M. Wolfe,
by Egerton R. Case,
Atty.

UNITED STATES PATENT OFFICE.

FRANKLIN MOSES WOLFE, OF GALT, CANADA.

LAWN-MOWER.

SPECIFICATION forming part of Letters Patent No. 744,661, dated November 17, 1903.

Application filed October 10, 1902. Serial No. 126,785. (No model.)

To all whom it may concern:

Be it known that I, FRANKLIN MOSES WOLFE, machinist, a subject of the King of Great Britain, residing in the town of Galt, in the Province of Ontario, Canada, have invented certain new Improvements in Lawn-Mowers, of which the following is a specification.

My invention relates to improvements in lawn-mowers, particularly in connection with that class of apparatus in which the reel is divided into two portions and held in front of the drive-wheels; and the object of my invention is to provide a lawn-mower that will cut a clean swath notwithstanding the fact that its knife-reel is divided into two portions.

My invention consists in the construction and combination of parts hereinafter described, and set forth in the claims.

Figure 1 is a general perspective view of my lawn-mower. Fig. 2 is a plan view of the divided knife-reel supported in its frames and part of the drive mechanism for same. Fig. 3 is a perspective view of the divider. Fig. 4 is a vertical section through the divider and the cutter-bar and one of the knives. Fig. 5 is a plan view of the divider and part of the cutter-bar, showing path of movement of the knife-blades.

From Figs. 1 and 2 it will be seen that the swath cut by the knife-reel is considerably wider than the distance between the outer sides of the drive-wheels. So it therefore follows that said drive-wheels will never operate to press down the uncut grass. I preferably construct my machine in this manner, but of course do not confine myself to mounting the drive-wheels in this position. The drive-wheels, of course, always operate behind the knife-reel.

I do not confine myself to the particular construction of the knife-reel shown, except that same must be divided as shown and hereinafter particularly explained.

In the drawings like letters of reference indicate corresponding parts in each figure.

A represents the drive-wheels, and B axle for same. As the drive-wheels are preferably constructed so as to each operate the knife-reel, a description of one side will do for both.

C represents suitable casings keyed to the

axle B, of which the frames D, in which the knife-reel is journaled, preferably form part thereof. Suitably secured to the drive-wheels A are gear-wheels E, (shown dotted,) which mesh with pinions F, (shown dotted,) keyed to the shaft G, journaled in the casings C, to which shaft is keyed the gear-wheel H, which meshes with the gear-wheel I, keyed to the shaft J, mounted in the forward part of the frames D. The knife-reel consists of any suitable reel-wheels, such as L, or any other suitable supports keyed to the shaft J, and to which are suitably secured a series of suitable knives O. These series of knives, it will be seen, are preferably divided midway their length and are suitably attached at their inner ends to the inner pair of reel-wheels L. By so supporting the series of knives it will be seen that they are firmly held in place.

P is any suitable cutter-bar suitably supported in proper relation to the knives O in the frames D.

By means of the parts before described it will be understood that the knife-reel is revolved in the direction indicated by arrow and cuts the grass in the usual manner.

In order to prevent any possibility of the knife-reel failing to cut the grass in the space between the inner ends of its series of knives, I provide a device termed a "divider," described as follows: The divider Q is suitably attached to the cutter-bar P and projects outwardly in front of same, as shown. It of course will be understood that the divider is held (see Fig. 2) so that its longitudinal axis will be in the center of the space between the inner pair of reel-wheels L. The divider Q is flush with the cutter-bar where they rest adjacent each other. On referring to Fig. 4 it will be seen that the upper portion R of the divider is constructed so as to be tangent to the arc described by the knives O for about three-sixteenths of an inch beyond the cutter-bar. This distance is shown by the space between the lines T. The remaining portion of the upper portion R, which gradually tapers toward its outer end, terminating in a sharp point, is preferably curved downwardly slightly.

S is the lower portion of the divider, by means of which the same is secured to the cutter-bar P.

Although I have described the divider as being secured to the cutter-bar, it will of course be understood that the same could be made to form a part thereof. Although the lower portion of the divider is shown curved, the shape of this lower portion is immaterial.

On referring to Fig. 5 will be seen the approximate path (shown by dotted lines) traveled by the knives O over the divider Q. As the upper portion is tapered and its upper edges sharpened, it will be understood that as the lawn-mower advances the extreme end U of the divider will divide the grass equally on each of its sides, and as the knives O revolve the divided grass is crowded against the sharp inwardly-curved edges *t* of the upper portion R and cut.

By constructing the divider so that portions of its surface will coincide with the arc described by the knives it will be understood that when the cutter-bar is ground up the divider will also be.

On referring to Fig. 2 (shown by broken line) it will be seen that the frames D project beyond the arc described by the knives O, thus coming in contact with, for instance, a wall, and thus prevent the knife-reel from being injured. I of course do not confine myself to the constructions shown of the frames D.

V is the usual roller held in any suitable brackets Z, secured to the frames D.

By dividing the knife-reel preferably into two equal parts and operating same at its center it will be seen that the power conveyed to said knife-reel is equally distributed.

I of course do not confine myself to the way shown of securing the cutter-bar to the machine-frames. As this is not a part of my invention, I may secure the cutter-bar thereto in any suitable manner.

What I claim as my invention is—

1. In a lawn-mower, in combination with the drive-wheels; mower-frame; cutter-bar attached thereto; a knife-reel divided into two portions with a space between the inner ends of said portions, mounted in said mower-frame, and means for operating said knife-reel, of a divider secured to and extending in front of said cutter-bar directly underneath said space between said knife-reel portions, the said divider being wider for a certain distance than the space between said knife-reel portions, and its upper edges being sharpened for the required distance and curving inwardly toward each other from point of contact with said cutter-bar, and terminating in a point, portions of the upper surface of said divider being tangent to the arc described by the reel-knives, the inner ends of the reel-knives operating against the inwardly-curved sharpened edges of said divider so as to sever the divided grass thereagainst.

2. In a lawn-mower, in combination with the drive-wheels; mower-frame; cutter-bar attached thereto; a knife-reel divided into two portions with a space between the inner

ends of said portions, mounted in said mower-frame in front of said drive-wheels, and means for operating said knife-reel, of a divider secured to and extending in front of said cutter-bar directly underneath said space between said knife-reel portions, the said divider being wider for a certain distance than the space between said knife-reel portions, and its upper edges being sharpened for the required distance and curving inwardly toward each other from point of contact with said cutter-bar and terminating in a point, portions of the upper surface of said divider being tangent to the arc described by the reel-knives, and from that point extending in a downward forward direction, the inner ends of the said reel-knives operating against the inwardly-curved sharpened edges of said divider so as to sever the divided grass thereagainst.

3. In a lawn-mower, in combination with the drive-wheels; mower-frame; cutter-bar attached thereto; a knife-reel divided into two portions with a space between the inner ends of said portions; the knife-reel shaft mounted in said mower-frame in front of said drive-wheels; a driven shaft journaled in said mower-frame; a gear-wheel keyed thereon; a gear-wheel keyed to said knife-reel shaft in the space between said portions and meshing with said gear-wheel on said driven shaft, and means operated by said drive-wheels to operate said driven shaft, of a divider secured to said cutter-bar directly underneath said space between said knife-reel portions, the said divider being wider for a certain distance than the space between said knife-reel portions, and its upper edges being sharpened for the required distance and curving inwardly toward each other from point of contact with said cutter-bar, and terminating in a point, portions of the upper surface of said divider being tangent to the arc described by the reel-knives, the inner ends of the said reel-knives operating against the inwardly-curved sharpened edges of said divider so as to sever the divided grass thereagainst.

4. In a lawn-mower, in combination with the drive-wheels; mower-frame; cutter-bar attached thereto; a knife-reel divided into two portions with a space between the inner ends of said portions; a knife-reel shaft mounted in said mower-frame in front of said drive-wheels; a driven shaft journaled in said mower-frame; a gear-wheel keyed thereon; a gear-wheel keyed to said knife-reel shaft in the space between said portions, and meshing with said gear-wheel on said driven shaft; a pinion keyed to said knife-reel shaft, and a gear-wheel keyed to said drive-wheels, and meshing with said pinion, of a divider secured to said cutter-bar directly underneath said space between said knife-reel portions, the said divider being wider for a certain distance than the space between said knife-reel portions, and its upper edges being sharpened for the required distance and curving in-

wardly toward each other from point of contact with said cutter-bar and terminating in a point, portions of the upper surface of said divider being tangent to the arc described by the reel-knives, the inner ends of the said reel-knives operating against the inwardly-curved sharpened edges of said divider so as to sever the divided grass thereagainst.

5. In a lawn-mower, in combination with the drive-wheels; mower-frame; cutter-bar attached thereto; a knife-reel divided into two portions with a space between the inner ends of said portions; a knife-reel shaft mounted in said mower-frame in front of said drive-wheels; a driven shaft journaled in said mower-frame; a gear-wheel keyed thereon; a gear-wheel keyed to said knife-reel shaft in the space between said portions and meshing with said gear-wheel on said driven shaft; a pinion keyed to said knife-reel shaft, and a gear-wheel keyed to said drive-wheels, and meshing with said pinion, of a divider secured to said cutter-bar directly underneath said space between said knife-reel portions, the said divider being wider for a certain distance than the space between said knife-reel portions, and its upper edges being sharpened for the required distance and curving inwardly toward each other from point of contact with said cutter-bar and terminating in a point, portions of the upper surface of said divider being tangent to the arc described by the reel-knives and from that point extending in a downward forward direction, the inner ends of the knives of the said knife-reel operating against the inwardly-curved sharpened edges of said divider so as to sever the divided grass thereagainst.

6. In a lawn-mower, in combination with the mower-frame; drive-wheels journaled therein; a knife-reel divided into two portions with a space between the inner ends of said portions, mounted in said mower-frame in front of said drive-wheels, and means for operating said knife-reel, of a cutter-bar secured to said mower-frame in proper relative position to said knife-reel portions, the said cutter-bar, directly beneath the space between the inner ends of said knife-reel portions, being provided with a divider which extends forward therefrom, portions of the upper surface of said divider being tangent to the arc described by said knife-reel, the said tangent portions of said divider being wider than the space between said knife-reel portions, the upper edges of said divider being sharpened for the required distance and curving inwardly toward each other from the front edge of said cutter-bar and tapering to a point, the inner ends of the knives of the said knife-reel operating against the inwardly-curved sharpened edges of said divider so as to sever the divided grass thereagainst.

7. In a lawn-mower, in combination with

the mower-frame; drive-wheels journaled therein; a knife-reel divided into two portions with a space between the inner ends of said portions, mounted in said mower-frame in front of said drive-wheels, and means for operating said knife-reel, of a cutter-bar secured to said mower-frame in proper relative position to said knife-reel portions, the said cutter-bar, directly beneath the space between the inner ends of said knife-reel portions being provided with a divider which extends forward therefrom, portions of the upper surface of said divider being tangent to the arc described by said knife-reel, the said tangent portions of said divider being wider than the space between said knife-reel portions and the upper edges of said divider being sharpened for the required distance and curving inwardly toward each other from the front edge of said cutter-bar, and extending in a downward forward direction, tapering to a point, the inner ends of the knives of the said knife-reel operating against the inwardly-curved sharpened edges of said divider so as to sever the divided grass thereagainst.

8. In a lawn-mower, in combination with the mower-frame; drive-wheels journaled therein; a knife-reel divided into two portions with a space between the inner ends of said portions; the knife-reel shaft mounted in said mower-frame in front of said drive-wheels; a driven shaft journaled in said mower-frame; a gear-wheel keyed thereon, a gear-wheel keyed to said knife-reel shaft in the space between said knife-reel portions and meshing with said gear-wheel on said driven shaft, and means operated by said drive-wheels to operate said driven shaft, of a cutter-bar secured to said mower-frame in proper relative position to said knife-reel portions, the said cutter-bar, directly beneath the space between the inner ends of said knife-reel portions, being provided with a divider which extends forward therefrom, portions of the upper surface of said divider being tangent to the arc described by the said knife-reel, the said tangent portions of said divider being wider than the space between said knife-reel portions and the upper edges of said divider being sharpened for the required distance and curving inwardly toward each other from the front edge of said cutter-bar and tapering to a point, the inner ends of the knives of the said knife-reel operating against the inwardly-curved sharpened edges of said divider so as to sever the divided grass thereagainst.

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

FRANKLIN MOSES WOLFE.

Witnesses:

B. BARRIE,

R. B. WHITELEY.