No. 730,133. PATENTED JUNE 2, 1903.

A. LAKE.

LAWN MOWER.

APPLICATION FILED AUG. 21, 1902.

NO MODEL.

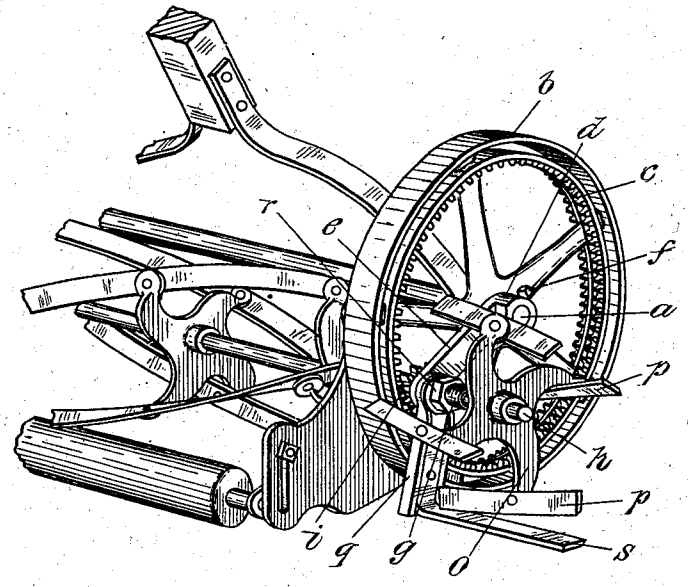


FIG. 1

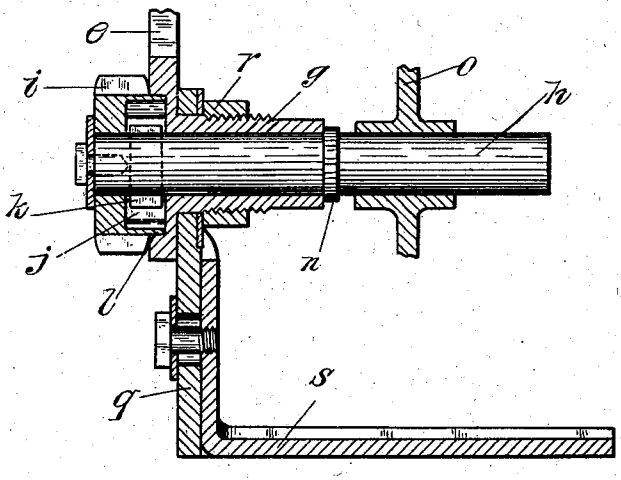


FIG. 2

Witnesses
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 730,133. Patented June 2, 1903.

UNITED STATES PATENT OFFICE.

ARCHIBALD LAKE, OF GALT, CANADA.

LAWN-MOWER.

SPECIFICATION forming part of Letters Patent No. 730,133, dated June 2, 1903.

Application filed August 21, 1902. Serial No. 120,570. (No model.)

To all whom it may concern:

Be it known that I, ARCHIBALD LAKE, of Galt, in the county of Waterloo and Province of Ontario, Canada, have invented certain new and useful Improvements in Lawn-Mowers; and I hereby declare that the following is a clear, full, and exact description of the same.

The object of this invention is to provide a lawn-mower with a supplemental clipper arranged to cut such grass as is inaccessible to the main clipper and to so arrange this supplemental clipper that it can be adjusted to operate either in the same alinement as the main clipper or in advance of or in rear of or, if necessary, at a different elevation to the same.

In carrying out my invention I extend the ground-wheel shaft beyond the outer face of one of the ground-wheels—preferably the one at the right side of the machine—and secure to the projecting end of the ground-wheel shaft an adjustable arm fitted at its outer end with an outwardly-projecting sleeve in which is loosely journaled a supplemental clipper-shaft, upon which is loosely mounted on the inner side of the adjustable arm a pinion-wheel meshing with an annular gear-wheel on the inner face of the rim of the adjacent ground-wheel to cause the rotation of the supplemental clipper-shaft during the revolution of the ground-wheel, the clipper-arms carrying the rotating knives being rigidly mounted on the clipper-shaft on the outer side of the adjustable arm, and I adjustably mount on the sleeve between the adjustable arm and the clipper-arms a depending bracket, to which is adjustably connected the stationary knife-bar, the bracket being locked in its adjusted position on the sleeve by a lock-nut and washer fitted thereon, the whole device being hereinafter more fully set forth, and more particularly pointed out in the claims.

In the drawings, Figure 1 is a perspective view of a portion of a lawn-mower, showing the supplemental clipper connected thereto; and Fig. 2 is a sectional view through the supplemental clipper.

Like letters of reference refer to like parts throughout the specification and drawings.

As no change has been made in any of the parts of the mowing-machine other than the ground-wheel shaft and the ground-wheel for operating the supplementary clipper, it will not be necessary to herein refer to them except as regards these two features.

The ground-wheel shaft *a* is extended beyond one of the ground-wheels *b* to provide for the attachment thereto of the supplemental clipper device, and formed in the inner face of the rim of the ground-wheel *b* is an annular gear-wheel *c* to cause the rotation of the supplemental clipper-shaft. Mounted on the projecting end of the ground-wheel shaft *a* is the hub *d* of the adjustable arm *e*, and detachably securing the hub to the ground-wheel shaft *a* is a set-screw *f*. Fitted to the outer end of the adjustable arm *e* is an outwardly-projecting sleeve *g*, arranged at right angles to the adjustable arm, and loosely journaled in the sleeve *g* is the clipper-shaft *h*, on the inner end of which is loosely mounted a pinion-wheel *i*, having an annular ratchet-wheel *j*, meshing with a pawl *k*, fitted to the clipper-shaft *h*. The pinion-wheel *i*, the annular ratchet-wheel *j*, and the pawl *k* are similar to those in use at present in lawn-mowers, and it will therefore be unnecessary to further describe them.

By reference to Fig. 2 of the drawings it will be noticed that the hub *l* of the pinion-wheel *i* will engage the inner face of the adjustable arm *e*, and the clipper-shaft *h* is fitted with a collar *n* to engage the outer end of the sleeve *g*, the purpose of the hub and the collar being to prevent the longitudinal movement of the clipper-shaft in the sleeve. Rigidly mounted on the clipper-shaft *h* are the clipper-arms *o*, to which are connected rotating knives *p*. Loosely mounted on the sleeve *g* on the outer side of the adjustable arm *e* is the depending bracket *q*, arranged to be locked in any adjusted position by a lock-nut *r*, threaded on the sleeve *g* on the outer side of the depending bracket. Adjustably connected to the bracket *q* is a knife-bar *s*, with which coacts the rotating knives *p* during the revolution of the clipper-shaft. During the rotation of the ground-wheel *b* motion is imparted by the annular gear-wheel *g* to the pinion-wheel *i* and clipper-shaft *h*, causing the rotation of the clipper-arms and rotating knives.

The purpose of the supplemental clipper is

to enable the lawn-mowing machine to cut the grass in places inaccessible to the main clipper—such as borders of flower-beds, walks, around the roots of trees, and in depressions of a lesser width than that of the lawn-mower and on similar elevations. In cutting the grass in a depression the adjustable arm *e* is dropped into a substantially vertical position and the depending bracket is continued in the same vertical line as the arm. When the arm and bracket are in this position, the supplemental clipper is enabled to cut the grass at the lowest elevation within the range of the machine and is useful when in this position for cutting the border of the lawn at a lower elevation than the foot-path. By inverting the position of the adjustable arm—that is, by raising it to its uppermost vertical position—the supplemental clipper is enabled to cut the grass at a higher elevation than that at which the main clipper is working, and it will be understood that the adjustment of the supplemental clipper-shaft to any position between these points will enable it to cut the grass at any intermediate elevation.

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

1. In a lawn-mower the combination of the ground-wheels and shaft, and a supplemental clipper adjustably connected to the ground-wheel shaft extending beyond and actuated by the ground-wheels, substantially as specified.

2. In a lawn-mower the combination of the ground-wheels, a ground-wheel shaft, a supplemental clipper extending beyond and adjustably secured to the ground-wheel shaft and actuated by one of the ground-wheels, and a knife-bar adjustably connected to the supplemental clipper, substantially as specified.

3. In a lawn-mower the combination of the ground-wheels, a shaft therefor projecting beyond one of the ground-wheels, and a supplemental clipper connected to the shaft projection and actuated by the adjacent ground-wheel.

4. In a lawn-mower the combination of the ground-wheels, a shaft therefor projecting beyond one of the ground-wheels, a supporting-arm connected to the shaft projection, a clipper-shaft journaled in the supporting-arm and driven from the adjacent ground-wheel, clipper-arms mounted on the clipper-shaft, and having rotatable knives, and a knife-bar suspended from the detachable arm.

5. In a lawn-mower the combination of the ground-wheels and shaft, and a supplemental clipper consisting of an adjustable supporting-arm connected to the ground-wheel shaft, a clipper-shaft journaled therein extending beyond and rotated by the ground-wheels, clipper-arms mounted on the clipper-shaft having rotatable knives and a knife-bar connected to the supporting-arm.

6. In a lawn-mower the combination of the ground-wheels and shaft, and a supplemental clipper consisting of a supporting-arm adjustably connected to the ground-wheel shaft, a sleeve projecting at right angles thereto, a clipper-shaft journaled in the sleeve rotated by the ground-wheels, clipper-arms rigidly mounted on the clipper-shaft on the outer side of the ground-wheels, rotatable knives connected to the clipper-arms, an adjustable bracket depending from the sleeve and a knife-bar connected to the bracket.

7. In a lawn-mower the combination with the ground-wheels and shaft, of a supplemental clipper consisting of a supporting-arm extending beyond and adjustably connected to the ground-wheel shaft, a sleeve projecting at right angles thereto, a clipper-shaft journaled in the sleeve having a pinion-wheel loosely mounted thereon on the inner side of the supporting-arm engaging one of the ground-wheels, clipper-arms rotatably mounted on the clipper-shaft on the outer side of the supporting-arm, rotatable knives connected to the clipper-arms, an adjustable bracket depending from the sleeve, a knife-bar connected to the bracket and means for locking the bracket in its adjusted position, on the sleeve, substantially as specified.

Toronto, August 16, 1902.

ARCHIBALD LAKE.

In presence of—
C. H. RICHES,
F. B. JARMAN.