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LAWN-EDGING TOOL.

SPECIFICATION forming part of Letters Patent No. 773,095, dated October 25, 1904.

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To all whom it may concern:

Be it known that I, Olof R. Olson, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Lawn-Edging Tools, of which the following is a specification.

My invention relates to lawn-edging tools; and my object is to produce a tool which with a minimum of trouble and exertion will edge a lawn in a most satisfactory manner and very expeditiously.

A further object is to produce an edging-tool of such character that it can be used with equal success by a person familiar with the care of lawns or one who has had no such experience.

With these general objects in view and others, as hereinafter appear, the invention consists in certain novel and peculiar features of construction and organization as hereinafter described and claimed, and in order that it may be fully understood reference is to be had to the accompanying drawings, in which—

Figure 1 represents a side elevation of an edging-tool embodying my invention. Fig. 2 is a top plan view of the same. Fig. 3 is a vertical section taken on the line III-III of Fig. 1. Fig. 4 is a view similar to Fig. 3 of a modified construction. Fig. 5 is a side view of a portion of a modified form of the cutting-disk.

In the said drawings, 1 designates a handle of any suitable or preferred form and length, and 2 a plate bolted to the under side of the handle at its lower end, as at 3, and provided with a depending-lug 4 at one side and with a forwardly-projecting fork 5.

6 designates a headed shaft mounted in the ends of the fork 5 and secured therein by spring-cotter 7.

8 designates a cutting-disk of properly-tempered steel and rigid with a sleeve 9, journaled on shaft 6, so as to rotate, but have no longitudinal movement thereon.

10 designates a wheel of approximately the same diameter as the cutting-disk and of any suitable material, preferably provided with a rubber tire 11, said tire having a better frictional relation with the surface upon which the wheel runs and being less apt to mar such surface than if the wheel was tireless. The wheel is mounted rigidly on sleeve 9, and mounted loosely on said sleeve between the wheel and the disk is a toothed wheel 12, said wheel being of greater diameter than the cutting-disk and of concave-convex form, with its concave face juxtaposed with relation to the disk for the purpose of bringing its teeth near the vertical plane of the cutting edge of the disk.

13 designates a lifting-arm which is secured, as at 14, to the outer side of lug 4 and extends forwardly at the outer side of the disk and intersects the edge of said disk, so as to form an abutment against which the disk may shear or cut the grass. Said lifting-arm depends to a lower plane than the wheel, so as to be capable of catching the grass close to and lifting or straightening it up from the ground, and the inner or shearing edge of said arm converges slightly with respect to the proximate face of the disk, as shown in Fig. 2, so that the space between the disk and arm rearward of their point of contact shall gradually widen, and thus permit a clump of grass which may be passed by the cutting-point to become easily and quickly dislodged from between said disk and arm.

From the fact that the toothed wheel is of greater diameter than wheel 10, and therefore depends below the surface of the walk on which the latter runs, it will be apparent that said wheel 12 will turn by the contact of its teeth with the ground or grass, and thus tend to force the latter downwardly and rearwardly to the shearing-point, and it will be further noticed that the tooth of the wheel approaching the shearing-point converges with respect to the point of the lifting-arm, and therefore tends to force the grass over said arm, and therefore in the best possible position to be acted upon by the cutting-disk.

In practice the tool is disposed as shown in Fig. 1—that is to say, the wheel 10 is placed upon the walk sufficiently close to its edge to permit the toothed wheel, disk, and arm to depend below the edge of the walk. The op-
erator simply walks forward, pushing the tool in front of him and holding it sufficiently firm to keep wheel 10 about the same distance from the edge of the walk. As he does this, the arm 13 lifts the grass and in conjunction with the wheel 9 draws any grass which may be growing over the edge of the walk into the path of the cutting-disk, as well as long grass that is growing near the walk but is inclined in the opposite direction from the latter.

Should the grass accumulate to such an extent that it clog the operation of the tool, the operator simply stops, draws the tool back a little way, and dislodges the mass of grass, because in such action the toothed wheel remains relatively stationary, while the disk and carrying-wheel 11 rotate backward. A quick pull to the rear effects the action thus described, and then the operator continues the forward movement. In order to avoid defacing the walk by crushing grass thereon by the wheel 10 running over it, I have disposed said wheel some little distance from the cutting-disk, this arrangement permitting said wheel to travel upon the walk far enough from its edge to avoid or clear most of the grass overlapping the same.

Referring now particularly to Fig. 4, it will be observed that I have produced a construction in which the cutting-disk may be easily detached, if it does not cut properly, and replaced by another. In said construction the wheel 10 preferably has a convex periphery, as shown, so that the tire will be held in place more reliably and also enable the operator to more conveniently edge the lawn at an angle instead of vertically, this object being accomplished by tilting the running-wheel, and consequently the cutting-disk, to the right or to the left. The construction shown in Figs. 1 to 3 can also be manipulated in the same manner; but the running-wheel would have less frictional contact with the walk.

In Fig. 4 the wheel 10 is preferably provided with a hub portion 15, reduced diametrically to form the shoulders 16 and 17, and said hub has its bore enlarged and threaded, as at 18, to receive the threaded stem 19 of a nut 20, said nut fitting snugly upon the shaft 6 and having a flange 21 to clamp the disk 8 upon the hub and against shoulder 17. The disk in this instance has no sleeve portion 9, and in this case also the toothed wheel 12 is journaled upon the hub between the disk and shoulder 16. The nut 20 fits snugly between the disk and proximate arm of the fork. It will thus be seen that by removing the spring-cotter and withdrawing the shaft a wrench can be applied to nut 20 and the latter easily and quickly removed for the purpose of replacing either the cutting-disk or the toothed wheel.

Under some conditions it may be found desirable to use a toothed disk, as at 22 in Fig. 5, instead of the smooth-edge disk, and with such toothed disk it may be unnecessary at times to employ the toothed wheel, as the teeth of the disk will perform the same function. It is preferable, however, to always employ the toothed wheel, as its use will render the operation of the tool more positive and reliable. Without regard to the type of construction employed, the lifting-arm will not only act to straighten up the grass which it encounters, but will also plow its way through and groove whatever ground it encounters, and thus tend to produce a more uniform appearance in the lawn contiguous to the walks by making the surface of the ground contiguous to the walks approximately parallel therewith.

From the above description it will be apparent that I have produced a lawn-edging tool which embodies the features of invention enumerated as desirable in the statement of the object of the invention and that the tool is susceptible of modification in various particulars without departing from the essential spirit or scope or sacrificing any of the advantages of the invention.

Having thus described the invention, what I claim as new, and desire to secure by Letters Patent, is:

1. A lawn-edging tool, comprising a handle, a wheel suitably supported from the handle, a cutting-disk rotatable with said wheel, an arm bearing a fixed relation to the handle and intersecting the plane of the cutting edge of the disk, and a toothed wheel of greater diameter than the cutting-disk and suitably journaled with it axis of rotation coincident with that of the disk.

2. A lawn-edging tool, comprising a handle, a shaft suitably journaled and supported from said handle, a wheel mounted on said shaft, a disk rotatable with said wheel, a toothed wheel suitably journaled and of greater diameter than and interposed between the wheel and disk, and a lifting-arm rigid with the handle and disposed at the opposite side of the disk from said toothed wheel and having its upper edge intersecting that of the disk forward of its center.

3. A lawn-edging tool, comprising a handle, a plate secured thereto and formed with a fork, a shaft carried by said fork, a wheel mounted on said shaft, a disk rotatable with said wheel, a toothed wheel rotatable independently of the disk and disposed between the same and the wheel, and a lifting-arm secured to said plate and extending forwardly at the other side of the lower portion of the disk and tapering toward a point at its front end.

4. A lawn-edging tool, comprising a handle, a shaft suitably journaled and supported from the handle, a wheel journaled on said shaft and having a hub portion diametrically reduced to form a pair of shoulders, a toothed
wheel journaled on the hub portion between said shoulders, a cutting-disk journaled on the hub portion at the opposite side of said toothed wheel from the first-named wheel, detachable means for clamping the cutting-disk against the proximate shoulder of the hub, and a lifting-arm projecting forwardly from the handle beyond the center of said disk and disposed at the outer side and intersecting the cutting edge of the said disk.

5. A lawn-edging tool, comprising a handle, a shaft suitably journaled and supported from the handle, a wheel journaled on said shaft and having a hub portion diametrically reduced to form a pair of shoulders, a toothed wheel journaled on the hub portion between said shoulders, a cutting-disk journaled on the hub portion at the opposite side of said toothed wheel from the first-named wheel, detachable means for clamping the cutting-disk against the proximate shoulder of the hub, and a lifting-arm projecting forwardly from the handle beyond the center of said disk and disposed at the outer side and intersecting the cutting edge of said disk.

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

OLOF R. OLSON.

Witnesses:

ANNA STRAIGHT,
G. Y. THORPE.