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Doyel

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[54] **CORDLESS ELECTRIC GARDEN TRIMMER WITH SAFETY LOCK MEANS**

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[52] **U.S. Cl.** **30/264**

[51] **Int. Cl.** **B26b 15/00**

[58] **Field of Search**.....30/166, 216, 233, 263, 264, 30/286, 287, 289, 290, 291, 292, 293, 294, 295; 143/159 R; 144/251 R

[56] **References Cited**

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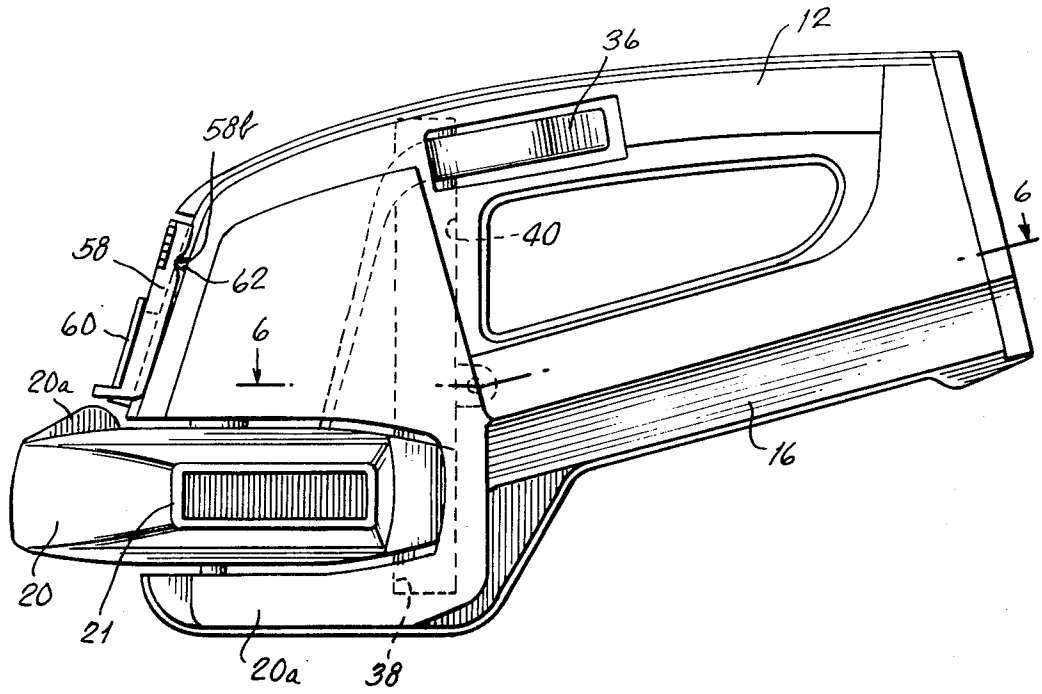
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[57] **ABSTRACT**

A cordless electric garden trimmer having electrically operated rotary cutting means and a safety cover comprising a pair of semicircular shrouds forming a hollow disk-shaped enclosure for the cutting means. The shrouds can be opened to expose the cutting means by hand operated spring biased triggers which also operate an electrical switch such that the electric motor driving the cutting means is on only when the shrouds are opened. When the triggers are released, the motor is cut off and the shrouds close. When closed, the shrouds can be locked in a safety storage position by a safety storage lock means to prevent exposing the cutting means when the trimmer is not in use, and to prevent accidental turning on of the motor which operates the cutting means.

8 Claims, 11 Drawing Figures

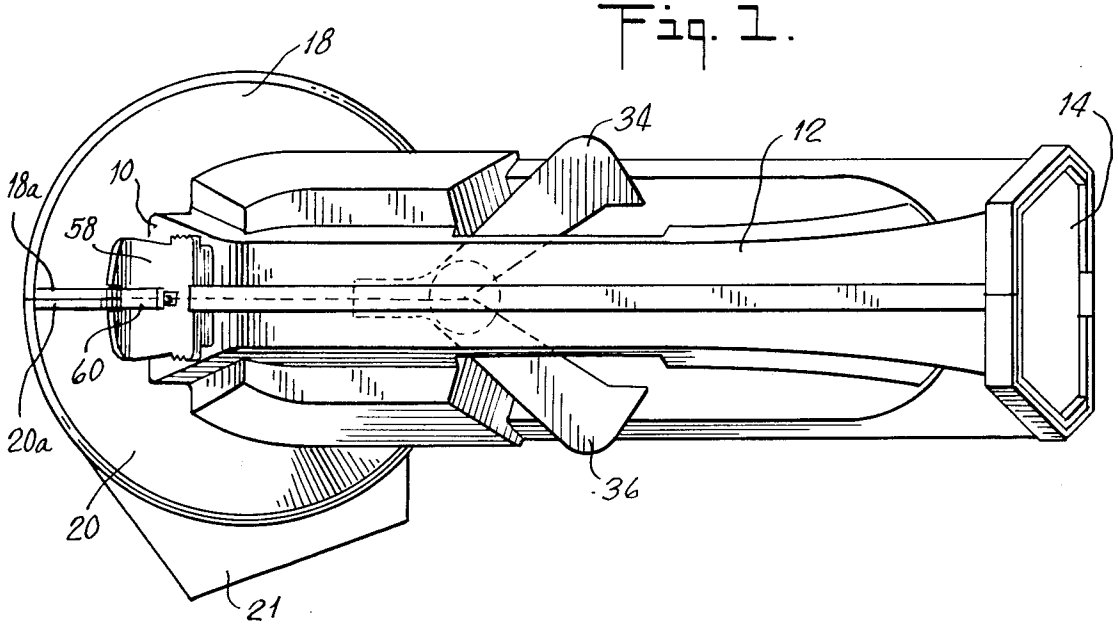


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SHEET 1 OF 3

Fig. 1.



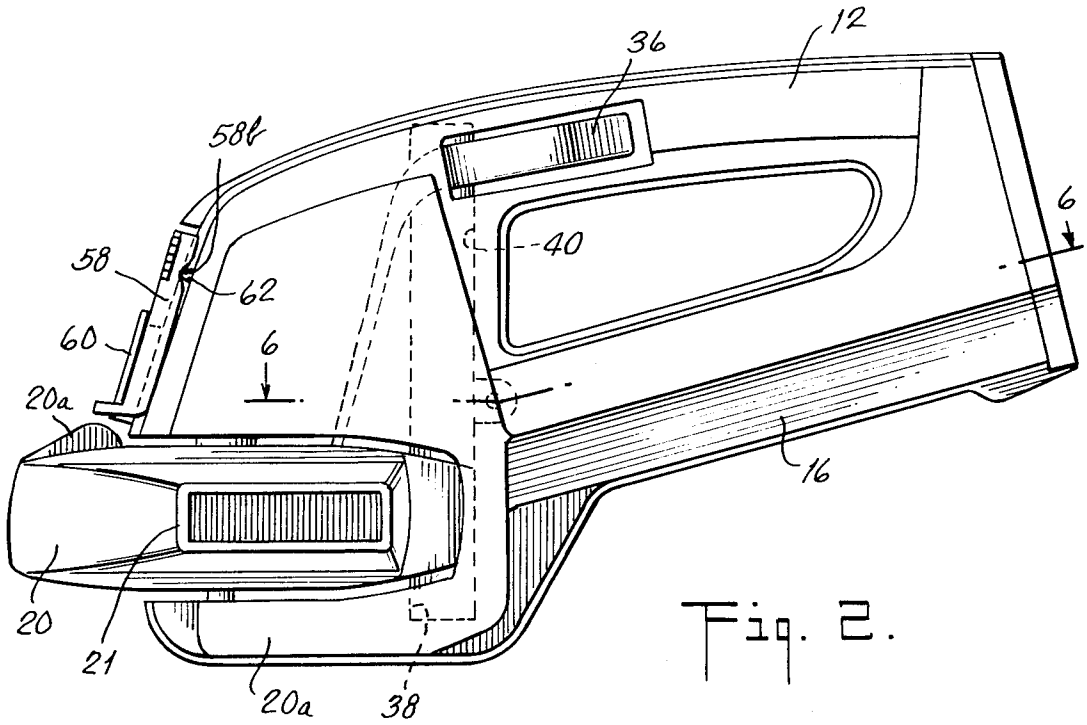


Fig. 2.

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Fig. 3.

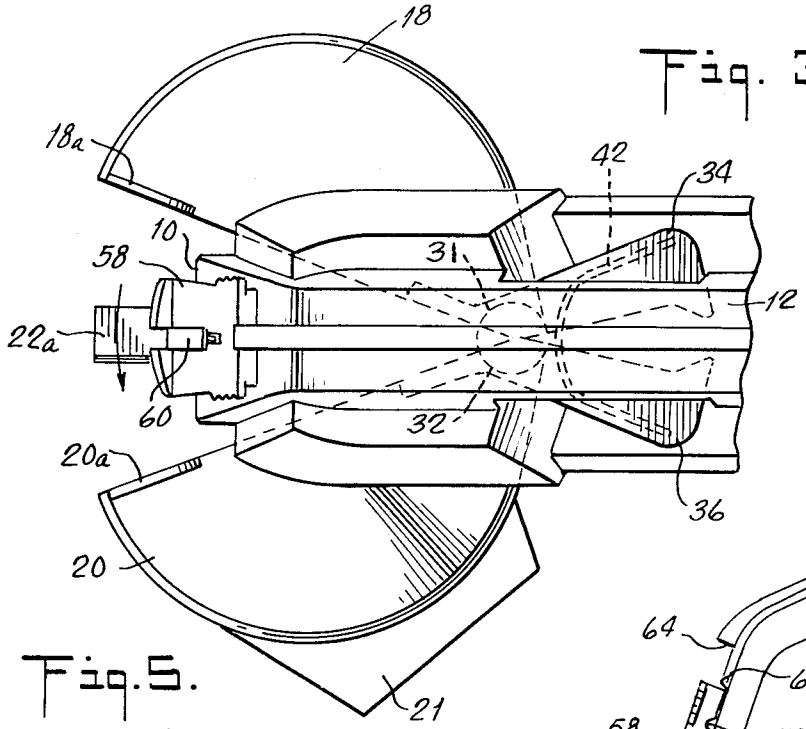


Fig. 5.

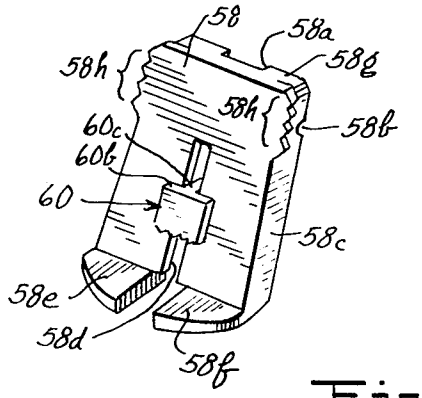


Fig. 4.

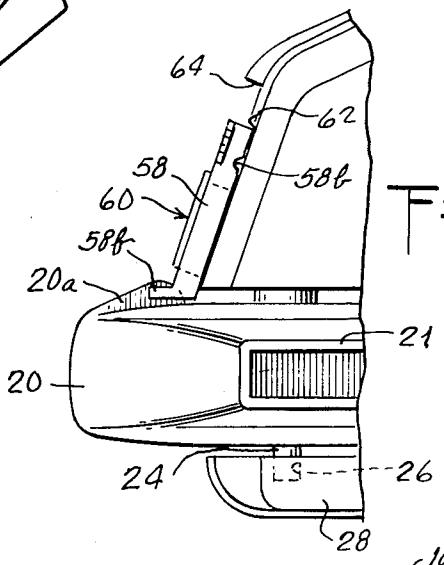


Fig. 6.

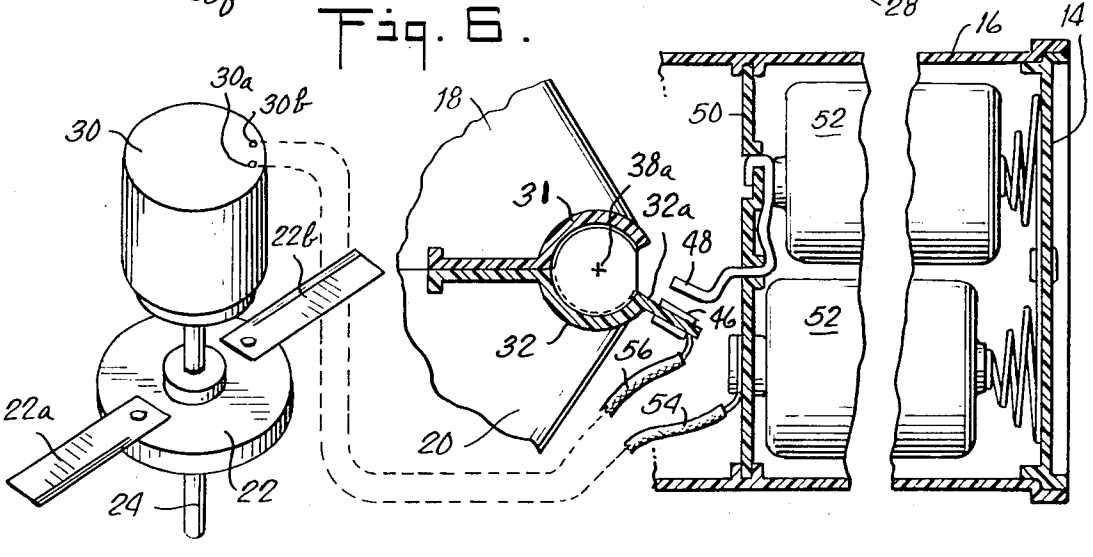


Fig. 7.

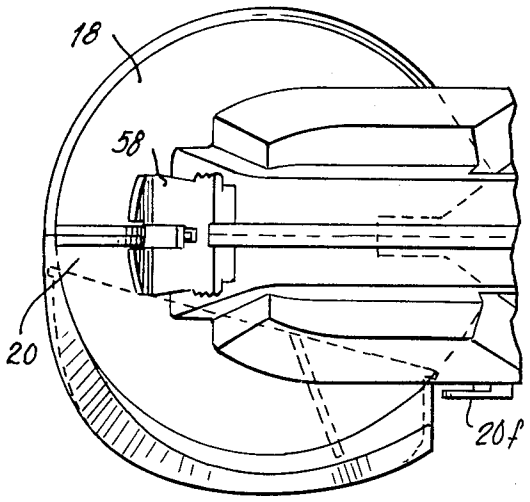


Fig. 8.

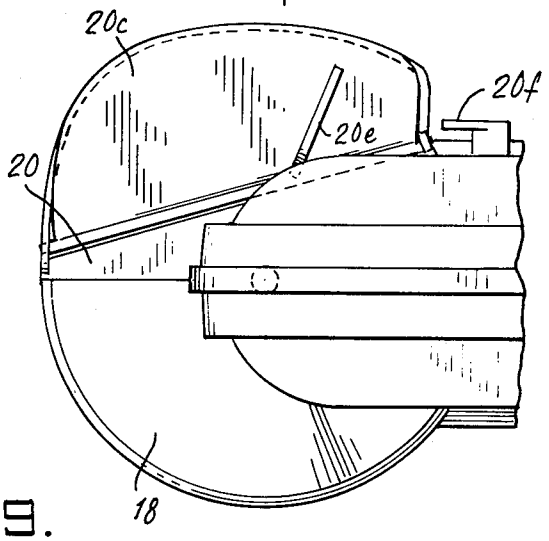


Fig. 9.

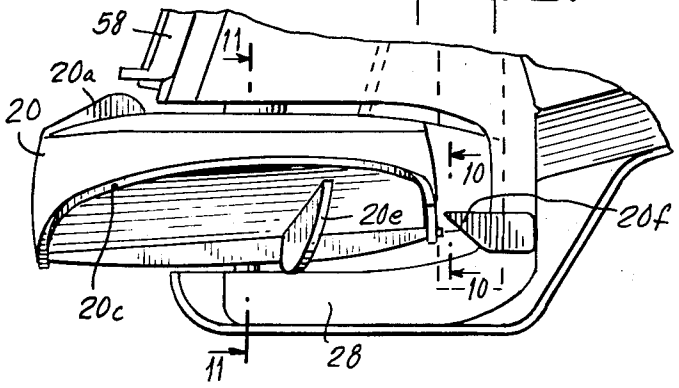


Fig. 10.

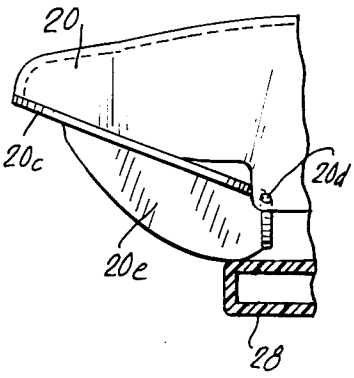
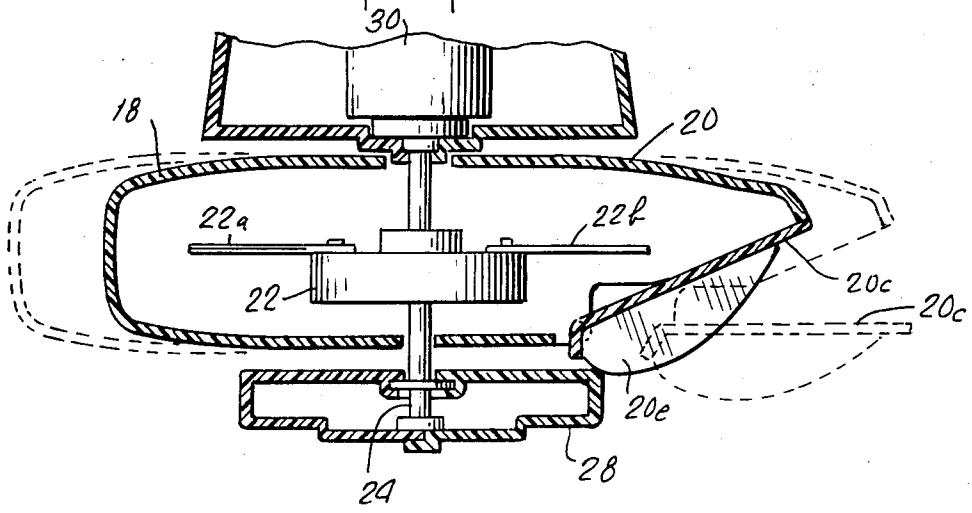


Fig. 11.



CORDLESS ELECTRIC GARDEN TRIMMER WITH SAFETY LOCK MEANS

BACKGROUND

The invention is in the general field of power driven trimmer devices and relates particularly to a cordless electric grass trimmer, to safety covers for such device, to lock means for safely storing such devices to prevent accidental exposure of the cutting means, and to trigger means which prevent accidental turning on while the trimmer is in storage.

Garden trimmers of the invented type find household uses in trimming the edges of a lawn, trimming hedges, and the like. When power operated, it is desirable for such trimmers to be battery powered so that they can be easily used any place without the inconvenience of a power cord. It is desirable for such trimmers to have safety covers which shield the cutting means completely when the trimmer is not in use so as to prevent injury to a user, and which afford protection to the user even when the trimmer is actually trimming. Because such trimmers are often used in households where they may be accessible to children, it is desirable that there be some means for securely locking the safety covers. It is also desirable, just as in the case of some containers for dangerous medicine, to make it somewhat difficult and complicated to unlock the safety covers, so as to minimize the possibility of injury to children who may find a stored trimmer and play with it. Additionally, because of the limited amount of power stored in the batteries which operate such trimmers, it is desirable to make sure that the trimmer motor is turned on only while actually trimming, and not while the user of the trimmer moves from place to place or rests. These and other desirable features of garden trimmers are incorporated in the invented trimmer described below.

SUMMARY OF THE INVENTION

The invention is in a cordless electric garden trimmer comprising a housing enclosing and supporting operatively electric storage batteries and an electric motor, and also supporting rotary cutting means driven by the motor. A safety cover comprising a pair of semicircular shrouds forms a hollow disc-shaped enclosure for the cutting means. The shrouds can be opened to expose the cutting means by compressing triggers which also operate an electrical switch for connecting the electric motor to the batteries. When the triggers are released, the electrical switch is opened, the motor is turned off, and the safety cover shrouds turn to a closed position in which they completely enclose the rotary cutting means. In its closed position, the safety cover can be locked for safe storage by means of a safety storage lock means.

One of the particular advantages of the invented garden trimmer is that the electric motor is on and the safety cover is open to expose the rotary cutting means only for as long as the triggers are kept squeezed against the action of a bias spring. As soon as the triggers are released, their bias spring closes the safety cover such that it completely encloses the rotary cutting means, and disconnects the motor from the batteries. Thus, power is drained from the batteries only while the trimmer is used for actual trimming, and not when a user of the trimmer moves from place to place or rests. Additionally, the rotary cutting means is exposed only while the trimmer is actually used for trimming, but is safely enclosed when the trimmer is moved from place to place or is stored.

Another particular advantage of the invented garden trimmer is the provision of a safety storage lock means which securely locks the safety cover in a closed position when the trimmer is stored, and positively prevents accidental exposure of the rotary cutting means or accidental turning on of the electric motor when the trimmer is stored. The safety storage lock means comprises a lock plate slidably supported by the trimmer housing for movement between a lock position and a released position. In the lock position, a jaw on the lock plate engages fixed extensions on the safety cover shroud and keeps the shrouds in their closed position in which they completely enclose the rotary cutting means. When in the lock position, the lock plate is prevented from sliding away from that lock position by means of a fixed stop on the housing and by a biasing means which urges the lock plate toward the housing and toward engaging that stop. To release the safety cover shrouds, the lock plate must be pulled away from the housing against the action of the biasing means and then moved away from the locked position in a sliding motion along the housing over-riding the fixed stop. Releasing the locked plate is deliberately made somewhat difficult an unorthodox for the purpose of preventing accidental exposure of the cutting means and accidental turning on of the electric motor when a garden trimmer prepared for storage is dropped or otherwise mishandled, or when children play with a trimmer prepared for storage.

Other particular advantages of the invented garden trimmer will become apparent from the detailed description below.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a top plan view of a garden trimmer constructed in accordance with the principles of the subject invention and showing a safety cover in a closed position.

FIG. **2** is a side elevational view of the garden trimmer shown in FIG. **1** and shows a safety lock means in a released position.

FIG. **3** is a partial top plan view of the garden trimmer of FIG. **1** and shows the safety cover in an open position.

FIG. **4** is a partial side elevational view of the garden trimmer of FIG. **2** and shows the safety lock means in a lock position.

FIG. **5** is a perspective view of a lock plate forming a part of the safety lock means.

FIG. **6** is a partly sectional view taken along line **6—6** of FIG. **2** and a partly perspective view of an electric motor operating a rotary cutting means and forming a part of the garden trimmer.

BRIEF DESCRIPTION OF FIGS 7–11

FIG. **7** is a top plan view of the front section of a modified garden trimmer having a safety shroud with a flap.

FIG. **8** is a bottom plan view of the embodiment shown in FIG. **7**.

FIG. **9** is a side elevational view of the embodiment shown in FIG. **7**.

FIG. 10 is a partial sectional view of the embodiment shown in FIG. 9 taken along line 10—10.

FIG. 11 is a partial sectional view taken along line 11—11 of FIG. 9 and showing a safety cover in a closed position and in an open position.

DETAILED DESCRIPTION

The invented garden trimmer has a unitary housing of a material such as molded thermoplastic which comprises a front face **10**, a handle **12**, a hinged back plate **14**, and a storage battery compartment **16**. The front section of the housing encloses a conventional electric motor driving a conventional rotary cutting means and supports a safety cover comprising a pair of semicircular shrouds **18** and **20** which, when closed, as in FIG. **1**, form a hollow disk-shaped enclosure for the rotary cutting means. The shroud **20** has a funnel **21** for expelling trimmings.

Referring to FIG. **6**, the rotary cutting means comprises a crank wheel **22**, with a pair of blades **22***a* and **22***b* pivotally mounted thereon to extend radially outwardly by the centrifugal force due to rotation of the wheel **22**. The crank wheel **22** is mounted frictionally on a shaft **24** whose lower end is received loosely in a suitable aperture **26** (see FIG. **4**) in a skid plate **28** of the trimmer housing. The upper end of the shaft **24** is fixedly connected with the rotor of an electric motor **30** which drives the crank wheel **22** and the blades **22***a* and **22***b* in the counterclockwise direction as looking from the top of FIG. **1**.

When in the closed position, as shown in FIG. **1**, the shrouds **18** and **20** completely enclose the rotary cutting means and prevent injury thereby to a user of the garden trimmer. The aperture of the trimming expelling funnel **21** is too far from the blades **22***a* and **22***b* and is too narrow to allow hazardous access to the blades.

The shrouds **18** and **20** can be moved to an open position, as shown in FIG. **3**, by means of a mechanism which includes shroud stems **31** and **32** and triggers **34** and **36**. The shroud **18**, the shroud stem **31**, and the trigger **34** are a unitary structure of material such as molded thermoplastic; and the shroud **20**, with its funnel **21**, the shroud stem **32** and the trigger **36** also comprise a unitary structure of materials such as molded thermoplastic. The lower ends of the shroud stems **31** and **32** are received pivotally in a suitable aperture **38** in the housing skid plate **28**, and the top ends of the shrouds stems **31** and **32** are received pivotally in a suitable aperture **40** in the upper portion of the housing. The trigger **34** extends rearwardly from the upper portion of the shroud stem **31** and the trigger **36** extends rearwardly from the upper portion of the shroud stem **32**.

The triggers **34** and **36** are kept at an angle to each other by means of a bias spring **42** which is a leaf spring urging the rearward ends of the triggers **34** and **36** away from each other. When the triggers **34** and **36** are squeezed toward each other, against the action of the bias spring **42**, the safety shrouds **18** and **20**, which abut each other in the closed position shown in FIG. **1**, separate and move away from each other to the open position shown in FIG. **3**. The shrouds **18** and **20** remain in an open position only for as long as the triggers **34** and **36** are kept squeezed against the action of the bias spring **42**. As soon as the triggers **34** and **36** are released, the bias spring **42** returns the shrouds **18** and **20** to the closed shroud position shown in FIG. **1**.

The bias spring **42** is relatively stiff such that a user of the trimmer tends to keep the triggers **34** and **36** squeezed against the action of the bias spring **42** only while actually trimming, but tends to find it uncomfortable to still keep the triggers **34** and **36** squeezed while resting or while moving from place to place. The desired end is that the safety cover shrouds **20** and **18** be in the open position shown in FIG. **3** only while the garden trimmer is actually used for trimming, and that the safety cover shrouds **18** and **20** be in the closed and safe position shown in FIG. **1** at all other times.

The electrical motor **30'** which drives the crank wheel **22** and the blades **22***a* and **22***b* is turned on only while the safety shrouds **18** and **20** are in the open position shown in FIG. **3**, and remains turned off at all other times. The mechanism for turning the motor **30** on and off is illustrated in FIG. **6** and comprises a switch having a contact **46** affixed onto an insulating arm **32***a* radially extending rearwardly from the shroud stem **32** to pivot therewith about an axis **38***a*. The switch also includes a contact **48** which comprises a metal strip suitably affixed to a partition wall **50** which is parallel to the back plate **14** and comprises the front wall of the battery compartment **16**.

The battery compartment **16** contains conventional D.C. batteries connected in series, with one pole making electrical contact with the strip **48** and the other pole connected electrically by means of a suitable wire with a terminal **30***a* of the electric motor **30**. The other terminal of the motor **30**, the terminal **30***b* is connected by means of another wire **56** with the contact **46**. The terminals **30***a* and **30***b* are the two terminals of the field winding of the motor **30**. When current flows through the field winding, the motor **30** is on and rotates the crank wheel **22** and the blades **22***a* and **22***b* at a speed suitable for trimming.

When the safety cover shrouds are in the closed position, as in FIG. **1**, the electrical contacts **46** and **48** are spaced from each other, as shown in FIG. **6**, no current flows through the field winding of the motor **30** and the motor **30** is off. When the triggers **34** and **36** are squeezed, the shroud stem **32** starts rotating counterclockwise as viewed from the top of FIG. **6**, and the contact **46** starts approaching the contact **48**. At, or near, the open position of the safety cover shrouds shown in FIG. **3**, the contact **46** presses against the contact **48** and makes electric contact therewith. Then, current flows through the field winding of the electric motor **30**, and the motor **30** is turned on to rotate the crank wheel **22** and the blades **22***a* and **22***b* in the counterclockwise direction as viewed from the top of FIG. **1** at a speed suitable for trimming. The motor **30** is suitably supported fixedly within the front section of the garden trimmer housing. The contacts **46** and **48**, the wires **54** and **56**, as well as the entire motor **30** are completely enclosed by the trimmer housing to avoid the possibility of an electrical shock to a user of the trimmer.

When the triggers **34** and **36** are released, the contact **46** starts moving away from the contact **48**, and the motor **30** is turned off even before the safety cover shrouds **18** and **20** return to the closed position shown

in FIG. 1. In the closed position of the safety cover shrouds, the contacts 46 and 48 are so far apart from each other that vibration of, or dripping, or knocking the garden trimmer cannot cause accidental electrical contact therebetween.

When the invented garden trimmer is to be stored, the safety cover shrouds 18 and 20 can be locked in the closed position shown in FIG. 1 in order to prevent accidental exposure of the rotary cutting means and accidental turning on of the motor 30. The safety cover shrouds are locked by a safety storage lock means which is designed to make releasing the safety cover shrouds a little difficult, so as to make a stored trimmer safe for children which may play with a garden trimmer left for storage.

The safety storage lock means includes a lock plate 58 shown in perspective in FIG. 5. The lock plate 58 has a guide channel 58*a* in its back wall, a stop engaging groove 58*b* in a side wall 58*c*, and a centrally located downwardly running channel 58*d*. At its lower end, the lock plate 58 terminates in forwardly extending jaws 58*e* and 58*f*.

Referring to FIGS. 1, 3, and 4, the lock plate 58 is engaged by a guide 60 affixed to the front face 10 of the trimmer housing. The guide 60 is T-shaped in cross-section and has a stem 60*a* which fits loosely within the channel 58*d* in the lock plate 58 and a top bar 60*b* which rides over the channel 58*d* and is wider than the channel 58*d*. The interfitting of the guide 60 and the lock plate 58 is such that the lock plate 58 can move in sliding motion along the front face 10 of the garden trimmer housing between the position shown in FIG. 4 and the position shown in FIG. 2.

The position shown in FIG. 4 is called lock position of the lock plate 58 and of the safety storage lock means, and the position shown in FIG. 2 is called the released position of the lock plate 58 and of the safety storage lock means.

For the purpose of cooperating with the lock plate 58 to lock the safety cover for safe storage, the shrouds 18 and 20 are provided with wings 18*a* and 20*a* respectively which extend upwardly from the upper forward portions of the shrouds 18 and 20 and are adapted to be received between the jaws 58*e* and 58*f* of the lock plate 58 when the shrouds 18 and 20 are in the closed position and when the lock plate 58 is brought downward to the lock position shown in FIG. 4. In the safety storage position shown in FIG. 4, the safety shrouds 18 and 20 abut each other, and the wings 18*a* and 20*a* also abut each other, and are received between the jaws 58*e* and 58*f* of the lock plate 58 such that the wings 18*a* and 20*a* cannot separate. The lock plate 58 is flat against the front face 10 of the trimmer housing, with the back wall of the lock plate 58 abutting the front face 10. The edge between the top wall 58*g* of the lock plate 58 at the back wall of the lock plate 58 bears against a stop 62 which is integral with the front face 10 of the trimmer housing such that the lock plate 58 cannot slide directly up along the front face 10 of the trimmer housing. When in the position shown in FIG. 4, the lock plate 58 cannot be pulled straight up along the front face 10 of the trimmer housing because of the stop 62. The spacing between the front face 10 of the trimmer housing and the bar 60*b* of the guide 60 is such that there is little or no play of the lock plate 58 in a direction perpendicular to the front face 10. Hence, the lock plate 58 cannot override the stop 62 simply by being pulled up along the front face 10 of the trimmer housing.

From the safety storage lock position shown in FIG. 4, the lock plate 58 may be moved to the released position shown in FIG. 2 only by pulling the top end of the lock plate 58 forwardly and away from the front face 10 of the trimmer housing so as to flex either the lock plate 58, or the bar 60*b* of the guide 60, or both, and to allow the lock plate 58 to override the stop 62. Once the top end of the lock plate 58 is a little away from the front face 10 of the trimmer housing, the lock plate 58 can be pulled up along the front face 10 so that it overrides the stop 62. When over the stop 62, the lock plate 58 can slide upwardly along the front face 10 of the trimmer housing until it comes to the released position shown in FIG. 2 in which the stop 62 fits within the groove 58*b* in the back of the lock plate 58. The upward sliding motion of the lock plate 58 is limited by another stop 64 which is integral with the front face 10 of the trimmer housing. The lock plate 58 can not override the stop 64.

The lock plate 58 thus has two steady state positions: one is the lock position shown in FIG. 4 in which the lock plate 58 is flat against the front face 10 of the trimmer housing and the jaws 58*e* and 58*f* flank the wings 18*a* and 20*a* of the safety cover shrouds 18 and 20 respectively to prevent opening of the safety cover shrouds, and the other position is the one shown in FIG. 2 in which the stop 62 is received within the groove 58*b*, and the jaws 58*e* and 58*f* are above the winds 18*a* and 20*b* such that the safety cover shrouds 18 and 20 are no longer restrained from opening.

The operation of the garden trimmer described structurally heretofore is as follows. When the garden trimmer is picked up for use, it is in safety storage position, with the lock plate 58 in the safety lock position shown in FIG. 4. To move the lock plate 58 to the release position, the top end of the lock plate 58 must be pulled away from the front face 10 of the trimmer and then the lock plate 58 must be slid upwardly along the front face 10 to the released position shown in FIG. 2. To facilitate this operation, the lock plate 58 may be provided with serrations 58*h* on the side walls near its top end. When the lock plate 58 is grasped at the serrated side wall portions, it may be pulled a short distance away from the front face 10 of the trimmer housing such that either the lock plate 58, or the guide 60, or both flex to allow the lock plate 58 to override the stop 62 on the front wall 10 of the trimmer housing. Both the lock plate 58 and the guide 60 are of material such as molded thermoplastic which allows for suitable degree of resilient flexing. The combination of the lock plate 58, the guide 60, and the front wall 10 of the trimmer housing comprise a biasing means for urging the lock plate toward the housing, and the combination of this biasing means and the stop 62 provide a releasable stop means. In the position shown in FIG. 2, the lock plate 58 can not drop downwardly by itself, because the stop 62 is received within the groove 58*b*.

When the lock plate 58 is in the released position in FIG. 2, the garden trimmer is ready for use. To commence trimming, the triggers 34 and 36 are squeezed toward each other against the action of the bias spring

42, from the closed position of the shrouds 18 and 20 shown in FIG. 1 to the open position shown in FIG. 3. In this motion of the safety cover shrouds 18 and 20 from the closed position to the open position, the shroud stems 31 and 32 move from the position shown in FIG. 6 to a position which corresponds to the open shroud position shown in FIG. 3, and, in the process of doing so, press the contacts 46 and 48 against each other to establish electrical contact therebetween. When electrical contact is established between the contacts 46 and 48, current provided by the batteries 52 flows through the field winding of the electric motor 30 and turns on the motor. The motor 30 rotates the crank wheel 22 and the blades 22*a* and 22*b* in the counterclockwise direction as viewed from the top of FIG. 1. The centrifugal force developed by the rotation of the crank wheel 22 forces the blades 22*a* and 22*b* to extend radially outwardly for trimming. The inertia of the crank wheel 22 helps for smoother trimming, and the face that the blades 22*a* and 22*b* are pivotally mounted on the crank wheel 22 helps in saving the blades and the motor 30 in case the blades encounter an obstacle such as a stone or a thicker branch.

When a user of the trimmer stops trimming, the bias spring 42, which is somewhat stiff, tends to make him release the triggers 34 and 36 until he is ready to start trimming again. When the triggers 34 and 36 are released, the safety cover shrouds 18 and 20 are returned to the closed position shown in FIG. 1 and remain there, as urged by the bias spring 42, until the triggers 34 and 36 are squeezed again. When the safety cover shrouds 18 and 20 are in the closed position shown in FIG. 1, even if the lock plate 58 remains in the released position shown in FIG. 2, the blades 22*a* and 22*b* are completely enclosed, to prevent possible injury to a user of the trimmer, and the motor 30 is turned off such that the batteries 52 are not drained while the trimmer is not actually used for trimming. When the lock plate 58 is in the released position shown in FIG. 2, the trimmer may be started and stopped repeatedly by squeezing the triggers 34 and 36 and by allowing the bias spring 42 to return the triggers 34 and 36 to the position shown in FIG. 1.

When the trimmer is to be stored, the lock plate 58 is moved from the released position shown in FIG. 2 to the lock position shown in FIG. 4 by either simply pushing the lock plate 58 downwardly along the front face 10 of the trimmer housing, or by first grasping the serrated top end of the lock plate 58 to pull it a little away from the front face 10 and then pushing the lock plate 58 downwardly. In the downward sliding motion of the lock plate 58, the back wall of the lock plate overrides the stop 62. When the lock plate 58 comes to the lock position shown in FIG. 4, the top wall 58*g* of the lock plate 58 rests against the stop 62 and thus prevents upward sliding motion of the lock plate 58. Also, the wings 18*a* and 20*a* of the shrouds 18 and 20 respectively are received between the jaws 58*e* and 58*f* of the lock plate 58 and are restrained thereby from separating. The garden trimmer is now ready for safe storage, because it is prevented from allowing accidental exposure of the blades 22*a* and 22*b* and from accidental turning on of the electric motor 30.

For the purposes of providing a further measure of safety, the garden trimmer described heretofore may be provided with a safety cover having a hinged flap such that the rotary cutting means is completely enclosed by the safety cover when the safety shrouds are in their closed position, and an opening for expelling trimmings is provided only when the shrouds are in their open position. This feature is included in a modified embodiment of the subject invention which is shown in FIGS. 7 through 11. The modified embodiment of FIG. 7 through 11 differs from the embodiment shown in FIGS. 1 through 6 only in a differ construction of the safety shroud 20. In the modified embodiment of FIGS. 7 through 11, the shroud 20 is provided with a flap 20*c* which is hinged to pivot about a pin 20*d* between the closed flap position shown in solid lines in FIG. 11 and the open flap position shown in broken lines in FIG. 11.

When the safety shrouds 18 and 20 are in their closed position, the flap 20*c* is also in the closed flap position and is held there by means of a rib 20*e* which extends downwardly from the flap 20*c* and bears against the skid plate 28 to push the flap 20*c* upwardly toward the closed flap position. When the safety shrouds 18 and 20 are in their closed position, and when the flap 20*c* is in its closed position, the rotary cutting means including the blades 22*a* and 22*b* is completely enclosed in a disk-shaped enclosure. The blades 22a and 22b are not exposed, and cannot cause an injury.

When the lock plate 58 is moved up to its released position, as shown in FIG. 9 and the triggers 34 and 36 are squeezed to move the safety shrouds 18 and 20 to the open shroud position, a cam 20*f* which is rigidly affixed to the trimmer housing engages the flap 20*c* and moves it downwardly to the open flap position shown in broken lines in FIG. 1. The flap 20*c* remains in the open flap position for as long as the shrouds 18 and 20 are in the open shroud position. When the flap 20*c* is in the open flap position, an opening is provided in the safety shroud 20 for expelling trimmings. When the FIGS. 34 and 36 are released, and the safety shrouds 18 and 20 return to their closed position, the skid plate 28 acts as a cam and the rib 20*e* of the flap 20*c* acts as a cam in a cam follower to return the flap 20*c* to the closed position shown in solid lines in FIG. 11. When the safety shrouds 18 and 20 are locked in the closed position by means of the locked plate 58, the flap 20*c* is also locked in the closed flap position and the garden trimmer can be stored with the blades 22*a* and 22*b* completely enclosed and posing no hazard.

I claim:

1. A cordless electric garden trimmer comprising a housing enclosing and supporting operatively electric storage batteries and an electric motor connectable to said batteries to be driven thereby; rotary cutting means supported by said housing and operably connected to said motor to be driven thereby; a safety cover comprising a pair of semicircular shrouds pivotally supported by said housing for movement between a closed position in which the shrouds abutt each other to form a hollow disk-shaped enclosure for said rotary cutting means and an open position in which the shrouds are separated from each other to expose said rotary cutting means; and a safety storage lock means carried by said housing for releasably locking the shrouds in said closed shroud position to prevent

exposing said rotary cutting means when the trimmer is not in use.

2. A garden trimmer as in claim 1 wherein said safety storage lock means comprise a lock plate having a lock jaw and slidably supported by said housing for movement between a lock position and a release position, and wherein each of said shrouds includes a fixed extension, said shroud extensions being aligned with each other and with said lock jaw to be received by the lock jaw when the shrouds are in the closed shroud position and the lock plate is moved to the lock position to keep the shrouds in said closed shroud position.

3. A garden trimmer as in claim 2 including a releasable stop means carried by said housing for holding said lock plate against sliding movement from said lock position towards the release position.

4. A garden trimmer as in claim 3 wherein said stop means comprise a biasing means for urging the lock plate toward the housing, a stop extension on said housing facing the lock plate, said lock plate overriding the stop extension against the urging of the biasing means except in the lock position in which a wall of the lock plate rests against said stop extension to prevent sliding motion of the lock plate away from the lock position of the plate, whereby the safety storage lock means is releasable by manually moving the lock plate both away from said housing against the urging of the biasing means and in sliding movement along said housing from said lock position to said release position.

5. A garden trimmer, as in claim 1, including spring biased trigger means connected to said shrouds for moving the safety cover shrouds from said closed position to said open position against the action of a bias spring.

6. A garden trimmer, as in claim 5, including contact means operable by said trigger means to establish electrical contact between said storage batteries and said motor when the safety cover shrouds are in said open position and to prevent electrical contact between said batteries and said motor when the safety cover shrouds are in said closed position.

7. A garden trimmer as in claim 1 including means for providing an opening in said safety cover for expelling trimmings when the safety shrouds are in their open position, said means comprising a flap hingedly attached to one of said shrouds and having a closed flap position in which the flap forms a part of disc-shaped enclosure for the rotary cutting means and an open flap position in which the flap opens to provide an opening in said enclosure, means for urging the flap toward said closed flap position when the safety shrouds are in their closed position, and cam and cam follower means for moving the flap from the closed to the open flap position as the safety shrouds are moved from the closed to the open safety shroud position.

8. A cordless electric garden trimmer having a housing enclosing and supporting electric storage batteries and an electric motor connectable to said batteries to be driven thereby; rotary cutting means supported by said housing and operably connected to said motor to be driven thereby; a safety cover comprising a pair of shrouds pivotally supported by said housing for movement between a closed position in which the shrouds abutt each other to form a hollow disk-shaped enclosure for said rotary cutting means and an open position in which the shrouds are separated from each other to expose said rotary cutting means; spring biased trigger means manually operable against the urging of a bias spring to move said safety cover shrouds from said closed position to said open position and allowing said shrouds to remain in said open position only for as long as said trigger means is manually held against the action of said bias spring; and contact means operated by said trigger means to connect operably said batteries to said motor when said safety cover shrouds are in said open position and to prevent electrical contact between said batteries and said motor when the safety cover shrouds are in said open position.

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