

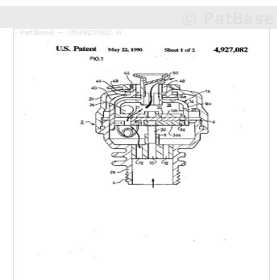
1) Family number: 2764849 (US4927082 A)

BALL-TYPE WATER SPRINKLER

Abstract: Source: US4927082 A A ball-type water sprinkler of the sector type includes two inlets into the ball chamber oriented to direct the water to flow in opposite directions circumferentially around the chamber, and a shutter rotatable with the rotor and movable either to a first position with respect to the rotor covering one inlet and uncovering the other inlet to cause the water to flow in a first direction, or to a second position uncovering the one inlet and covering the other inlet to cause the water to flow in the opposite direction. The shutter is actuated by a member rotatable with the rotor and cooperable with the sector stops of the sprinkler, the actuator being coupled to the shutter by an over-center spring coupling producing a snap action movement of the shutter to either its first or second positions.

Probable Assignee: ELGO IRRIGATION LTD

Earliest Publication Date: 19900522



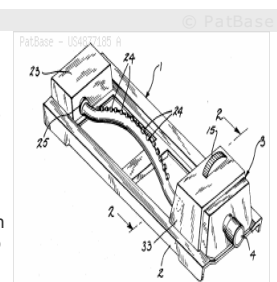
2) Family number: 3224086 (US4877185 A)

OSCILLATING SPRINKLER

Abstract: Source: US4877185 A An improved oscillating sprinkler comprising a frame having a sprinkler tube mounted for oscillating movement on the frame. An inlet water housing is mounted on the frame and supplies water to the sprinkler tube. The sprinkler tube is driven in an oscillating path by a crank arm, and an eccentric gear mechanism driven by the water being supplied to the sprinkler tube is operably connected to the crank arm. The eccentric gear mechanism is constructed to provide a variable speed output that balances the variable speed output of the crank arm to provide a substantially uniform velocity of oscillating movement for the sprinkler tube. The sprinkler also includes a mechanism for varying the effective length of the crank arm to change the arc of oscillation of the sprinkler tube, and a slip clutch mechanism interconnects the inner end of the sprinkler tube to the housing to permit the sprinkler tube to be manually rotated to shift the spray pattern to one side or the other.

Probable Assignee: WESTERN IND INC

Earliest Publication Date: 19891031



3) Family number: 18221306 (US3521822 A)

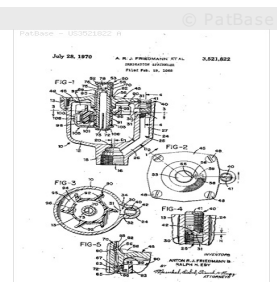
IRRIGATION SPRINKLER

Abstract: Source: US3521822 A ABSTRACT OF THE DISCLOSURE

A pop-up sprinkler unit in which both the flow rate of the water and the rate of step-by-step rotation of the nozzle are adjustable independently by control means 15 accessible at all times from the top of the unit

Probable Assignee: WARD INC ASHLEY F

Earliest Publication Date: 19691023



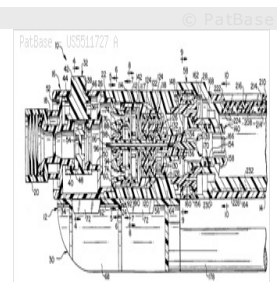
4) Family number: 11461283 (US5511727 A)

WAVE SPRINKLER WITH IMPROVED ADJUSTABLE SPRAY ASSEMBLY

Abstract: Source: US5511727 A A wave sprinkler assembly in which the tubular spray assembly comprises a tubular member and one or more elongated strips of flexible material having a series of longitudinally spaced water stream outlets extending therethrough, the strips are assembled with the tubular member by inserting them therein through an end and moving them radially outwardly into an operative position wherein the water under pressure within the interior of the tubular spray assembly acts on the strips to enhance their engagement with the tubular member. The strip provides an annular seal of flexible sealing material extending around the exterior of each of the controllable water stream outlets, and a control member is mounted on the elongated tubular assembly for movement between a full width operating position and a width limiting position. The control member includes a control section associated with each annular seal and the controllable water stream outlet around which it extends. Each control section has a surface area movable into engagement with the associated annular seal to prevent a water stream from issuing from the controllable water stream outlet around which it extends and an open area movable over the controllable water stream outlet around which the associated annular seal extends to allow a water stream to issue therefrom.

Probable Assignee: FISKARS OYJ ABP

Earliest Publication Date: 19951207



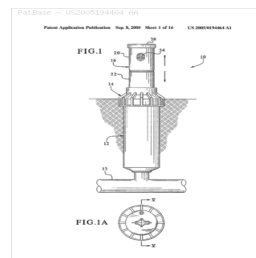
5) Family number: 32217310 (US2005194464 AA)

ADJUSTABLE SPRINKLER

Abstract: Source: US2005194464 AA An adjustable sprinkler including an inner housing slideably engaged with an outer housing. The inner housing includes a head rotatably mounted to a body. The outer housing includes an inlet which receives pressurized water and transfers the pressurized water to a nozzle attached to the head. The inner housing includes a reverser for selectively driving an impeller in two different directions. The impeller is connected to a reducer which reduces the rotational rate transferred from the impeller to the head and also enables the head to be manually rotated without causing damage to the internal components of the adjustable sprinkler. The head includes a click set and a cap. The cap defines at least one opening to enable a user to insert a tool through the cap to adjust and set the boundaries of the spray pattern using the click set.

Probable Assignee: BRUNINGA KENNETH

Earliest Publication Date: 20050908



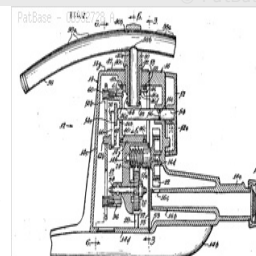
6) Family number: 22524233 (GB952728 A)

LAWN SPRINKLER

Abstract: Source: GB952728 A 952,728. Lawn sprinklers. SUNBEAM CORPORATION. Dec. 17, 1962 [April 18, 1962], No. 47539/62. Heading B2F. An oscillating sprinkler comprises a water motor operable to oscillate a pivotally mounted carrier means 40, 46 for an elongated spray tube 38 about a horizontal axis, the spray tube being also mounted so that it can be positioned at various angles to the said axis for adjusting the width of the spray pattern. As shown, the sprinkler casing is made up of two plastic or die cast members, a combined base and housing 14 and a cover 16, the housing having a pair of runners, such as 14b, which support the spinkler on a lawn. The spray tube 38 is carried by a vertical conduit 40 which is mounted for rotation about its vertical axis in a cylindrical member 46, the latter being constantly oscillated about its horizontal axis in the housing 14. The conduit 40 is urged downwardly by a coil spring 44, is oscillated by the member 46 through an arc which is adjustable between 45 and 90 degrees, and can be adjusted about its own vertical axis to swing the longitudinal axis of the tube 38 relative to the casing to give a spray width varying from one to sixty feet. The water motor consists of an impeller 22, driven by water forced through an orifice 16c in the hose connection 16a, which drives a shaft 34 through a system of worm gearing. An eccentric 36 secured to the shaft 34 engages an elongated slot 58a in the lower end of a link 58 pivoted on a boss 62b, and a pin 60 secured eccentrically to the bottom wall 46b of the member 46 engages a slot 58b in the upper end of the link 58. Thus, as the impeller 22 is driven by the water, the link 58 is oscillated about the pivot boss 62b, and the cylindrical member 46 is also oscillated about its horizontal axis, which is coincident with that of a shaft 54. The shaft 54 carries a setting knob 52 at one end, has a link 66 secured at its other end, and is rotatably mounted in bearings in the housing 14 and cover 16. The lower end of the link 66 is so connected to a support arm which carries the pivot boss 62b, that rotation of the shaft 54 by the knob 52 produces a vertical movement to the pivot boss 62b. This vertical adjustment of the pivot 62b causes the degree of arc through which the member 46 is oscillated to vary between 45 and 90 degrees, so that the length of spray is varied.. Scales and pointers assist the setting of the control knob 54 and of the vertical support 40. Water leaving the impeller 22 passes to the spray tube 38 through the member 46 and support 40.

Probable Assignee: SUNBEAM CORP

Earliest Publication Date: 19640318



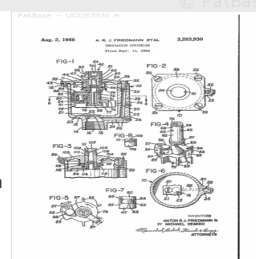
7) Family number: 22394331 (US3263930 A)

IRRIGATION SPRINKLER

Abstract: Source: US3263930 A (Claim 1) 1. An irrigation sprinkler adapted to be installed within the ground and including a rotary pop-up nozzle and a mechanism for easily adjusting the speed of rotation of the nozzle, comprising a housing having an open top and a bottom including means defining an inlet coupling adapted to be connected to a liquid supply line, a cover for the top of said housing and including a central opening therein, a tubular nozzle stem rotatably mounted within said opening and adapted to pop upwards in response to water pressure within said housing, an impeller, means for mounting said impeller on said stem for free rotation in relation thereto, an arm member rigidly connected to said stem and extending outwardly therefrom, striker means mounted for rotation with said impeller and for imparting successive impulses to said member for intermittently rotating said stem in a step-by-step manner, passageway means for directing liquid from said inlet coupling through a driving port in said housing and towards said impeller for causing rotation thereof, and control means adjustably mounted within said passageway means and having a part accessible from the top of said sprinkler for controlling the flow of liquid through said passage- way means and through said driving port toward said impeller for determining the speed of rotation of said impeller.

Probable Assignee: SKINNER IRRIGATION CO

Earliest Publication Date: 19660802



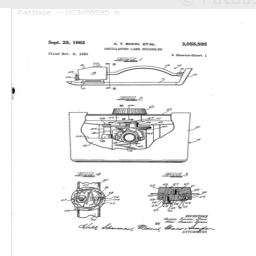
8) Family number: 22823433 (US3055595 A)

OSCILLATORY LAWN SPRINKLER

Abstract: Source: US3055595 A (Claim 1) 1. A driving linkage for an oscillating sprinkler comprising a crank rotatably driven, a lever having one end pivotally supported and having its opposite end adapted to be drivingly connected to a tube, a connecting rod interconnecting said crank and said lever, and means for adjusting the oscillatory traverse of said lever comprising an eccentric mounted pivot pin adjustably positioned adjacent an intermediate portion of said connecting rod, said connecting rod being recessed to receive said pin, whereby the fulcrum between said rod and said pin may be adjusted to vary said traverse. 115

Probable Assignee: TURNER CORP

Earliest Publication Date: 19620925



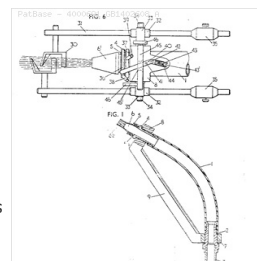
9) Family number: 4000691 (GB1402608 A)

ROTARY SPRINKLER

Abstract: Source: GB1402608 A 1402608 Rotary sprinklers M DRORI 7 July 1972 [7 July 1971 12 Nov 1971] 31939/72 Heading B2F A sprinkler which is driven by water jet reaction comprises a riser 3, Fig 1, a flexible pipe 1, a nozzle 6 and an arm 9 carrying bearings 7, 8 which rotate causing twisting of the pipe 1. In the embodiment of Fig 1 the water jet flows through spiral baffles 6b to produce the rotary movement of the arm 9 about the riser 3. A collar 4 transmits jet reaction to the bearing 8. In other embodiments, Figs 2, 4, 5 (not shown), the arm 9 is driven by various mechanisms which essentially comprise a baffle plate rotatably mounted above the nozzle 6 on a vertical post extending from the bearing 8, the plate having depending baffles on which the water jet impinges. Rotation of the plate is transferred to the bearing 8 by means which include a horizontally reciprocable cam plate a gear and worm mechanism, or by a pin and slot arrangement. As shown in Fig 6, the sprinkler oscillates by impingement of 30 carried by pivotally mounted arms 31. If e.g. the right deflector 30 is struck by the jet, rotation of the nozzle 6' is in a clockwise direction and causes lug 38 on a ring 36 to actuate a pivoted bar 40 and thus a bar 45 which arrests upward movement of the lever 31 by engagement with a stop 46. The other deflector is then hit by the jet and the reverse operation takes place.

Probable Assignee: DRORI M

Earliest Publication Date: 19750522



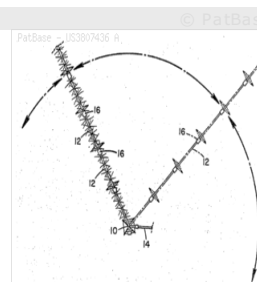
10) Family number: 1067582 (US3807436 A)

CONTROL DEVICE FOR OVERHEAD SPRINKLER

Abstract: Source: US3807436 A A control system for the electric motors which drive the individual carriages of a multi-carriage self-propelled sprinkling system. A switch is mounted adjacent a coupling on the main pipe and an arm pivotally supported above the coupling has one end in contact with the pipe length on the far end of the coupling and its other end in contact with a finger extending from a switch housing. The switch housing is of water-proof fiberglass construction and has the arm extending out the bottom of it so that the top can be completely water-proof.

Probable Assignee: FRONTIER MACHINERY CO

Earliest Publication Date: 19740430



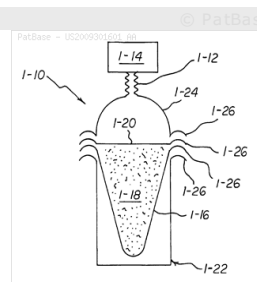
11) Family number: 42001176 (US2009301601 AA)

APPARATUS AND METHOD FOR USING TETRAZINE-BASED ENERGETIC MATERIAL

Abstract: Source: US2009301601 AA The present invention comprises apparatus and methods employing a gas produced from a tetrazine-based energetic material such as that known as "BTATz" containing 3;6-BtS(1H-1,2,3,4-Tetrazol-5-ylamino)1-,2,4,5-tetrazine 3;6-BtS(1H-1,2,3,4-Tetrazol-5-ylamino)1-,2,4,5-tetrazine or salts thereof. The tetrazinebased energetic material is ignited through the use of a percussion cap, a piezoelectric crystal or a battery-supplied electric spark or by encapsulating it in a container that is then exposed to a burning flame. The gas produced upon ignition is employed a propellant such as to inflate life rafts, life vests, emergency evacuation slides, tires, air bags and other inflatable devices. The gas produced upon ignition is alternatively employed to power an engine and many other applications such as a fire suppressant.

Probable Assignee: HALKEY ROBERTS CORP

Earliest Publication Date: 20080710



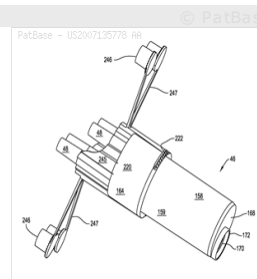
12) Family number: 34553465 (US2007135778 AA)

REMOVABLE INLET MANIFOLD FOR A MEDICAL/SURGICAL WASTE COLLECTION SYSTEM, THE MANIFOLD INCLUDING A DRIVER FOR ACTUATING A VALVE INTEGRAL WITH THE WASTE COLLECTION SYSTEM

Abstract: Source: US2007135778 AA A removable manifold for a medical/surgical waste collection system. The manifold is dimensioned to be mounted to a receiver integral with the system. The manifold includes a driver for engaging a complementary valve internal to the receiver. The valve regulates flow between the receiver and the down line components of the waste collection system. The valve is normally closed. When the manifold is fitted to the receiver the driver engages the valve so as move the valve to the open position. This allows fluid flow from the manifold and receiver to the downstream components of the system.

Probable Assignee: STRYKER CORP

Earliest Publication Date: 20070614



13) Family number: 64906325 (DE202016006856 U1)

FIRE EXTINGUISHING UNIT (MACHINE TRANSLATION)

Abstract: Source: DE202016006856 U1 Main claim (1-12) "fire fighting unit" as stationary or mobile base unit, in the form of an installation or part of cultivation, as fixed or movable parts, controlled remotely or manually operated, made from generally Stahlbautypischen structures such as base, or timber frames, containers and chambers from steel or high-strength special steels, aluminium, GRP or CFRP materials or reinforced concrete members bounding from the "fire fighting units" or also Geschosshohen steel concrete segments, characterized by the fact that one base unit depending on the application and its technical application according to, by means of inserted, patch, suspended, or otherwise also built "fire units" in the construction of a water pitcher, monitor, a water mist extinguishing system or an other fire extinguishing, rigid, flexible or even 3-dimensional acting on one of the aforementioned substructures ready mounted is.

Probable Assignee: NOERES MICHAEL

Earliest Publication Date: 20170216

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