No. 693,421. Patented Feb. 18, 1902.

A. MUNCH.

TRAVELING LAWN SPRINKLER.

(Application filed Oct. 13, 1900.)

(No Model.) 3 Sheets—Sheet 1.

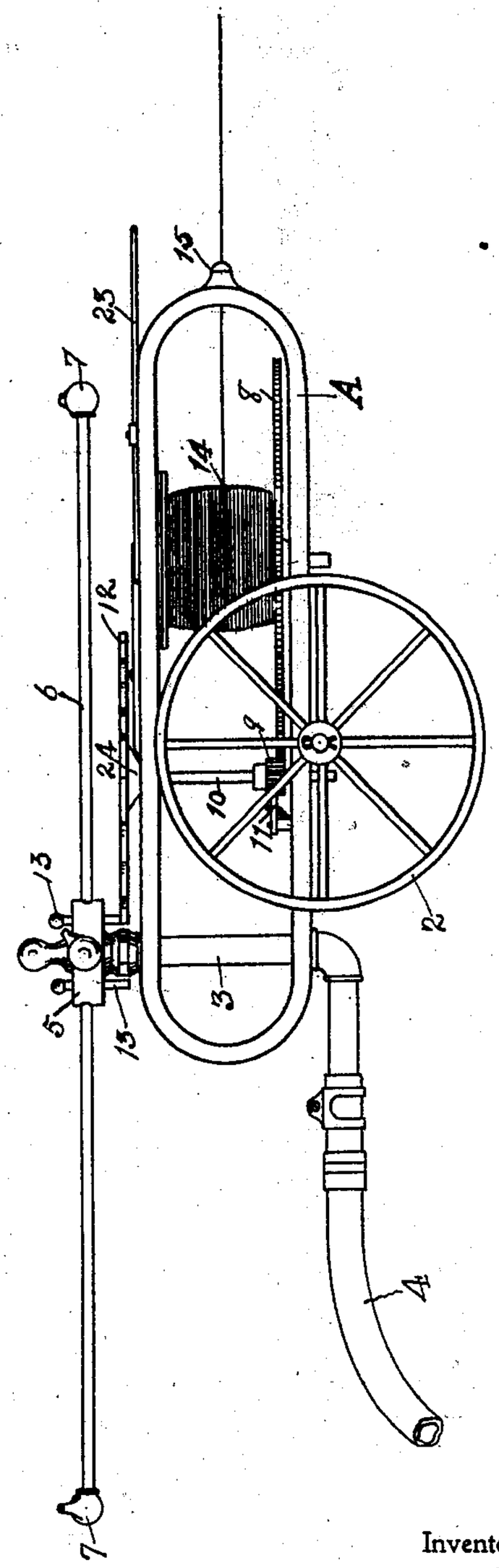

Fig 1

Witnesses:

Monroe H Blake

Elgie N Evans

Inventor.

Arthur Munch

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his Attorneys

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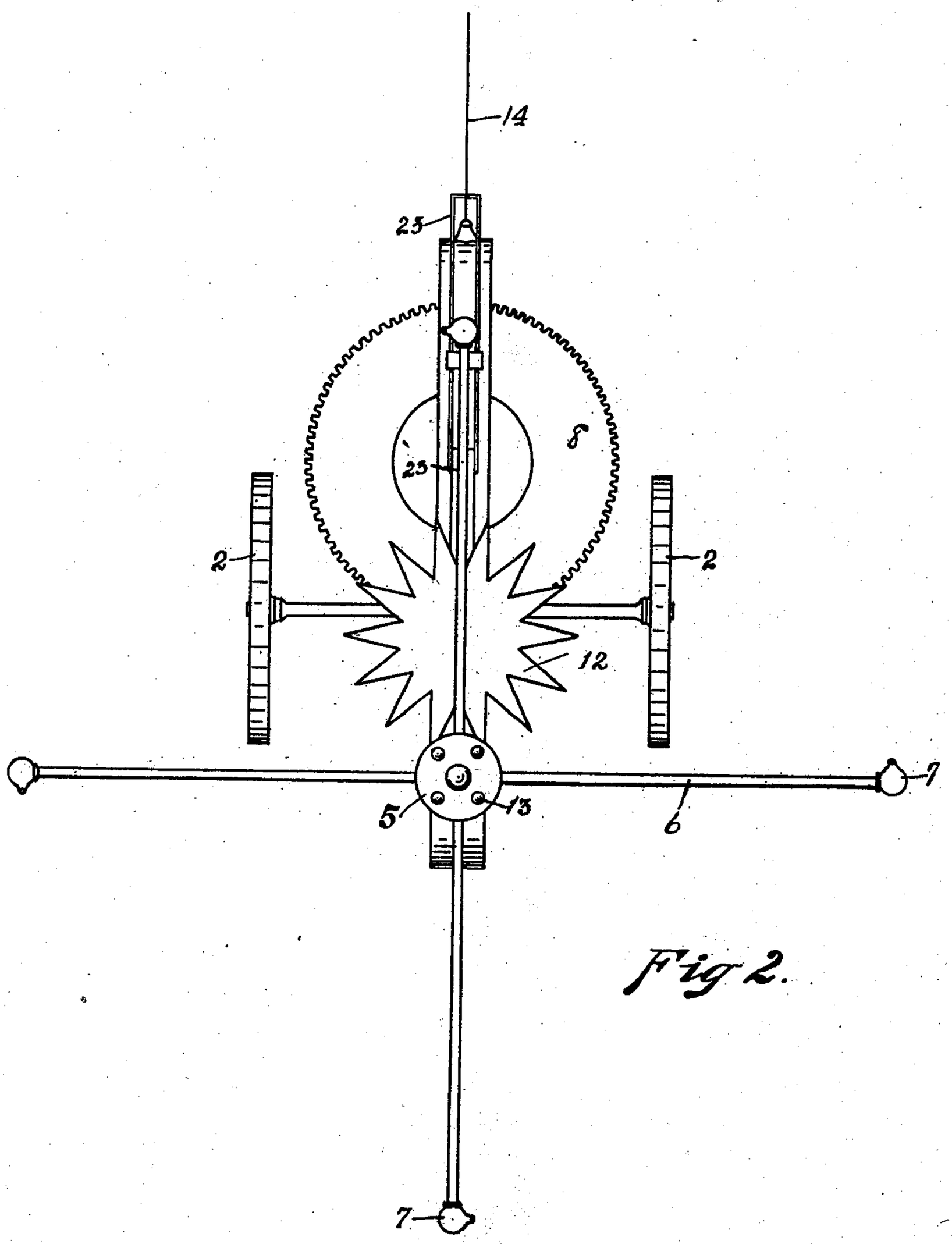

Fig 2.

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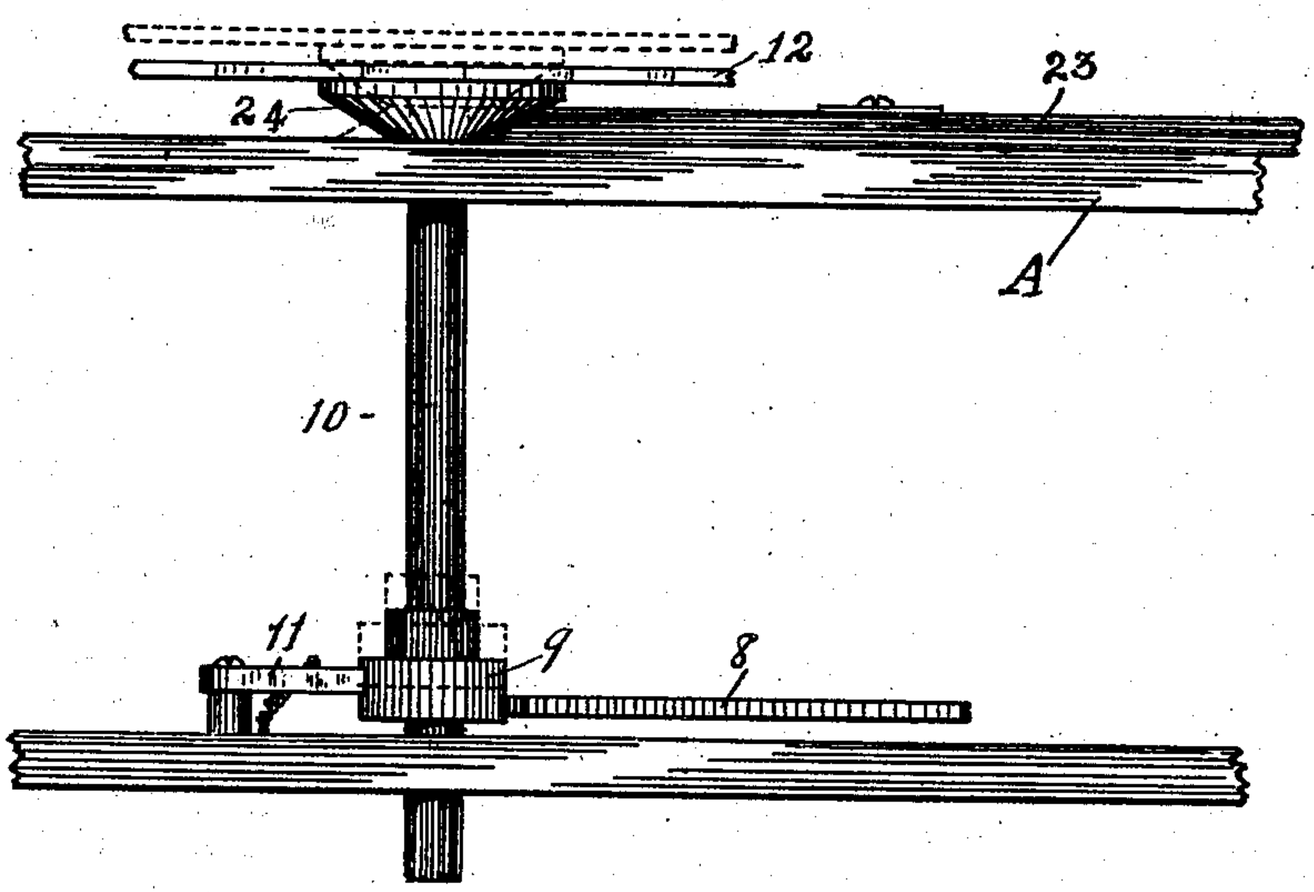

Fig. 3

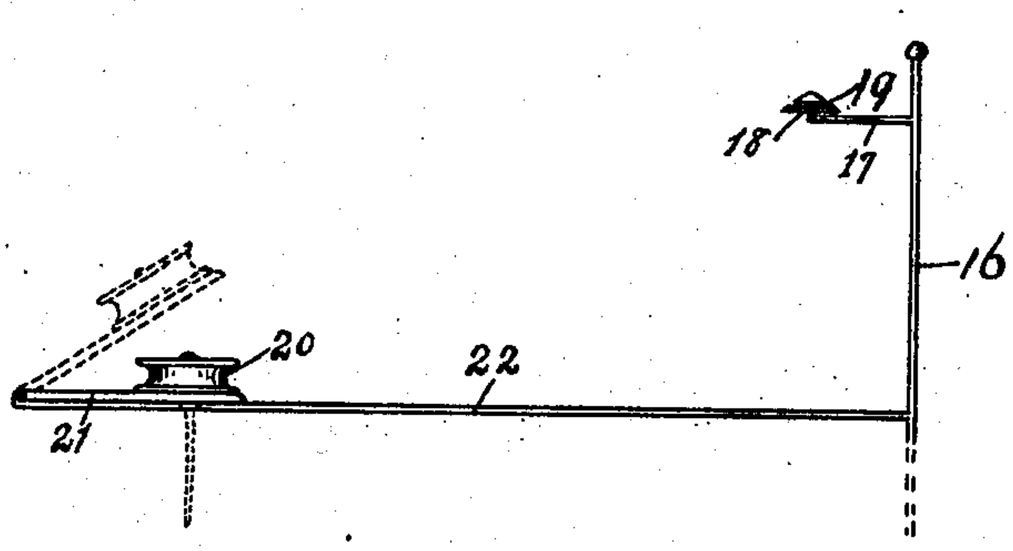

Fig 4

Witnesses:

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UNITED STATES PATENT OFFICE.

ARTHUR MUNCH, OF ST. PAUL, MINNESOTA.

TRAVELING LAWN-SPRINKLER.

SPECIFICATION forming part of Letters Patent No. 693,421, dated February 18, 1902.

Application filed October 13, 1900. Serial No. 32,915. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR MUNCH, a citizen of the United States, residing at St. Paul, in the county of Ramsey and State of Minnesota, have invented certain new and useful Improvements in Traveling Lawn-Sprinklers, of which the following is a specification.

My invention relates to improvements in traveling lawn-sprinklers, and has for its object to provide means actuated by the stream of water to draw the sprinkler over the lawn in a predetermined course and so to construct the sprinkler as to make it more efficient and more easily moved than those of ordinary construction.

To that end my invention consists in the features of construction and combination hereinafter described and claimed.

In the accompanying drawings, forming part of this specification, Figure 1 is a side elevation of my improved traveling sprinkler. Fig. 2 is a plan view of the same. Fig. 3 is a detail in side elevation showing the devices for throwing the traveling mechanism out of action, and Fig. 4 is a view of the means for guiding the sprinkler in its travel.

In the drawings, A represents the frame of the machine, which is supported by the carrying-wheels 2. Mounted in the rear of the frame is a pipe 3, adapted to be coupled at its lower end to an ordinary garden-hose 4. Rotatably mounted upon the top of this pipe is a hollow head 5, from which project outwardly hollow radial arms 6, provided with discharge-nozzles 7, set at an angle with the arms. As the water escapes from these nozzles it tends to force these nozzles backward, thus rotating the head in the manner usual in sprinklers of this kind.

In order to draw the sprinkler over the ground in a predetermined course, there is rotatably mounted in the forward part of the frame a toothed gear 8, which is normally engaged by a pinion 9, mounted upon the lower end of a vertical shaft 10, arranged in the framework behind the gear 8. Also mounted in the framework is a controlling-pawl 11, adapted to engage with the pinion. The upper end of the shaft 10 carries a toothed plate 12, the teeth of which are engaged by vertically-slidable pins 13, projecting downward from the head 5. A number of these pins are provided, and they may be drawn up out of or pushed down into engagement with the plate 12. By varying the number of pins in lowered or engaging position the speed of the travel of the machine may be regulated as desired.

Supported upon the gear 8 is a reel of cable or wire 14, which passes from the reel out through an opening in the boss 15 at the front of the frame and around a series of posts 16 or other fixed or relatively immovable objects arranged at different points about which it is desired to have the sprinkler travel. The end of the wire is made fast to the last post in the series. Each of the posts except the last is provided with a lateral arm 17, carrying a horizontally-rotatable pulley 18, tapered upwardly and formed with a groove 19 to receive the wire 14.

As the sprinkling-head is rotated by the force of the water passing through it, the pins 13 engage the teeth in the plate 12, rotating the plate and, through the medium of shaft 10 and gears 9 and 8, winding up the reel of wire 14, and thus drawing the sprinkler toward the nearest post with which the wire is connected. As the sprinkler is drawn up to the nearest post by the pull upon the wire the tapered boss 15 will strike the pulley, lifting the wire from it. The sprinkler is so balanced that it tends to tip upward in front, so that it is easily turned and drawn to the next post in the series with which the wire is connected. To guide the hose 4 as the sprinkler is turned from one post to the next, a hose-pulley 20 is arranged upon the ground upon the same side of the post as the wire-pulley 18 and distant therefrom a space sufficient to allow the sprinkler to pass between the pulleys. The hose-pulley 20 is mounted upon a support 21, which may be hinged to an arm 22, extending from the post along the ground, as shown in the drawings, or to an independent pin or plate secured to the ground, so that the support is capable of movement in a vertical plane. As the sprinkler passes between pulleys 18 and 20 from one post to the next in the manner described the hose engages the pulley 20 and

lifts it up into the position shown in dotted lines in Fig. 4, whereby the hose is kept off the ground and the turning of the sprinkler in its travel is facilitated.

To throw the driving mechanism out of operation when the sprinkler reaches the last post to which the wire is directly secured, a plate or frame 23 is slidably arranged upon the top of the sprinkler-frame with its outer or forward end projecting beyond the boss 15 and its rear end inclined downwardly and fitting beneath the similarly-beveled circular plate 24, secured upon the under side of the toothed plate 12. When the sprinkler reaches the last post, the sliding plate 23 will strike the post and be forced backward, lifting the beveled plate 24 and with it the plate 12 and shaft 10, thus raising the pinion 9 out of engagement with the gear 8, as shown in dotted lines in Fig. 3, so that the water will thereafter flow without affecting the driving mechanism of the sprinkler.

I claim—

1. In a lawn-sprinkler of the class described, the combination with a carrying-frame provided with suitable supporting-wheels, of a sprinkler-head rotatably mounted upon said frame, and having means for connection with a hose, a reel arranged adjacent thereto, a toothed disk connected with said reel, and means carried by said head for actuating said disk.

2. In a lawn-sprinkler of the class described, the combination with a carrying-frame provided with suitable supporting-wheels, of a sprinkler-head rotatably mounted upon said frame, and having means for connection with a hose, a reel rotatably mounted in said frame, mechanism interposed between said head and reel, said mechanism being intermittently actuated by said head to actuate said reel.

3. In a traveling lawn-sprinkler of the class described, the combination with a frame provided with suitable supporting-wheels, of a sprinkler-head rotatably mounted upon said frame, means for connecting said head with a hose, a reel rotatably mounted upon said frame, an operative connection between said head and reel, and means for throwing said head and reel out of connection.

4. In a traveling lawn-sprinkler of the class described, the combination with a frame provided with suitable supporting-wheels, of a sprinkler-head rotatably supported by the frame, means for connecting said head with a source of water-supply, a reel mounted upon the frame, operative connection between said head and reel, and means for varying the relative speed of said head and reel.

5. In a traveling lawn-sprinkler of the class described, the combination, with the frame, provided with suitable supporting-wheels of a sprinkler-head rotatably supported upon said frame and provided with discharge-nozzles, means for connecting said head with a supply of water, a cable connecting said frame with a relatively immovable object, and adjustable means actuated by the head in its rotation to wind up the cable, as and for the purpose set forth.

6. In a traveling lawn-sprinkler of the class described, the combination, with the frame provided with suitable supporting-wheels, of a sprinkler-head rotatably supported by the frame and provided with discharge-nozzles, means for connecting the head with a source of water-supply, a reel mounted upon the frame, a cable mounted upon the reel and connected with a relatively immovable object outside the frame, a toothed disk connected with the reel, and projecting pins carried by the head and adapted in the rotation of the head to engage the disk and actuate the reel.

7. In a traveling lawn-sprinkler of the class described, the combination, with a carrying-frame provided with suitable supporting-wheels, of a sprinkler-head rotatably supported by the frame and provided with discharge-nozzles, means for connecting the head with a supply of water under pressure, a reel rotatably carried by the frame, an operative connection between the head and reel, whereby the reel is rotated as the head is rotated, a flexible connection between said reel and a series of posts, said flexible connection passing around inclined pulleys upon certain of said posts, and means carried by said frame for lifting said connection from said pulleys, in the manner and for the purpose set forth.

8. In a traveling lawn-sprinkler of the class described, the combination, with a carrying-frame provided with suitable supporting-wheels, of a sprinkler-head rotatably supported upon said frame, a gear connected with said cable, an adjacent shaft provided with a pinion engaging with said gear, a disk carried by said shaft, and pins carried by said head engaging with said disk, as and for the purpose set forth.

9. In a traveling lawn-sprinkler of the class described, the combination, with a carrying-frame provided with suitable supporting-wheels, of a sprinkler-head having rotatable support upon said frame and provided with suitable discharge-nozzles, means connecting said sprinkler-head with a hose, a reel of cable rotatably supported upon said frame, a gear connected with said reel, a shaft provided with a pinion engaging said gear, a toothed disk carried by the shaft, pins carried by the head and engaging the teeth of the disk, and means for automatically raising the shaft in the travel of the machine to carry said pinion out of engagement with said gear.

10. In a traveling lawn-sprinkler of the class described, the combination, with a carrying-frame provided with suitable supporting-wheels, of a sprinkler-head rotatably supported by said frame and provided with suitable discharge-nozzles, means for connecting

said head with a hose, a reel rotatably supported by said frame and connected by a cable with a relatively immovable object outside the frame, an operative connection between said reel and driving-head, and a slide carried by the frame in a position to abut against said immovable object in the travel of the sprinkler and to be thereby actuated to carry the operating mechanism out of engagement with said reel.

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

ARTHUR MUNCH.

Witnesses:
ELGIE H. EVANS,
ARTHUR P. LOTHROP.