

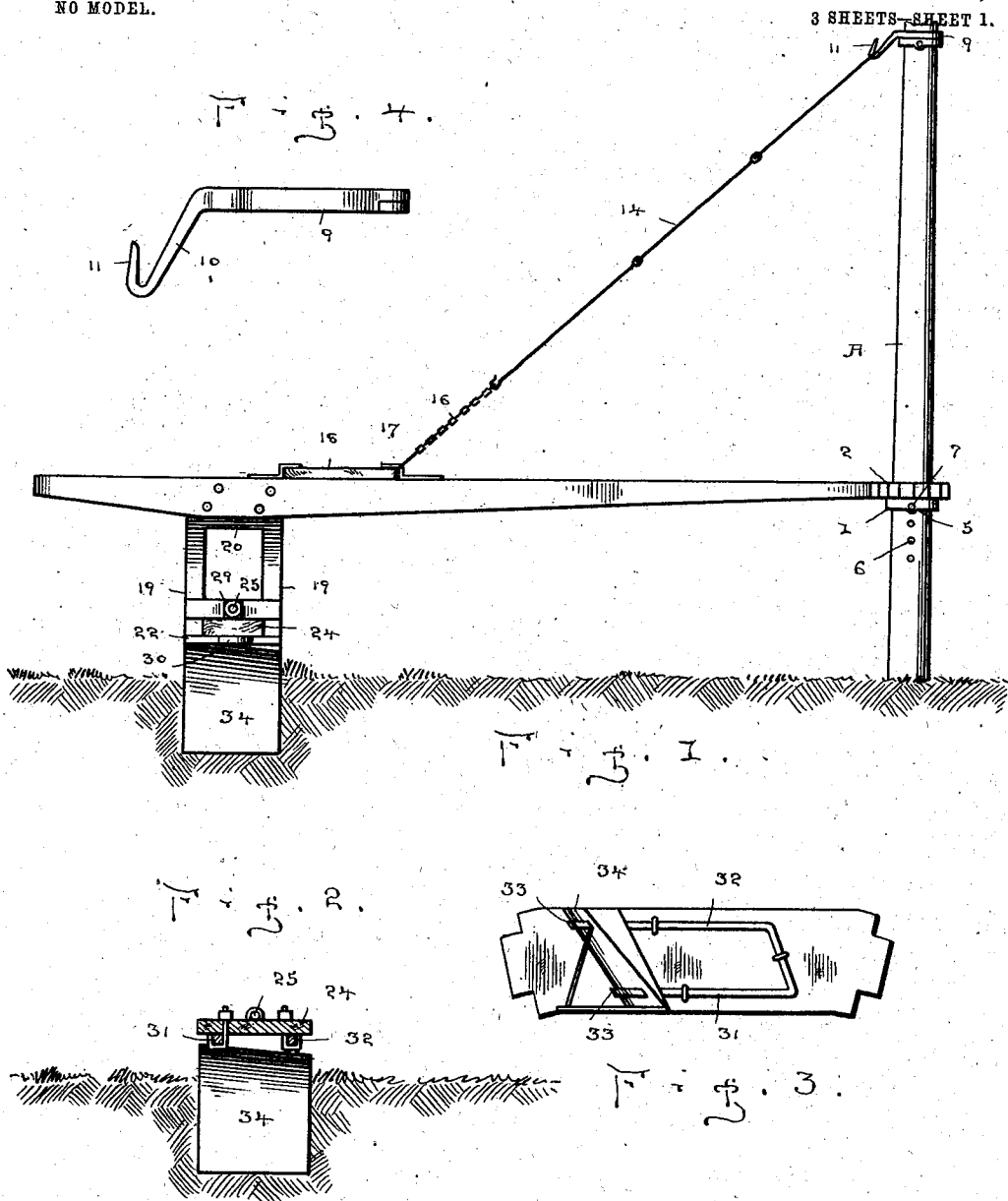
No. 730,156.

PATENTED JUNE 2, 1903.

E. QUILLING.
APPARATUS FOR FORMING CIRCULAR TRENCHES.

APPLICATION FILED NOV. 29, 1902.

NO MODEL.



Witnesses

J. W. Clegg.
A. G. Heyman.

By

Elias Quilling, Inventor.

Victor J. Evans

Attorney

No. 730,156.

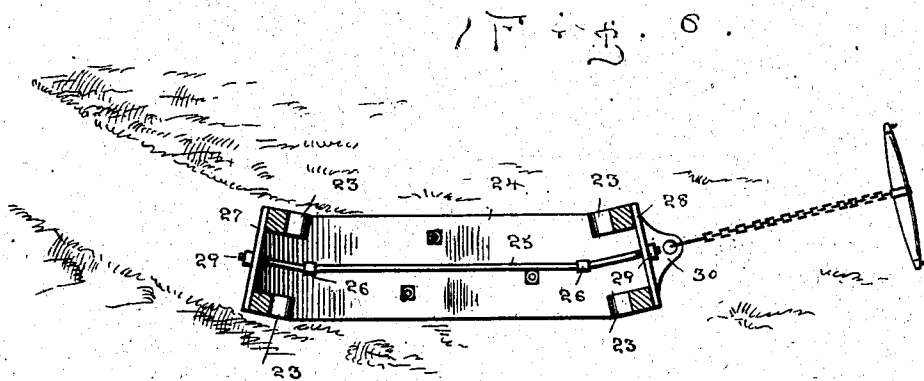
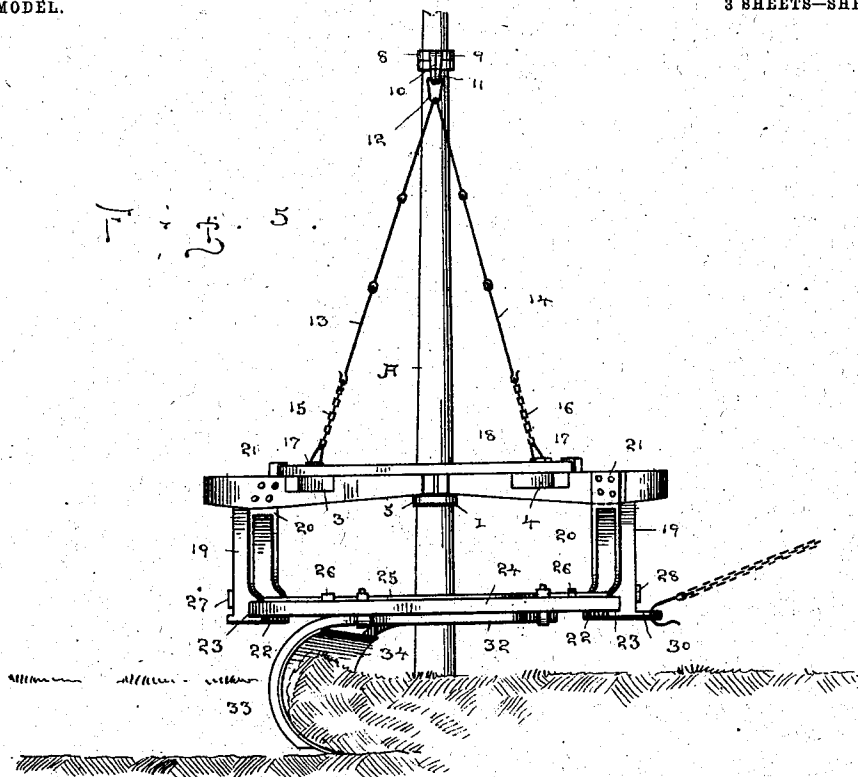
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3 SHEETS—SHEET 2.



Inventor

Elias Quilling.

Witnesses

J. W. Ray.
A. G. Heyman.

By

Victor J. Evans

Attorney.

No. 730,156.

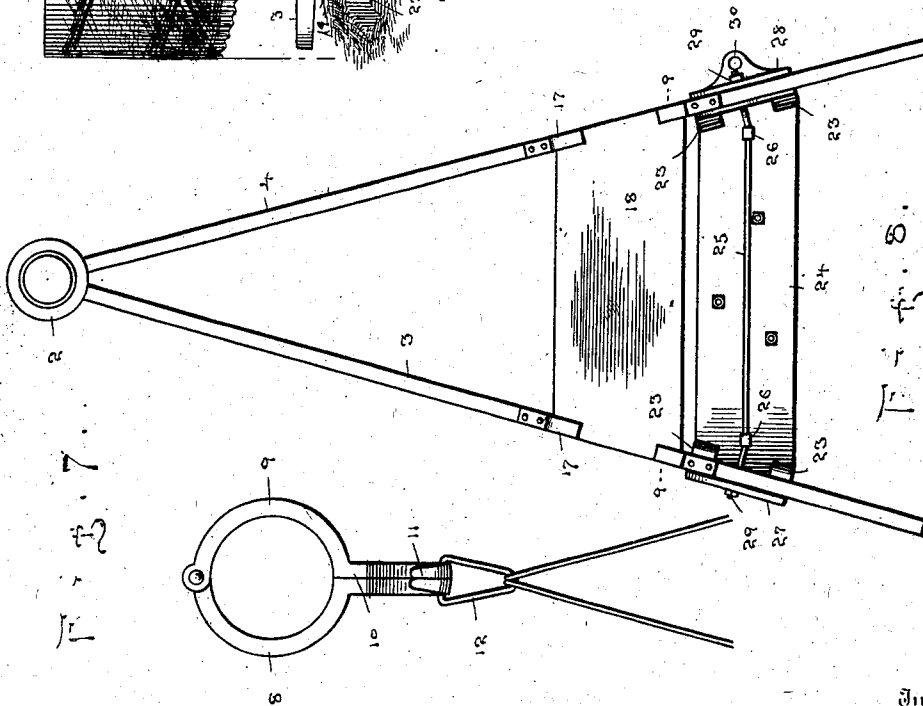
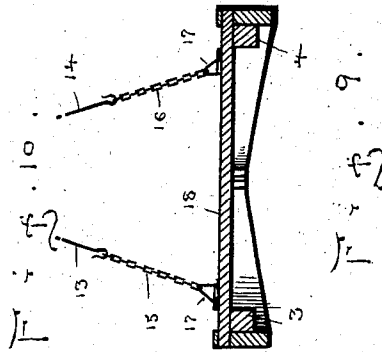
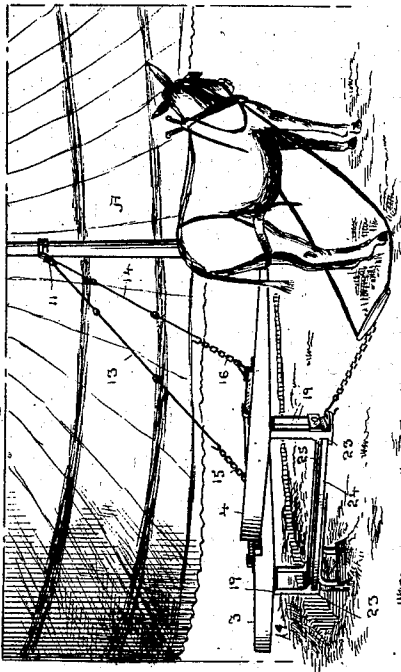
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3 SHEETS—SHEET 3.



Witnesses

J. W. Perry,
A. G. Heyman,

By

Inventor
Elias Quilling.

Victor J. Evans

Attorney

UNITED STATES PATENT OFFICE.

ELIAS QUILLING, OF ENTERPRISE, KANSAS.

APPARATUS FOR FORMING CIRCULAR TRENCHES.

SPECIFICATION forming part of Letters Patent No. 730,156, dated June 2, 1903.

Application filed November 29, 1902. Serial No. 133,264. (No model.)

To all whom it may concern:

Be it known that I, ELIAS QUILLING, a citizen of the United States, residing at Enterprise, in the county of Dickinson and State of Kansas, have invented new and useful Improvements in Apparatus for Forming Circular Trenches, of which the following is a specification.

My invention has relation to plows for cutting circular furrows, and is specially adapted for cutting foundations for merry-go-rounds; and the object is to provide a plow with mechanism whereby the circular track for the running mechanism may be made speedily and accurately.

The invention consists in the novel construction of parts and their aggroupment in operative combinations, as will be hereinafter fully specified and the novelty claimed particularly and distinctly pointed out.

I have fully and clearly illustrated the improvements in the annexed drawings, forming a part of this specification, and wherein—

Figure 1 is a view in elevation of the center-pole and radial sweep-frame and showing the plow in front elevation. Fig. 2 is a detailed view of the plow, showing the means of fastening it to the beam. Fig. 3 is a bottom plan view of the plow-beam and plow, showing the means for securing the plow to the beam. Fig. 4 is a detail view of the ring and hook to which the guys are secured. Fig. 5 is a front end view of the machine. Fig. 6 is a top plan view of the plow-beam, partly in longitudinal section. Fig. 7 is a detailed plan view of the ring which is arranged on the center-pole. Fig. 8 is a top plan view of the sweep-arms and plow-beam bracket or hanger. Fig. 9 is a transverse section through the sweep-frame, taken on line 9 9 of Fig. 8. Fig. 10 is a perspective view of the machine, including the power.

The invention embodies a central stay, a sweep-frame revolubly secured thereto, and a plow mechanism of novel and particular construction and parts.

Referring to the drawings, A designates the center-post, which may be that which supports the apex of the tent within which the merry-go-round is located or which may be one especially provided for the occasion. At the lower portion of the center-post is adjust-

ably supported a ring or collar 1, and on the center-post above the collar 1 is revolubly arranged a ring or collar 2, to which are rigidly secured the sweeps 3 4, which extend radially from the ring 2 on a horizontal plane, as shown, or the sweeps may be said to fork radially from the ring 2. The ring 1 is adjustably mounted on the center-post, being provided with diametrically-arranged holes 5, which aline with coincident holes 6 through the center-post, the ring 1 being held in adjusted position by a pin 7, passed through the ring and the selected holes in the center-pole. At a suitable point in elevation is a supporting-ring held to the center-post by any proper fastening, on which is revolubly seated the guy-ring. This guy-ring consists of two semi-circular jaws or members 8 9, extended at their meeting point into downwardly-directed arms 10, parallel with each other and terminating in hooks 11, whereon is hung a link 12, preferably tapering from top to bottom, as shown. To the link 12 is detachably connected the upper ends of the guys 13 14, having their lower ends detachably and adjustably secured to the sweeps by means of chains 15 16, carrying stirrups at their lower ends, which may engage on hooks or other suitable catches 17, fastened in the sweeps. A strong plate or board 18 has its ends mortised in the sweeps and holds them firmly in relative position.

To the outer end of each arm or fork of the sweep is strongly secured a hanger 19, duplicates in construction, consisting of parallel depending arms united at their upper ends by an integral cross-piece 20, formed with a vertically-extending flange 21, by which the hangers are secured to the arms of the sweep. At the lower end the arms of the hangers are connected by an integral cross-piece 22 and in the inner edges of the arms are formed seats or notches 23, wherein the shoulders of the plow-beam are seated.

24 designates the beam of the plow, consisting of a substantial plate of suitable material having its ends shouldered and fitted between the arms of the hangers with the shoulders lodged in the seats 23, as shown in the drawings. The beam is held clamped in its position by means of a truss or clamping rod 25, held in clips or keepers 26, and the

threaded ends of the truss-rod passed through clamping-plates 27 28 against the outer edge faces of the hangers and provided with clamping-nuts 29. The bottom plate 22 of one of the hangers is formed with a hitching-ear 30, to which the power may be connected, substantially as shown.

To the beam 24 is secured the plow, comprising parallel bars 31 32, connected at their forward ends and, extending rearward, are curved downward, as as 33, the curved portions being in diagonal relation, so that when the plow 34 is arranged on and secured thereto it will have an inclined or shearing direction to the furrow. The plow 34 consists of a steel plate curved in vertical direction and inclined across the furrow, the plate terminating in a sharp cutting edge to facilitate its entrance into the soil. The bars 31 32 are firmly clipped to the beam or plate 24.

The operation of the machine is apparent from the foregoing description, taken in connection with the drawings; but it may be concisely stated here that all that is essential to effect the purpose is to arrange the machine as indicated in Figs. 1, 5, and 10 of the drawings, attach a power, and proceed until the work is accomplished.

Having thus fully described the invention, what is claimed as new is—

1. In a mechanism of the character described, a center-post, a forked sweep journaled on the center-post to move on a horizontal plane, a beam secured to the outer ends of the fork, and a plow secured to the beam.

2. In a device of the character described, a center-post, a forked sweep revolubly secured to the center-post to revolve on a horizontal plane, a beam connecting the outer ends of the fork, a ring revolubly mounted on the center-post and provided with a hook, and

guys secured to the hook and having their outer ends secured to the outer ends of the forked sweep.

3. In a device of the character described, a center-post, a revoluble support on the center-post, radial sweep-arms extending from the revoluble support and disposed on a horizontal plane, a cross-piece secured between the radial sweep-arms, guys to maintain the sweep in horizontality, hangers secured to the outer ends of the sweep-arms, a beam secured to the lower ends of the hangers and extending between them, and a plow secured to the beam.

4. In a device of the character described, a central support, radial sweep-arms revolubly connected to the support, hangers secured to the outer ends of the sweep-arms and connected at top and bottom by integral cross-pieces and formed with seats in their lower inner faces, a beam mounted between the hangers and on the lower cross-pieces and engaging in the seats in the hangers, a truss-rod to brace the beam and hold the hangers from spreading, and a plow secured to the beam.

5. In a device of the character described, the combination with the sweep-arms and the hangers secured thereto, of a beam secured to the hangers, and a plow secured to the beam, said plow comprising parallel bars secured to the beam and formed with downwardly-extending curved rear ends disposed diagonally to each other, and a plow curved coincidently with the curved end portions of the said bars and secured thereto.

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

ELIAS QUILLING.

Witnesses:

EMMETT V. HOFFMAN,
CECIL H. BROOKS.