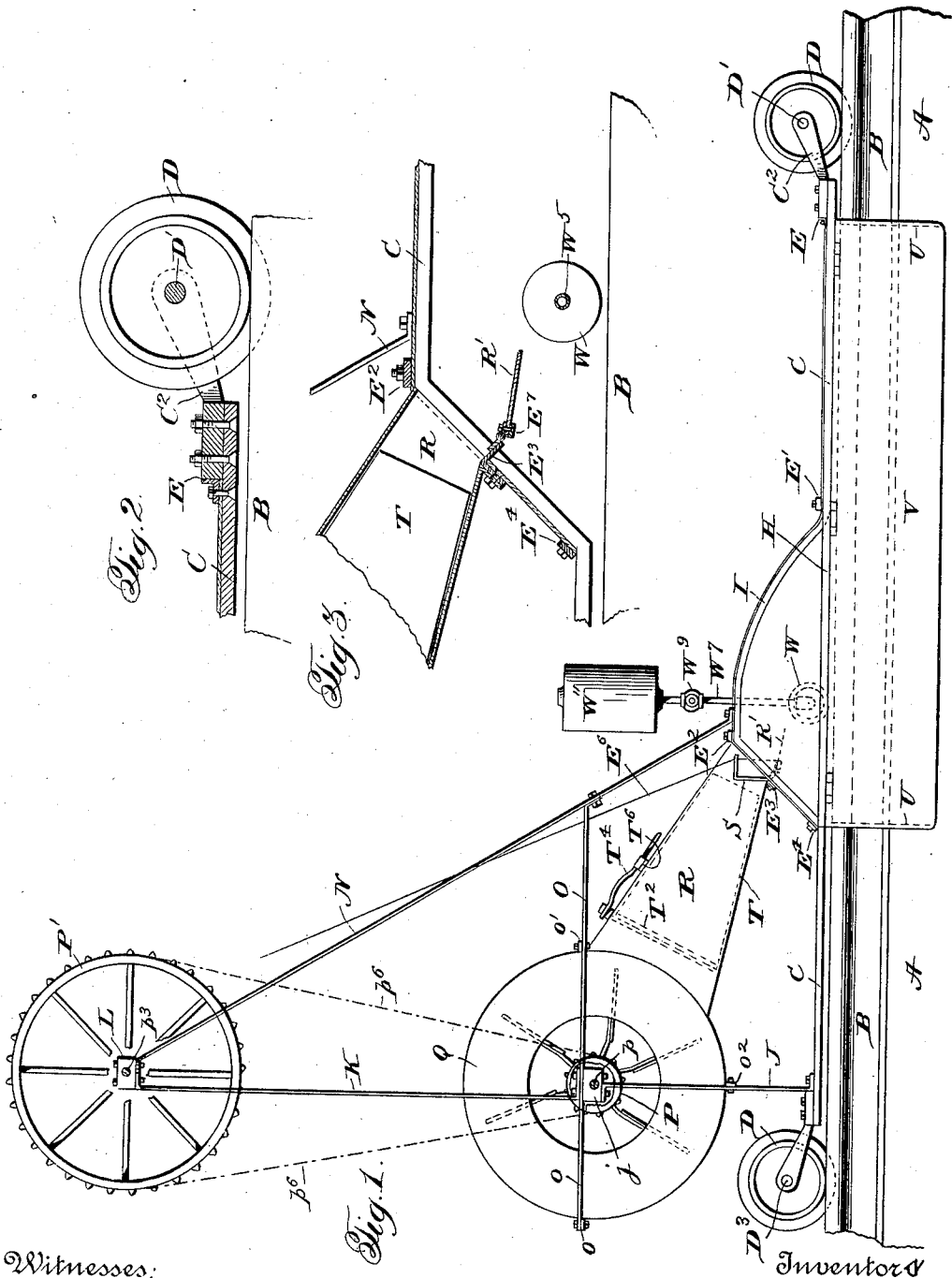


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 DEVICE FOR BURNING WEEDS ON BEDS OF RAILWAY TRACKS.  
 APPLICATION FILED JULY 20, 1911.

1,026,026.

Patented May 14, 1912.

3 SHEETS-SHEET 1.



Witnesses:

Jas. E. Hutchinson:  
 S. E. Wade.

Edward Engbritson, Frank Yuha and Fredk Doebner,

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Attorney:

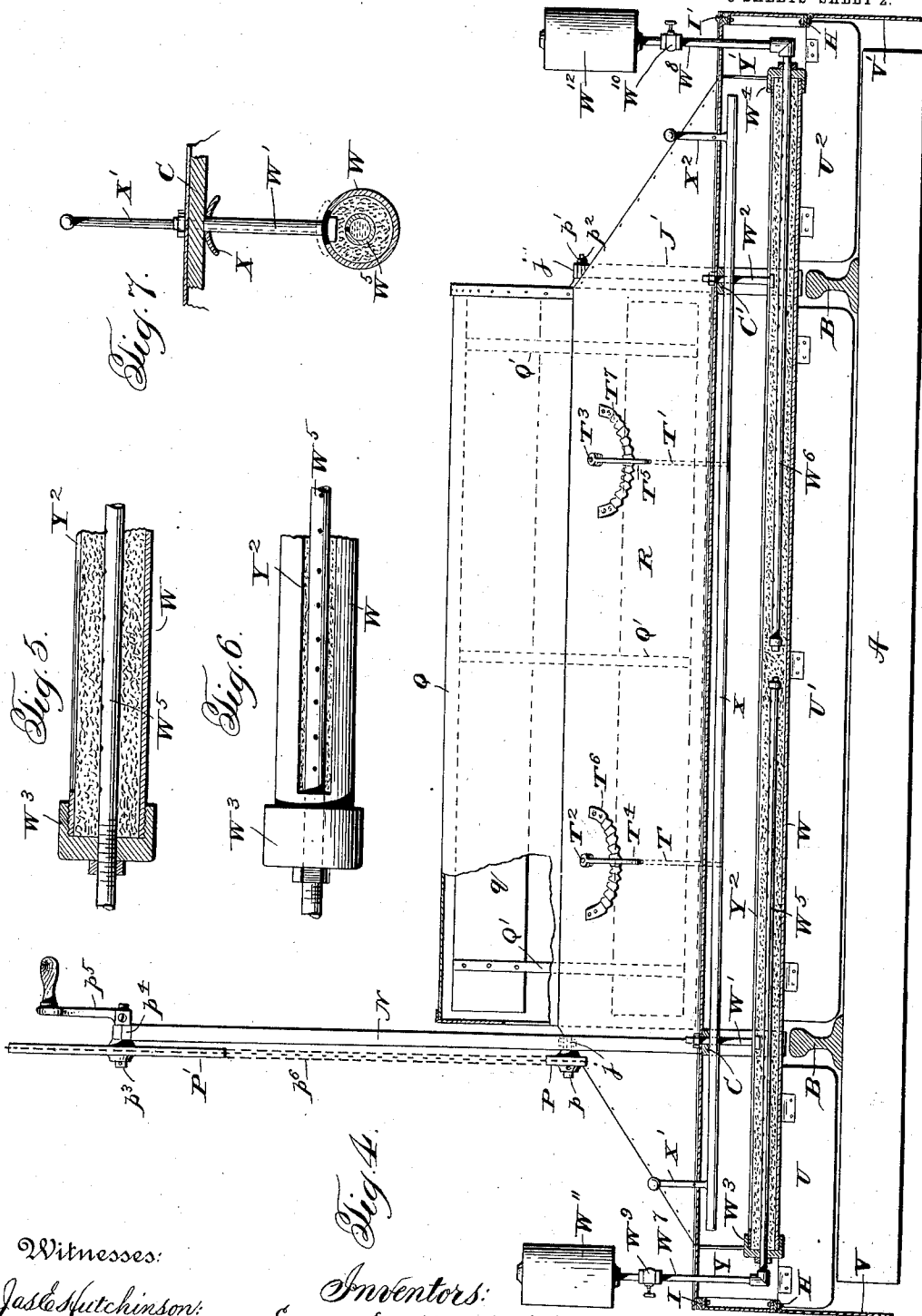
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Inventors:

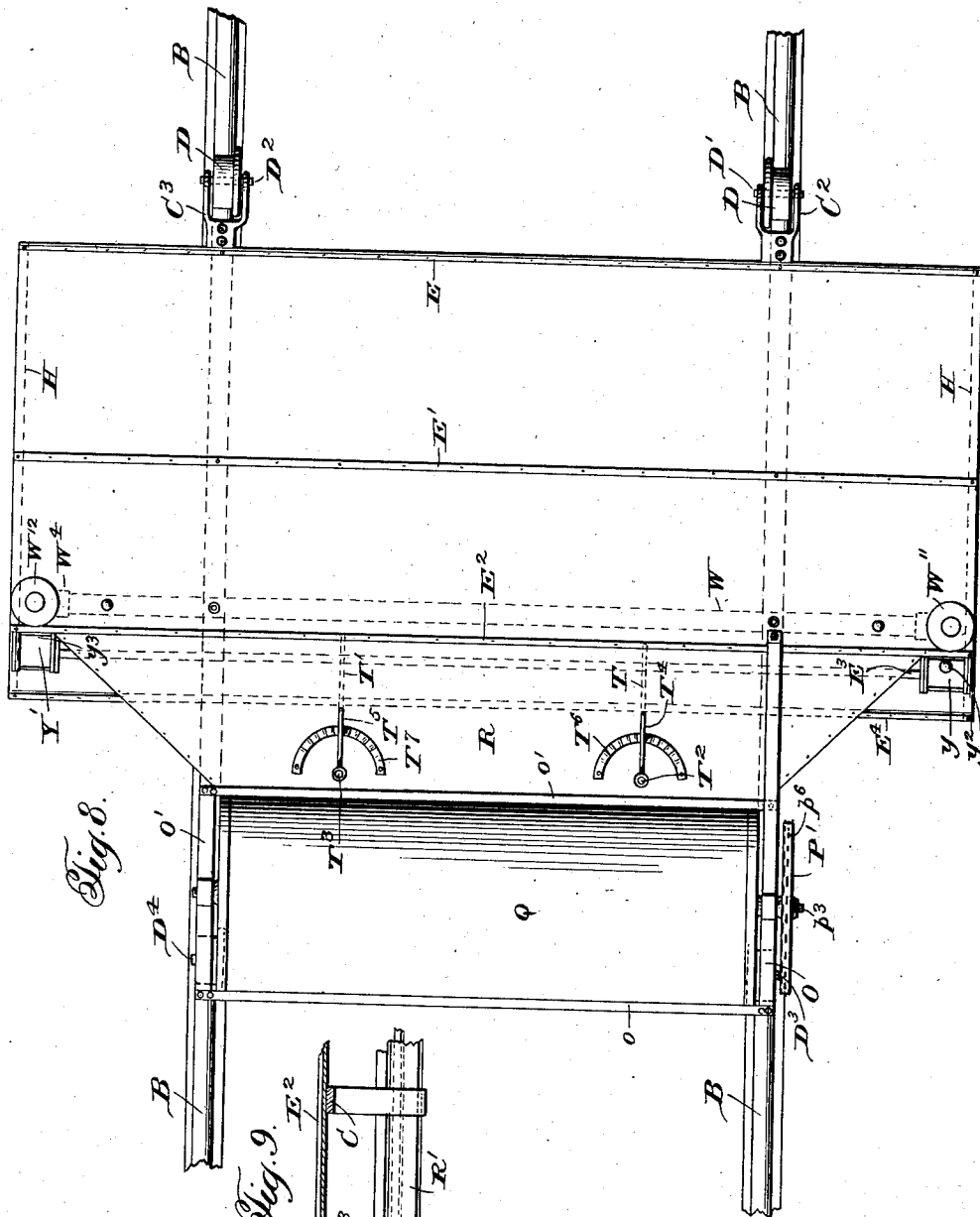
Edward Engbritson, Frank Yuha & Fred Doebriner,  
 By Wm. H. Bates Attorney:

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 James Hutchinson,  
 J. E. Wade

Inventors:  
 Edward Engbritson, Frank Yuha and  
 Fredk Doebner,  
 By Wm. N. Bates Attorney.

# UNITED STATES PATENT OFFICE.

EDWARD ENGBRITSON, FRANK YUHA, AND FREDERICK DOEBRINER, OF CROSBY,  
NORTH DAKOTA.

DEVICE FOR BURNING WEEDS ON BEDS OF RAILWAY-TRACKS.

1,026,026.

Specification of Letters Patent.

Patented May 14, 1912.

Application filed July 20, 1911. Serial No. 639,498.

*To all whom it may concern:*

Be it known that we, EDWARD ENGBRITSON, FRANK YUHA, and FREDERICK DOEBRINER, citizens of the United States, residing at Crosby, in the county of Divide and State of North Dakota, have invented certain new and useful Improvements in Devices for Burning Weeds on Beds of Railway-Tracks, of which the following is a specification.

Our invention has relation to improvements in a device for burning weeds while in their green condition and other like foreign matter growing upon the beds of railway tracks, and the invention has for its object to provide means for the purposes intended.

With these and other objects in view the invention consists in the novel construction and combination of parts as will be hereinafter more in detail described and the asserted novelty specifically claimed.

We have illustrated our invention in the accompanying drawings in which;  
Figure 1 is a longitudinal side elevation of our device showing the assembled parts upon the railway tracks ready for use. Fig. 2 is a detached enlarged view of one of the flanged wheels and casting for carrying the device. Fig. 3 is a detached enlarged view of an air chute, its hinged door, and an end view of the opening for the passage of air leading from the fan through the chute to the burner. Fig. 4 is a transverse view of the device showing the burner, oil reservoirs, sprocket wheel and sprocket chain, pinion, fan, crank attachment and flaps. Figs. 5 and 6 are detached top and side views of the sections of the burner. Fig. 7 is a detached end view of the burner and extinguishing member for the burner. Fig. 8 is a longitudinal top or plan view of the device, and Fig. 9 is a detached enlarged view of the wind board and its attachments.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings: A designates the usual railway ties of a railway track.

B designates the rails located upon said ties and to which they are securely fastened. This construction herein forming no part of our invention a further description thereof is not deemed necessary.

C, C' designate longitudinal bars of iron bent in angular form as shown in Figs. 1 and 4.

C<sup>2</sup>, C<sup>3</sup>, designate fork shaped castings which are secured to the ends of the bars C, C', the forked ends of said castings serving to loosely secure the wheels D, D, D, D, to said castings by means of the axles D', D<sup>2</sup>, D<sup>3</sup>, D<sup>4</sup>.

E, E', E<sup>2</sup>, E<sup>3</sup>, E<sup>4</sup>, designate transverse narrow bars or slats of iron located transversely to the device for the purpose of securing to the same a sheet iron covering. This covering of the device being interposed between the bars C and C' is secured to the slats E, E', E<sup>2</sup>, E<sup>3</sup>, E<sup>4</sup>, by bolts and nuts or any other suitable fastening means.

H, H, designate end bars in which the ends of the slats E, E', E<sup>2</sup>, E<sup>3</sup>, are secured forming a rectangle upon which the sheet iron covering is secured.

I, I', designate short narrow bars of iron bolted or otherwise secured to the bars H, H, starting at the point E' and bent to conform to the shape of the bars C and C' terminating at the point E<sup>4</sup>. The opening formed by the angular bars of iron I and I' is covered by separate pieces of sheet iron secured to the bars H, H, and I, I' at the sides of the device.

J, J', designate short iron standards which are bolted or secured to the iron bars C and C' at their lower ends, the upper ends of the standards being bolted or otherwise secured to the underside of the fan shaft journal boxings j, j', and secured to the upper face of the boxing j is a longer or upright standard K. The upper portion of said standard K is bolted to the journal boxing L upon its underside carrying a sprocket wheel which will be hereinafter described.

N designates an inclined brace, the upper end of which is secured to the sprocket wheel journal boxing in a similar manner as the upright or standard K, the said brace N being secured at its lower end to the bar C and with the standard K meeting with each other at their upper ends which forms the apex of the two thereof.

O designates a shorter horizontal brace which is located upon the upper face of the boxing j and is extended at one end beyond the boxing and fan drum. The opposite end of the bar is bolted or otherwise secured to the inclined brace N near its lower end. O' designates another bar of iron similar to the bar O but of shorter length which is located upon the opposite side of the device and is also passed over another boxing j'.

o, o', designate narrow bars of iron located at right angles to the bars O and O' and secured at their ends to the bars O and O'. O<sup>2</sup>, designates another narrow bar of iron located at right angles to the standards J, J', and secured at both ends to the said standards.

P designates a sprocket pinion secured at one end to the fan shaft p, and at its opposite end is a collar p' provided with a set screw p<sup>2</sup>.

P' designates a sprocket wheel mounted upon a short axle p<sup>3</sup> at one end and passed through a journal box or boxing p<sup>4</sup>, and at the opposite end of the axle p<sup>3</sup> is provided a crank p<sup>5</sup>. A link chain p<sup>6</sup> connects the sprocket wheel and sprocket pinion together and in alinement with each other.

Q designates a fan drum which incloses a fan mounted upon the fan-shaft.

Q' designates a casting having a number of arms and mounted on the fan-shaft at intervals to which is secured a number of blades q.

R designates an inclined sheet iron air chute which is formed integral with and leading from the fan drum, the lower or tapering portion of said air chute being secured to the bars E<sup>2</sup> and E<sup>3</sup> in any suitable manner. The upper portion of the chute diverges to points the full length of the burner. This chute serves the purpose of directing the air into the device for facilitating the combustion of the burner and directing the heat and flames downwardly to the ground among the growing weeds.

R' designates a wind board which extends the full length of the chute and hinged to an angle iron or bar E<sup>3</sup>, said angle iron being in turn secured to the bars C and C' hereinbefore described. The purpose of the wind board is to deflect the air received from the fan through the medium of the chute above, below and against the burner, and also to close up the lower end or mouth of the chute.

S designates a right angular bracket secured to the angle iron E<sup>3</sup>, said bracket having an opening E<sup>5</sup> in the free end thereof through which is passed a wire rope E<sup>6</sup> which extends up to a point at which the operator may grasp it. This rope serves the purpose for regulating the wind-board as occasion may require. The rope E<sup>6</sup> is secured to the wind-board previous to being passed up through the opening E<sup>5</sup> in the bracket. An iron bar E<sup>7</sup> is secured to the wind-board R' which extends beyond the same at one end, and to said end is also secured at a right angle another short piece of iron E<sup>8</sup> as clearly shown in Fig. 9 of the drawings.

T, T', designate wind boards located within the chute R and made to conform to the shape of the chute R and serves the

purpose of directing the course of the air from the fan to the burner. The upper or wider ends of such wind boards are secured to the pins T<sup>2</sup>, T<sup>3</sup>, which are passed through the chute R at the upper end and to these pins are secured springs or pointers T<sup>4</sup>, T<sup>5</sup>. These same pointers are moved one way or the other to direct the course of the air and are held in any position by said pointers fitting in corrugated sectors T<sup>6</sup>, T<sup>7</sup>, as more clearly shown in Fig. 4 of the drawings.

U, U', and U<sup>2</sup> designate sections of sheet-iron flaps which are hinged to an angular bar E, these sections of flaps comprising two narrow sections U and U<sup>2</sup> and a central one U' which is somewhat longer than U and U<sup>2</sup> and are located in front of the device. At the rear end of the device a duplication of these flaps just described are hinged to the bar E<sup>4</sup> as shown in dotted lines in Fig. 1 of the drawings.

V and V' designate duplicate flaps which are located at the sides of the device and hinged to the bars H, H, as clearly shown in Fig. 4 of the drawings.

W designates a burner of cylindrical or tubular form which is located transversely of the device and extending nearly the full width of said device. The burner is held or supported in place by means of hangers W', W<sup>2</sup>, secured to the burner and passing through the bars C and C' at their most elevated points. On the upper surface of the burner is formed a slot or narrow opening Y<sup>2</sup> extending the full length of the burner with the exception of a small portion where the hangers W' and W<sup>2</sup> are secured to said burner. Caps W<sup>3</sup> and W<sup>4</sup> having openings formed centrally therethrough through which are passed the perforated oil feed pipes W<sup>5</sup> and W<sup>6</sup> of small diameter and secured to the caps W<sup>3</sup> and W<sup>4</sup>. These same oil feed pipes are located concentrically within the burner W and their meeting ends nearly meet with each other at the center of said burner. These same oil feed pipes are closed up at their inside ends, the other or outer ends extending outside of the caps W<sup>3</sup> and W<sup>4</sup> a short distance and fitted with right angular elbows. Projected upwardly from these elbows are shorter oil feed pipes W<sup>7</sup>, W<sup>8</sup>, and which are provided with the usual globe valves W<sup>9</sup>, W<sup>10</sup>, the upper ends of said feed pipes leading into oil reservoirs W<sup>11</sup> and W<sup>12</sup>, and from said reservoirs the oil is fed to the oil feed pipes W<sup>5</sup> and W<sup>6</sup>.

The burner W is provided with a curvilinear slidable extinguisher X which is lined with asbestos and being so constructed as to cover up the slot or opening in the burner thereby extinguishing the fire or flames. Through openings in the extinguisher are passed the hangers W', W<sup>2</sup>, said extinguisher sliding up and down onto the top of the burner. The extinguisher is raised by

means of levers  $X'$ ,  $X^2$ , secured to same, passing up through the device and inserting pins through said levers to hold it up. Asbestos is interposed between the burner  $W$  and the perforated oil feed pipes  $W^6$  and  $W^7$ .

$Y$ ,  $Y'$ , designates small quadrangular openings located at each end of the air chute  $R$  and provided with slidable doors  $y$ ,  $y'$ , or if preferred they may be hinged, said doors having knobs  $y^2$ ,  $y^3$ , by which the operator may manipulate them. When these doors are opened the burner may then be lighted by the operator.

The device is moved by and operated in connection with ordinary railroad hand-cars, upon which the operator stands in working the fan not herein shown in the drawings.

From the foregoing description taken in connection with the accompanying drawings the operation of our device will be obvious.

What we claim as new and desire to secure by Letters Patent is:—

1. The combination of the reservoirs, drum, fan, vertical standards, inclined brace, short horizontal brace, sprocket wheel and sprocket pinion, boxings and link chain, slotted burner, perforated oil feed pipes located in said burner, and asbestos packing interposed between the burner and the perforated oil feed pipes.

2. The combination of the reservoir, drums, fan, vertical standards, inclined brace, short horizontal brace, sprocket wheel, sprocket pinion, boxings, link chain, slotted burner, perforated oil feed pipes, asbestos packing interposed between the burner and the perforated oil feed pipes, longitudinal angular bars, air chute, wind boards, pins connecting said wind boards, pointers connected to the pins, and sectors over which the pointers travel.

3. The combination of the reservoirs, drum, fan, vertical standards, inclined brace, short horizontal brace, sprocket wheel, sprocket pinion, boxings, link chain, slotted burner, perforated oil feed pipes, asbestos packing interposed between the burner and the perforated oil feed pipes, longitudinal angular bars, air chute, wind boards, pins connected to the said wind boards, pointers connected to the pins, sectors over which the pointers travel and wind board for deflecting the air over, against and under the burner and for closing the mouth of the air chute.

4. The combination of the reservoirs, drum, fan, vertical standards, inclined brace,

short horizontal brace, sprocket wheel, sprocket pinion, boxings, link chain, slotted burner, perforated oil feed pipes, asbestos packing interposed between the burner and the perforated oil feed pipes, longitudinal angular bars, air chute, wind boards, pins connected to said wind boards, pointers connected to the pins, sectors over which the pointers travel, wind boards for deflecting the air over, against and under the burner for closing the mouth of the air chute, and wire rope connected to the wind board of the air chute.

5. The combination of the reservoirs, drum, fan, vertical standards, inclined brace, short horizontal brace, sprocket wheel, sprocket pinion, boxings, link chain, slotted burner, perforated oil feed pipes, asbestos packing interposed between the burner and the perforated oil feed pipes, longitudinal angular bars, air chute, wind boards, pins connected with said wind boards, pointers connected to the pins, sectors over which the pointers travel, wind board for deflecting the air over, against and under the burner and for closing the mouth of the air chute, and the hangers for supporting the burner and curvilinear extinguisher.

6. The combination of the reservoirs, drum, fan, vertical standards, inclined brace, short horizontal brace, sprocket wheel, sprocket pinion, boxings, link chain, slotted burner, perforated oil feed pipes, longitudinal angular bars, air chute, wind boards, pins connected to said wind boards, pointers connected to the pins, sectors over which the pointers travel, wind board for deflecting the air over, against and under the burner for closing the mouth of the air chute, wire rope connected to the wind board of the air chute, hangers for supporting the burner, curvilinear extinguisher, slatted rectangular frame for the cover constructed as described, a sheet iron cover for said frame, and flaps hinged to the rectangular cover frame.

In testimony whereof we affix our signatures in presence of two witnesses.

EDWARD ENGBRITSON.

FRANK YUHA.

FREDERICK DOEBRINER.

Witnesses to the signature of Edward Engebritson:

GEO. S. LIVINGSTON,

ARTHUR D. KINNE.

Witnesses to the signatures of Frank Yuha and Frederick Doebriner:

GEO. R. HOMNES,

ANDREW INGWALSEN.