

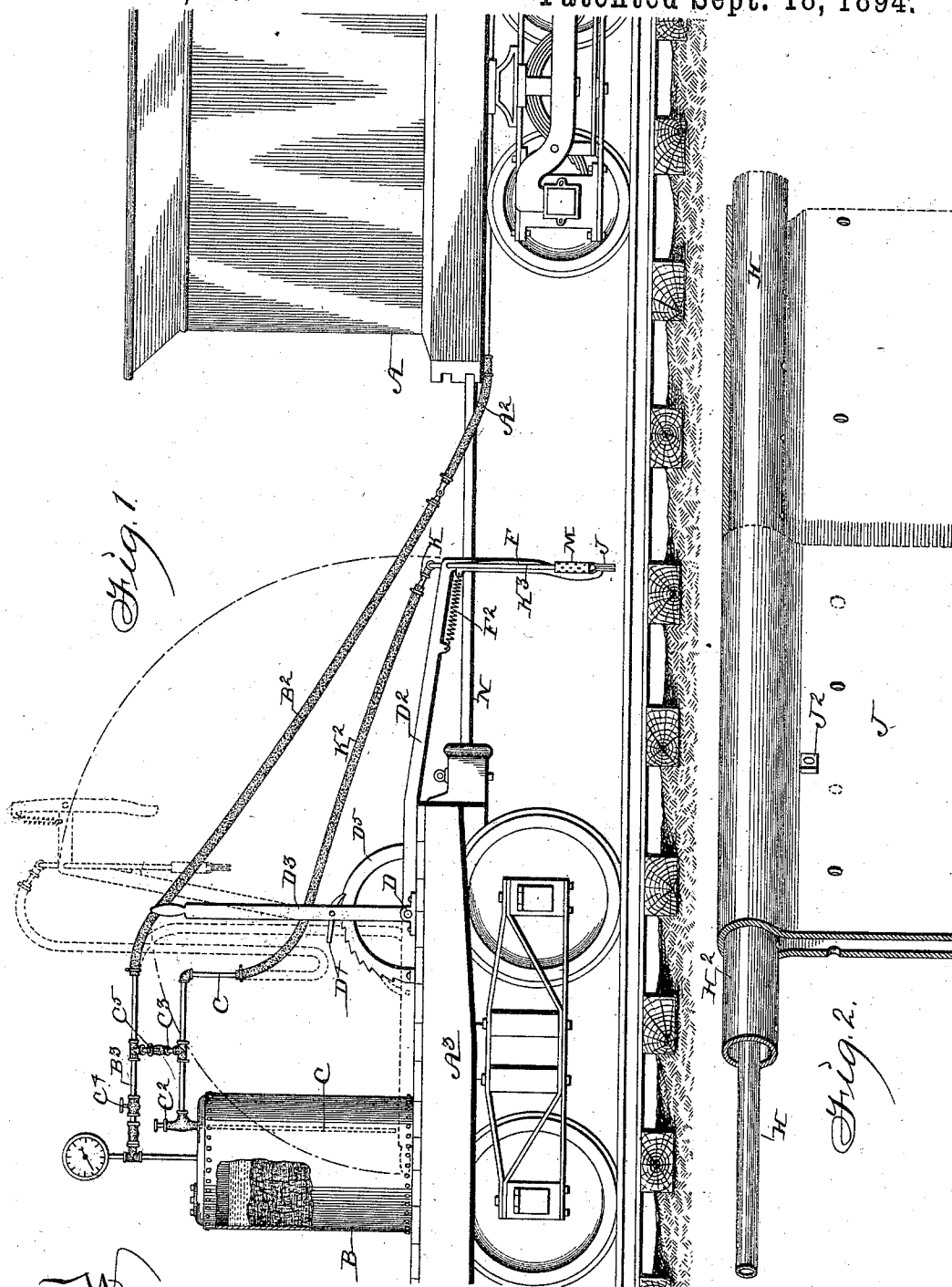
(No Model.)

2 Sheets—Sheet 1.

E. DAWSON & J. O. THOMAS.
VEGETATION BURNER FOR RAILWAY TRACKS, &c.

No. 526,300.

Patented Sept. 18, 1894.



Witnesses:
W. S. Sankey,
R. C. Orwig.

Inventors: Edward Dawson & John O. Thomas,
By Thomas O. & J. Ralph Orwig, Attys.

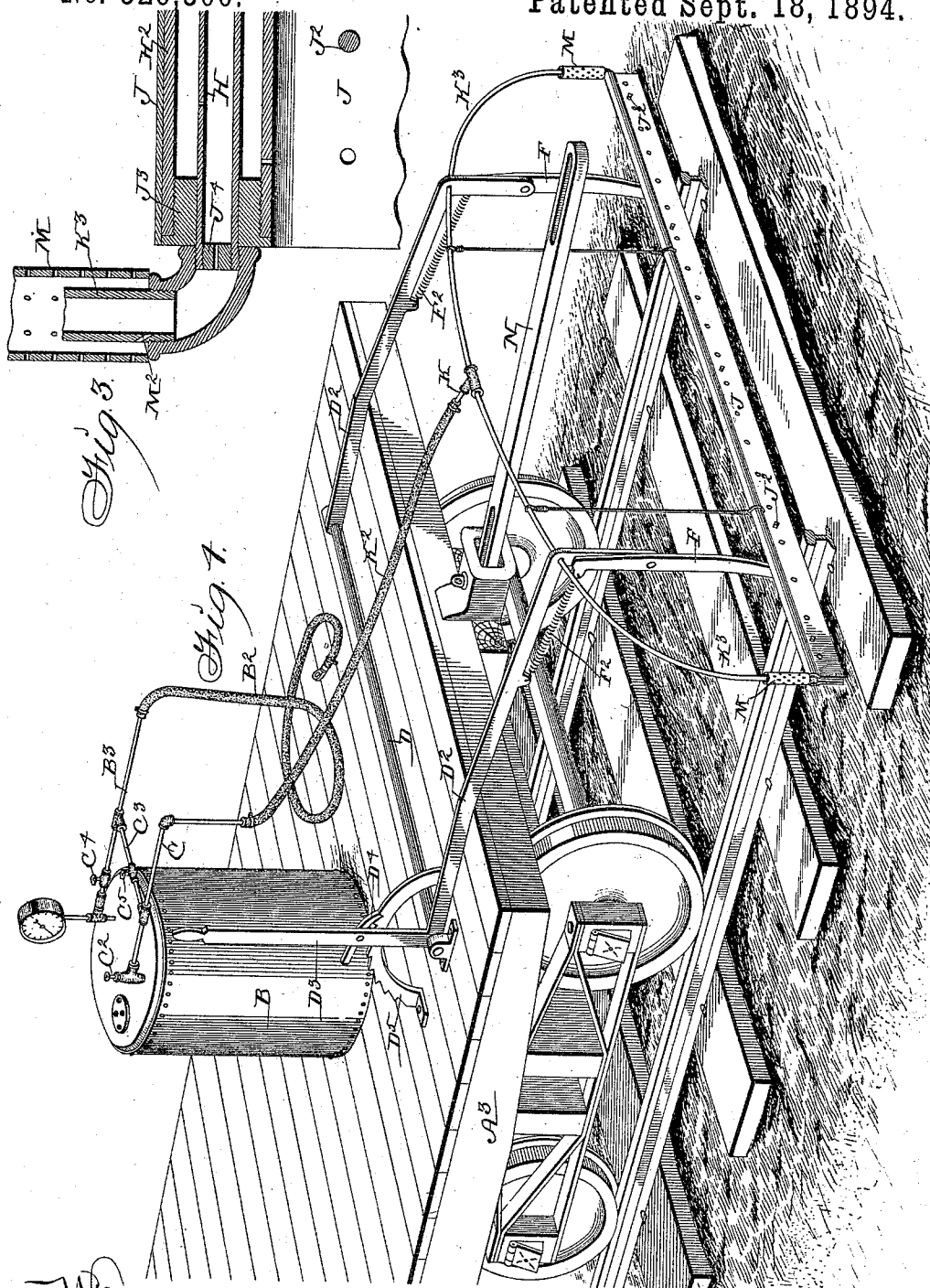
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E. DAWSON & J. O. THOMAS.
VEGETATION BURNER FOR RAILWAY TRACKS, &c.

No. 526,300.

Patented Sept. 18, 1894.



Witnesses: *W. S. Sankley,*
R. H. Orwig,

Inventors: *Edward Dawson and John O. Thomas,*
By Thomas G. and J. Ralph Orwig, Attorneys.

UNITED STATES PATENT OFFICE.

EDWARD DAWSON AND JOHN O. THOMAS, OF OSCEOLA, IOWA.

VEGETATION-BURNER FOR RAILWAY-TRACKS, &c.

SPECIFICATION forming part of Letters Patent No. 526,300, dated September 18, 1894.

Application filed June 18, 1894. Serial No. 514,953. (No model.)

To all whom it may concern:

Be it known that we, EDWARD DAWSON and JOHN O. THOMAS, citizens of the United States of America, residing at Osceola, in the county of Clarke and State of Iowa, have invented a new and useful Vegetation-Burner for Railway-Tracks, &c., of which the following is a specification.

The object of this invention is to provide a device adapted to be mounted on a railway car and comprising a burner adapted to be placed in position in close proximity to a railway track, a tank for holding hydro-carbon and means for forcing air through said tank to produce hydro carbon gas, adapted to be discharged through said burner to destroy all vegetation on or adjacent to the track.

Our invention consists first in the construction, arrangement and combination of the burner oil tank and accompanying parts whereby the elevation of the burner may be controlled and further in the arrangement and combination with the device of the means for forcing air into the tank from the air brake supply pipes, as hereinafter set forth, pointed out in our claims and illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a car and locomotive tender having the device thereon and connected with the air brake supply pipes of the tender. Fig. 2 is a detail view showing the construction of the generator and burner. Fig. 3 is a detail sectional view showing the arrangement and combination of the hydro carbon supply pipes with the burners and Fig. 4 is a perspective view showing the device in position on a car.

Referring to the accompanying drawings the reference letter A is used to indicate a locomotive tender having a pipe A², for supplying compressed air to the brake mechanism of the train.

A³ indicates a flat car of ordinary construction.

B is a tank adapted to contain hydro carbon, preferably filled with a suitable absorbent, such for instance, as asbestos, excelsior, &c., to prevent the same from being agitated so as to foam during transportation.

B² indicates a flexible hose section adapted to be detachably connected with the air pipe A², and permanently attached to a pipe B³ leading into the tank.

C indicates a pipe leading from a point near the bottom of the tank upwardly through the top thereof and thence outwardly and downwardly. C² is a valve in said pipe at the top of the tank. A pipe section C³ connects the pipes B³ and C and the valves C⁴ and C⁵ provide means whereby the air in the hose B² may be shut off entirely or be directed either into the tank or the pipe C.

We have provided a frame composed of a shaft D, pivotally secured to the top of the car A³, two arms D² fixed thereto and extended forwardly and then downwardly, a lever D³ fixed to the shaft and having a pawl D⁴ connected therewith to engage the segmental rack D⁵, whereby the arms D² may be conveniently elevated and supported in any position.

F, F indicate bars pivotally connected near their central portions with the lower ends of the arms D², and F² are contractile springs attached to the top of the bars F and to the arms D² to normally exert a yielding pressure forwardly upon the lower ends of the bars F.

The burner is adapted to be engaged by the lower ends of these bars F and is composed of a pipe H of a length approximating the width of the tract or portion to be burned and having perforations at regular intervals.

H² is a pipe of the same length but of much greater diameter and having the aforesaid pipe passed therethrough. It is provided with perforations in its under surface at regular intervals and at less distance apart than in the aforesaid pipe.

J indicates a piece of metal curved in its central portion to overlap the pipe H² and extended straight downwardly therefrom with its edges slightly separated and perforations formed in the opposite sides thereof out of alignment with each other. Bolts J² are provided for holding these sides together to act as a clamp in securing the device to the pipe. At each end of the pipe H² is a

plug J³ adapted to close the opening between the pipes H and H² and in the ends of the pipe H is a plug J⁴ having a small concentric bore adapted to admit only a small quantity of hydro-carbon at one time.

K indicates a pipe connected with the pipe C by means of a hose section K² and branched outwardly at K³, extended through the outer ends of the arms D², and attached to the ends of the pipe H to support and supply the burner with hydro carbon fuel.

M indicates circular perforated burners placed on the ends of the pipe K and communicating therewith by means of a small opening M².

N indicates a link of a comparatively great length in the draw head of the car A² to take the place of an ordinary link and hold the cars separated a greater distance, so that the burner may be lowered between the cars.

In practical operation the air from the air supply pipe is forced into the tank and a stream of hydro-carbon is forced thereby outwardly through the pipe and into the pipe H and thence through the perforations in the chamber between the two pipes where it is turned into hydro-carbon gas and discharged downwardly through the perforations in the bottom of the pipe H², the sides of the part J serving to direct the blaze downwardly and the arrangement of the openings in the sides thereof serving to admit the necessary air but preventing a direct draft horizontally there-through. By pivoting the arms that support the burner it will be obvious that should said burner strike some object that would offer a strong resistance the burner could swing backwardly and not be broken and be normally held forwardly by means of the springs.

Having thus described our invention, what we claim as new therein, and desire to secure by Letters Patent of the United States therefor, is—

1. In a vegetation destroyer the following elements in combination to wit; a tank adapted to be placed on a car and to contain hydro-carbon, a frame mounted on said car, a second frame pivotally attached to the first and adapted to swing rearwardly thereon, yielding pressure devices to normally press forwardly upon the lower end of said second frame, a suitable burner in the lower end of said frame and a pipe for connecting the tank and burner, for the purposes stated.

2. In a vegetation destroyer the following elements in combination, a tank adapted to be placed on a car and to contain hydro-carbon, a frame hinged on the top of the car and extended beyond the end thereof, a lever connected therewith whereby the frame may be swung into a vertical position, a segmental rack fixed to the car and a pawl fixed to the lever whereby the frame may be supported at any desirable elevation, two arms pivotally attached near their central portions to the outer ends of said frame, a burner sup-

ported by said arms to lay in a horizontal position above the track, contractile springs attached to the upper ends of said arms and to a portion of the aforesaid frame, and a pipe having a flexible section therein communicating with the tank and burner, for the purposes stated.

3. A hydro-carbon burner for destroying vegetation, comprising a pipe of small diameter, having a series of perforations in its surface, a pipe of larger diameter adapted to admit the said pipe in its interior and allow a small space between the two and having perforations in its under edge and a metal covering adapted to overlap the outer pipe and having its edges extended downwardly therefrom and separated a slight distance, perforations in the sides of said downwardly extended portion, out of alignment with each other, hydro-carbon supply pipes leading into the opposite ends of the central pipe and plugs closing the spaces at the ends of the outer pipe, substantially as and for the purposes stated.

4. A hydro-carbon burner for destroying vegetation, comprising a pipe of small diameter having a series of perforations in its surface, a pipe of larger diameter adapted to admit the said pipe in its interior and allow a small space between the two and having perforations in its under edge and a metal covering adapted to overlap the outer pipe and having its edges extended downwardly therefrom and separated a slight distance, perforations in the sides of said downwardly extended portions out of alignment with each other, hydro-carbon supply pipes leading into the opposite ends of the central pipe and plugs closing the spaces at the ends of the outer pipe and cylindrical perforated burners on the ends of the pipes that supply the said burners which pipes are provided with suitable openings to discharge hydro-carbon into said cylindrical openings, substantially as and for the purposes stated.

5. An apparatus for destroying vegetation on railway tracks, comprising a suitable tank filled with excelsior or the like and adapted to contain hydro-carbon, a pipe entering said tank and adapted to be connected with the air supply pipe extending from a locomotive and leading upwardly from a point near the bottom thereof, a pipe connecting the two and suitable valves for directing and controlling the supply of air or hydro-carbon, a frame adapted to be mounted on the top of a car and capable of a movement in a vertical plane, as set forth, a pipe curved downwardly and outwardly and having bearings in the outer ends of said frame and communicating with the pipe leading from the tank, a burner attached to the lower ends of said pipe, comprising a small pipe having perforations, a larger pipe surrounding the smaller one and having perforations in its bottom and a device overlapping the said pipe, with

its sides projecting downwardly below the pipe and having perforations in said sides out of alignment with each other, cylindrical burners on the ends of said pipes, and
5 two arms pivoted to the aforesaid frame to engage the rear edge of the burner and yielding pressure devices to normally press forwardly on the lower ends of the said arms,

all arranged and combined substantially as and for the purposes stated.

EDWARD DAWSON.
JOHN O. THOMAS.

Witnesses:

F. M. STACY,
A. COOLEY.