No. 753,608. PATENTED MAR. 1, 1904.

E. M. McCOY.

WEED DESTROYING ATTACHMENT FOR LOCOMOTIVES.

APPLICATION FILED JUNE 8, 1903.

NO MODEL.

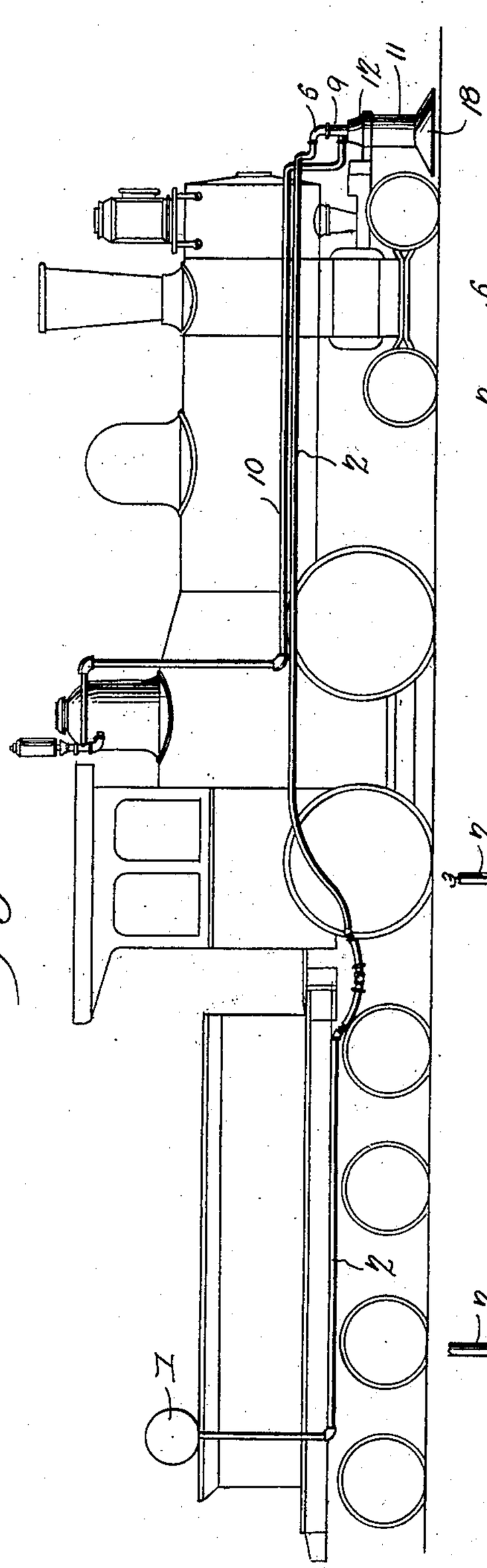

Fig. 1.

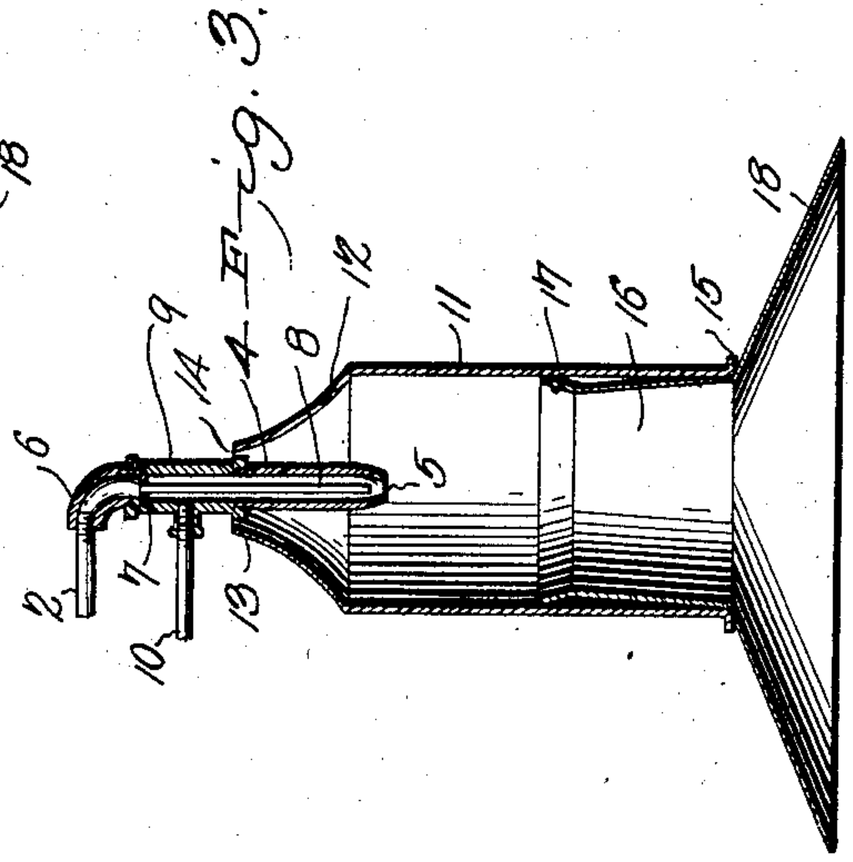

Fig. 4.

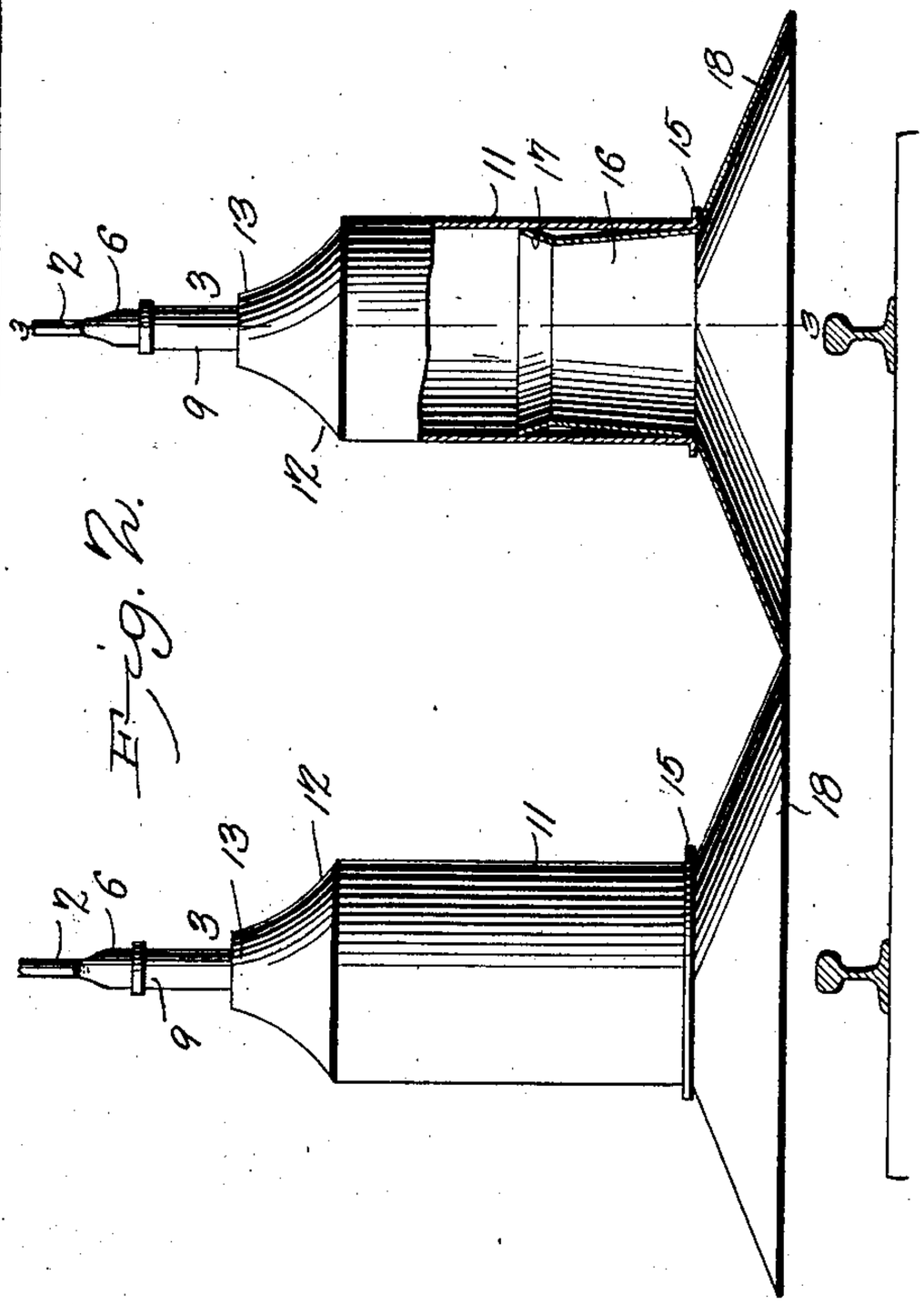

Fig. 2.

Fig. 3.

Witnesses
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No. 753,608. Patented March 1, 1904.

UNITED STATES PATENT OFFICE.

ELMUS M. McCOY, OF SELMA, LOUISIANA.

WEED-DESTROYING ATTACHMENT FOR LOCOMOTIVES.

SPECIFICATION forming part of Letters Patent No. 753,608, dated March 1, 1904.

Application filed June 8, 1903. Serial No. 160,615. (No model.)

To all whom it may concern:

Be it known that I, ELMUS M. McCOY, a citizen of the United States, residing at Selma, in the parish of Grant and State of Louisiana, have invented a new and useful Weed-Destroying Attachment for Locomotives, of which the following is a specification.

This invention relates to weed-destroying attachments for locomotives; and it has for its object to provide a device of this class comprising a hydrocarbon-burner, means for feeding the same, and a combustion-chamber, said elements being constructed, assembled, and adapted to operate in such a manner that as the locomotive equipped with the device passes over the track an intensely-hot flame shall be deflected downwardly upon the vegetation growing between the rails, thereby effectually destroying such vegetation which, if not removed, has been known to interfere seriously with traffic over the road.

The invention consists in the peculiar construction, arrangement, and combination of parts to be hereinafter fully described whereby a device of the class referred to shall be produced possessing superior advantages in point of simplicity, durability, and general efficiency, as will be hereinafter more fully described, and particularly pointed out in the claims.

In the drawings, Figure 1 is a side view diagrammatically showing a locomotive to which my invention has been applied. Fig. 2 is a vertical transverse sectional view taken through the burners and combustion-chambers at the front end of the locomotive. Fig. 3 is a sectional view taken on the line 3 3 in Fig. 2.

Corresponding parts in the several figures are indicated by similar numerals of reference.

In carrying out my invention I provide a suitable oil-receptacle, (designated 1,) which in Fig. 1 of the drawings has been shown as located at the rear end of the tender-tank. Pipe-lines 2 2 are extended from the supply-tank 1 on either side of the locomotive to the front end of the latter, from which the pilot has been removed and in place of which my improved weed-destroying device has been installed. In the example herein shown (see Fig. 2) two separate burners have been shown, said burners being designated 3 3, and each of said burners consisting of a pipe-section 4, contracted at its discharge end, so as to form a reduced discharge-orifice 5. The burner-pipe 4 is connected with the oil-pipe 2 by means of a joint or coupling 6, which in the present instance is shown to be L-shaped and the openings at the ends of which are of unequal sizes, so as to connect the oil-pipe, which may be a three-eighth-inch pipe, with the burner-pipe, which is intended to be probably one and one-quarter inches in diameter. At the intersection of the burner-pipe with the reducing-coupling 6 is placed a diaphragm 7, from which a continuation 8 of the oil-pipe is extended downwardly through the burner-pipe, terminating a short distance above the discharge end of the latter. A T-coupling 9 connects the burner-pipe with a steam-pipe 10, which leads to the steam-dome of the boiler.

A combustion-chamber is provided at each of the burners, each of said combustion-chambers including a cylinder 11, which is contracted at its upper end to form a conical portion 12, the mouth 13 of which surrounds the burner-pipe, thus forming an annular opening 14 for the admission of air. The cylindrical portion 11 of the combustion-chamber extends downwardly and is provided at its lower end with a flange 15. Within the cylindrical section 11 is introduced a telescoping section 16, which is slightly contracted upwardly and is provided at its upper edge with an inclined annular flange 17, which by engaging frictionally against the inner side of the cylindrical section 11 serves to retain the telescoping section at any position to which it may be adjusted and at the same time assists in forming a perfectly tight joint between the two telescoping members of the combustion-chamber. The inner member 16 is provided at its lower edge with an outwardly-diverging flange 18, serving as a deflector, whereby the flange will be permitted to spread over a comparatively large area.

In practice it is my preference to use two burners, each having its combustion-chamber disposed over one of the rails, so that the two

burners and combustion-chambers will serve to dispense the flames over the area included between the rails and some distance beyond the latter practically to the ends of the ties. It is obvious that the combustion-chambers and the deflectors of the latter may be increased in size, so that flames may be deflected over a larger area, or an additional burner and deflector may be disposed between the two already mentioned, which latter may be moved outward, so that the desired area shall be brought within the reach of the flames deflected from the combustion-chambers.

From the foregoing description, taken in connection with the drawings hereto annexed, the operation and advantages of my invention will be readily understood. It is obvious that the oil-pipe lines are to be valved and that the controlling-valves will be disposed in such a manner as to be conveniently within the reach of the engineer. This, however, is a minor feature, which will be readily understood. The burners are, as will be seen, of the variety known as "atomizer-burners," the steam entering the burner-pipes surrounding the oil-pipes or nozzles being ejected forcibly through the reduced discharge-openings, serving to forcibly eject the oil which is atomized or converted into fine spray, which, commingling with the steam, forms a very inflammable mixture, which may be easily ignited by introducing a torch or flame of any kind into the combustion-chamber when the steam and oil is turned on. As soon as the combustion begins to take place large quantities of air will enter through the annular openings 14, and the combustion-chambers will thus be filled with intensely-hot flame, which being deflected upon the vegetation growing between the ties will effectually destroy such vegetation as the locomotive progresses over its course.

The combustion-chambers of the device may be built of any desired height, according to the dimensions of the locomotive in connection with which they are to be used, and they may be, furthermore, adjusted within the range of the sizes of the telescoping members so as to dispose the lower edges of the deflecting-flanges at any desired distance above the track.

I have herein shown a simple and preferred construction of my invention, but desire it to be understood that I do not limit myself as to the detailed structural features herein set forth, but reserve the right to any changes, alterations, and modifications which may be resorted to within the scope of my invention and without departing from the spirit or sacrificing the utility of the same.

Having thus described my invention, I claim—

1. In a device of the class described, a hydrocarbon-burner, a combustion-chamber surrounding the same and having an annular opening for the admission of air, and a telescopic extension engaging said combustion-chamber interiorly and having a diverging deflecting-flange at its lower edge.

2. In a device of the class described, the combination of a cylindrical combustion-chamber, a cylindrical telescoping extension contracting upwardly and having an outward-flaring flange at its upper edge interiorly engaging said combustion-chamber and provided at its lower edge with a diverging deflecting-flange.

3. In a device of the class described, the combination with a hydrocarbon-burner, of a combustion-chamber surrounding the same and forming an annular air-inlet around said burner, a telescoping extension in said combustion-chamber and having a flaring flange at its upper edge interiorly engaging said combustion-chamber, and a flange diverging from the lower edge of said telescoping section and constituting a deflector.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ELMUS M. McCOY.

Witnesses:
W. A. Murray,
James S. Parrish.