No. 611,712. Patented Oct. 4, 1898.

J. SINDELAR.

PRAIRIE BURNER AND EXTINGUISHER.

(Application filed Dec. 16, 1897.)

(No Model.) 3 Sheets—Sheet 1.

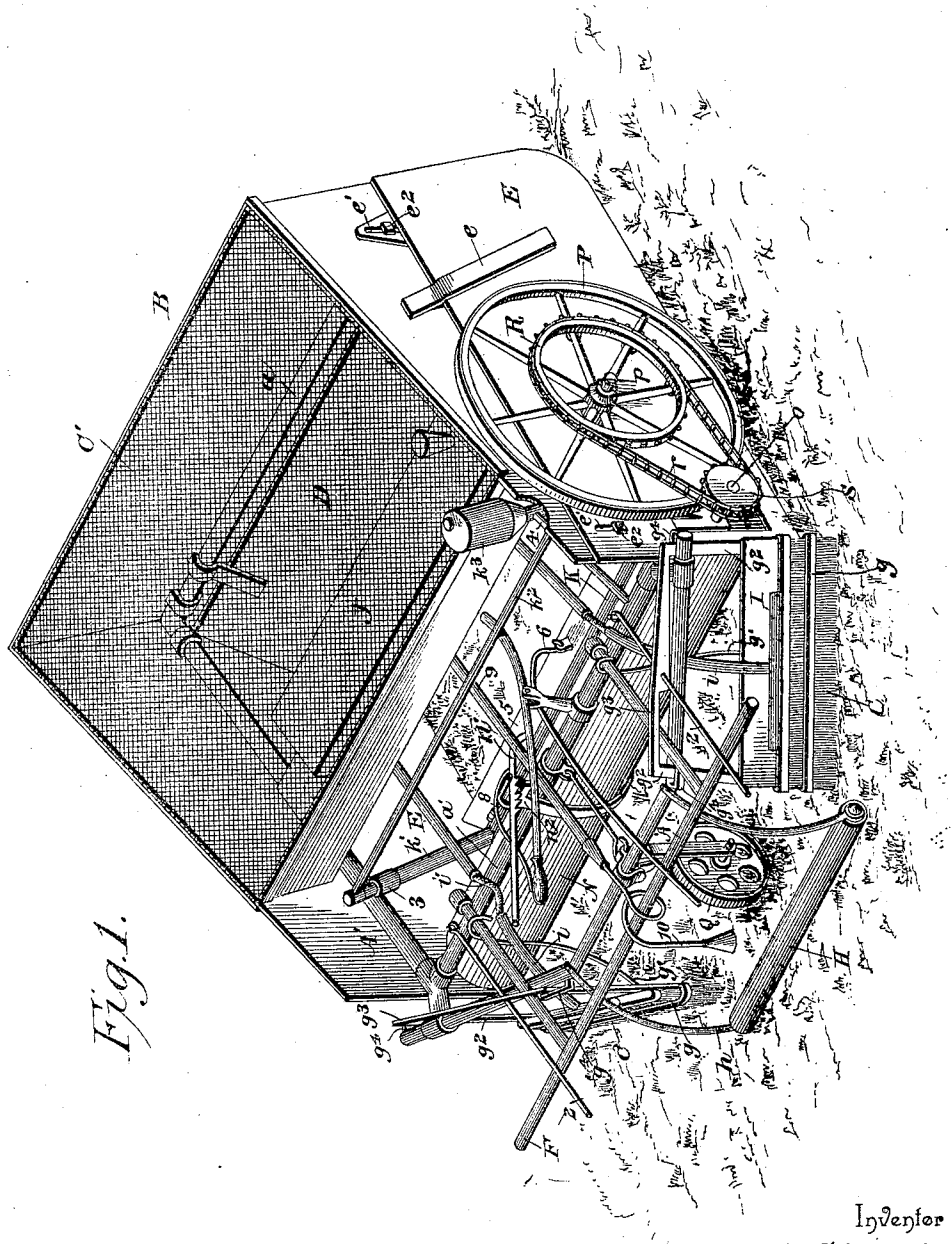


Fig. 1.

Inventor
Joseph Sindelar

Witnesses
Jas. K. McCathran
U. B. Hillyard.

By his Attorneys,
C. A. Snow & Co.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 611,712. Patented Oct. 4, 1898.

J. SINDELAR.

PRAIRIE BURNER AND EXTINGUISHER.

(Application filed Dec. 16, 1897.)

(No Model.) 3 Sheets—Sheet 2.

Fig. 2.

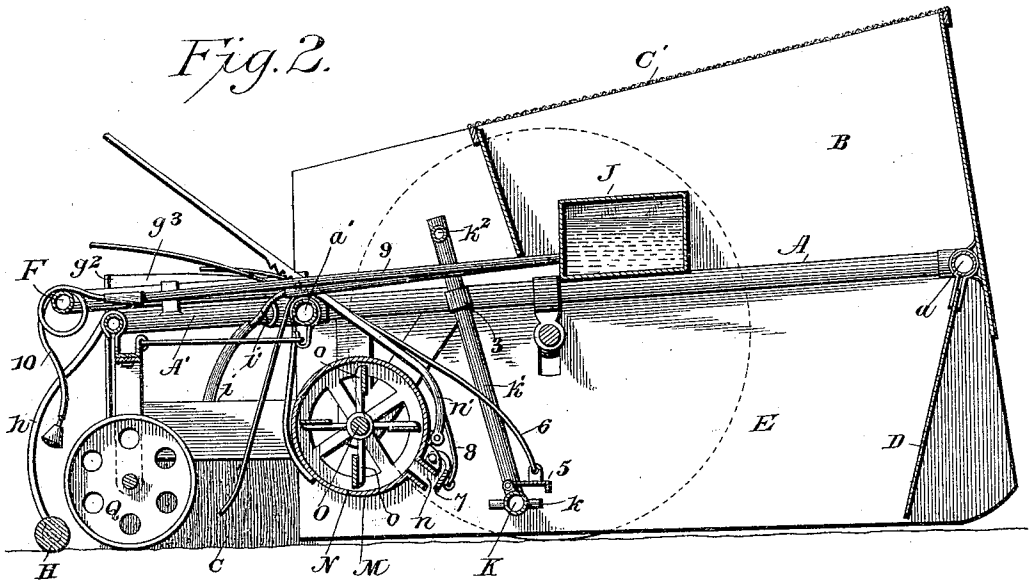
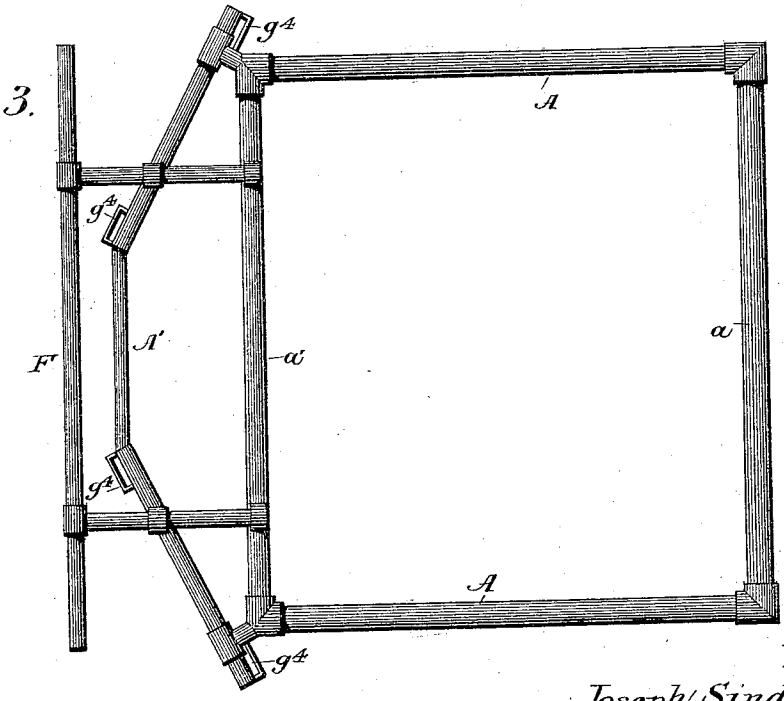


Fig. 3.



Inventor

Joseph Sindelar

Witnesses

Jas. K. McCathran

U. B. Hillyard.

By his Attorneys,

C. A. Snow & Co.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 611,712. Patented Oct. 4, 1898.

J. SINDELAR.

PRAIRIE BURNER AND EXTINGUISHER.

(Application filed Dec. 16, 1897.)

(No Model.) 3 Sheets—Sheet 3.

Fig. 4.

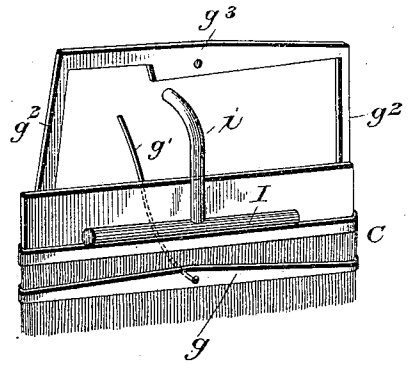


Fig. 5.

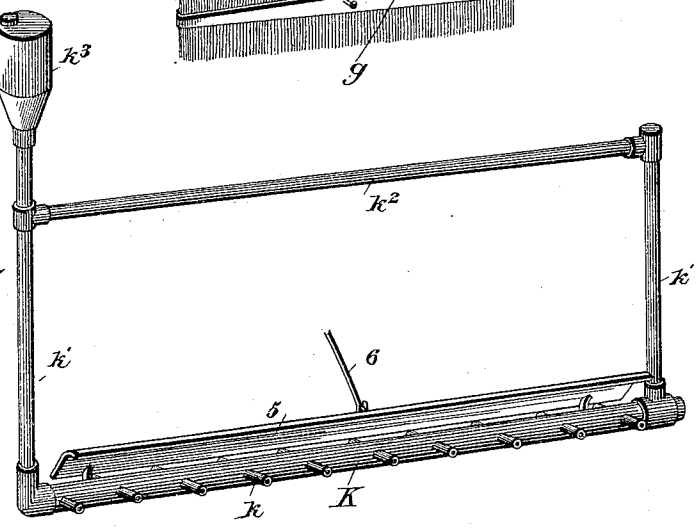
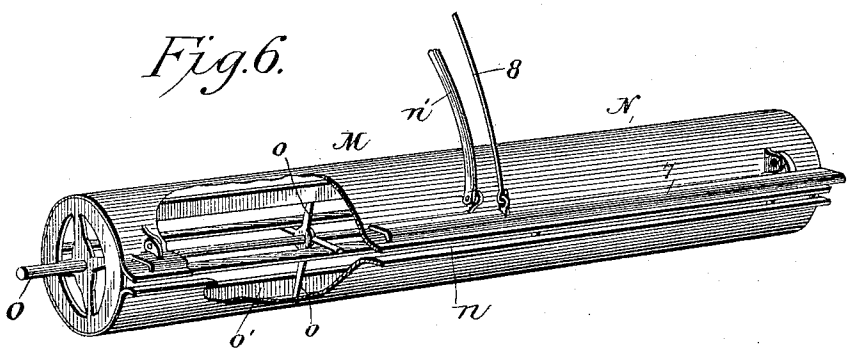


Fig. 6.



Inventor
Joseph Sindelar

Witnesses
Jas. E. McCathran
U. B. Hillyard.

By his Attorneys.
C. A. Snow & Co.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOSEPH SINDELAR, OF IPSWICH, SOUTH DAKOTA.

PRAIRIE BURNER AND EXTINGUISHER.

SPECIFICATION forming part of Letters Patent No. 611,712, dated October 4, 1898.

Application filed December 16, 1897. Serial No. 662,210. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH SINDELAR, a citizen of the United States, residing at Ipswich, in the county of Edmunds and State of South Dakota, have invented a new and useful Prairie Burner and Extinguisher, of which the following is a specification.

This invention relates to machines for removing obnoxious growths—such as stubble, Russian thistle, and grass—by burning and which can be used to burn a swath to prevent the spread of prairie-fires and as a prairie-fire extinguisher.

In its organization the machine combines a burner, brushes to centralize the cinders and burning embers, means for wetting the said brushes, a roller for crushing the line of cinders and embers, a fan for creating a forced draft, and an arrester for the sparks and cinders blown forward by the fan.

For a full understanding of the invention reference is to be had to the following description, taken in connection with the accompanying drawings and the corresponding reference letters and numerals in the said description and the several views of the drawings.

Figure 1 is a perspective view of a machine embodying the invention. Fig. 2 is a central vertical section of the machine. Fig. 3 is a plan view of the frame. Fig. 4 is a detail view of one of the brushes. Fig. 5 is a detail view of the burner. Fig. 6 is a detail view of the fan.

The frame of the machine is tubular or formed from gas-pipe and comprises side bars A, end bars a a', and an approximately V or truss shaped bar A', the several bars being secured together by appropriate fittings in the usual manner. A box B is fitted upon the forward portion of the frame and is closed at the top by a wire-screen cover C, which prevents the escape of sparks and cinders. A guard or wing D is hinged to the front end bar a and swings inward at its lower edge to ride over the stubble and other growth and retain the fire within the confines of the machine. Side guards E are adjustably connected with the sides of the box B and are adapted to have their lower edges trail upon or come close to the ground, so as to prevent the escape of fire when removing stubble and other growths by means of the burner. These guards E can be removed at will and are braced from outward movement by an arm e, depending from the side of the box B. Slots e' in the guards E receive headed fastenings e^2, projecting from the sides of the box B to guide and limit the said guards in their vertical movements. The handle F extends from the rear end of the machine and is grasped by one or more persons to propel the machine over the ground by pushing it in advance of them. Instead of the handle suitable means may be provided for hitching a team to the machine for pushing it by horse-power over the field.

The brushes G are oppositely disposed, being suspended from the end portions of the V or truss bar A' and incline from the outer to their inner ends to sweep the cinders toward the center, so as to be brushed and pressed into the ground by the roller H, located opposite the space between the inner ends of the said brushes and connected to the middle portion of the bar A' by spring-rods h. The tufts of the brushes are wire or may be of any good pliable material, wire being preferable, because fireproof, and are kept wet by means of a cross-pipe I, suitably connected by means of pipe i with a tank J. A bridle or band g is fitted to the tufts to limit the length of their working ends, and a wire g' is attached to the bridle and extends within convenient reach, so as to be pulled upon to move the bridle upward to lengthen the working ends of the brushes. End bars g^2 project vertically from the brush-heads and pass through keepers g^4 on the bar A' and are connected at their upper ends by a cross-bar g^3. A lever 2 is pivotally attached to the end bar a', passes through an opening in the cross-bar g^3, and extends within convenient reach to be operated, so as to move the brush vertically or laterally or both, as required. In order to admit of the free adjustments of the brushes, the pipes i have a joint or length i' of hose-pipe.

The burner consists of a horizontal pipe K, having a series of flame orifices or jets k, side standards k', and a cross-bar k^2, connecting the upper ends of the side standards. An oil-

reservoir k^3 is mounted upon the upper end of one of the side standards and supplies the pipe K with a hydrocarbon to feed the flame when the burner is in operation. The burner is vertically adjustable, being moved by means of the lever L. The standards k' move in suitable keepers 3 on the side bars A, a brace 4 being provided for the standard carrying the oil-reservoir. A shutter 5, hinged to the pipe K, has its forward or free edge portion bent and adapted to extend in front of the flame orifices or jets k to extinguish the flame when required. A rod 6 is attached to the shutter to facilitate the operation of the same.

The fan M, located between the burner and the brushes, comprises a shaft O, having arms or spiders o, to which are attached wings o', and a case N, the latter having a longitudinal slot or passage n for the escape of the blast. The case is sheet metal formed into cylindrical shape, the edge portions being bent outward to provide the passage n, and is mounted upon the shaft O, so as to turn freely thereon to change the relative position of the passage to vary the direction of the blast. A lever n' is attached to the case and projects within convenient reach to be operated to move or turn the case N. A stop n^2 engages with teeth on the lever n' and holds the latter in the required position. A valve or gate 7 is hinged to the case and is adapted to vary the size of the passage n, so as to control the quantity of the blast or cut it off entirely. A wire 8 is attached to the gate 7 as a convenient means for operating the same.

The tank J, besides having the pipes i connected therewith, has a third pipe 9 running therefrom, terminating in a hose connection 10, having a suitable nozzle to be used as required for extinguishing any flame or fire in the wake of the machine.

The machine is supported upon ground-wheels P and a caster-wheel Q, the latter being movable upon the middle portion of the bar A'. A sprocket wheel or rim R on the axle p, or attached to one of the ground-wheels so as to rotate therewith, is connected by sprocket-chain r with a sprocket-pinion S on the shaft O, so as to actuate the fan as the machine is moved over the field or ground.

When it is desired to remove undesirable growths and effectually destroy them, the burner is lighted and properly adjusted and the machine is pushed or advanced over the ground, the burner consuming the growth, the flame being intensified by means of the blast of air from the fan. The brushes operating in the rear of the burner gather the cinders and the burning embers to the center, when the roller H crushes and presses them into the ground. The side guards E prevent the escape of the fire and its spread beyond the swath burned by the machine.

The foregoing is the preferable disposition of the parts.

Obviously changes in the form, proportion, and the minor details of construction may be made to adapt the machine for special uses without materially departing from the essence of the invention or sacrificing any of the advantages thereof.

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

1. A machine for destroying prairie-grass and vegetable growths comprising a burner, means operating in the rear of the burner to get the burning embers and cinders in a line, and a crusher for pressing the cinders and embers into the ground, substantially as and for the purpose described.

2. A machine for the purposes specified, comprising a burner, brushes traveling in the rear of the burner to gather the cinders in a line, and a roller to crush the said cinders, substantially as described.

3. A machine for the purposes specified, comprising a burner, brushes traveling in the rear of the burner and having their inner ends separated, and a roller located opposite the space between the inner ends of the said brushes for the purpose described and carried by yielding supports, substantially as set forth.

4. A machine for the purposes specified, comprising a burner, and laterally-adjustable brushes, substantially as described.

5. A machine for the purposes specified, comprising a burner, and vertically-adjustable brushes arranged at an angle to the line of draft of the machine to gather the cinders in a line, substantially as set forth.

6. A machine for the purposes specified, comprising a burner, brushes, and means for both vertically and laterally adjusting the said brushes, substantially as specified.

7. A machine for the purposes specified, having a burner and an oil-reservoir rigidly connected, and means for adjusting the burner and the oil-reservoir vertically, substantially as described.

8. A machine for the purposes specified, having a burner, and a shutter under the control of the operator to decrease or extinguish the flame of the burner, substantially as described.

9. A machine for the purposes set forth, having a burner, a fan, and a box having self-adjusting side guards, and having a screen-cloth top, substantially as described.

10. A machine for the purposes set forth, having a burner, self-adjusting side guards, and a hinged wing for closing the space between the front ends of the said side guards, substantially as described.

11. In a machine for the purposes specified, having a burner, and a fan, the fan-case having a longitudinal opening in its side, and means for adjusting the fan-case to change the direction of the blast, substantially as described.

12. In a machine for the purposes specified, having a burner, a fan, the fan-case having a longitudinal opening in its side, and a gate for

controlling the said opening to vary the quantity of the blast, substantially as described.

13. In a machine for the purposes set forth, having a burner, a fan having a blast-discharge in the side of the case, a gate for controlling the said blast-discharge, and means for turning the case on its support, substantially as and for the purpose described.

14. In a machine for the purpose described, a brush, and means for wetting the brush, substantially as specified.

15. In a machine for the purpose described, a brush, means for adjusting the brush, and a pipe having a flexible joint for conveying fluid to the brush from a tank, substantially as described.

16. A machine for the purposes specified, having brushes and a tank, pipes for conveying fluid from the tank to the brushes, and a third pipe having connection with the tank and designed to be used as required, substantially as set forth.

17. A machine for the purposes set forth, comprising a burner, a fan in the rear of the burner, oppositely-disposed brushes traveling in the rear of the fan, means for wetting the brushes, and a roller operating in the space opposite the inner ends of the brushes, substantially as set forth.

18. A machine of the class described, comprising a movable bottomless casing adapted to pass over the ground and constituting a combustion-chamber, and a revolving roller journaled in rear of the apparatus and adapted to extinguish the fire as the apparatus advances.

19. The combination with a traveling burner, of a device arranged in rear thereof constructed to receive and distribute water and adapted to travel on the ground, and a water-tank for supplying water to said device.

20. A structure adapted to inclose vegetable matter which is to be burned and constituting a combustion-chamber, said structure comprising a top, adjustable sides, and a pivoted gate at one end.

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

JOSEPH SINDELAR.

Witnesses:
W. J. HOPE,
J. WEBSTER LEWIS.