

No. 610,612.

Patented Sept. 13, 1898.

J. J. SETTER.

MACHINE FOR BURNING SEEDS OF NOXIOUS WEEDS.

(Application filed Dec. 22, 1897.)

(No Model.)

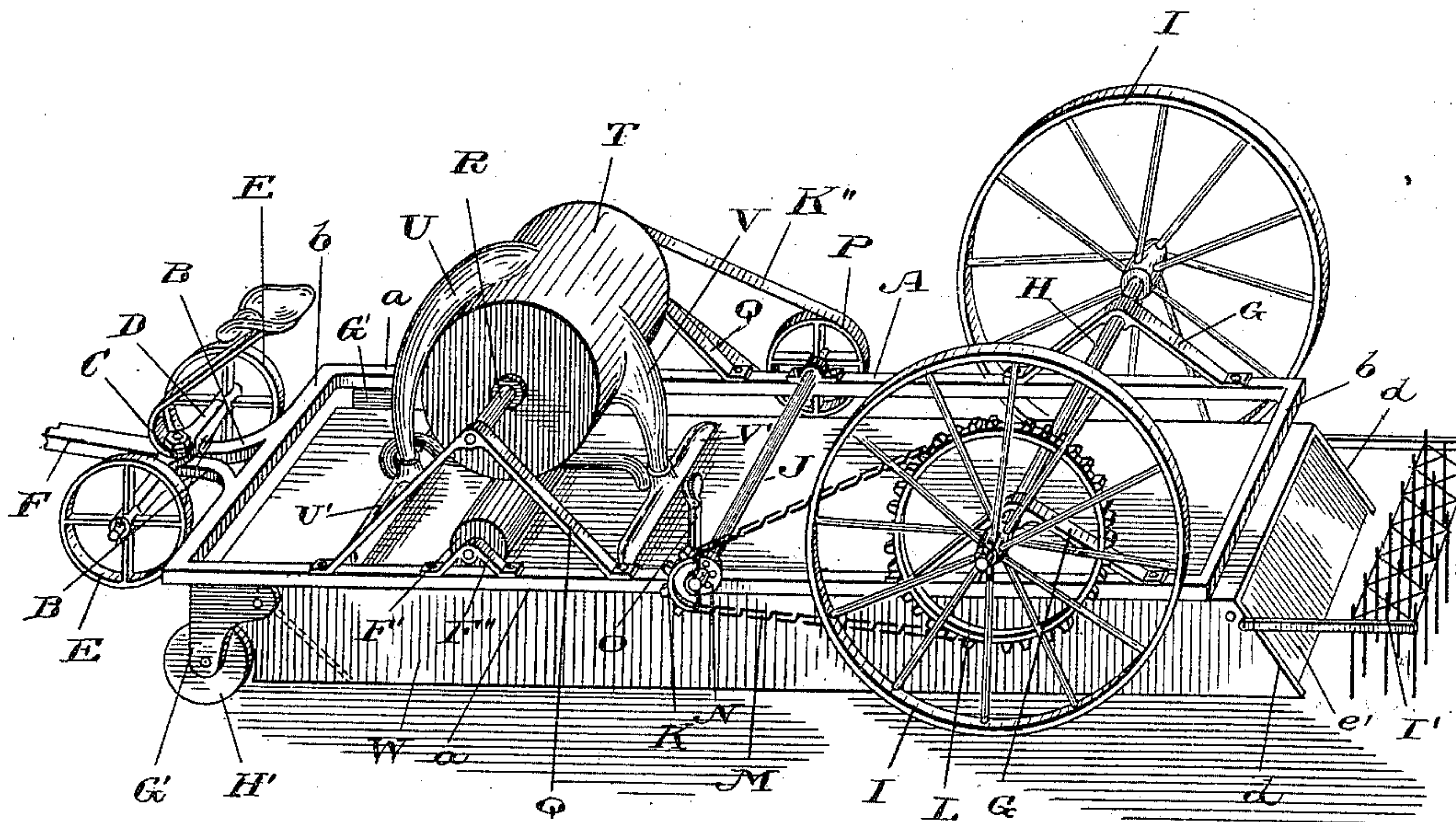


Fig. 1

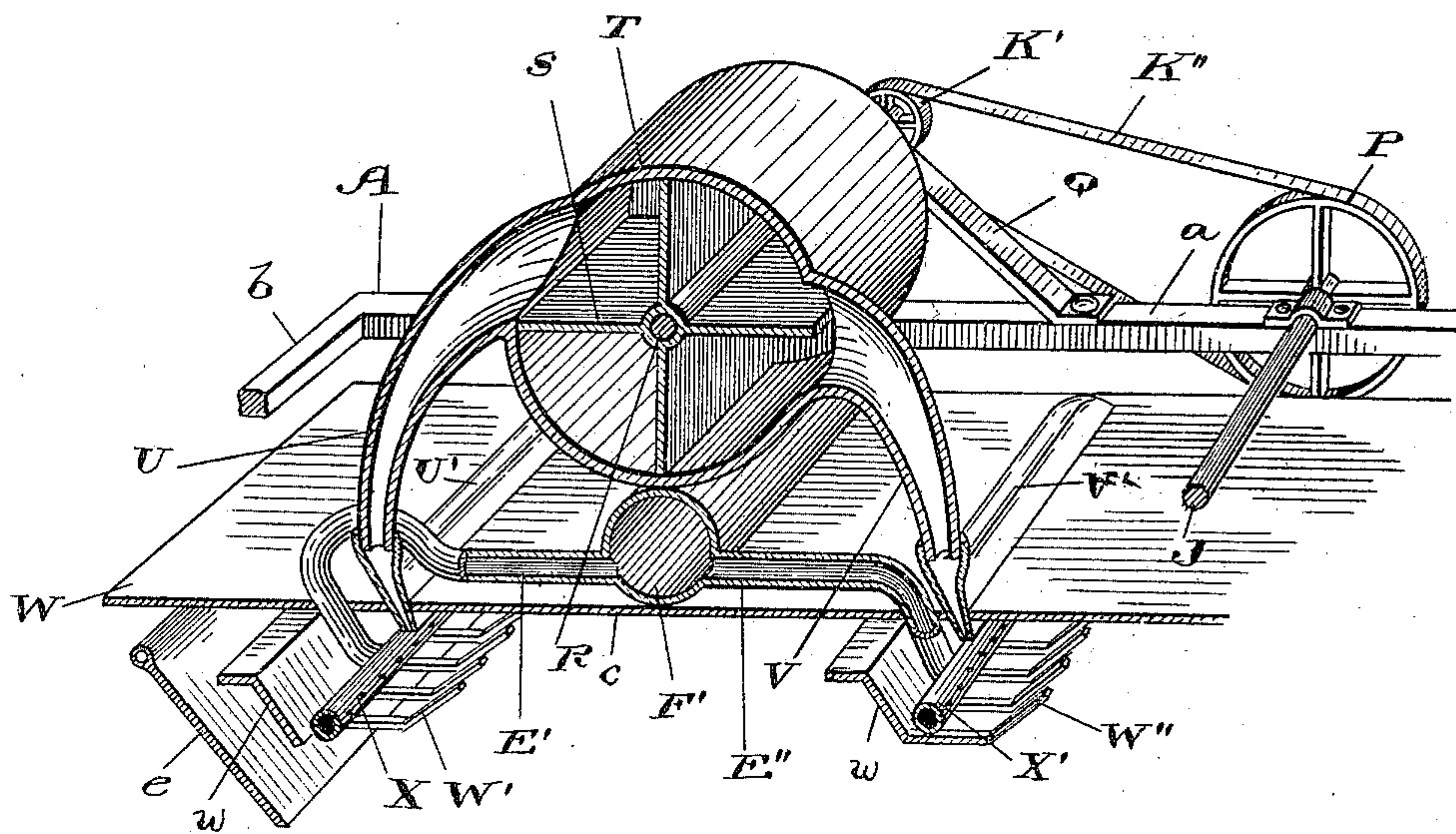


Fig. 2

Witnesses
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UNITED STATES PATENT OFFICE.

JOHN JAS. SETTER, OF POPLAR POINT, CANADA.

MACHINE FOR BURNING SEEDS OF NOXIOUS WEEDS.

SPECIFICATION forming part of Letters Patent No. 610,612, dated September 13, 1898.

Application filed December 22, 1897. Serial No. 663,094. (No model.)

To all whom it may concern:

Be it known that I, JOHN JAMES SETTER, of Poplar Point, in the county of Marquette and Province of Manitoba, Canada, have invented
5 a certain new and useful Machine for Burning the Seeds of Noxious Weeds; and I hereby declare that the following is a full, clear, and exact description of the same.

This invention relates to a machine by
10 means of which the seeds of noxious weeds may be destroyed either while on the plant or when lying exposed on the surface of the ground; and the object of the invention is to so construct the machine that it will be easily
15 transportable and will throw a jet of flame over a comparatively wide tract of land; to so arrange the several parts constituting the machine that the jet of flame will be confined entirely within its boundaries; to so arrange
20 the burners of the machine that the flame can be directed upon the surface of the ground over which it is traveling, and to provide the machine with a blower to forcibly direct the flame to the surface; and the invention consists, essentially, of a machine comprising a
25 frame supported by the usual carrying-wheels and fitted with a draft-tongue, a fire-box suspended from the frame, a blower mounted on the top of the frame having any predetermined number of wind-trunks and wind-spreaders within the fire-box, a burner opposed to each wind-spreader, a valve-controlled fuel-supply tank in connection with
30 the burners, means for driving the blower from the carrying-wheels, a pivoted front and a pivoted back for the fire-box, colters or cutting-disks opposed to the front of the sides of the fire-box, and a harrow coupled to the back of the machine, as hereinafter set forth,
40 and more particularly pointed out in the claims.

In the drawings, Figure 1 represents a perspective view of the machine, looking at it from the top. Fig. 2 is a similar view
45 showing the wind-trunks, wind-spreaders, and burners.

Like letters of reference refer to like parts throughout the specification and drawings.

A represents the main frame of the machine, embracing in its construction two opposite and parallel sides *a a* and ends *b b*, rigidly joined in the usual manner.

B B represent the hounds connected to the front of the frame A and carrying one part of the fifth-wheel C, while the other part of
55 the fifth-wheel C is carried by the axle D of the front carrying-wheels E and connected to the hounds by a king-bolt. Connected to the axle D is a draft-tongue F.

G G represent two brackets connected one
60 to each side of the frame A, contiguous to the rear end.

H represents the axle of the rear carrying-wheels mounted in the brackets G G, and I I represent the rear carrying-wheels mounted
65 on the ends of the axle H.

J represents a cross-shaft journaled in bearings connected to the sides *a a* at substantially the middle of the frame A. Loosely
70 mounted upon the shaft J at one side of the frame A is a sprocket-wheel K, and rigidly mounted on the axle H at the same side of the frame A is a sprocket-wheel L. Passing
75 around the sprocket-wheels K L is a sprocket-chain M, by means of which motion is transmitted from the sprocket-wheel L to the sprocket-wheel K. Slidingly mounted on the
80 shaft J and revolving therewith is a clutch member N, which is adapted to mesh with a corresponding clutch member on the side face of the sprocket-wheel K.

O represents a lever for throwing the sliding clutch member N into or out of engagement with the clutch member of the sprocket-wheel K. When the clutch member N is
85 meshing with the clutch member of the sprocket-wheel K, the shaft J is caused to revolve with the sprocket-wheel K, when the sprocket-wheel has motion imparted to it from the carrying-wheels by means of the sprocket-
90 chain M during the progress of the machine. Rigidly mounted on the shaft J, on the opposite side of the frame A to the sprocket-wheel K, is a pulley P. Mounted in bearings Q Q,
95 connected to the side bars *a a* of the frame A, is the fanner-shaft R of the blower. Rigidly mounted on the middle of the fanner-shaft R is the fan S, which is contained within a casing T, provided with two wind-trunks
100 U and V, respectively, arranged diametrically opposite to each other on opposite sides of the vertical axis of the fanner-shaft.

W represents a fire-box suspended from the under side of the frame A and located be-

tween the carrying-wheels I I. The fire-box W consists of a top *c* and two opposite sides *d d*, extending downwardly from the top *c*. Pivoted to the front of the sides *d d*, contiguous to the top *c*, is a damper *e*, and pivoted to the rear of the sides *d d*, contiguous to the top *c*, is a damper *e'*. The top *c* with the sides *d d* and dampers *ee'* form a practically-closed fire-box to confine within it the flame. The object of pivoting the dampers *ee'* to the sides is to permit them to yield to the irregularities of the surface over which the machine is moving. The wind-trunks U V extend through the top *c* into the body of the fire-box W. The wind-trunk U is provided with a wind-spreader U', while the wind-trunk V is provided with a wind-spreader V'. The wind-spreaders U' V' are within the fire-box W, and opposed to the mouth of the wind-spreader U' is a burner X, while opposed to the mouth of the wind-spreader V' is a burner X'. Connected to the burner X is a feed-pipe E', leading to a fuel-reservoir F', held in swing-racks F'', connected to the sides of the frame A, while connected to the burner X' is a feed-pipe E'', which also leads to the fuel-reservoir F'. Each burner consists of a pipe having any required number of rearwardly-projecting jets arranged at regular intervals along it. The burners X X' are placed to the rear of their respective wind-spreaders U' V'.

Within the fire-box W are two fire-pots W' W'', which are arranged in close proximity to the burners X X', respectively. Each of the fire-pots embraces in its construction a front *w*, connected to the inner side of the top of the fire-box and opposed to the front of its respective burner, and a series of substantially V-shaped grate-bars projecting rearwardly from the bottom of the front and below the burner.

Connected to the front of each of the sides *d d* is a bracket G', and journaled in each of the brackets G' is a colter or cutting-disk H', each of which is in alinement with its respective side *d* of the fire-box. The purpose of the colters H' is to cut a furrow for its respective side *d* of the fire-box, in order that the side can enter the furrow and contain within the fire-box the flame thrown upon the ground from the burners. Connected to the side of the frame A is a harrow I'.

The operation of the device is as follows: The horses or other motive power is applied to the draft-tongue F and causes the forward progress of the machine. The forward progress of the machine causes the revolution of the rear carrying-wheels I I and axle H. The revolution of the axle H causes the revolution of the sprocket-wheel L, which imparts a revolutionary motion to the sprocket-wheel K through the agency of the sprocket-chain M. When the clutch member N is in mesh with the clutch member of the sprocket-wheel K, a rotary motion is imparted to the shaft J and pulley P, which imparts a rotary motion to the pulley K', mounted on the end of

the fanner-shaft R, through the agency of a belt K'', passing around the pulleys P K'. The revolution of the pulley K' causes the revolution of the fanner-shaft R and fan S. The revolution of the fan S creates a current of air and forces it through the wind-trunks U and V to the respective wind-spreaders U' and V'. The fuel being ignited in the fire-pots is fanned into a flame, which is forced upon the ground by the distribution of the wind from the mouths of the wind-spreaders U' V'. The sides *d d* and dampers *ee'* of the fire-box W confine the fire within the fire-box and prevent it igniting any combustible material on the outer side of the machine. The dampers *ee'* or ends of the fire-box, being pivoted, readily pass over any inequalities in the surface of the ground over which the machine is traveling, and the end damper *e'* assists in extinguishing the flame of the material burning within the fire-box during the progress of the machine. To more effectually extinguish the flame, the harrow I' is connected to the rear of the frame A. By providing the colters at the front of the fire-box and arranging these colters so that they are opposite to the ends of the sides *d d* a furrow is cut for each side, into which it may enter during the progress and operation of the machine. By providing these furrows the fire is more effectually contained within the fire-box, and any danger of igniting any material on the outer side of the fire-box is completely avoided. When it is necessary to intensify the flame, the fuel of the burners is ignited and forced to the ground with the flame from the fire-pots.

I do not confine myself to the use of any particular fuel for producing the consuming-flame, as I may use any class of animal, vegetable, or mineral oils or any of the solid fuels; nor do I confine myself to any particular style of burner, nor to any particular shape or size of the parts, as I may use any style of a frame, fire-box, and blower suitable for the purpose. Neither do I confine myself to any particular style of full reservoir, nor to any particular means of connecting it to the frame of the machine.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A machine for burning the seed of noxious weeds embracing in its construction a skeleton frame, carrying-wheels supporting the skeleton frame, a fire-box suspended from the skeleton frame between the carrying-wheels, consisting of a top and two opposite sides extending downwardly from the top, two dampers pivoted to the opposite sides of the fire-box arranged one at each end thereof, and adapted to bear upon the surface over which the machine is traveling, colters connected to the frame in advance of the opposite sides, a blower or blowers mounted on the skeleton frame above the fire-box, a wind-trunk for each blower to convey the blast from the

blower to the inside of the fire-box, a wind-spreader for each wind-trunk, a burner opposed to each wind-spreader, a fuel-supply tank for the burner, a connection between
5 the fuel-supply tank and the burner, and means for operating the blower during the progress of the machine, substantially as specified.

2. A machine for burning the seed of noxious weeds embracing in its construction a skeleton frame, carrying-wheels supporting the skeleton frame, a fire-box suspended from the skeleton frame between the carrying-wheels, consisting of a top and two opposite
15 sides extending downwardly from the top, two dampers pivoted to the opposite sides of the fire-box arranged one at each end thereof, and adapted to bear upon the surface over which the machine is traveling, colters connected to
20 the frame in advance of the opposite sides, a blower or blowers mounted on the skeleton frame above the fire-box, a wind-trunk for each blower to convey the blast from the blower to the inside of the fire-box, a wind-
25 spreader for each wind-trunk, a burner opposed to each wind-spreader, a fuel-supply

tank for the burner, a connection between the fuel-supply tank and the burner, means for operating the blower during the progress of the machine, consisting of a cross-shaft 30 journaled in bearings mounted on the skeleton frame, a sprocket-wheel loosely mounted on the cross-shaft, a sprocket-wheel rigidly mounted on the axle of the carrying-wheels, a sprocket-chain passing around the sprocket- 35 wheels, a clutch member slidingly mounted on and revolving with the cross-shaft, adapted to mesh with a corresponding clutch member on the side face of the sprocket-wheel mounted on the shaft, a lever for throwing the 40 clutch members into and out of engagement, a pulley rigidly mounted on the cross-shaft, a fanner-shaft for the blower or blowers, a pulley mounted on the fanner-shaft, a belt passing around the pulleys on the fanner- 45 shaft and cross-shaft, substantially as specified.

Poplar Point, November 6, A. D. 1897.

JOHN JAS. SETTER.

In presence of—

E. ANDERSON,
THOS. L. HARTLEY.