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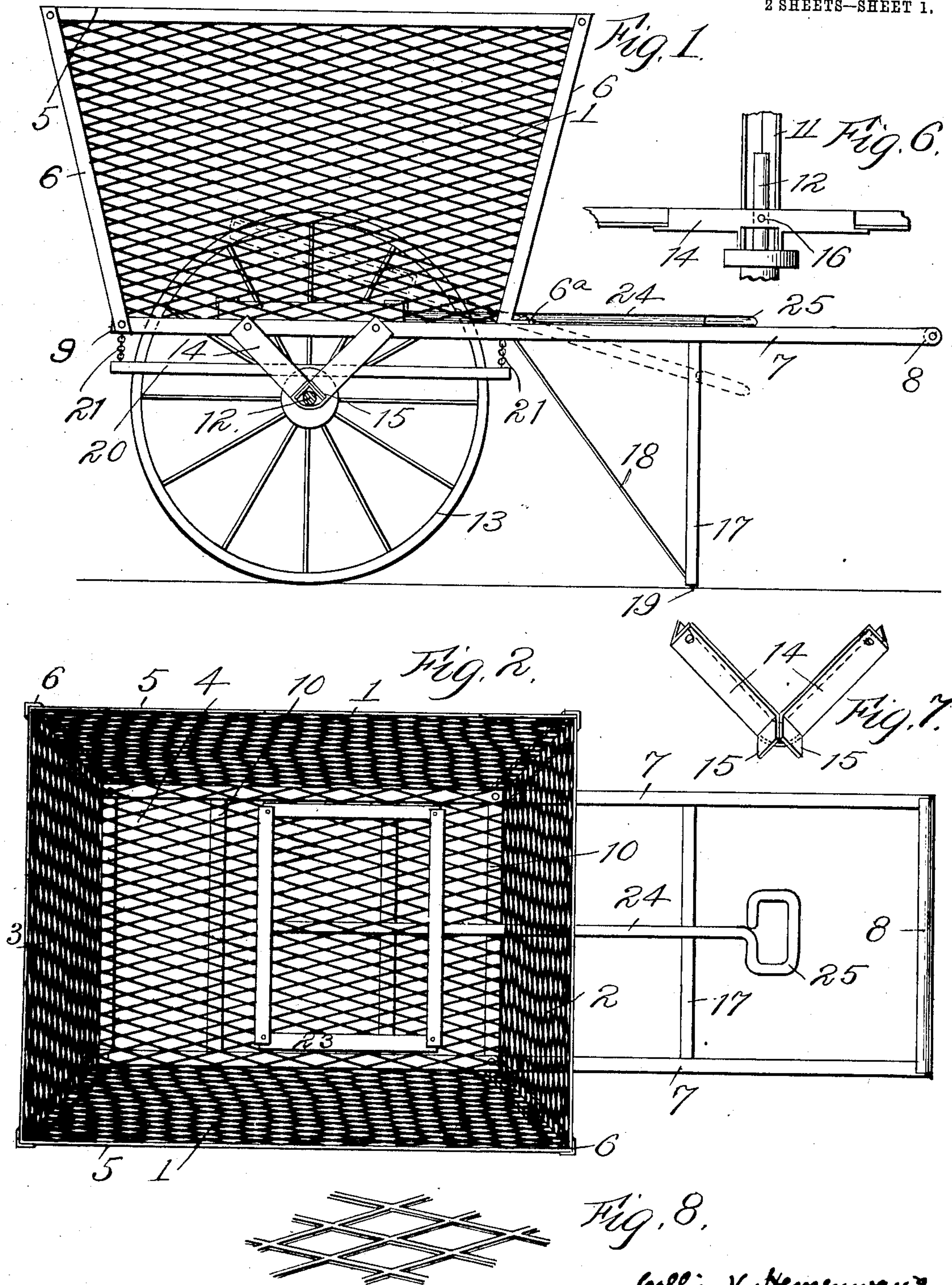
PATENTED JAN. 7, 1908.

C. V. HEMENWAY & L. F. KIRK.

LEAF BURNING CART.

APPLICATION FILED FEB. 28, 1907.

2 SHEETS—SHEET 1.



Witnesses:
B. Reinberg.
W. A. Conneland

Collier V. Hemenway and
Lewis F. Kirk
Inventors

By their Attorneys
Knight Bros.

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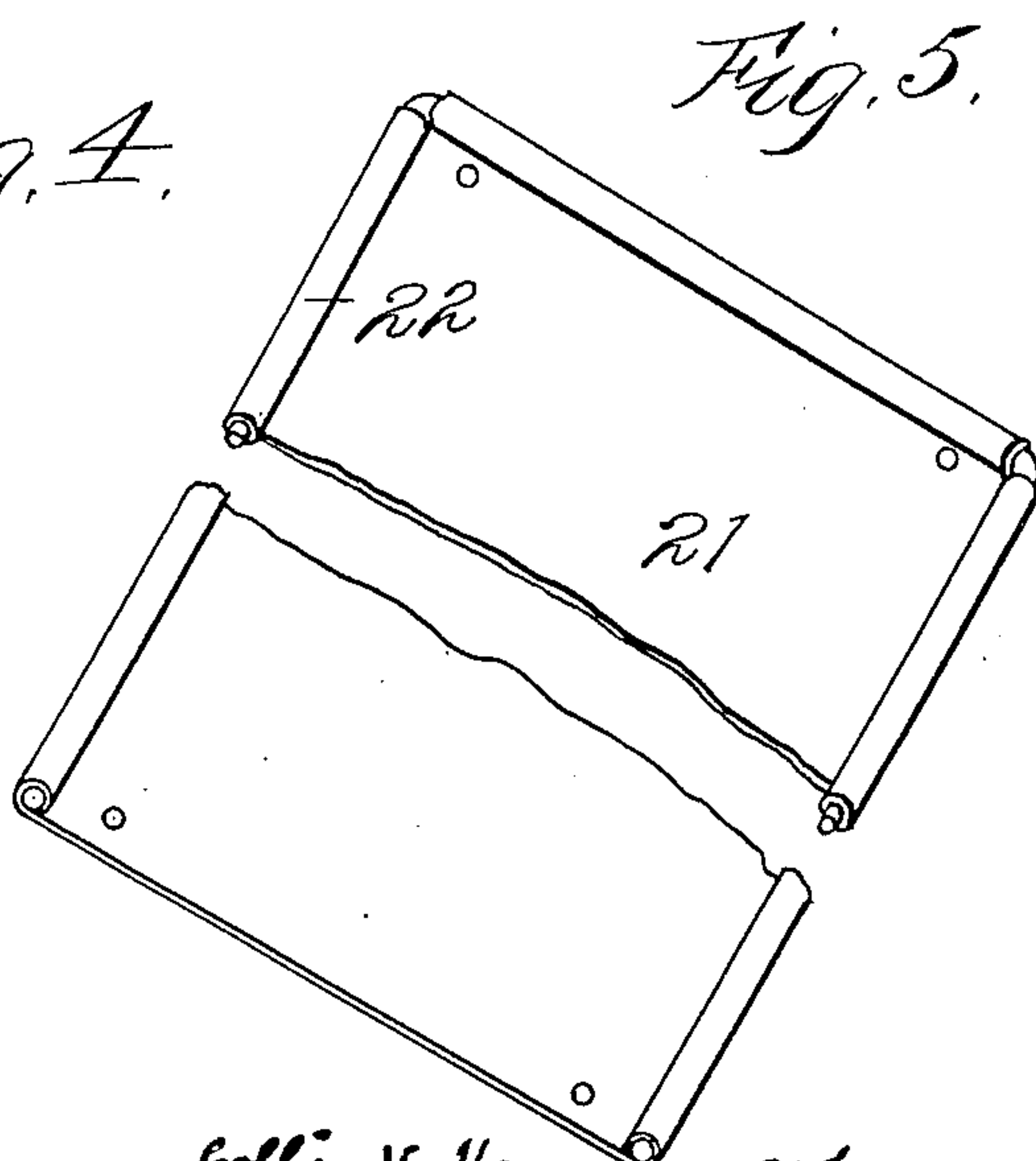
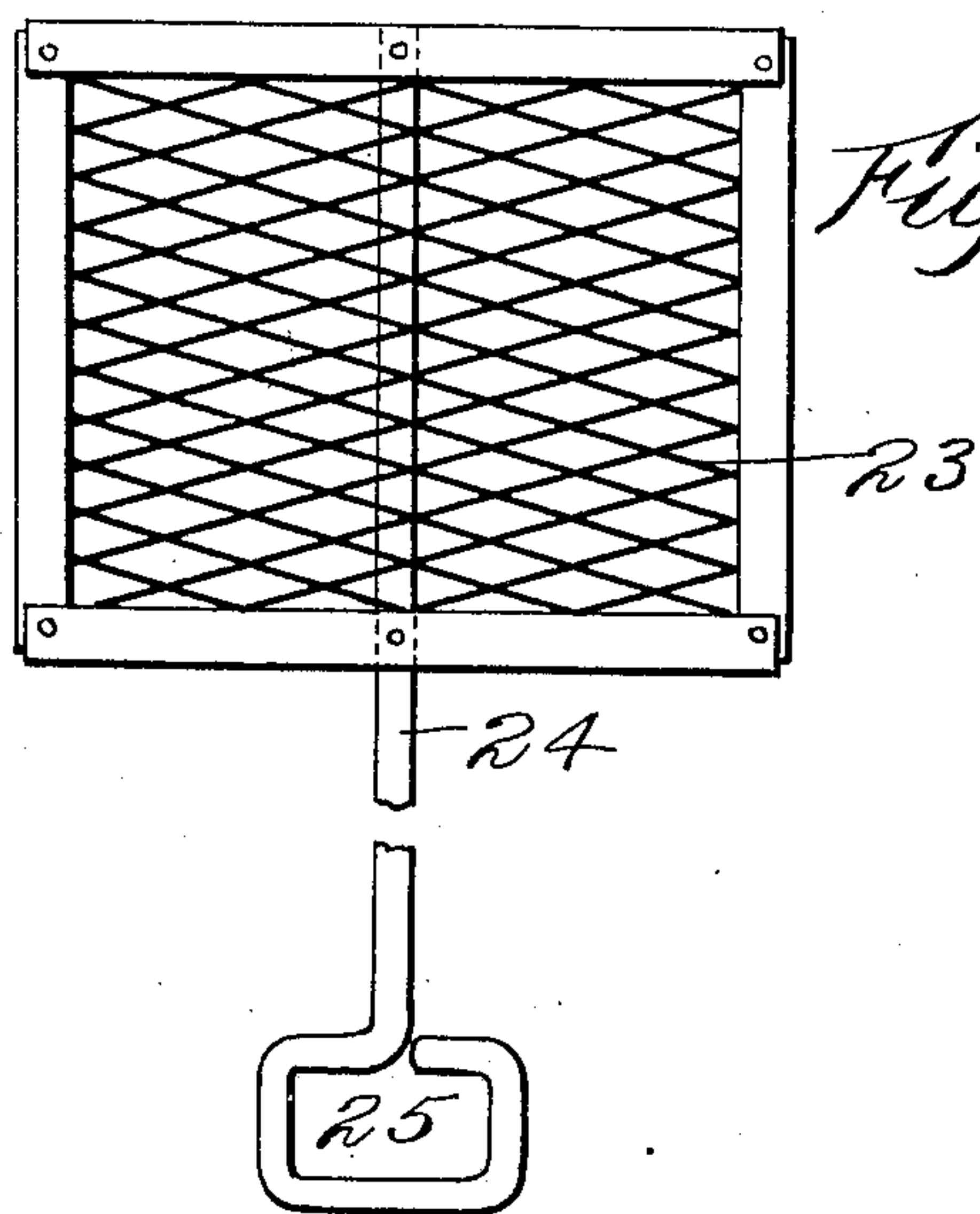
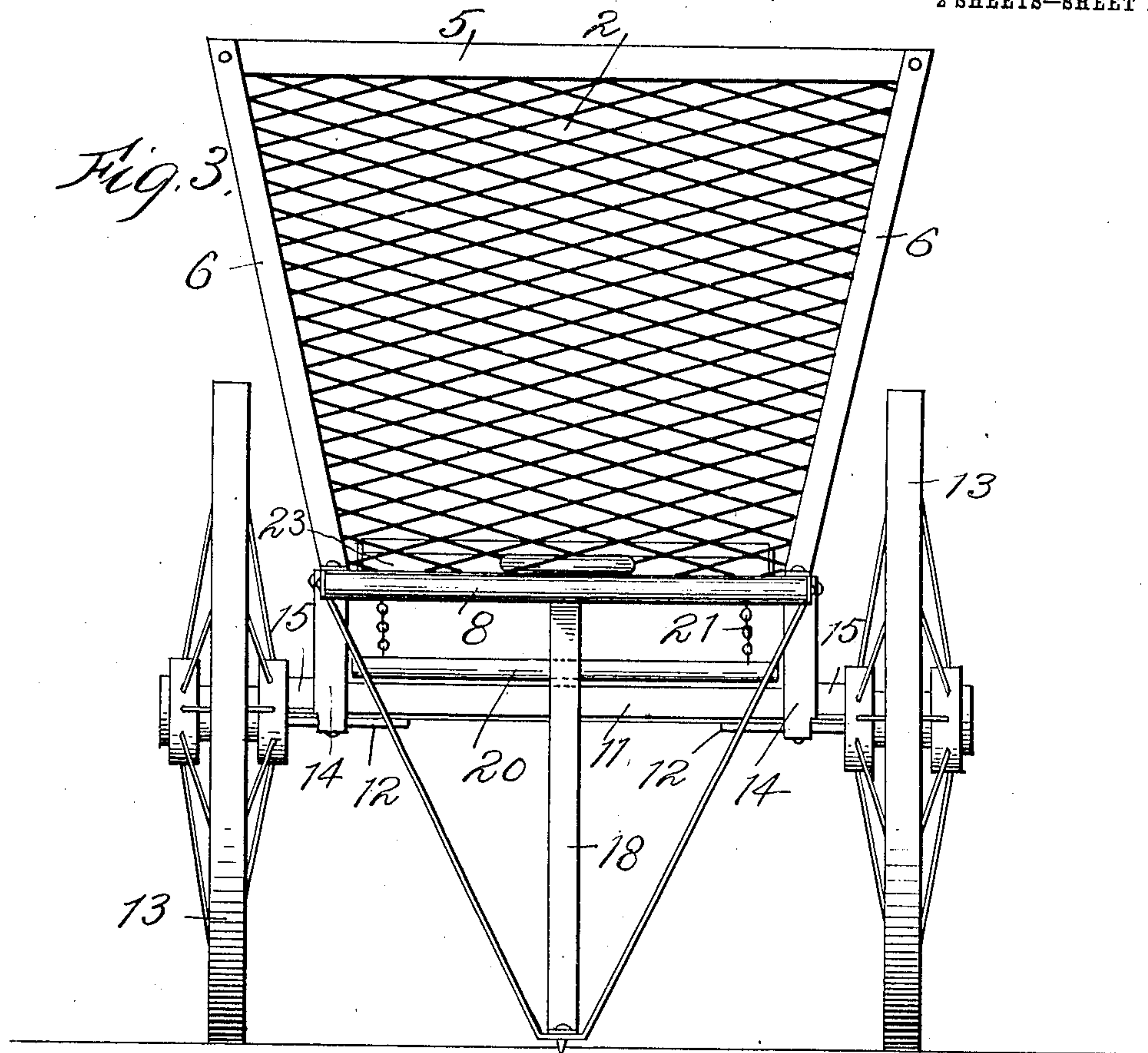
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2 SHEETS—SHEET 2.



Witnesses
D. Reinberg
U. S. Counselor

Collier V. Hemenway and
Lewis F. Kirk, Inventors
By their Attorneys *Knights Bros*

UNITED STATES PATENT OFFICE.

COLLIER V. HEMENWAY AND LEWIS F. KIRK, OF POCANTICO HILLS, NEW YORK.

LEAF-BURNING CART.

No. 876,180.

Specification of Letters Patent.

Patented Jan. 7, 1908.

Application filed February 28, 1907. Serial No. 359,890.

To all whom it may concern:

Be it known that we, COLLIER V. HEMENWAY and LEWIS F. KIRK, citizens of the United States, and residents of Pocantico Hills, in the county of Westchester and State of New York, have invented a new and useful Leaf-Burning Cart, of which the following is a specification.

The subject of our invention is a two wheeled cart, having a hopper-shaped box or body, constructed with sides, ends and bottom of openwork metal permitting free circulation of air and adapted to receive and burn fallen leaves as fast as these can be raked up and thrown into the cart by a number of men. The cart is drawn over the lawn from place to place as convenience dictates.

The invention further relates to means for conveniently lifting and agitating the mass of burning leaves to facilitate combustion; means for effecting the constant discharge and distribution of ashes from the burned leaves; means for protecting the surface of the lawn from hot falling ashes and heat from the burning operation; also to improved modes of constructing and supporting the frame on which the openwork body is mounted and to other details hereinafter described and claimed.

In order that the invention may be fully understood we will proceed to describe it with reference to the accompanying drawings, in which

Figure 1 is a side elevation of a leaf burning cart illustrating the invention, with the near wheel omitted. Fig. 2 is a plan of the same. Fig. 3 is a front view thereof. Fig. 4 is a plan of the agitator, detached. Fig. 5 is a detail view of the screen or shield. Fig. 6 is a detail bottom view of a portion of the axle and a device for mounting the wheel journals thereon. Fig. 7 is a detail view illustrating the mode of forming and mounting the axle supports as hereinafter particularly described. Fig. 8 is a detail view of a fragment of a sheet of expanded metal of which we prefer to construct the body or box of our improved cart.

The flared sides 1, front 2 and back 3, and the bottom 4 of the hopper-shaped box are preferably made of "expanded" metal, that is to say of sheet metal with alternating slits so that when drawn or expanded edgewise it will assume the form of a sheet of reticulated foraminous metal. While we prefer to make

these network sheets of slit and expanded sheet metal, such as illustrated in Fig. 8, they may be made of heavy wire netting or even of other forms of perforated sheet metal.

The upper edges of the network sheets 1, 2 and 3 forming the sides and ends of the box may be connected by bolts, rivets or wire with solid sheet metal edge pieces 5 to impart the necessary rigidity and strength, and their vertical edges are connected to angle iron posts 6 forming the four corners of the box. The slit and expanded metal sheets of which the sides and ends are formed may be made with strengthening edge strips, integral with the expanded sheet, or such edge strips may be formed separately and secured thereto as illustrated in Figs. 1, 2 and 3. The posts 6 are bent out at bottom as shown at 6^a and bolted or riveted to the longitudinal members 7, 7, of a horizontal draft frame connected in front by a round hand bar 8, at back by an angle iron cross-bar 9, and at the front of and beneath the box by other transverse angle iron bars or braces 10.

The axle 11 is formed of an angle iron bar with the angle upward so as to provide on its under side a channel for the reception of the journals or spindles 12 on which the wheels 13 are mounted. In order to support the box or body of the cart firmly and at a suitable distance above the axle 11, we employ V-shaped bracing standards 14 constructed as illustrated in the detail view, Fig. 7. These bracing standards are formed of angle iron bars notched half way across in the center and slit longitudinally on the angle, to a suitable distance on each side of the mid-length so that the bar may be readily bent transversely with its ends on about a right angle to each other and the center part curved to form a seat for the axle 11 and the wheel spindle 12 within it, while the lips or lugs 15 formed by the transverse and longitudinal cuts are bent transversely to form a bearing on the inclined upper sides of the inverted V-shaped axle. A bolt 16 passing vertically through the center of each bent standard 14 and through the spindle 12 and axle 11 rigidly confines these parts together in a secure and inexpensive manner.

The draft frame and body are supported in front by a leg 17 formed of a bar bent in V-shape bolted at its upper ends to the horizontal draft bars 7, 7 and an inclined brace

bar 18 bolted at top to the center of the transverse bar 10 at front of the cart box, and at bottom to the bent lower end of the V-shaped leg 17. From the bottom of the supporting leg thus formed a spur 19 projects downward so as to anchor the cart when at rest on a hillside.

Beneath the openwork bottom 4 of the box and between the V-shaped standards 14, just above the axle 11 we suspend a shield pan 20 by chains or links 21 at the four corners to prevent ashes from the burning leaves falling directly on the lawn and also to serve as a shield or screen to protect the surface of the lawn from direct heat radiation from the burning mass. The pan or shield 20 has an upturned strengthening flange 22 on each side and in front, while the rear end is unobstructed to permit the dumping of small stones or other unconsumed matter which may pass through the meshes of the openwork bottom. This dumping of stones or other incombustible matter is effected by simply tipping the cart backward and the flexible suspension of the pan 20 permits it to yield in a forward direction, as well as vertically so as to protect it from injury when the back of the cart comes in contact with the ground. The suspension of the shield 20 below the bottom of the cart body with a considerable space between them induces a constant circulation of air through said space, resulting in the continual cooling and scattering of the leaf ash over the lawn to fertilize the grass. The circulation of air over and under the shield keeps the shield comparatively cool. The scattering of the leaf ash and cooling of the shield are facilitated by any wind that may be blowing.

In order to expose the mass of burning leaves to the action of the air and promote rapid and complete combustion, even though the leaves may be damp or matted, we employ an agitator 23 consisting of a sheet of reticulated or expanded metal, such as employed for the sides, and bottom of the box, stretched on an angle iron frame and mounted on a lifting bar 24 projecting horizontally forward and terminating in front in a handle 25. The lifting bar 24 has a sliding and a fulcrum bearing on the front bottom bar 10 of the box so that by bearing down on the handle 25 the mass of burning leaves may be lifted to admit air beneath it and the agitator may be slid back and forward and transversely and may be oscillated on a horizontal axis, thus imparting most effective agitation to the mass of burning leaves and exposing all parts to the action of the air.

In operation the shaker or agitator may be manipulated constantly, or only periodically, as conditions may require, while the cart is moved over the lawn, and the dried leaves will be consumed as fast as they can be loaded into the cart from windrows

into which they have been raked. One cart constructed and operated as we have described can thus completely dispose of leaves as fast as raked up by ten or a dozen men. The ashes being very light are almost entirely dissipated and scattered by the wind, and being so scattered have only a beneficial effect on the lawn. Any residuum passing through the openwork bottom to the suspended pan 20 is very small in amount and together with any small stones or other foreign matter may be conveniently dumped in a rubbish heap or suitable receptacle.

While we prefer to mount the shield above the axle as shown, we would have it understood that said shield may be mounted beneath the axle and be suspended in this position either from the body or from the axle in any suitable manner without departing from the spirit of our invention.

Having thus described our invention the following is what we claim as new therein and desire to secure by Letters Patent:

1. The combination in a wheeled vehicle, of a hopper-shaped foraminous box or body mounted thereon, and a shield supported beneath and spaced from the bottom of the box or body and separated therefrom at all points by a free air space.

2. In a leaf burning cart, the combination of the axle mounted upon wheels, the foraminous body mounted upon and spaced above the axle, and a shield-pan suspended from the body by flexible supports and resting above the axle spaced from the bottom of the body and free to move longitudinally with relation thereto.

3. In a leaf burning cart, the combination of a body formed with sides and bottom of foraminous or open-work metal, a pair of wheels and draft apparatus by which said cart may be moved over the lawn, and a screen of imperforate material suspended loosely and freely beneath the body and separated therefrom to permit relative movement of said screen and expose it above and below to the circulation of air.

4. The combination of the axle mounted upon wheels, the foraminous box or body, the standards between the axle and the body for mounting the latter upon the former, the shield-pan, flexible supports connecting the shield-pan with the body and supporting the pan above the axle and spaced from the bottom of the body.

5. In a leaf burning cart, the combination of a foraminous box or body, with an agitator consisting of an openwork metal frame mounted upon a lifting and operating bar or handle, said frame being supported within the foraminous box or body upon the bottom thereof with said bar or handle projecting through one of the walls of the box or body upon which it bears or fulcrums, whereby a

burning mass of leaves in the body may be lifted and agitated, as set forth.

6. In a leaf burning cart the combination of a body having sides and bottom of foraminous or open-work material, a pair of wheels on which said body is supported so as to be capable of tipping backward and a screen having strengthening flanges at its sides and front loosely suspended beneath the bottom of the body and capable of shifting in a forward direction to protect said screen from injury when the body is tilted backward in contact with the ground.

7. The combination of the angle iron axle 11, the wheel spindles 12, the wheels 15, the foraminous body, the V-shaped bent angle iron standards 14 embracing the axle 11 and spindles 12 and rigidly secured to and supporting the body, integral lips or lugs 15 projecting from standards 14 and engaging axle 11, and pins or bolts 16 passing through

axle 11, spindles 12 and standards 14 for rigidly securing them together.

8. The combination of an axle of inverted V form, wheel journals secured in the ends of said axle, a draft frame and standards of bent angle iron by which the draft frame is supported on the axle.

9. In a leaf burning cart the combination of a body of foraminous material, a draft frame on which the said body is supported, an axle of inverted V form, wheel journals fixed in the ends of said axle and a pair of standards made of angle iron bent transversely and with out-turned lips by which the draft frame is mounted on the axle.

COLLIER V. HEMENWAY.
LEWIS F. KIRK.

Witnesses:

JOHN M. MALONEY,
JOHN H. SEE.