

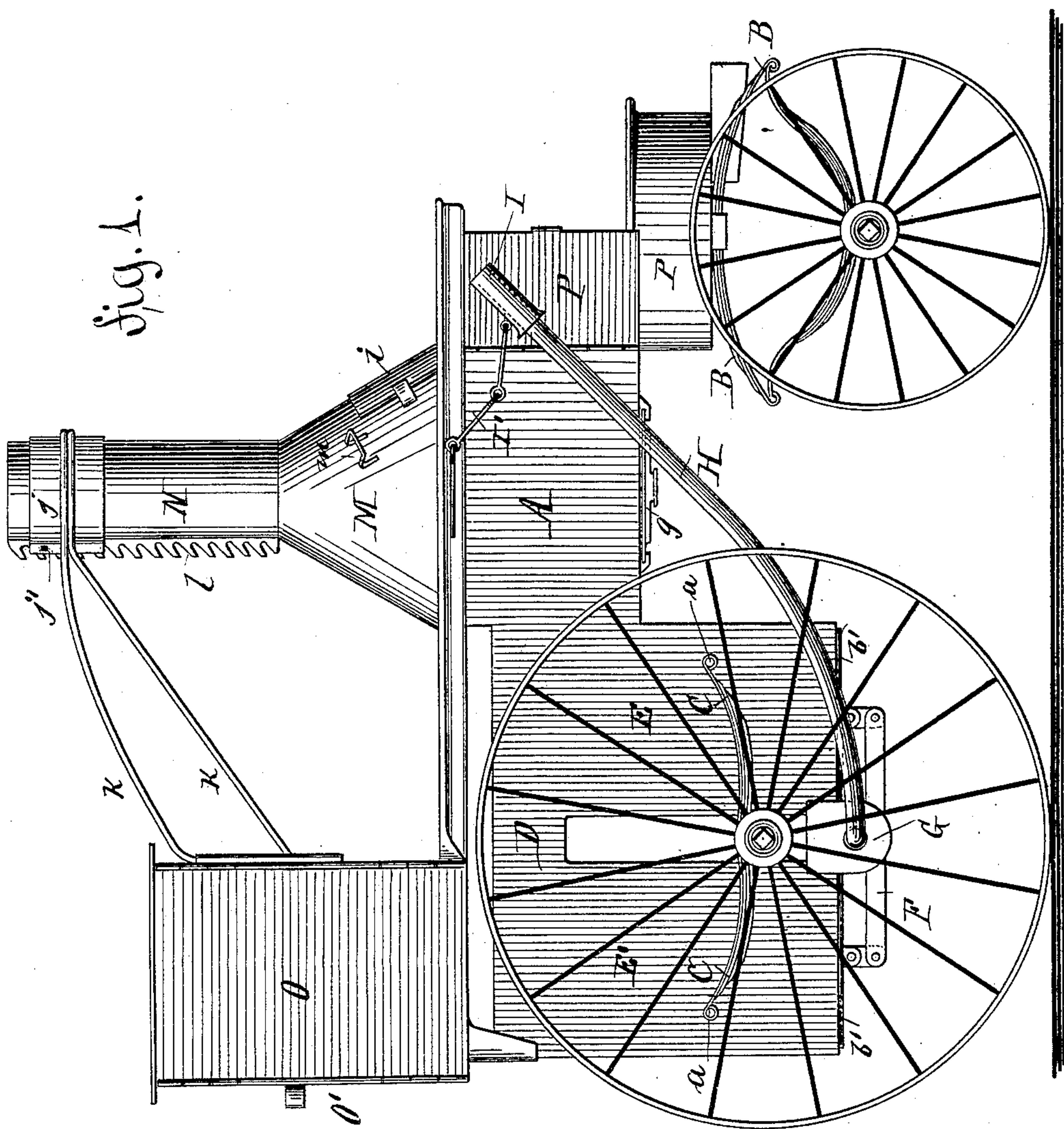
(No Model.)

4 Sheets—Sheet 1.

A. KÖNIG.
PORTABLE FORGE.

No. 318,629.

Patented May 26, 1885.



WITNESSES:

Fre. N. Rosenbaum.
Carl König

INVENTOR

August König
BY *Georg Raegen*
ATTORNEYS.

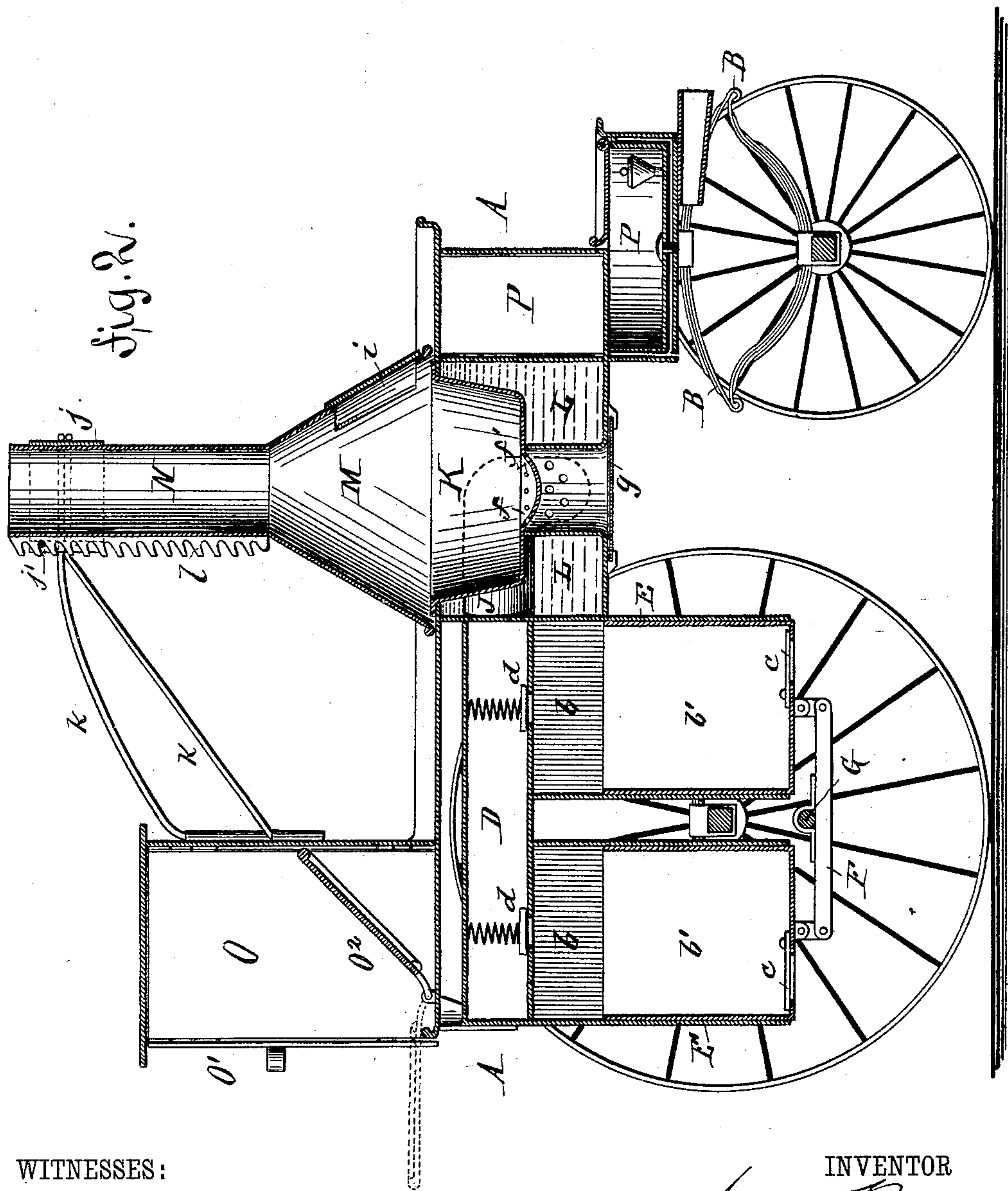
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No. 318,629.

Patented May 26, 1885.



WITNESSES:

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(No Model.)

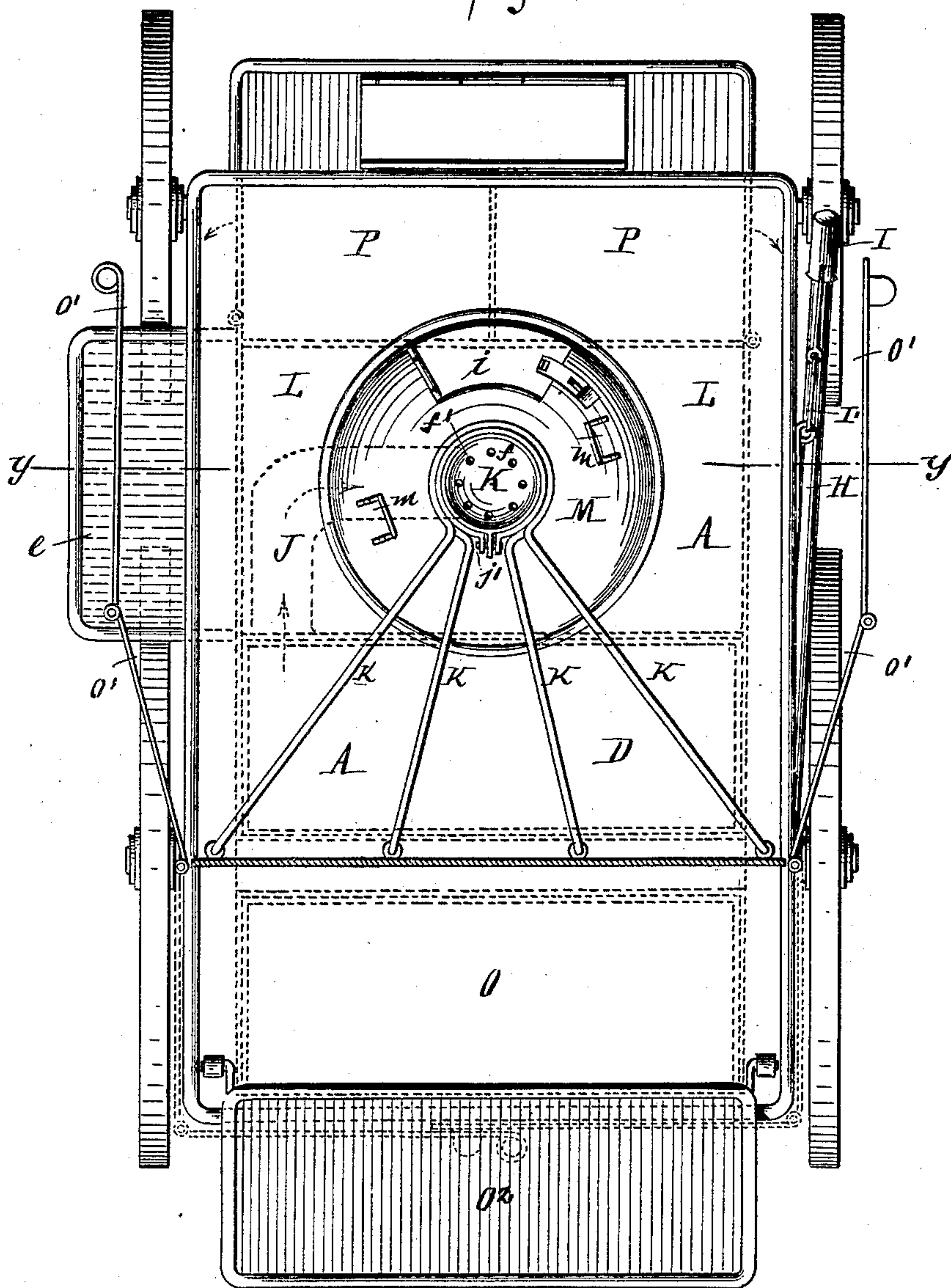
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Fig. 3.



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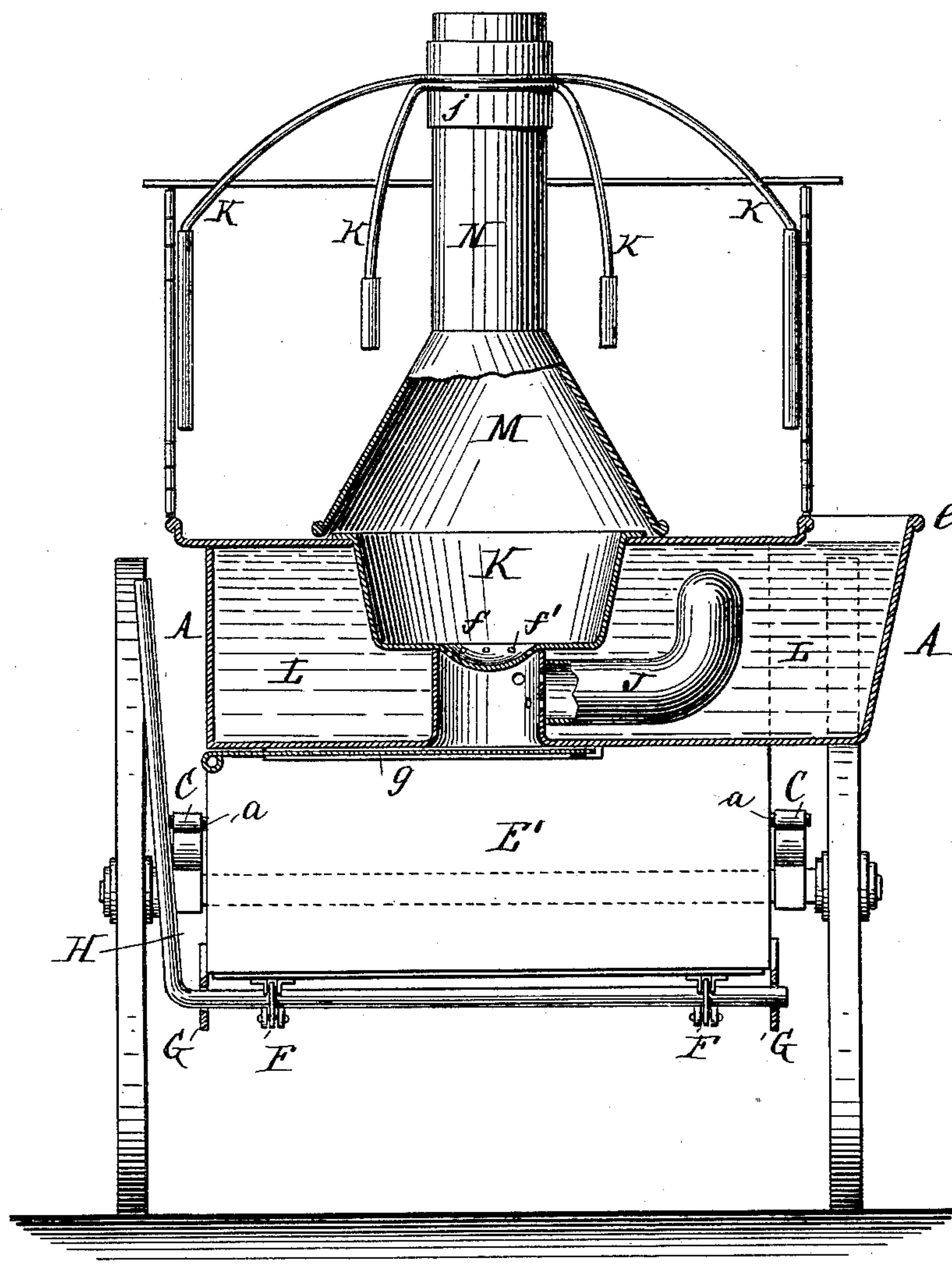
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fig. 4.



WITNESSES:

Frederick H. Rosenbaum.
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INVENTOR

August König

BY

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ATTORNEYS.

UNITED STATES PATENT OFFICE.

AUGUST KÖNIG, OF BROOKLYN, NEW YORK, ASSIGNOR TO HIMSELF AND
GEORGE L. BERGHEIM, OF SAME PLACE.

PORTABLE FORGE.

SPECIFICATION forming part of Letters Patent No. 318,629, dated May 26, 1885.

Application filed August 16, 1884. (No model.)

To all whom it may concern:

Be it known that I, AUGUST KÖNIG, of Brooklyn, county of Kings, and State of New York, have invented certain new and useful
5 Improvements in Portable Forges, of which the following is a specification.

This invention has reference to an improved portable forge to be used for military purposes, railroad and bridge construction, and
10 other work in which blacksmith's work has to be done at different places.

In the accompanying drawings, Figure 1 represents a side elevation of my improved portable forge; Fig. 2, a vertical longitudinal
15 section of the same; Fig. 3, a plan; and Fig. 4, a vertical transverse section on line *y y*, Fig. 3.

Similar letters refer to similar parts throughout the different views.

20 Referring to the drawings, A represents the body of my improved portable forge, which is supported on wheels. Elliptic springs B are interposed between the front axle and the body of the forge, and semi-elliptic springs,
25 which rest on the hind axle, are connected at their ends to studs *a*, projecting from the rear portion of the body.

At the rear part of the structure is a valved wind-chest, D, and below said chest the bel-
30 lows E E'. Each of said bellows is composed of two rectangular boxes, *b b'*, one within the other. The upper boxes, *b*, are fixed to the wind-chest and the bottom of the wind-chest constitutes the tops of said boxes, the bottoms
35 of the latter being open. The lower boxes, *b'*, are open at their tops, and have closed bottoms provided with inlet flap-valves *c c*. The lower boxes slide vertically within the upper boxes and serve as pistons, being hinged at
40 their bottoms to an oscillating lever, F, pivoted at its center to hangers G, attached to the hind axle.

A hand-lever, H, is connected at its lower end to said oscillating lever for actuating it,
45 and extended upward and forward at one side of the portable forge to near the hearth thereof. As the lever F is oscillated by the oscillations of the hand-lever H, the boxes *b' b'* alternately rise and fall in the boxes *b b*, one
50 rising while the other is falling, whereby a

continuous stream of air is forced into the wind-chest B through its valves *d d*, opening into said boxes *b b*.

In a position of rest the hand-lever H is supported by a socket, I, attached to a chain, 55
I', at the side of the body A, as shown in Fig.

1. When in use, the socket is detached from the hand-lever H, so that the latter can be oscillated, and thereby the bellows operated so as to produce the wind for the hearth of the
60 portable forge, the vertical motions of the two bellows filling the wind-chest B with a uniform supply of air, which is conducted through the conducting-channel J to the perforated bottom of the hearth K, as shown in Fig. 2. 65

The hearth K is arranged at the front part of the body A and surrounded by a transverse water-chamber, L. This water-chamber is open at one side, as shown in Fig. 4, so as to be conveniently filled, and is constructed with
70 an upwardly-projecting lip, *e*, at its mouth, so that the water will rise sufficiently to cool not only the sides of the hearth, but also the top plate of the water-chamber, which has the effect to concentrate the fire at the center of the
75 hearth and to keep the top plate cool, so that tools can be placed thereon without becoming heated by the heat of the hearth. The hearth K is depressed at its center, the depression *f* being provided with openings *f'*, through
80 which the wind is forced against the fuel on the hearth, whereby the fire is kept up and intensified in the usual manner in forges. The central space below the depressed portion *f* is closed by a slide, *g*, which serves to receive
85 the ashes or other particles which drop through the wind-openings.

A conical hood, M, provided with a chimney or smoke-stack, N, is adapted to close over the hearth, said hood being provided with a
90 door, *i*, in front. The smoke-stack is steadied by and adapted to slide in a ring, *j*, connected to bracket-arms K, attached to a tool-chest, O, located at the rear of the structure. The rear side of the smoke-stack is provided
95 with a toothed rack, *l*, and a pin, *j'*, in the ring *j* takes into the teeth of the rack, so that the hood may be adjusted higher or lower for changing the draft, supplying the fuel to or removing the ashes from the hearth. 100

When the fire is started, the hood is lowered so as to rest on the top plate or flange of the hearth, and the parts to be heated in the forge are inserted through the hinged door *i* of the hood. The hood is provided with handles *m* for conveniently lifting and lowering it. The upright chest *O* at the rear part of the portable forge *A* is provided with hinged front and side doors, *O'*, and at the interior with a hinged bench, *O''*, which latter can be swung out into horizontal position and may serve to support the vise and other implements. To the transverse wall of the chest *G* are applied the supports for the different tools that are used in connection with the bench *O''*. When the forge is ready for work, the doors are opened and the bench is thrown down. As the doors are hinged to the transverse wall of the chest, they can be swung out laterally at the side to which the wind comes, so as to form some protection against the wind while working at the forge. When the forge is moved from place to place, the bench is swung inwardly and the hinged doors closed, so that the different working-tools are protected against storm or loss.

The chambers *P* are provided with side doors, and may be utilized for the storing of the anvil and other accessories used by blacksmiths. The front part of the forge is also used as a foot-rest for the driver when the forge is moved from place to place.

The advantages of my improved portable forge are that it can be conveniently transferred from place to place with all the accessories and instantly made ready for use; that a fire can be quickly started whenever required, and that the top and side walls of the hearth proper are kept cool, so that the heat is concentrated at the center, and thereby the more efficient working of the hearth obtained.

The entire forge is preferably constructed of wrought and sheet metal, so that it is not

exposed to injury by the influence of the weather, and is more durable, so as to require little repairing.

I claim as new and desire to secure by Letters Patent—

1. The combination of a wheeled body having a wind-chest and bellows at the rear part and a hearth at the front part, said hearth being connected with the wind-chest by an air-channel, substantially as set forth.

2. The combination, with a portable furnace, of an upright chest having a hinged working-bench and hinged rear and side walls, the latter being adapted to be thrown sideways of the forge to protect the same against the wind, substantially as set forth.

3. The combination, with a wheeled vehicle, of a bellows and wind-chest at the rear part thereof, a hearth at the front part thereof, connected with said wind-chest, a vertically-adjustable hood and smoke-pipe, and a thimble attached to bracket-rods, for supporting said hood and smoke-pipe, substantially as set forth.

4. The combination, in a portable forge, of the bellows, a fulcrumed lever connected therewith, a handle for operating said bellows, and a retaining socket and chain attached to the upper part of the forge for supporting said handle, substantially as set forth.

5. The combination, in a portable forge, of the hearth, a water-chamber surrounding the walls of the hearth, and a storage-chamber arranged in front of the water-chamber and provided with hinged doors or covers, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

AUGUST KÖNIG.

Witnesses:

PAUL GOEPEL,
SIDNEY MANN.