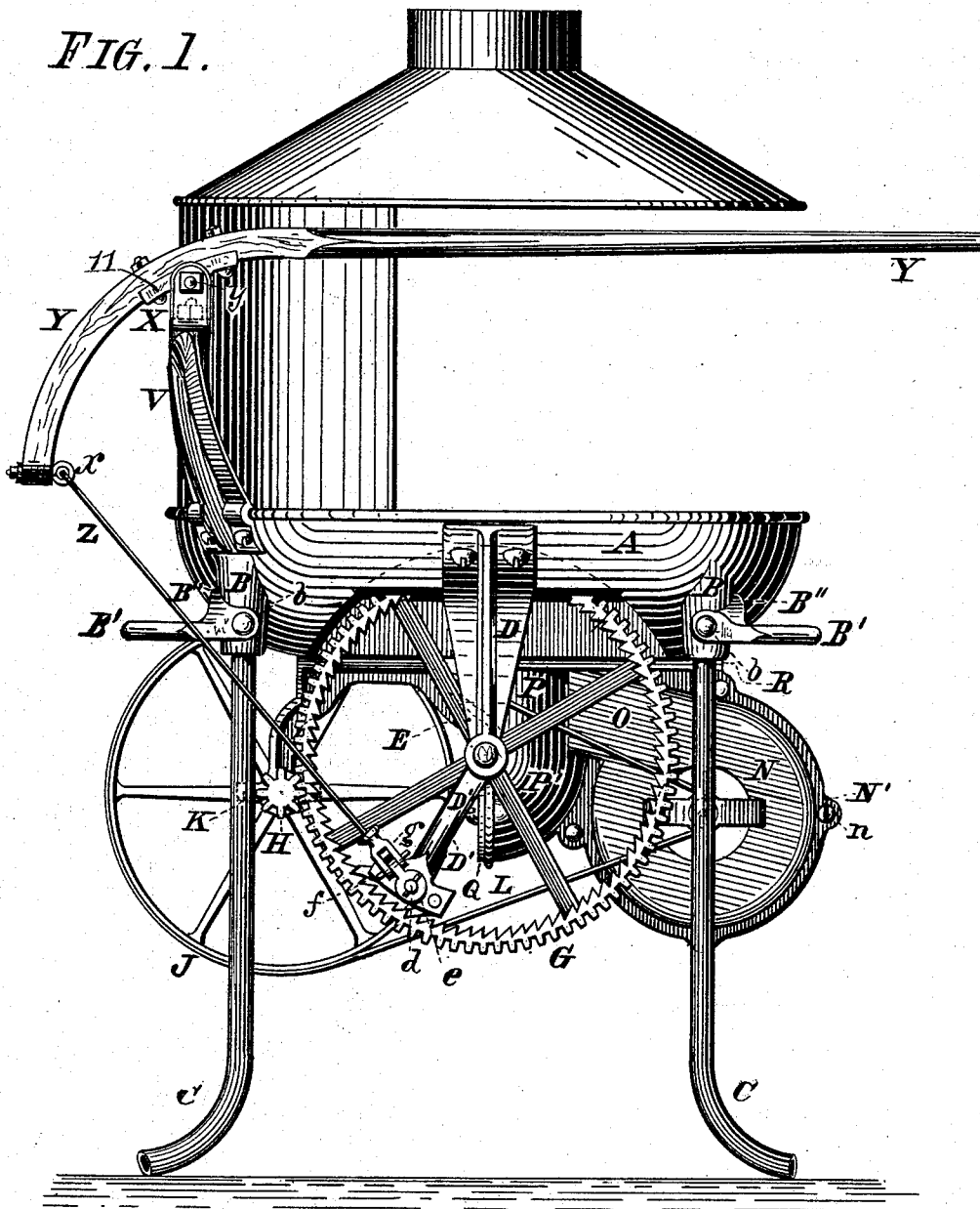


C. HAMMELMANN.
PORTABLE FORGE.

No. 252,103.

Patented Jan. 10, 1882.

FIG. 1.



Witnesses:

Michael J. Stark
Geo. Stark

Inventor:

Charles Hammelmann
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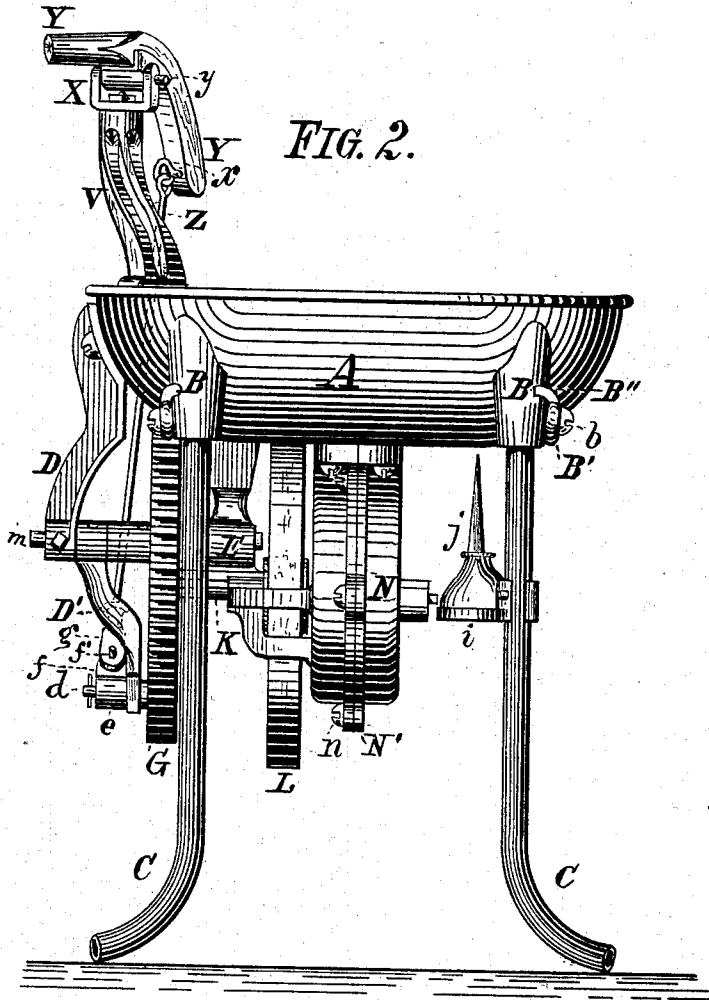


FIG. 2.

FIG. 3.

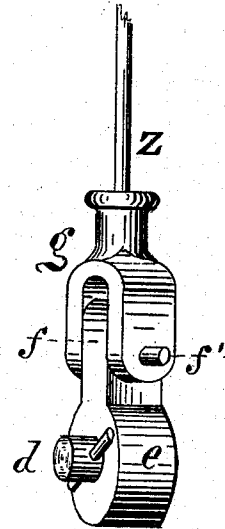


FIG. 5.

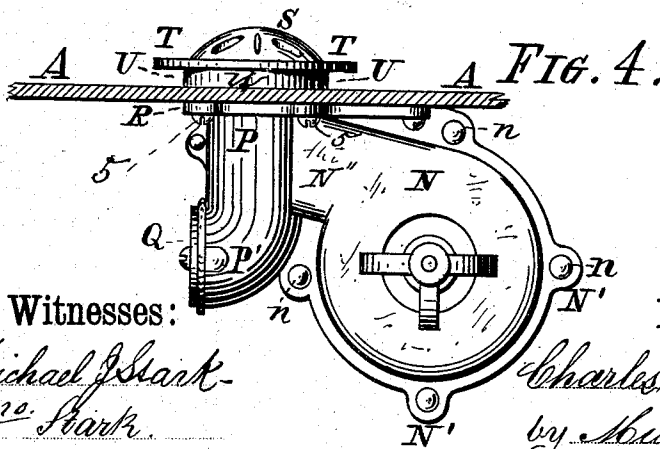
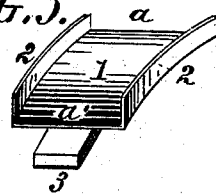


FIG. 4.

Witnesses:

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Charles Hammelman
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UNITED STATES PATENT OFFICE.

CHARLES HAMMELMANN, OF BUFFALO, NEW YORK.

PORTABLE FORGE.

SPECIFICATION forming part of Letters Patent No. 252,103, dated January 10, 1882.

Application filed June 24, 1879.

To all whom it may concern:

Be it known that I, CHARLES HAMMELMANN, of Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements on a Portable Forge; and I do hereby declare that the following description of my said invention, taken in connection with the accompanying sheets of drawings, forms a full, clear, and exact specification, which will enable others skilled in the art to which it appertains to make and use the same.

This invention has general reference to improvements on portable forges; and it consists in the peculiar combination of parts and details of construction, as hereinafter first fully set forth and described, and then pointed out in the claims.

In the drawings already mentioned, which serve to illustrate my invention more fully, Figure 1 is a front elevation of my improved portable forge. Fig. 2 is an end elevation. Fig. 3 is a perspective view of the pitman and connection. Fig. 4 is a front elevation of the fan-casing and tuyere. Fig. 5 is a perspective view of one of the fan-wings.

Like letters of reference designate corresponding parts in all the figures.

A is the bowl or hearth of my portable forge, produced of cast-iron and provided with four bosses or hubs, B, forming sockets for the tubular legs C. To one side of the rim of this bowl is affixed a pendent bracket, D, serving, in conjunction with a bracket, E, fastened to the under side of said bowl, as a means to carry the stud *m*, upon which the main wheel G revolves. This wheel and its operating mechanism, which is fully set forth and described in Letters Patent No. 192,623 granted to me July 3, 1877, engages a pinion, H, secured to or formed in one piece with an axle carrying the pulley J, said axle revolving in a journal-box, K, formed in one piece with the bracket E.

The pulley J connects with the fan-pulley in the usual manner by a belt, L.

The fan-casing N is formed of two halves secured together by means of screw-bolts *n* passing through the lugs N'. Each half is formed with its respective part of a duct, O, and a tuyere-pipe, P, in one piece, so that there is but one longitudinal joint in the entire casing and

pipes. The end of the tuyere-pipe P is curved at P' and provided with a shutter, Q. This part serves as a receptacle for ashes, &c., which are removed by opening said shutter Q. The upper end of this pipe, as well as part of the fan-casing, has a flange, R, by means of which the casing is secured to the under side of the bowl A.

In the inner side of this bowl is the tuyere S, having a flange, T, above the bottom of said bowl to produce a vacant space, U, underneath said flange for the object hereinafter to be referred to. To the rim of the bowl A is furthermore secured a standard, V, having on its upper end a fork, X, swiveling upon said standard. This fork receives an operating-lever, Y, pivoted between the members of said fork by a bolt, &c., *y*. The handle Y is preferably made of hard wood bent into the contour shown, and it has on its end an eyebolt, *x*, wherewith connection is made with the rod Z, that operates the mechanism referred to in the Letters Patent heretofore cited.

Upon the stud *m*, carrying the main wheel G, is the vibrating swinging arm D', having on its lower end a stud, *d*, upon which revolves a socket, *e*, having a flange, *f*, wherewith engages a double eye, *g*, on the end of the rod Z. By means of this peculiar connection of the rod Z with the arm D' on one end and the lever Y on the other end, and, furthermore, by the peculiar construction and method of pivoting said handle to the standard V, I am enabled to give this handle a compound vertical and horizontal movement, which allows the operator to leave his place in front of the forge and reach articles, tools, &c., around the same, within the compass of movement of said handle, without stopping the blast, which is a very desirable feature in my forge, and adds greatly to its utility and usefulness.

The forge is carried about by means of drop-handles B' pivoted to the sockets B by bolts, &c., *b*. These handles have projections B'' to limit their upward movement beyond a horizontal position. They will drop of their own accord when not in immediate use, and be thus out of the way.

To one of the legs C, I secure a shelf, *i*, to carry an oil-can, *j*, which is thus always in position

and proper place for and calls the attention of the operator to the fact that a machine of this kind needs occasional lubrication.

I have heretofore stated that the fan-case, together with the duct and tuyere-pipe, is formed of two equal halves, the joint being longitudinally through said casing, duct, and pipe. This arrangement or construction produces a very compact and durable fan-casing, at but little expense for fitting, &c., and obviates joints as much as possible.

The tuyere S is provided with the flange T to produce a vacant space, U, between said flange and the bottom of the bowl A, which space is soon filled with ashes, &c. These ashes, being a bad conductor of heat, prevent its being communicated to the bowl A, thereby keeping the latter perfectly cool, and, in consequence thereof, likewise the operating parts—a feature which has not yet been accomplished in other portable metallic forges as far as I am aware.

It will be observed that all the machinery or mechanical parts are attached to the hearth and not to the legs, which makes this machine more compact and therefore less liable to fracture and disarrangement of parts. The working parts, being, furthermore, all underneath the hearth, are protected from rain, snow, &c., when the forge is used in the open air.

The wings I of the fan are of peculiar construction, as clearly indicated in Fig. 5. In this figure it will be observed that the said wings are curved and provided with flanges 2, and that the part *a* is slightly wider than the part *a'*.

By thus constructing said wings I attain a superior blast, owing to the fact that the wings 2

assist in catching the air, while by the curved shape, in conjunction with the increasing width toward the discharge end *a*, of the wings the air is more easily expelled and a larger quantum thereof forced with my fan than any other one of a like diameter and width running at an equal speed.

Having thus fully described my invention, I claim as new and desire to secure to me by Letters Patent of the United States—

1. In forges, the combination, with the handle Y, pivoted within the fork X on the standard V, and provided with an eyebolt, *a*, of the rod Z, hung to said eyebolt at one end and provided with a double eye, *g*, engaging the flange *f* on the socket *e* at the other end, the stud *d*, arm D', pawl, ratchet-wheel, and forge-operating mechanism, substantially as described, for the object stated.

2. The combination, with the arm D', having the stud *d* and the pawl engaging the serrated or ratchet wheel, of the socket *e*, having a flange, *f*, formed integral therewith and provided with an aperture at right angles with the aperture in said socket *e*, pin or bolt *f'*, double eye *g*, rod Z, handle Y, bearing-piece H, fixed to said handle Y, swivel-fork X, and support *y*, as and for the object specified.

In testimony that I claim the foregoing as my invention I have hereto set my hand and affixed my seal in the presence of two subscribing witnesses.

CHARLES HAMMELMANN. [L. S.]

Attest:

MICHAEL J. STARK,
JNO. STARK.