2 Sheets—Sheet 1.

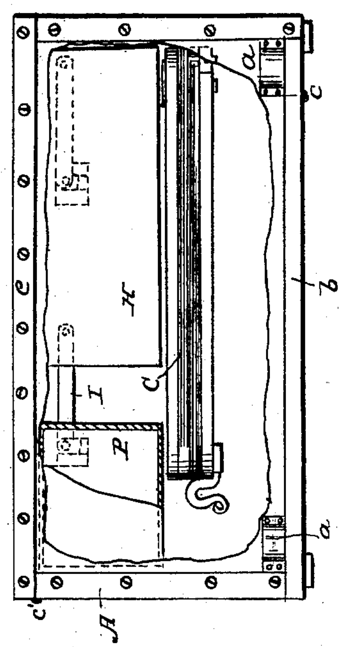
S. ROHRER.

Portable Forge.

No. 45,678.

Patented Dec. 27, 1864.

Fig. I.



Witnesses:

Henry Morain

C L Topliff

Inventor:

Samuel Rohrer

per Munn & Co

Attorneys

2 Sheets—Sheet 2.

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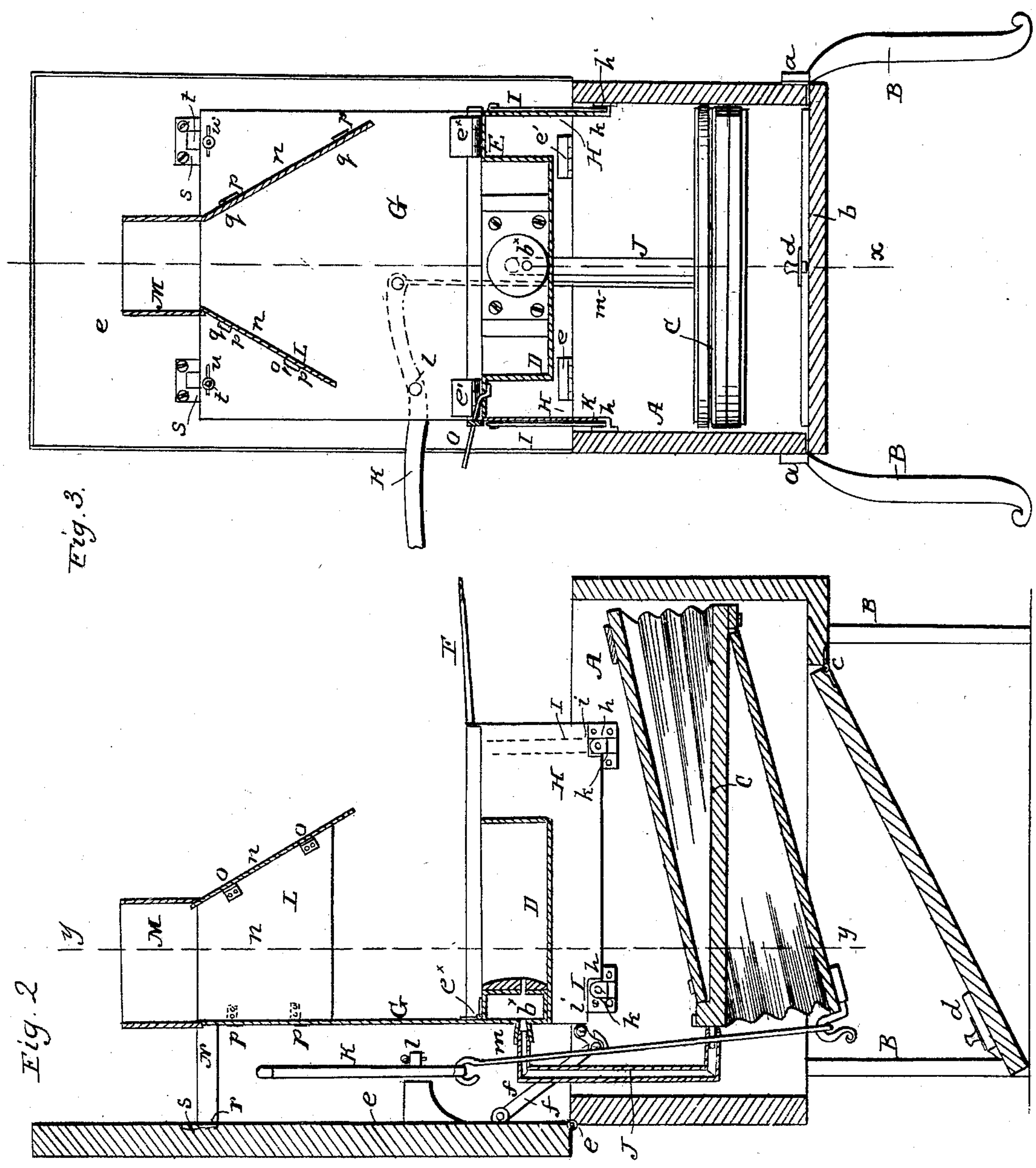

Witnesses:

Henry Morris

C. L. Topliff

Inventor:

Samuel Rohrer

per Munn & Co

attorneys

UNITED STATES PATENT OFFICE.

SAMUEL ROHRER, OF PALMYRA, MISSOURI, ASSIGNOR TO HIMSELF AND W. W. GRANGER, OF LEWIS COUNTY, MISSOURI.

IMPROVED PORTABLE FORGE.

Specification forming part of Letters Patent No. **45,678**, dated December 27, 1864.

To all whom it may concern:

Be it known that I, SAMUEL ROHRER, of Palmyra, in the county of Marion and State of Missouri, have invented a new and Improved Portable Forge; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1, Sheet No. 1, is a side view of my invention in a closed state, a portion of the side of the box or case being broken away in order show the interior; Fig. 2, Sheet No. 2, a longitudinal vertical section of the same taken in the line *x x*, Fig. 3; Fig. 3, Sheet No. 2, a transverse vertical section of the same taken in the line *y y*, Fig. 1.

Similar letters of reference indicate like parts.

The object of this invention is to obtain a forge of simple construction and arrangement, which may, when in use, possess all the necessary parts essential for its successful operation and still be capable, when not required for use, of being folded, and all the parts contained within a box convenient for transportation, the different articles or parts composing the invention being combined and arranged in such a manner that they may be adjusted in either a working position or packed away within the box with the greatest facility.

A represents a rectangular box, which may be constructed of wood and of any suitable dimensions, and has metal sockets or cleats *a* at its sides, near the ends, to receive legs B, which may be of metal and of any desired height. The upper ends of the legs may be readily fitted in the sockets or cleats *a* and also readily detached therefrom, and when not in use are placed within the box A. In the box A, at its lower part, there is fitted a bellows, C, of the double-acting kind, and the bottom *b* of the box is provided with hinges *c* at one end, and with a catch or fastening, *d*, at the opposite end, so that it may be set down when necessary (see Fig. 2) and fastened in an upward closed state when desired, as shown in Fig. 1. The lid *e* of the box A is hinged at one end, as shown at *e'*, and it has braces *f* connected to it. (See Figs. 2 and 3.)

D represents a fire box, which may be of rectangular form, and has a hearth-plate, E, extending around three sides of its upper part. An adjustable or folding hearth-plate, F, is attached to E, the former folding over and nearly covering the box when the device is not in use. To the inner end or side of the fire-box D there is attached by hinges $e^{\times}$, a plate, G, which, when down, is of sufficient dimensions to cover the box D and plate E.

To each side of the fire-box D there is attached a pendent plate, H. These plates are equal in length to the plate E, and they are somewhat elastic, and each is connected by two parallel bars, I, to the box A, said bars being attached to the plates E and box A by pivots *h*. The plates H are notched at each end, as shown at *i* in Fig. 2, and the notched ends of said plates, when the device is adjusted for use, rest on projections *k* at the sides of the box A. By this method of arranging the fire-box D within the box A the former may be raised and secured above the top of the latter when the lid *e* is opened, the plates H H supporting the box D in consequence of resting upon the projections *k*. In order to lower the box D within the box A the plates H H are pressed inward free from the projections *k*, and the bars I are turned down, and the box D consequently lowered.

J is a pipe, which leads from the bellows C to a tuyere b^*, within the fire-box D. (Shown clearly in Fig. 2.) The bellows C is operated by a lever, K, which is fitted on a fulcrum, *l*, attached to the lid *e*, and has its inner end connected by a rod, *m*, to the bellows C.

L represents the lower part of the smoke-stack, which is composed of three pieces, *n*, connected together by joints or hinges, *o*, so as to be capable of being folded together when not required for use. This part L of the stack is provided with hook projections *p* at the edges of two of its sides or pieces, *n*, and these projections, when the device is adjusted for use, are fitted in holes *g* in the plate G. The part L, when thus adjusted, is of flaring form, and is directly over the fire-box D, but a short distance above it, as shown in Figs. 2 and 3. On the part L the upper part, M, of the smoke-stack is fitted, which may be of any suitable length or height.

The plate G, when the device is adjusted for use, is held in an upright position by bars N, which have hooks *r* at one end of them to catch over plates *s* in the lid *c*, the opposite ends of said bars having screws *t* in them, which fit in notches in the upper edges of the plate G, and have nuts *u* on them at the front side of said plate.

O represents a rest for the tongs, which is simply a rod bent in bail form, and having its ends fitted in one side of the plate E.

P is a box for receiving tools and any of the parts of the device, said box being fitted in the box A when the device is closed or packed for transportation.

In Fig. 1 the several parts are all shown adjusted in proper position for use. In order to pack the device for transportation, the parts M L, composing the smoke stack, are detached from the plate G, the part L being folded. The bars N, which hold up the plate G, are then removed, and also the tongs-rest, and said plate folded down over the fire-box D, the plate F being previously folded over on D. The plates I I, which hold up the fire-box, are then pressed inward free from the projections *k*, and the box D is lowered down within the box A. The pipe J is then detached from the bellows C and the latter raised up within the box, the bottom *b* being also raised and secured in a closed state by the catch *d*. The lever K is then detached from the lid *e* and the rod *m* detached from the bellows and the lever. The box P is then fitted in the box A and the smaller detached parts placed in it. The lever K, rod *m*, and the part L of the smoke-stack may be placed on the bellows C.

Thus by this simple arrangement I obtain a very convenient and portable forge, one which may be readily put up or adjusted for use, and also readily taken apart and packed within a small space or compass for transportation.

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

1. The case or box A, adjustable fire-box D, detachable smoke-stack L M, and bellows C, all combined and arranged substantially as and for the purpose set forth.

2. The plates H H, attached to the fire box D, and arranged with the projections *k k* at the sides of box A, to hold up the fire-box, substantially as described.

3. The plate G, when hinged to the fire-box D and used in connection with the smoke-stack L M, substantially as and for the purpose specified.

4. The hinged bottom *b*, when applied to the box A, provided with the bellows C, substantially as and for the purpose set forth.

SAMUEL ROHRER.

Witnesses:

GUS. LOWE,

O. P. REDMOND.