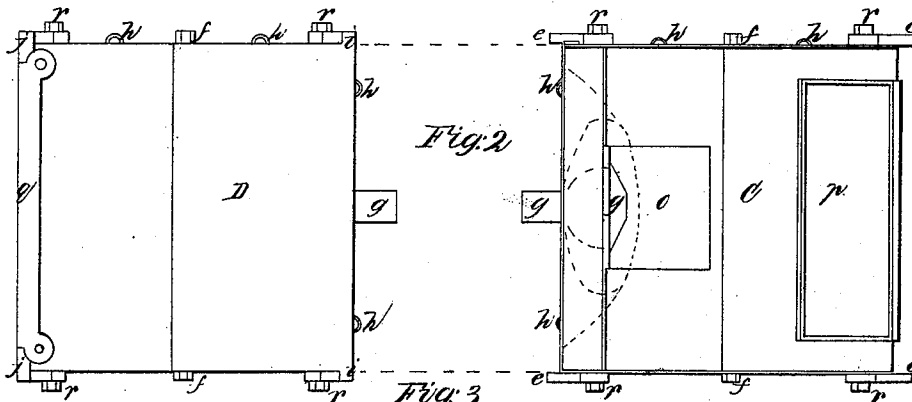
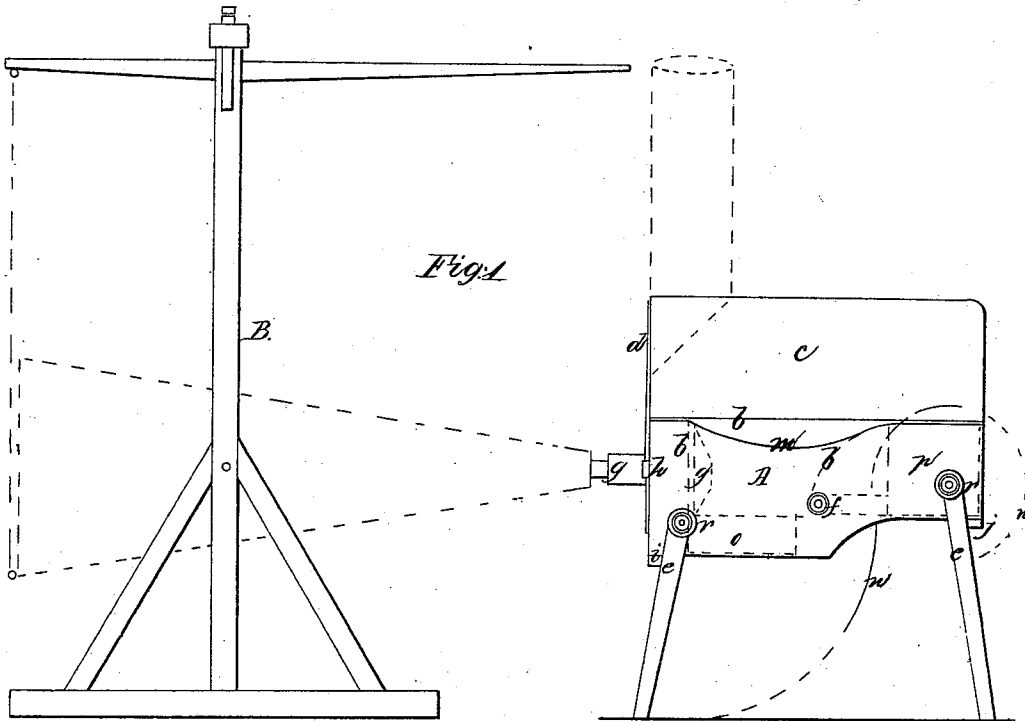


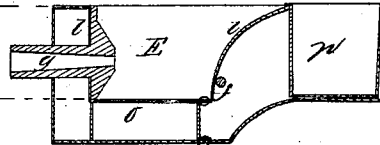
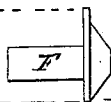
J. F. BRIDGE.
PORTABLE BLACKSMITH'S FORGE.

No. 42,068.

Patented Mar. 29, 1864.



Witnesses:
J. C. Pillingham.
E. Stanley Schinner.



Inventor:
John Bruce Bridge

UNITED STATES PATENT OFFICE.

JOHN FRANCIS BRIDGE, OF DEADWOOD, CALIFORNIA.

PORTABLE BLACKSMITH'S FORGE.

Specification of Letters Patent No. 42,068, dated March 29, 1864.

To all whom it may concern:

Be it known that I, JOHN FRANCIS BRIDGE, of Deadwood, in the county of Placer, in the State of California, have invented a new and useful Portable Forge, which is well adapted for use in the open air or under cover, it being simple, strong, and compact and can be set up or taken down in five minutes and can be packed in a small space and is but little liable to receive injury, and it is well calculated for the use of an army and for railroad purposes; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a side elevation; Fig. 2, a view of the top and bottom; Fig. 3, a transverse section, and a side and end view of the twyer iron of the forge.

At A, Fig. 1, is seen the form of the working side, this side plate is scalloped on its upper edge to make room for convenient working at the fire, the opposite side plate is similar in form except that its upper edge is straight at *b* where the edge of the first is curved as at *m*, the other two sides are straight edged above and below and all are made of No. 10 sheet-iron.

c is a loose side plate used to shield the fire box from high winds. It is composed of thin sheet iron, stiffened by riveting to its sides vertically, two half-round rods, the lower ends of the rods extending downward and passing through staples *h*, *h*, placed in two of the sides of the forge for this purpose. At *d*, is an end view of a similar plate with its half-rounds passing through the staples of the back as at *h*. These plates may be removed when the wind is not high enough to disturb the fire. The dotted lines above *c*, and *d*, indicate a funnel that may be placed over the fire, though this will not be required in open field work. This funnel may be attached to the plate *d*, by means of half round rods and staples as *d*, and *c*, are attached to the forge box. The form of this funnel is indicated by the round and oval dotted lines over the fire box at Fig. 2.

At *f* is seen a nut and end of a center bolt, which passes through the box and has a similar nut on its opposite end.

e, *e*, are legs that turn on the bolts at *r*, *r*, in the directions indicated by the arrows *n*, *n*, so as to fold against the side of the box and

bear against the nut of the central bolt *f*, and lie parallel with the short dotted lines leading from the central nut to the points of the arrows *n*, *n*. Then, placing the side plates *c* and *d* flat in the bottom of the fire-box, the entire forge will be reduced to a depth of about ten inches, and it will be in a safe and convenient form for transportation.

At *i*, is seen a stop, attached against the under side of the forge, against which the leg *e* presses and by which the leg is held from spreading outward. At *j*, is a similar stop, but as the leg that bears against this must be turned to be folded in its proper place against the side of the box, this stop is made to form a part of a stump-joint, as seen at *q* in Fig. 2. Therefore, when it is desired to fold this leg, it must first be moved inward so that the stop may be turned under the box and then the leg will turn freely in the direction of the arrow to its position against the nut *f*.

The dotted line *l*, *l*, indicates the interior form of the box, *g* is the head of the twyer and the dotted lines about *g* indicate its form. The oblong inclosed by the dotted lines about *O*, indicate the position and form of a depression in the bottom of the fire-box, to be filled with clay or fire-brick. The twyer is made of cast-iron, solid, and passes through the back of the fire box from *g* to *g* and it is connected to the back by means of bolts that pass through the flange-shaped head. The dotted line under and extending upward on the right and left of *p*, indicates the form of the slack trough which is located here, is loose and therefore may be removed at will.

Fig. 2, is a view of the forge as seen from above, at *p*, is the slack-trough, at *O*, the brick or clay, and with the other parts marked by letters corresponding with those in Fig. 1. At D, is a view of the underside of the forge and similarly marked. The stump joints *j*, *j*, form the ends of the bar *q*, which is attached to the box under the slack-trough *p*.

In Fig. 3, at E, is a transverse section of the forge box taken vertically through the center of the twyer. At G is a view of the head or end of the twyer toward the fire, with two holes, one at the right and one at the left side, through which bolts will pass to connect it to the fire box. This head is made thick and broad to protect the sheet

iron back against the action of the fire. At F is a side view of the twyer.

At B, Fig. 1, is a side view of a common bellows, and pole to operate it, connected
5 with a frame consisting of three parts; two braced uprights and a cross or top piece, these parts are connected above by means of a mortise through each end of the top piece, through which tenons on the uprights pass
10 and are fastened by means of two wedge shaped keys inserted in these mortises and pressing against the sides of the tenons; removing these keys will let the parts separate and all may be packed snug for trans-
15 portation. Any kind of bellows or blowers may be used with this forge and thus the blowing power may be graduated to the work required.

I do not claim any of the parts used in this forge, separately, as all are well known. 20

What I claim as my invention and desire to secure by Letters Patent is—

A box shaped portable forge of the form herein described, containing within itself this combination of the flange headed twyer 25 as *g*, a fire box with a depression formed in its bottom to be filled with brick or clay as at *O*, and a light sheet iron slack trough as at *p*, when the box with all these parts combined is mounted on legs that can be oper- 30 ated and folded to the sides substantially as specified.

JOHN FRANCIS BRIDGE.

Witnesses:

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