

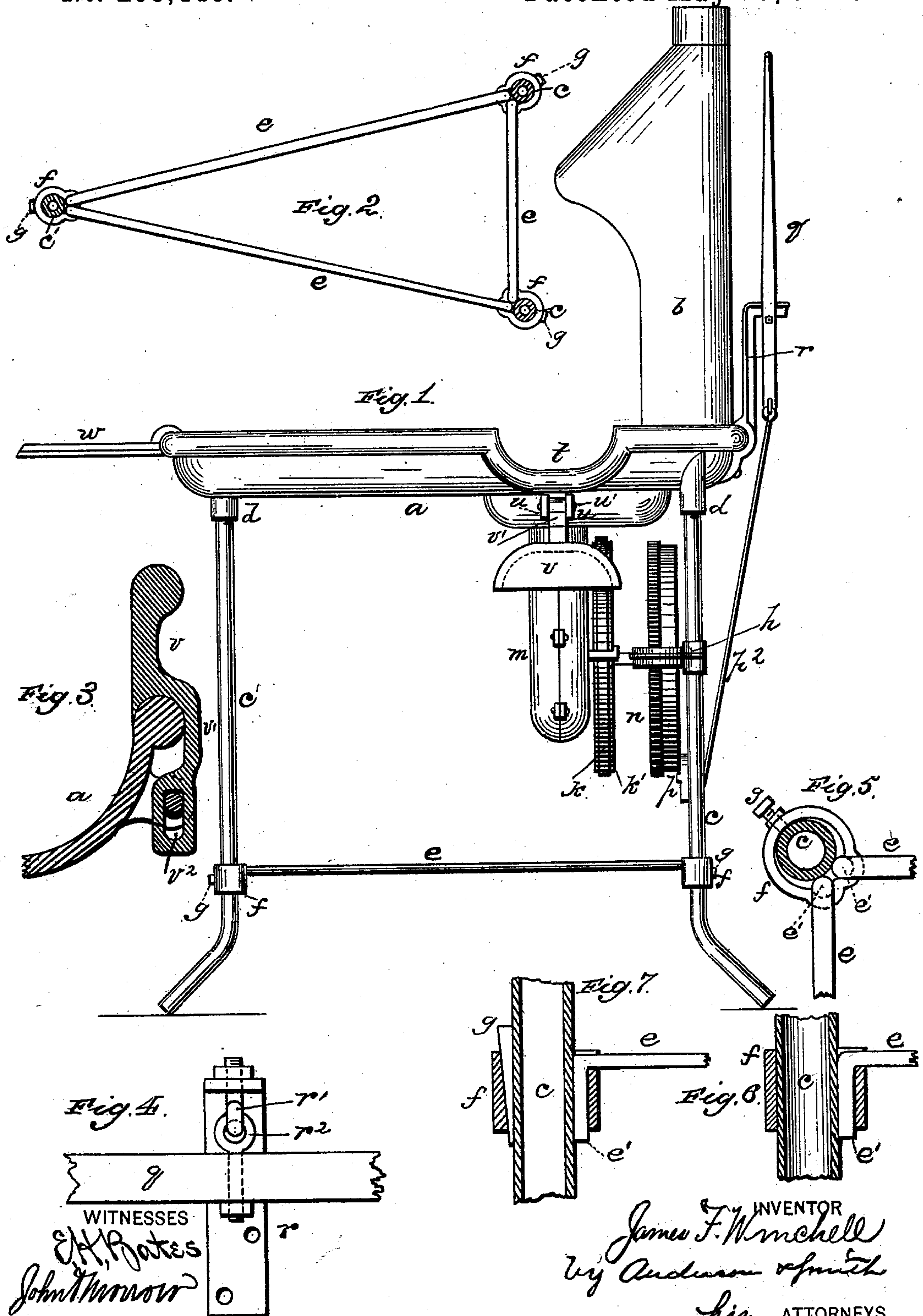
(No Model.)

2 Sheets—Sheet 1.

J. F. WINCHELL.
FORGE.

No. 299,448.

Patented May 27, 1884.



(No. Model.)

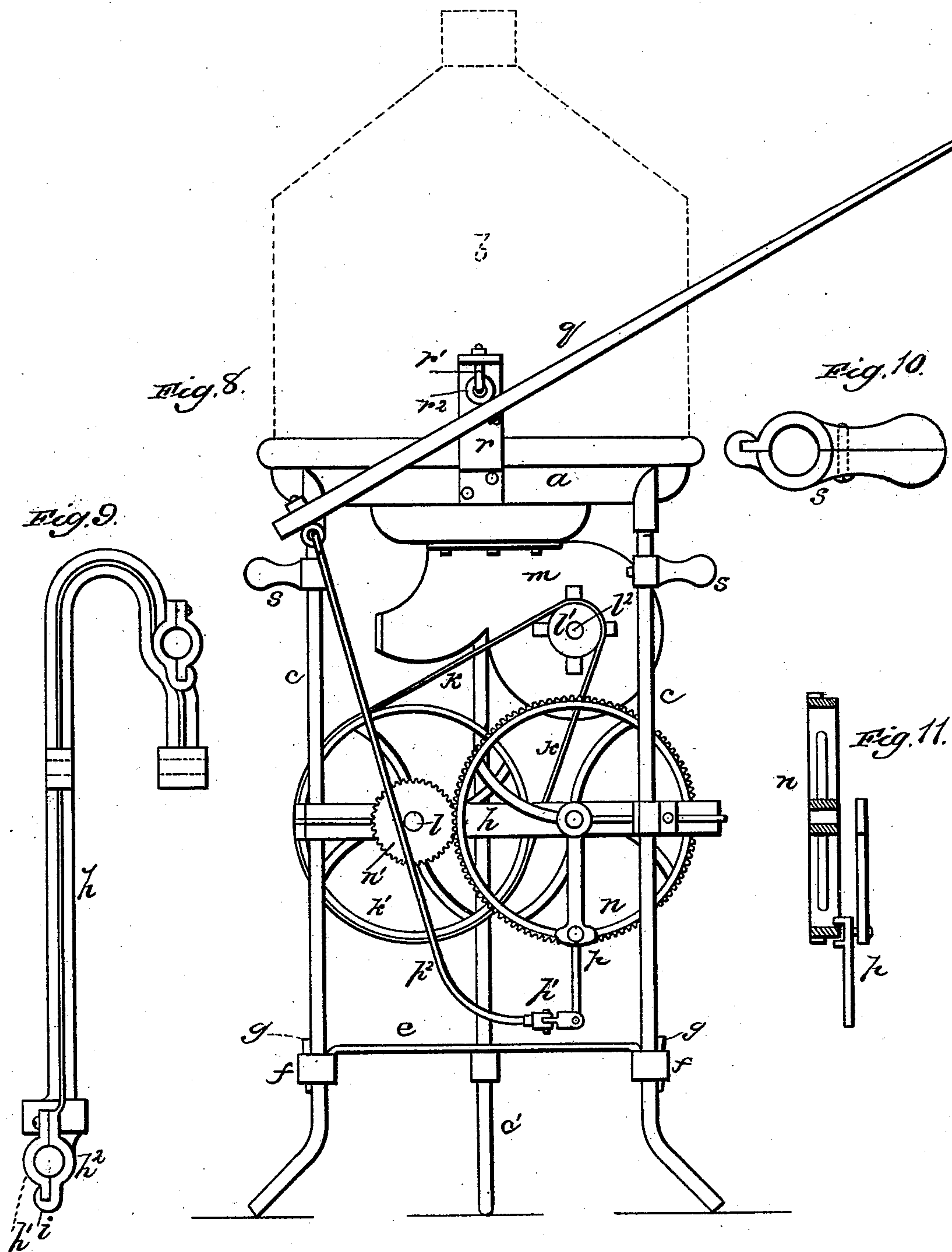
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WITNESSES
John P. Moore

James F. Winchell INVENTOR
by Anderson & Smith
his ATTORNEYS

UNITED STATES PATENT OFFICE.

JAMES F. WINCHELL, OF SPRINGFIELD, OHIO.

FORGE.

SPECIFICATION forming part of Letters Patent No. 299,448, dated May 27, 1884.

Application filed September 7, 1883. (No model.)

To all whom it may concern:

Be it known that I, JAMES F. WINCHELL, a citizen of the United States, residing at Springfield, in the county of Clark and State of Ohio, have invented certain new and useful Improvements in Forges; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a representation of a front elevation of the forge. Fig. 2 is a sectional plan of the three legs and brace-rods. Fig. 3 is a sectional view of the drop-door and its connections. Figs. 5, 6, 7, 9, 10, and 11 are detail views, and Fig. 8 is an end elevation.

This invention has relation to forges and furnaces, either portable or stationary; and it consists in the construction and novel arrangement of devices, as will be hereinafter fully described, and particularly pointed out in the claims appended.

Referring by letter to the accompanying drawings, *a* designates the top plate of the forge, and *b* the hood for the same. The top plate, *a*, is mounted on three legs, *cc* and *c'*—two at the right end and one at the left end. The upper ends of the legs *cc* *c'* are threaded and screwed into vertically-depending sockets *d* on the plate *a*. The legs are bent outwardly near their lower ends, and are strengthened a short distance above their bends by brace-rods *e*, the ends *e'* of which are bent at right angles to the body of the rod, and are securely clamped in place against the legs *cc* and *c'* by sleeves *f*, which are oblong in horizontal cross-sections, and are larger in internal diameter than the diameters of the legs upon which they are slipped, and are caused to clamp the ends *e'* of the rods *e* against the legs by means of wedges *g* or set-screws. This manner of clamping the rods against the legs prevents any motion at the joint and renders the frame absolutely rigid.

h designates the bracket which supports the mechanism which drives the fan. This bracket is made in one piece, except the half-sleeves

h', which connect with the half-sleeves *h²* on the bracket *h*. The half-sleeves *h²* are provided with hooks *i* on one of their flanged edges and perforated lugs on their other edges. The half-sleeves *h'* have shoulders or projections at one edge and perforated lugs on the other edge. The shoulders engage the hooks, and screws or nut-bolts are placed in the perforated lugs to clamp the half-sleeves upon the legs *cc*. This affords a secure fastening for the bracket, so that it may be readily removed, and while in place it also serves as a brace. A further function of the half-sleeves is to permit the adjustment of the bracket which carries the mechanism for driving the fan to tighten the belt *k*, which connects the band-wheel *k'* on the pinion-shaft *l* with the small pulley *l'* on the fan-shaft *l²*, which adjustment is performed by lowering the bracket on the legs *cc*.

m designates the fan-case, containing a rotary fan. The fan-case is removably secured to the under face of the fire-pot.

n designates a rim-flange gear-wheel on a shaft having bearings in the bracket *h*. The teeth of the gear-wheel *n* engage a pinion, *n'*, on the pinion-shaft *l*. A swinging grip-clutch, *p*, depends from the shaft of the rim-flange gear-wheel *n*, and its jaws grip the flange of said wheel *n* when the grip-clutch is drawn upon by a lever and its connections. The lower arm of the grip-clutch carries the jaws, and has a bearing in the lower end of the upper arm of the same. A knuckle-joint, *p'*, is pivoted to the lower end of the lower arm of the grip-clutch, and this knuckle-joint is connected by an eye-rod, *p²*, to the weight end of the lever *q*. The lever *q* is connected by a separable fulcrum to the side of the forge in the following manner: A bracket, *r*, is provided with a depending hook, *r'*, and the lever *q* has an eyebolt, *r²*, which engages the hook *r'* when the lever is to be used. When not in use, the lever may be lifted from the hook and hung upon the bracket *r*, whereby it is kept out of the way.

When the machine is to be portable, handles *s* are secured to the legs in a manner similar to the half-sleeves *h' h²*, the handles being half-handles until applied.

At the front and rear sides of the fire-pot

the edges of the top plate are provided with depressions *t t*, and the sides of the top plate are provided with lugs *u*, having a bearing-bolt, *u'*, on which a drop-door, *v*, is hinged.

5 The edge of the door next its connecting-arm is grooved to fit the molding along the depressions *t t*, and the connecting-arm *v'* is provided with an elongated lateral slot, *v''*, which gives it sufficient play upon its bearing to permit
10 the door to be raised from its depression and dropped down out of the way when necessary. The object of the drop-doors is to permit the larger articles treated in the forge to be brought down nearer the bottom of the fire-pot, so that
15 the fire can be more readily banked around them. In treating the smaller articles the doors may be closed.

A tool-bracket, *w*, consisting of a shelf having its bottom provided with holes for the re-
20 ception of tools needed at the forge is hooked onto the molding of the top plate in any convenient place.

This forge can be easily and quickly taken to pieces and packed for shipment, and as
25 easily set up again. A very strong blast may

be produced by it—in fact, one sufficiently strong to melt copper, zinc, and the like.

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

1. In a forge, the adjustable bracket *h*, having the half-sleeves *h'*, secured to the legs *c c* by the half-sleeves *h'* and *h''*, and securing-screws, nut-bolts, or the like, substantially as specified. 30

2. In a forge, the combination, with the top plate, *a*, having the depressions *t t* at the front and rear edges of the fire-pot, and the lug-bearings below the same, of the drop-doors *v*, connected by their slotted arms to their bear- 35
40 ings, and provided in their edges with grooves to fit the molding along the depressions *t t*, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES F. WINCHELL.

Witnesses:

THEO. MUNGEN,

JOHN D. MORROW.