D. MOKRY.

FORGE.

APPLICATION FILED SEPT. 26, 1912.

1,069,802.

Patented Aug. 12, 1913.

2 SHEETS—SHEET 1.

Fig. 1.

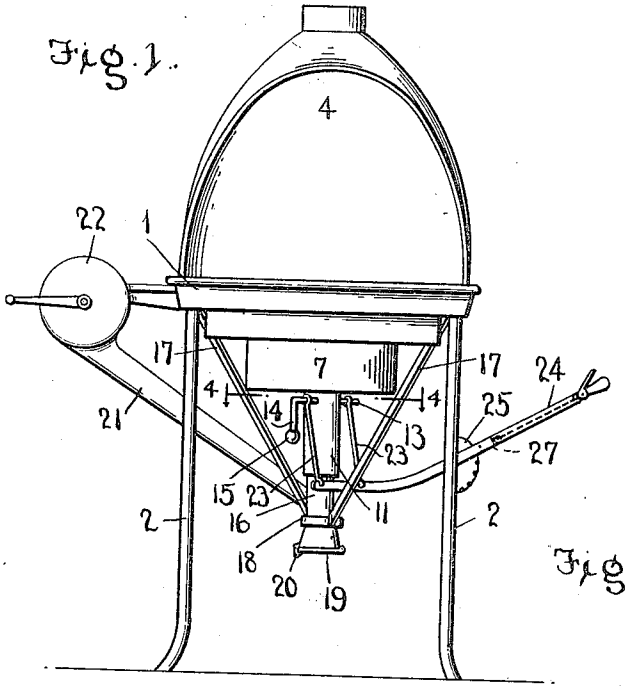


Fig. 5

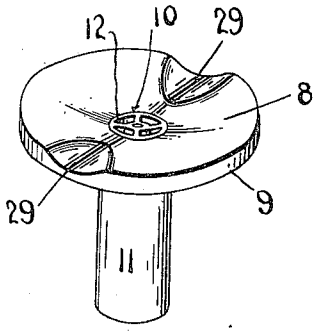


Fig. 6.

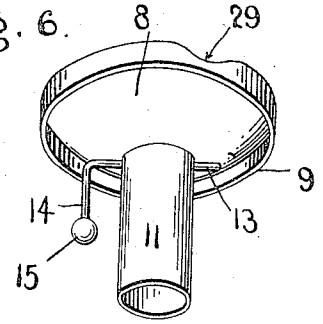
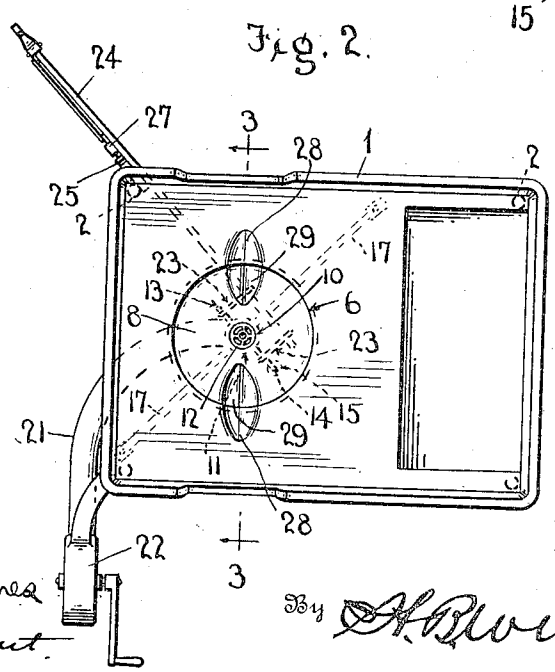


Fig. 2.



Witnesses

L. B. James

C. E. Hunt.

Inventor

Daniel Mokry

By H. B. Williamson & Co

Attorneys

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2 SHEETS—SHEET 2.

Fig. 3.

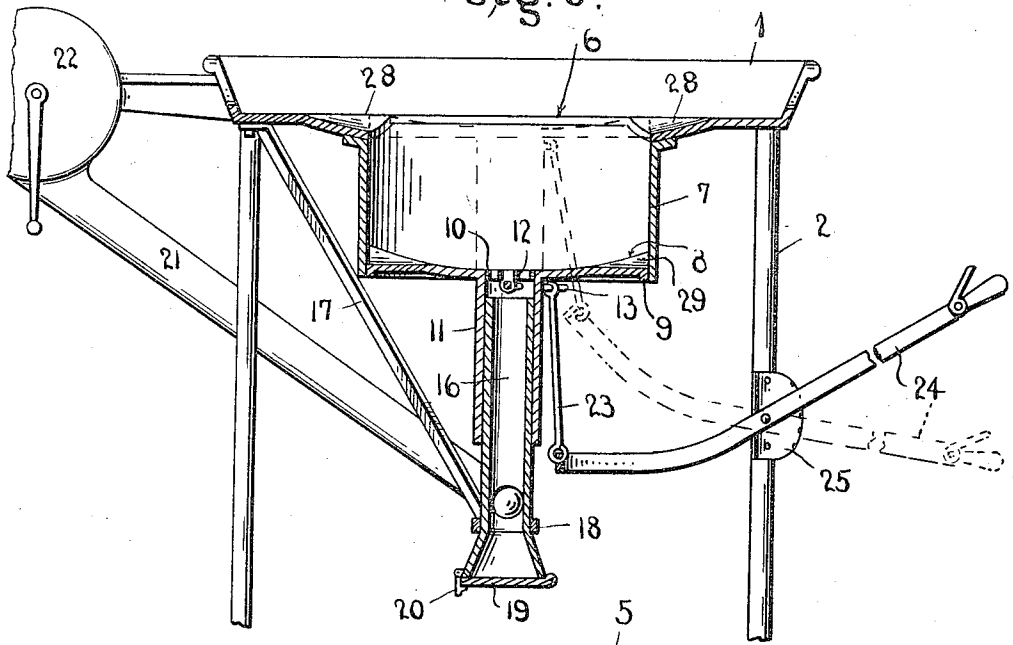


Fig. 4.

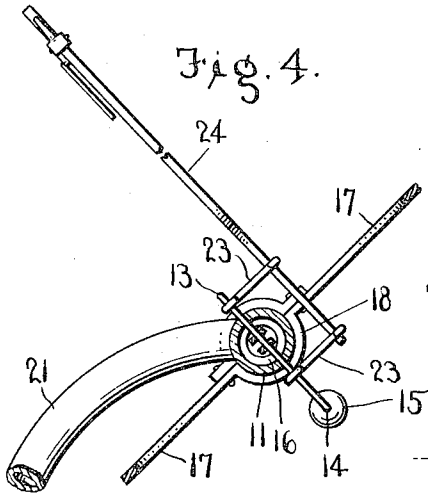
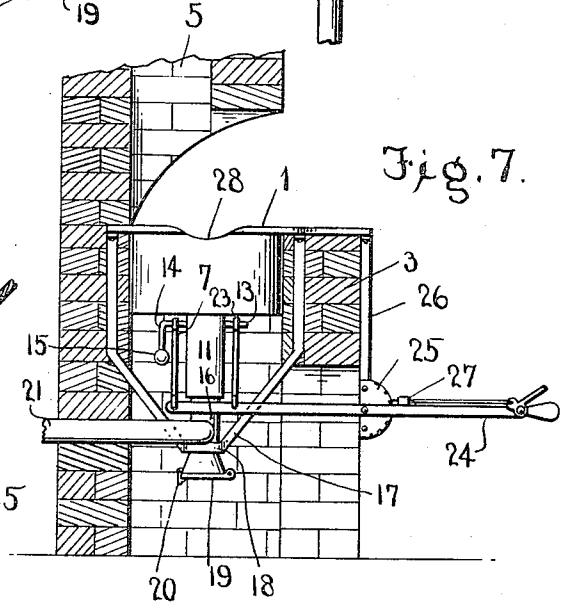


Fig. 7.



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C. E. Hunt

By H. B. Williamson & Co

Attorneys

UNITED STATES PATENT OFFICE.

DANIEL MOKRY, OF CAMDEN, OHIO.

FORGE.

1,069,802. Specification of Letters Patent. Patented Aug. 12, 1913.

Application filed September 26, 1912. Serial No. 722,461.

To all whom it may concern:

Be it known that I, DANIEL MOKRY, a subject of the Emperor of Austria-Hungary, residing at Camden, in the county of Preble 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.

This invention relates to improvements in forges and particularly to open hearth forges.

One object of the invention is to provide a forge having an improved construction and arrangement of fire supporting mechanism and means whereby the same may be vertically adjusted to raise and lower the fire when desired thus enabling a deep or shallow fire to be quickly and readily obtained without adding to the fire and wastefully burning more coal.

With this and other objects in view the invention consists of certain novel features of construction, combination and arrangement of parts as will be more fully described and claimed.

In the accompanying drawings, Figure 1 is a front view of a portable forge embodying my improvements; Fig. 2 is a plan view thereof with the hood of the forge removed; Fig. 3 is an enlarged vertical cross sectional view of the forge taken on the line 3—3 of Fig. 2; Fig. 4 is a horizontal sectional view through the draft tube of the forge taken on the line 4—4 of Fig. 1; Fig. 5 is a detail top perspective view of the fire supporting plate and adjustable member of the draft tube; Fig. 6 is a bottom perspective view of the same; Fig. 7 is a vertical sectional view of a stationary forge showing my improvements applied thereto.

Referring more particularly to the drawings 1 denotes the tray or top plate of the forge which in Figs. 1, 2 and 3 of the drawings is supported on legs 2 to form a portable forge and which in Fig. 7 of the drawings is supported on a brick or masonry foundation 3 and forms a stationary forge. Arranged over the tray or plate 1 of the portable form of the forge is a smoke conducting hood 4 while over the plate 1 in the stationary form of the forge is arranged a chimney 5.

At a suitable position in the plate or tray 1 is a fire opening 6 which may be of any suitable shape and in the present instance is shown as being circular. Secured to the lower side of the plate 1 below the fire opening 6 is the fire pot or tube 7 which extends downwardly to a suitable distance below the plate 1 and is designed to hold the fire of the forge. Arranged in and having a close sliding engagement with the tube or pot 7 is a bottom or fire supporting plate 8 which is preferably slightly concaved and has on its outer edge a depending annular flange 9. The flange 9 closely engages the inner surface of the tube 7 and guides and holds the plate 8 from tilting. In the center of the plate 8 is a draft opening 10 below which and depending from the lower side of the plate 8 is the outer adjustable member of a draft tube 11. In the draft opening 10 is arranged a grate 12 which is suitably mounted on a supporting rod or shaft 13 the ends of which extend through and are revolubly mounted in the sides of the tube member 11 as shown. One end of the shaft 13 is bent at right angles to form a crank handle 14 whereby the grate may be tilted or shaken when desired. On the end of the crank handle 14 is a counter balancing weight 15 which will restore and hold the grate in a horizontal or operative position in the draft opening 10.

The upper outer member of the draft tube is slidably engaged with an inner lower draft tube member 16 which is supported in position below the center of the fire pot 7 by depending bracing or supporting bars 17 the upper ends of which are secured to the lower side of the tray or plate 1 while their lower ends are secured to a collar 18 which embraces the tube member 16 near its lower end as shown. The lower end of the tube member 16 is flared outwardly to form a discharge opening for the dust and ashes falling through the grate 12 and draft tube. The flared lower end of the tube member 16 is normally closed by a trap door 19 which is suitably hinged at one edge to one side of the flared end of the tube and is held in closed position by a suitable catch 20 as shown. Connected to one side of the tube member 16 near the lower end thereof is an air conducting tube 21 the outer end of which is connected with a blower 22 of any suitable construction whereby a blast of air is blown through the air conducting tube 21 and the draft tube members 16 and

11 and through the grate and draft opening 10 whereby the desired draft is provided for the fire burning in the fire pot 7 on the plate 8.

In order to raise and lower the bottom 8 and the upper adjustable member 11 of the draft tube to bring the fire on the plate to the desired position in the fire pot, I provide a plate adjusting mechanism comprising a pair of bottom projecting rods 23 in the ends of which are formed eyes. The eyes on the upper ends of the rods 23 are loosely engaged with the grate supporting rod 13 adjacent to the opposite sides of the tube member 11 while the eyes on the lower ends of the rods are loosely engaged with a grate adjusting lever 24 which is pivotally secured to a segmental rack plate 25. The plate 25 in the portable form of the forge is preferably secured to one of the supporting legs 2 of the tray 1 while in the stationary form of the forge the plate 25 is secured to a depending bar 26 or other suitable part of the forge. The lever 24 is provided with a suitable pawl 27 for engaging the teeth of the rack 25 whereby the lever is held in adjusted positions for supporting the bottom or plate 8 of the fire pot and fire thereon at the desired position in the fire pot. The upper edge of the tube or fire pot 7 at diametrically opposite points and the adjacent portions of the plate or tray 1 are preferably depressed or recessed as at 28 and the coincident portions of the plate or tray 8 are correspondingly depressed or recessed as at 29, said recesses or depressions 28 and 29 facilitating the placing of the iron or other object to be heated in the forge.

By providing the fire pot or tube 7 with the adjustable bottom or fire supporting plate 8 as herein shown and described it will be seen that a small deep fire may be maintained in the fire pot when the bottom or plate 8 is lowered therein and that when it is desired to heat an iron or other object which cannot because of its size or shape be inserted into the fire pot it is simply necessary to swing the outer end of the lever 24 downwardly and thereby project or raise the bottom or plate 8 in the tube or fire pot at such an elevation or position that the fire on the bottom will be supported in a position for receiving the iron or other object to be heated. After this iron or other object has been heated and it is again desired to provide a low or deep fire it is simply necessary to swing the lever 24 in the opposite direction thereby lowering the plate 8 and the fire thereon in the fire pot or tube 7. By this arrangement it will be seen that a high fire may be readily obtained without adding more coal to the fire and thus wastefully burning the added coal.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention as defined and claimed.

Having thus described my invention, what I claim is:

1. In a forge, the combination of a fire pot, a fire-bed supporting device slidably mounted therein and comprising a plate having a central draft opening, an upper depending draft tube formed integrally with the plate around said opening, a grate extending across said draft opening in the plate, a lower stationary draft tube adapted to slidably receive said upper tube, and means to raise or lower said device bodily, whereby the fire-bed is supported at the desired elevation in the pot to permit different depth fires to be maintained.

2. In a forge, the combination of a fire pot, a fire supporting device slidably mounted therein and comprising a plate having therein a centrally arranged draft opening, a grate pivotally mounted in the opening, and an upper draft tube depending from and rigidly connected to the plate at said opening, a lower stationary draft tube having slidable engagement with said upper draft tube, a clean-out door mounted on the lower end of said stationary draft tube whereby the tube may be relieved of the dust and ashes discharged through the grate opening, and means whereby the said fire bed supporting device may be raised or lowered within said fire pot, for the purpose set forth.

3. In a forge, the combination of a fire pot, a fire bed supporting device slidably mounted therein and comprising a plate having therein a centrally arranged draft opening, a depending draft tube rigidly connected to said plate at said opening, a swinging grate in the draft opening of said plate, a horizontal pivot fixed to said grate, a balancing weight secured to one end of the pivot and adapted to hold the grate in operative position, oppositely disposed links connected at their upper ends to said pivot, a lever having its inner end secured to the lower ends of said links, whereby the plate may be raised or lowered within the pot, and a locking mechanism to hold said lever in adjusted position.

4. In a forge, the combination of a tray having therein a centrally arranged fire opening, a fire pot secured to and depending from the tray at said opening, a fire supporting plate slidably mounted in said pot, an upper draft tube secured to said plate, a

lower stationary draft tube adapted to slidably receive said upper draft tube, and means to hold said lower tube in a stationary position beneath said upper tube comprising a collar inclosing the lower end of said stationary draft tube, a series of supporting braces having their lower ends connected to said collar and their opposite ends fastened to the under surface of the tray, and means whereby said plate may be raised or lowered within said fire pot.

5. A forge comprising a tray having therein a centrally arranged fire opening and oppositely disposed recesses formed on the tray adjacent said opening and adapted to receive the opposite ends of heating objects, a fire pot secured to and depending from the lower surface of the tray at said opening, a fire bed supporting plate slidably mounted in said pot and having a draft opening at its center and oppositely disposed recesses adapted to register with the recesses in said tray, a grate extending across the central opening in said plate, and means whereby said plate may be raised or lowered within the pot to form fires of various depths.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

DANIEL MOKRY.

Witnesses:
B. D. TALBERT,
L. R. TALBERT.