L. E. Clow,

Tuyere,

No. 3,277. Patented Sep. 23, 1843.

Fig. 2.

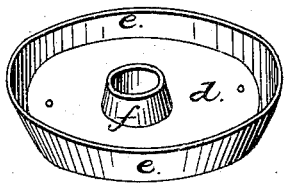


Fig. 3.

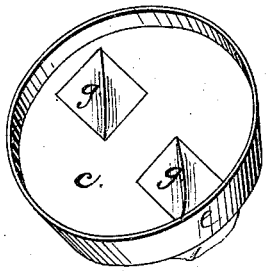


Fig. 4.

Fig. 5.

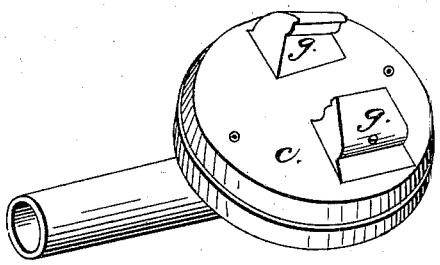
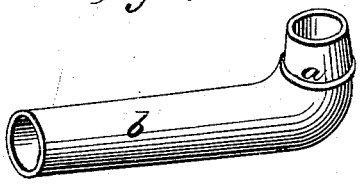


Fig. 1.



UNITED STATES PATENT OFFICE.

LEWIS E. CLOW, OF MONTPELIER, VERMONT.

TWYER.

Specification of Letters Patent No. 3,277, dated September 23, 1843.

To all whom it may concern:

Be it known that I, LEWIS E. CLOW, of Montpelier, in the county of Washington and State of Vermont, have invented a new and useful Improvement in Twyers; and I do hereby declare that the following is a full and exact description.

This twyer consists of a tube of sufficient dimensions at one end to receive the pipe to the bellows, and the other end is made a very little smaller. This tube (see Figure I, letter *b*, in the drawings) I usually make from twelve to fourteen inches in length, and the small end is turned so as to form a right angle, with a collar (see Fig. I, letter *a*, in the drawings) above the turn, to form a resting place for the air chest, and the pipe is made about one inch above the collar, and is used as an axle for the air chest (see Fig. V, letter *c*, in the drawings). Said tube is represented by Fig. I, in the drawings. The bottom (see Fig. II, letter *d*, in the drawings) part of the air chest I usually make about twelve inches wide in a circular form, with a hole in the center to receive the small end of the pipe before mentioned, and a flanch (see Fig. II, letter *e*, in the drawings) on the outer edge about one inch wide, made a little flaring, so as to receive the flanch of the top part of the air chest, thereby forming the sides of the air chest; and there is another flanch (see Fig. II, letter *f*, in the drawings) of the same width as the other, around the hole in the center, to serve as a box for that part of the pipe designed for an axle to the air chest. Said bottom plate is represented by Fig. II, in the drawings. The top part of the air chest is made in the same form as the bottom, with two tubes (see Figs. III, and V, letter *g*, in the drawings) or orifices, raised about two inches, near the sides of the air chest, directly opposite, each to the other, and pointing, each toward the other, in an angle of about forty-five degrees. I make these orifices about two by three inches at the lower end, and at the top, they are brought nearly to an edge where the air is to escape. The upper side of said last mentioned tubes is cast separate, and is fastened to the top plate with a screw or bolt, so that this part of the air chest, which is most exposed to the action of the fire, may be repaired with very little expense. Said top plate is represented by Fig. III, and said upper side of the air pipes by Fig. IV, in the drawings. The top and bottom plates are fastened together with screws or bolts, and cemented at the edges where the flanches come together; and the several parts when united, are represented by Fig. V, in the drawings. The first mentioned tube is to be made stationary in the back of the forge, and the air chest is made to revolve horizontally around the small end of the stationary pipe, thereby enabling anyone to take a long or short welding heat at pleasure, that is by turning the air chest so that the air pipes point, one to, and the other from the back of the forge, a short heat is obtained, and by turning the air chest so that the air pipes point crosswise of the forge, a long heat is obtained; and the air being received in the center, a much more unbroken current of air is obtained than with the twyers now in use, and there is a great saving in coal, by using this twyer.

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

The combination of the revolving twyer cap constructed as above described with the central underblast arranged and constructed as above described.

LEWIS E. CLOW.

Witnesses:

SAMUEL H. SMITH,

SYLVANUS RIPLEY.