No. 649,672. Patented May 15, 1900.

H. E. PARSON.

INJECTOR FOR PORTABLE FORGES.

(Application filed Nov. 3, 1898. Renewed Sept. 26, 1899.)

(No Model.)

Fig: 1.

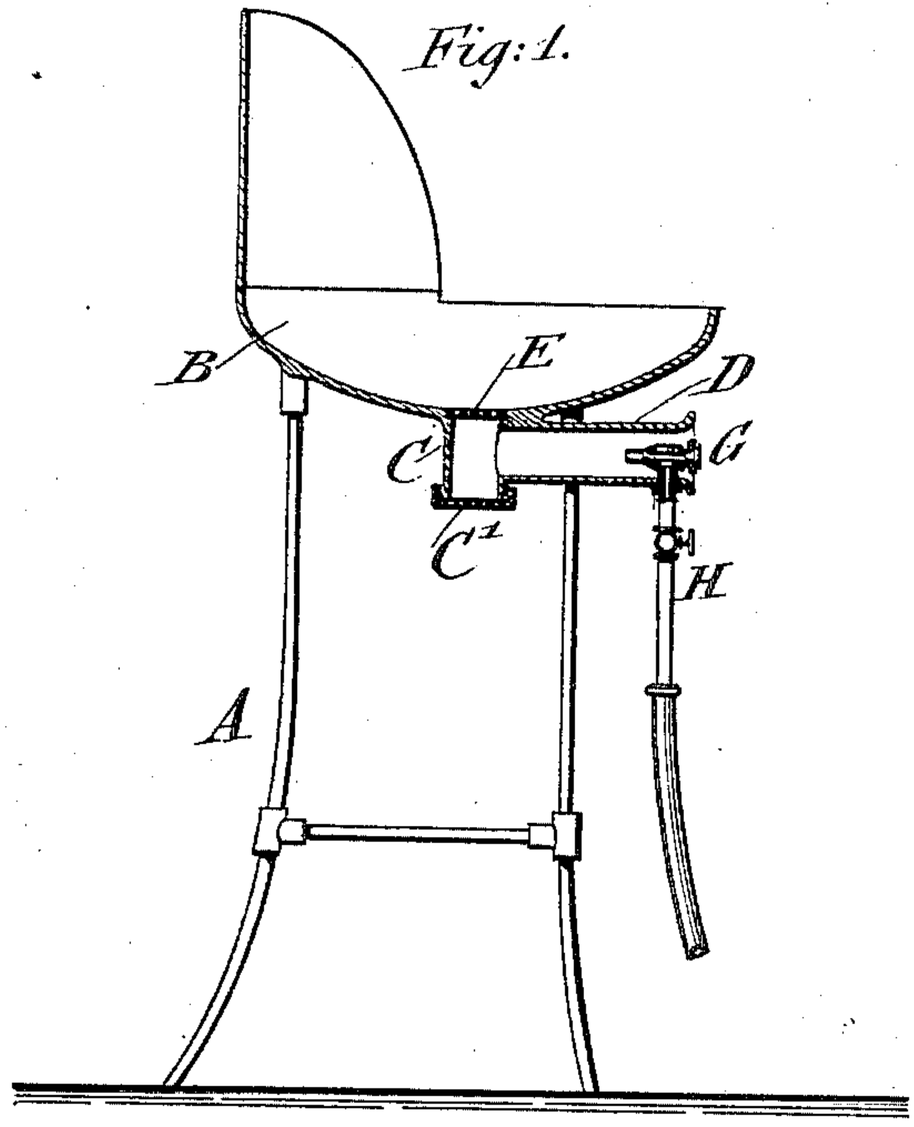


Fig: 2.

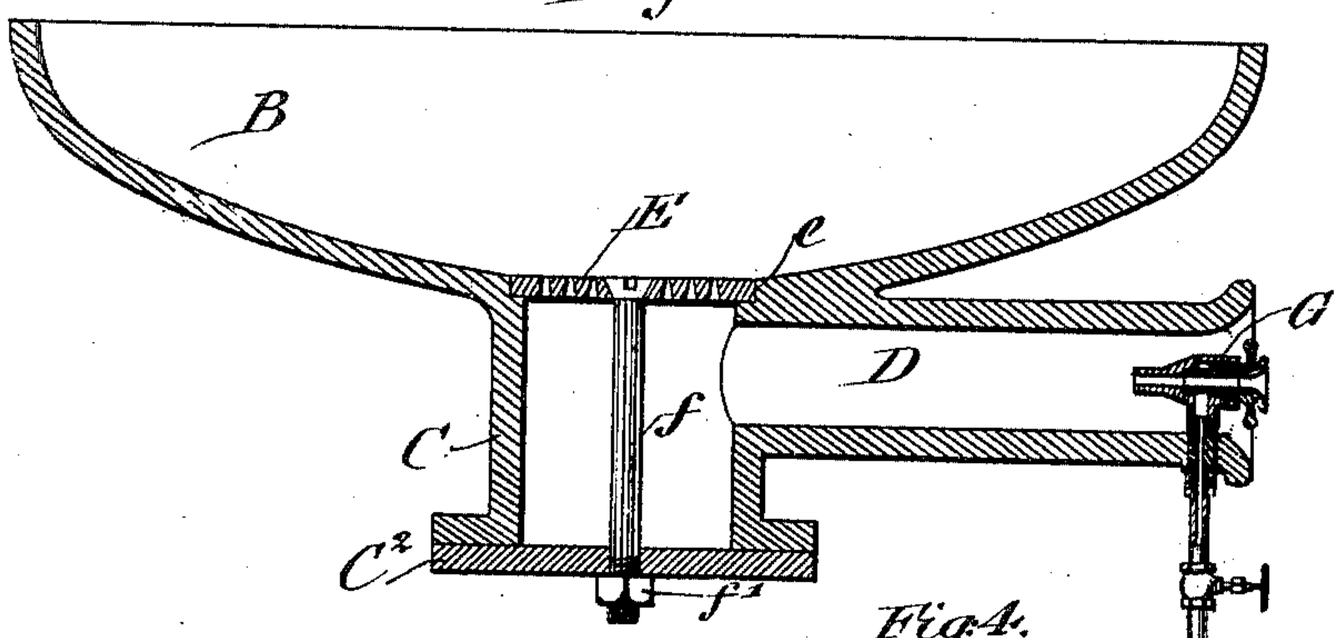


Fig: 3.

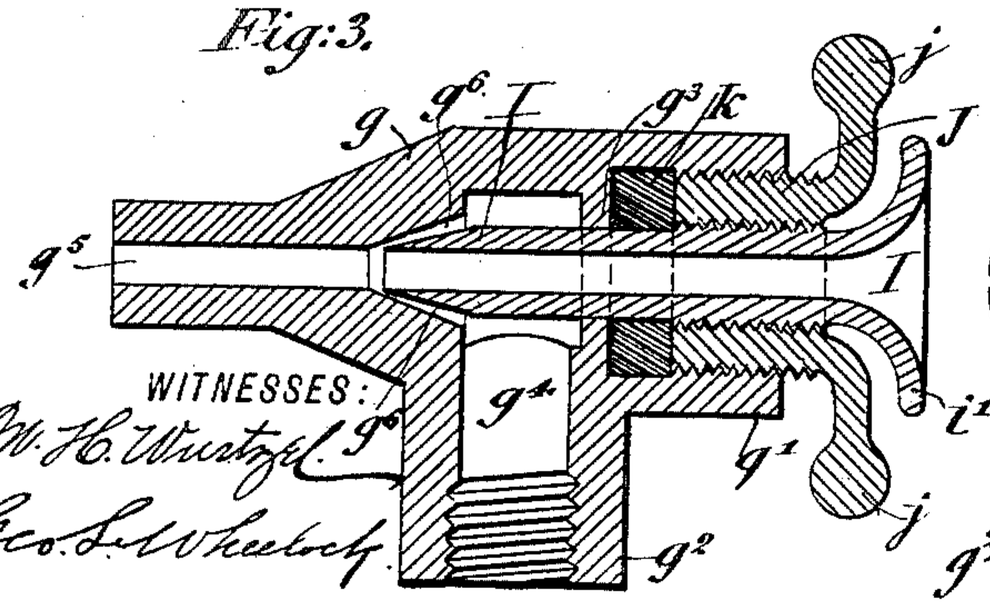
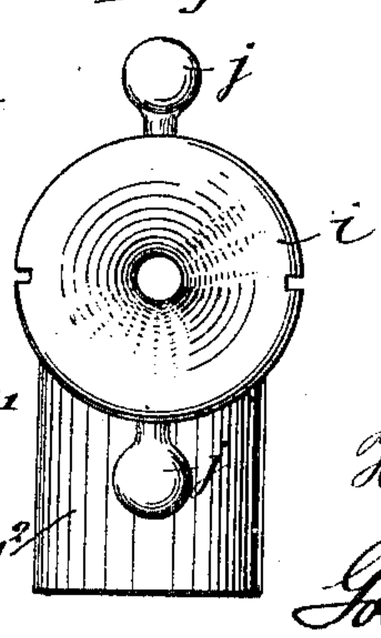


Fig: 4.



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INJECTOR FOR PORTABLE FORGES.

SPECIFICATION forming part of Letters Patent No. 649,672, dated May 15, 1900.

Application filed November 3, 1898. Renewed September 26, 1899. Serial No. 731,768. (No model.)

To all whom it may concern:

Be it known that I, HENRY E. PARSON, a citizen of the United States, residing in the city of New York, borough of Brooklyn, and State of New York, have invented certain new and useful Improvements in Injectors for Portable Forges, of which the following is a specification.

This invention relates to injectors for portable forges; and the object of the same is to provide the injector with suitable means of lubrication, so that the parts of the same can be easily turned one upon the other.

The invention consists of an injector which comprises a nozzle provided with an internally-screw-threaded boss, having a flange between the boss and the passage through the nozzle, an air-tube inserted through the opening in said flange and being externally screw-threaded, an internally and exteriorly screw-threaded gland-nut for engaging the screw-threads of the air-tube and said boss, and a packing of plumbago saturated with oil and held between said flange and said gland-nut, as will be hereinafter particularly described and then claimed.

In the accompanying drawings, Figure 1 is a side elevation of a portable forge to which my injector is applicable. Fig. 2 is an enlarged vertical transverse section of the coal-box of the forge and of the injector. Fig. 3 is a still further enlarged vertical section of the injector, and Fig. 4 is a rear elevation of the same.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A indicates the frame, and B the coal-box, of a portable forge to which my injector is adapted to be applied. The coal-box has a depending center neck C, provided with a radially-extending blast-tube D.

E is a diaphragm in the bottom of the coal-box, which is received in a recess *e* at the upper end of the neck C. The lower end of the neck C is closed in any suitable manner, as by screw-cap C′, Fig. 1, or by plate C^2, Fig. 2. The plate C^2 is fastened by means of screw-bolt *f* and nut *f′*.

The injector G is inserted in the flaring outer end of the blast-tube D. The injector consists of a nozzle *g*, the inwardly-extending end of which tapers, while the outer end is formed with an internally-screw-threaded boss *g′*, the nozzle also having a downwardly-extending internally-screw-threaded neck g^2, which receives the screw-threaded upper end of a valved pipe H, preferably connected with a supply of air under pressure. An internal flange g^3 is arranged in the nozzle, so that the air forced through the nozzle from the pipe H is caused to pass through the vertical passage g^4 and the horizontal passage g^5 in said nozzle.

The tapering end of an air-tube I extends through the opening in the flange g^3 and projects into the tapering internal end of the passage g^5, so that an annular passage g^6 is formed between the said parts, through which the air from pipe H passes. This space can be made larger or smaller, according to requirements, by means of a gland-nut J, which is both internally and exteriorly screw-threaded, so as to engage with the interior screw-thread of the boss *g′* and with the exterior screw-thread adjacent to the flaring mouthpiece *i* of said air-tube. The gland-nut J is provided with diametrically-opposite handles *j*, so that the same can be grasped by the hand for turning said nut and adjusting the air-tube accordingly. In such screw-connected parts it is often very difficult to turn the one upon the other; but in the present invention a lubricating means for the screw-threads is provided, which means is confined in the injector itself. This consists, preferably, of a body of plumbago *k*, saturated with a suitable lubricating-oil and made in the form of a packing-ring, which is placed around the air-tube I and confined between the flange g^3 and the inner end of the gland-nut. By turning the gland-nut in and squeezing the plumbago packing *k* a small amount of oil is forced out of the same and into the joints adjacent thereto. The neck g^2 of the injector extends downwardly and is secured onto the upper end of pipe H, which projects upwardly through a suitable opening in the outer end of the blast-tube D, and the nozzle *g* projects inwardly in said blast-tube, so that it is axially in line with the passage therethrough.

In operation air from a suitable supply is caused to pass through the pipe H and in

passing through the annular space g^6 and the passage g^5 in the nozzle to cause an additional supply of air to be sucked in through the air-tube I. The jet of air forced through the nozzle then also sucks in an additional supply through the mouth of the blast-tube D, so that the augmented blast is forced into the neck C upwardly through the perforated diaphragm E and into the coal-box B, so as to cause the coals therein to burn more freely, as well as to hasten the heating of the metal in the forge.

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

In an injector, the combination of the nozzle of the same provided with an internally-screw-threaded boss and having a flange between the latter and the passage through the nozzle, an air-tube inserted through the opening in said flange and being exteriorly screw-threaded, an interiorly and exteriorly screw-threaded gland-nut for engaging the screw-threads of the air-tube and said boss, and a packing confined between said flange and said gland-nut, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

HENRY E. PARSON.

Witnesses:
PAUL GOEPEL,
GEO. L. WHEELOCK.