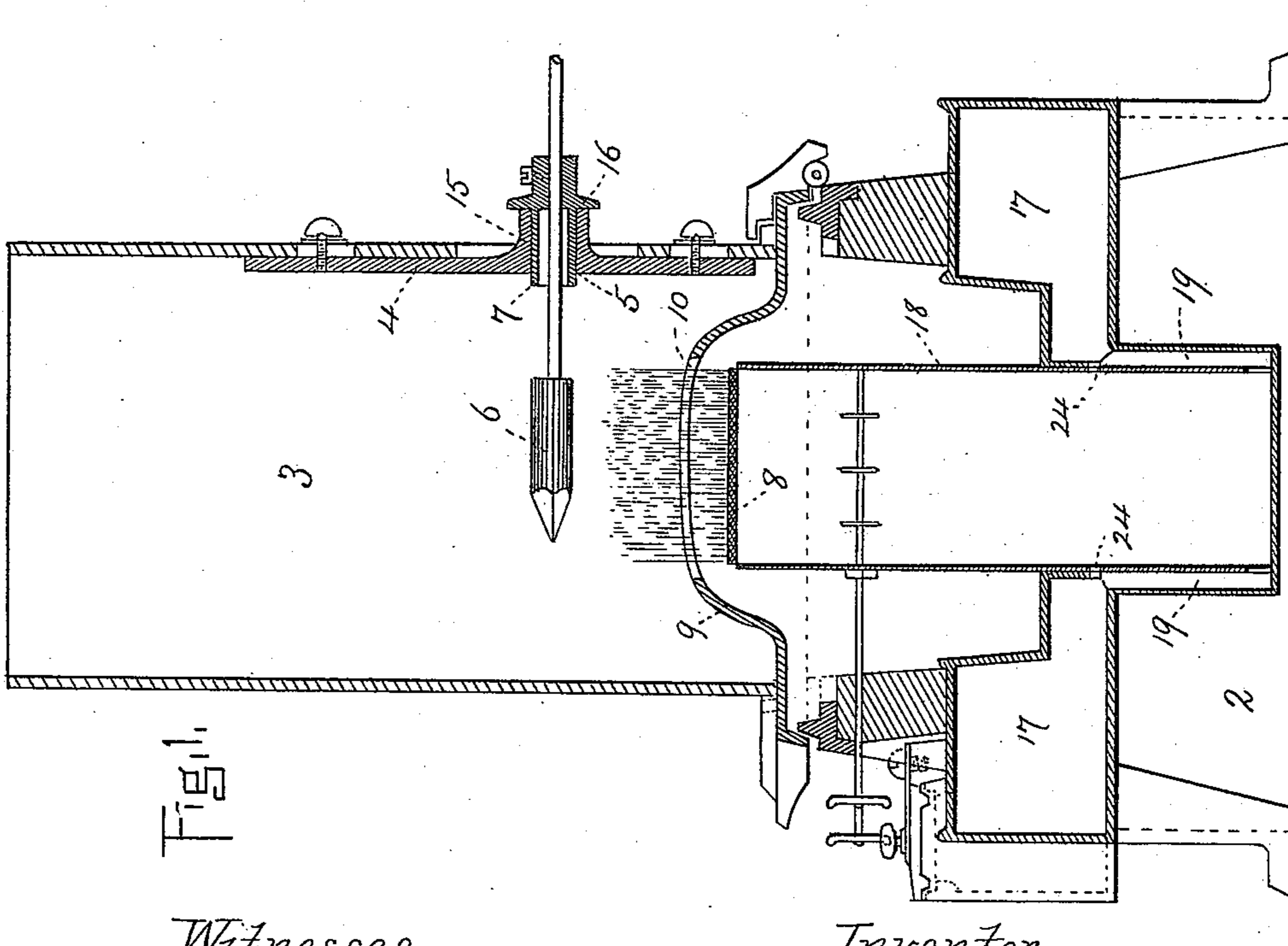
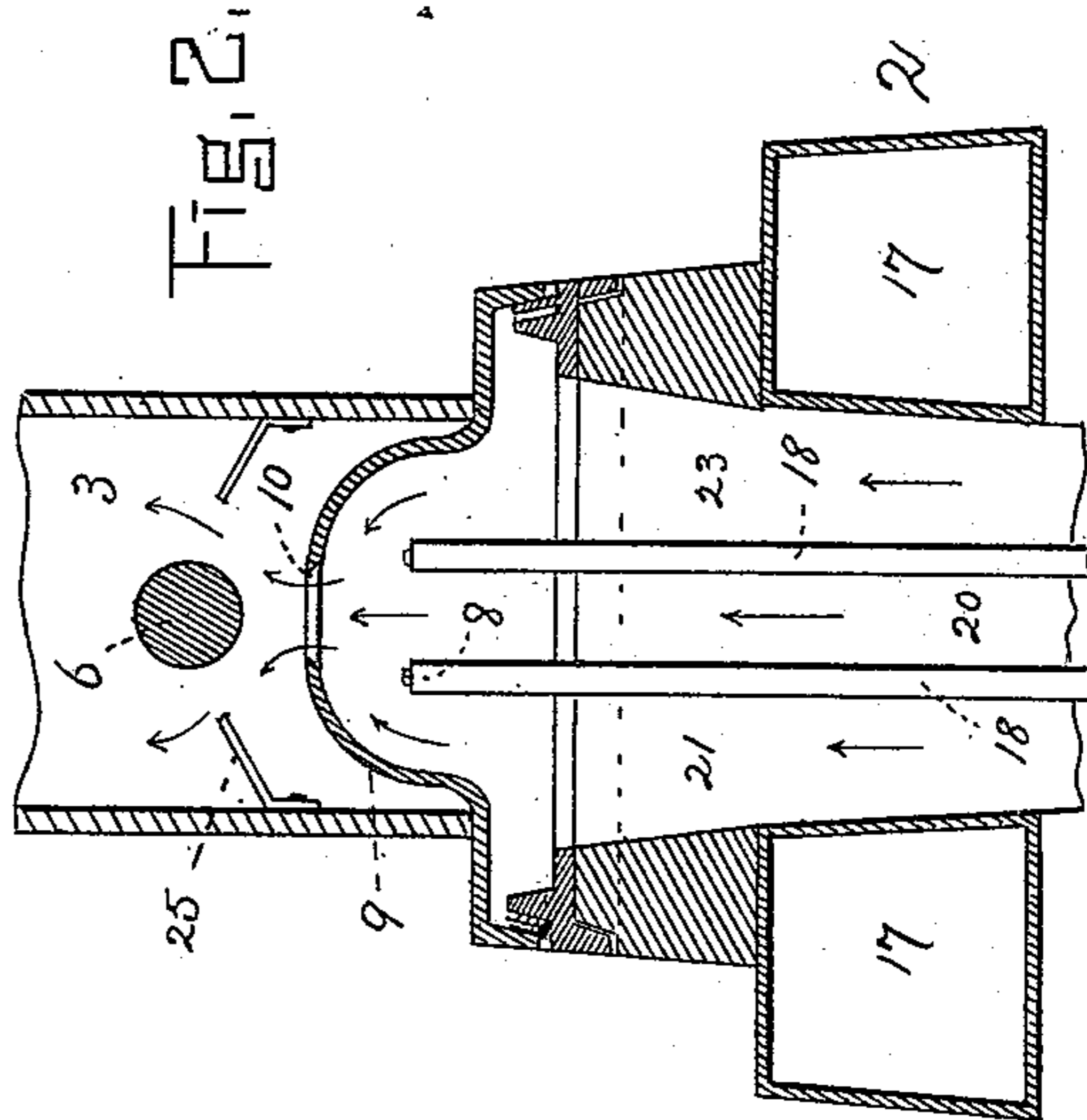
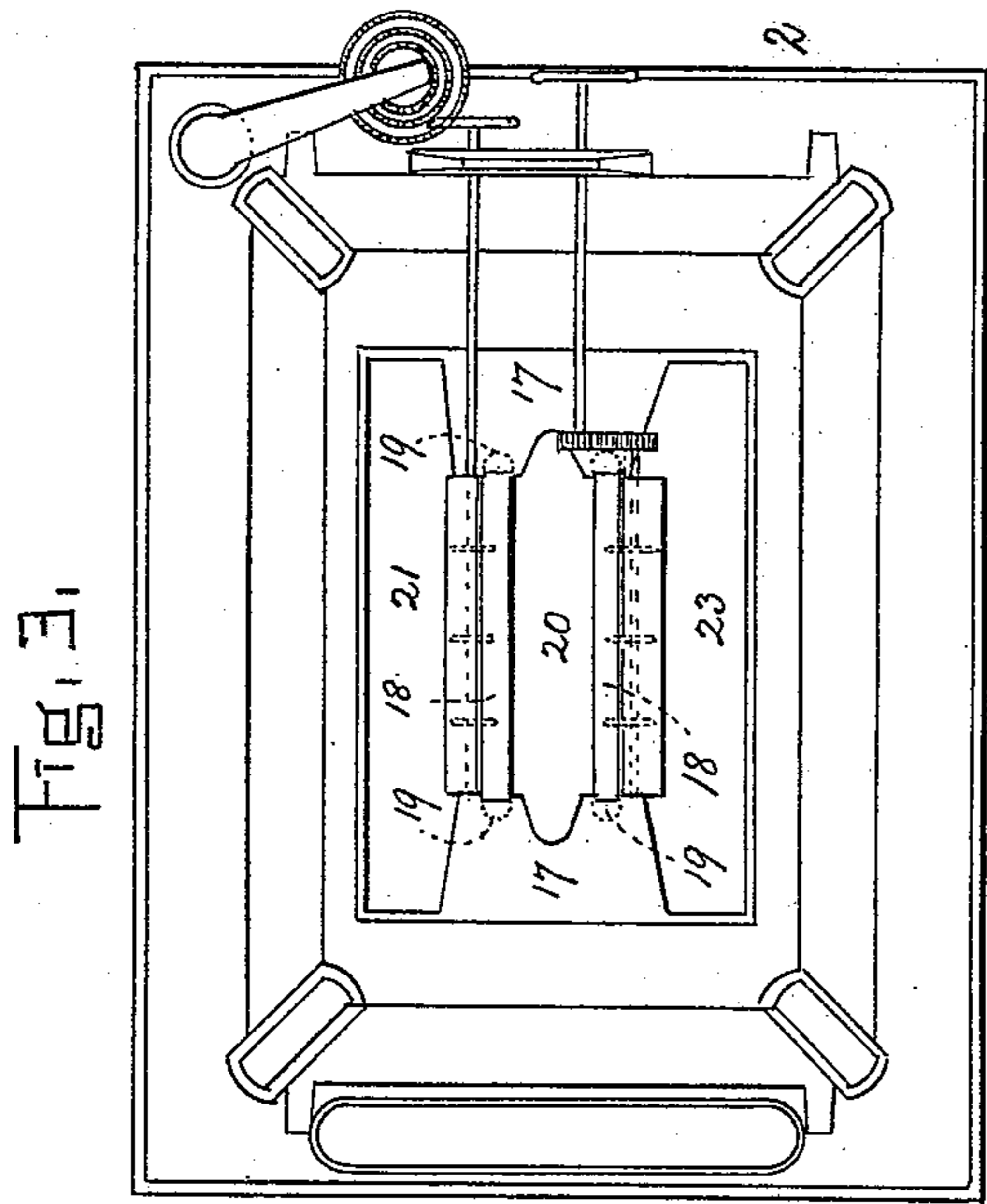


(No Model.)

F. S. ROBINSON.
HEATING SOLDERING IRONS.

No. 446,154.

Patented Feb. 10, 1891.



Witnesses,
Francis C. Stanwood
William Foster

Inventor.
Fayette S. Robinson.
by H. S. Lodge Atty.

UNITED STATES PATENT OFFICE.

FAYETTE S. ROBINSON, OF BOSTON, MASSACHUSETTS.

HEATING SOLDERING-IRONS.

SPECIFICATION forming part of Letters Patent No. 446,154, dated February 10, 1891.

Application filed July 25, 1890. Serial No. 359,871. (No model.)

To all whom it may concern:

Be it known that I, FAYETTE S. ROBINSON, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Apparatus for Heating Soldering-Irons; and I do hereby 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 figures of reference marked thereon, which form a part of this specification.

This invention relates to soldering apparatus by means of which the "iron," so termed, is heated by the flame of a lamp or a gas-jet.

My invention relates to that class particularly described in United States Letters Patent No. 200,875, issued in my name the 5th day of March, 1878, and may be considered as embodying improvements thereon, all of which will be fully hereinafter described.

The drawings accompanying this specification represent, in Figure 1, a vertical longitudinal section of a soldering apparatus embodying my invention. Fig. 2 is a transverse section of the apparatus with a soldering-iron, showing the position of the iron and the action of the flame thereupon. Fig. 3 is a plan with the top portion removed.

Briefly described, my soldering apparatus consists of a base or lamp 2, to which is secured by hinged connection a rectangular flue or chimney 3, made preferably of sheet metal. Vertically adjustable upon one end and interiorly thereof is a holder-plate 4, having a circular aperture 5, provided with an annular rim or short tubular sleeve 15, through which the soldering-iron 6 is admitted within the flue. This plate 4 closes an opening cut in this end of the flue, and is adjustable to regulate the height at which the soldering-iron is to be held above the flame.

The soldering-iron is of the usual construction, and is fitted with a movable collar 7, which engages within the sleeve 15, while a flange 16 limits the distance it can enter within the flue. By adjusting the collar upon the handle of the iron the latter may enter the flue a greater or less distance.

The primary object of my invention con-

sists in an improvement in the burner or manner in which the heat is applied to the soldering-iron without permitting direct contact of the flame against said iron, the result of which is frequently to burn or smoke and blacken the said iron.

In my apparatus I propose to employ two flames fed by wicks 8 8, (see Fig. 3,) of a width, as shown in Fig. 1, equal to or greater than the length of the iron. In connection with the double-flame burner I employ a cone 9 with a single central aperture 10, longitudinally of the flue and parallel with the wicks, but above and preferably centrally between them. In alignment with this aperture or flame-orifice and adjustably above it is placed the iron in process of heating.

It is obvious from the direction of the various arrows designating the air and flame currents that when the wicks are lighted the flame produced jointly thereby impinges against the inner surface of the cone adjacent to the edge of the aperture 10. In conjunction with said double wicks and the flames therefrom a strong current of air upwardly is produced between the wicks and is concentrated at said aperture. Furthermore, this air-current passes between said flames through the aperture 10, strikes the under side of the iron and divides, passing about the latter on either side. By the action of this central air-draft each flame is forced about the edge of the aperture and spreads outwardly upon emerging from the cone. In this way the direct impact of the flame or flames against the iron is prevented, while the central air, highly heated by the flame, conjointly with the latter, serves to raise the iron to the proper temperature without danger of burning or smoking the iron.

By reference to Figs. 1 and 2 the oil-reservoir will be seen indicated at 17, while the wick-tubes 18 18 are shown to extend some distance below. The oil-reservoir and wick-tubes 18 are connected by feed ducts or passages 19 at the edges of said wick-tubes. (See Fig. 3.) By this construction the air-passages from beneath are unobstructed. These are three in number—a central one between the wicks and two side ones 21 23—which convey air over the wick-tubes, and thus keep them cool.

In lieu of uniting the wick-tubes with the oil-reservoir, as shown, openings may be made at 24. (See Fig. 1.) By such arrangement the air-draft is more effectively applied and better combustion ensues with less liability to smoke when the flame is low, as is frequently required after an iron is sufficiently heated but not to be immediately taken out and used.

It is obvious that in lieu of two wicks and a lamp-flame double gas-jets may be employed with the same effect.

In Fig. 2 the course of the air-currents and their effect upon the flame are clearly shown; but to increase their resultant effect and confine the heat as it passes upward more closely about the iron I have applied two deflector-plates 25 to the sides of the flue. Said plates are positioned, as shown, slanting upwardly and obliquely toward the iron and in this way compelling the heat to approach the iron. In this way more efficient results are obtained.

What I claim is—

1. In a soldering-iron heater, the combination, with the lamp-base and chimney-flue having means for supporting a soldering-iron, of the cone having the single-flame aperture and wick-tubes arranged below said cone out of line vertically with said aperture and on opposite sides thereof, substantially as and for the purposes set forth.

2. In a soldering-iron heater, the combination, with the chimney-flue provided with the

vertically-adjustable soldering-iron holder, of the metallic cone having the single-flame aperture, and the wick-tubes arranged below said cone out of line vertically with said aperture and on opposite sides thereof, substantially as and for the purposes set forth.

3. A lamp-base, the chimney-flue provided with a soldering-iron holder, the oil-reservoir having a central chamber, and the wick-tubes extending vertically therethrough and dividing it into air-flues, combined with oil-ducts leading from the reservoir to the said wick-tubes, and a directing-cone having a single-flame aperture centrally located with respect to the said wick-tubes, the latter being below said cone but out of line vertically with said aperture, substantially as described.

4. In a soldering-iron heater, the combination, with a lamp-base and a chimney-flue having means for holding a soldering-iron, of a heat-directing cone having a single-flame aperture, inclined deflectors 25, arranged above said aperture within the flue, and wick-tubes arranged below said aperture but out of line vertically therewith, substantially as described.

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

FAYETTE S. ROBINSON.

Witnesses:

H. E. LODGE,
WILLIAM FOSTER.