

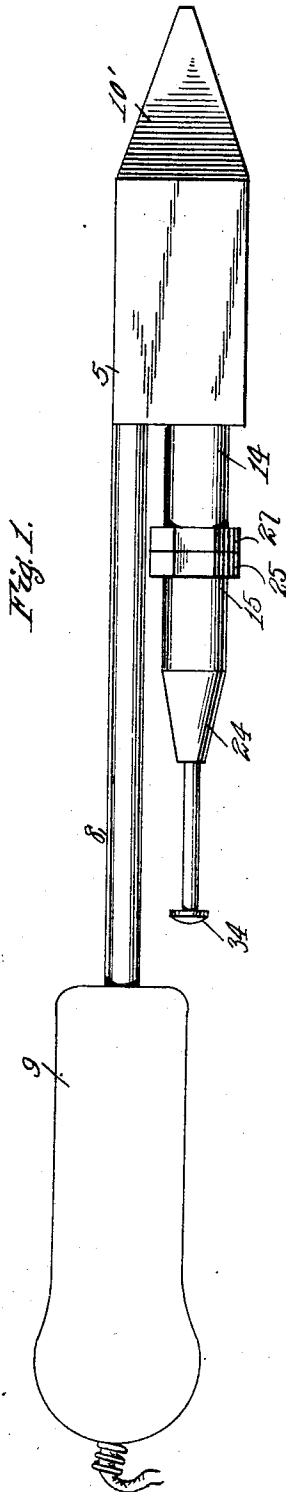
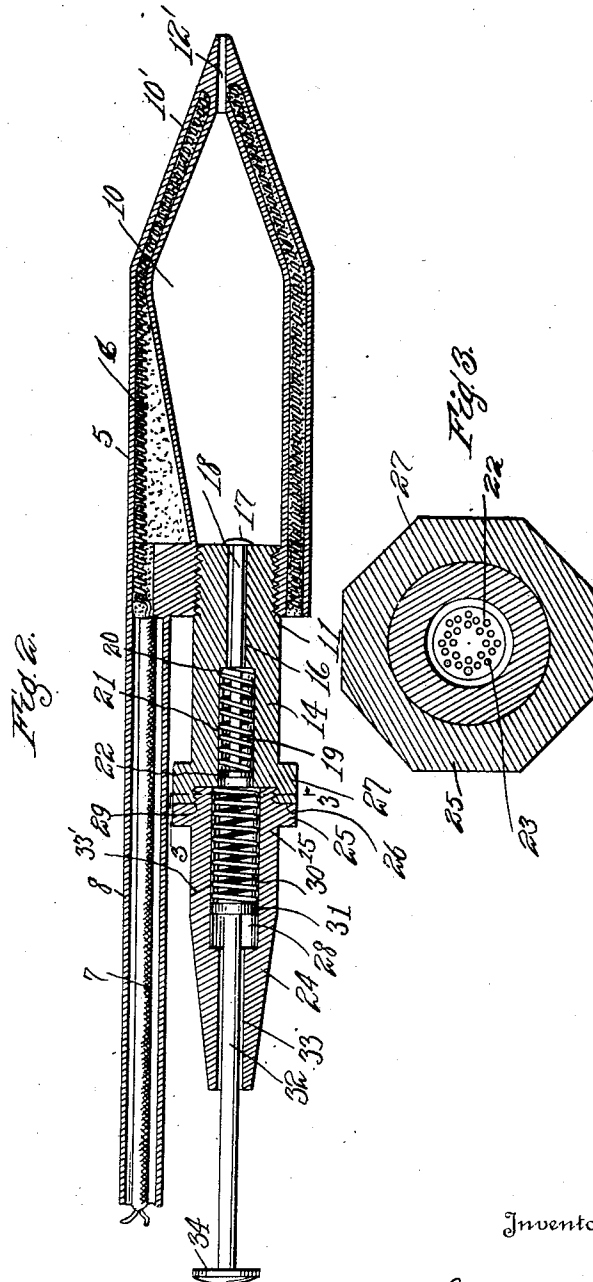
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SOLDERING MAGAZINE

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SOLDERING MAGAZINE.

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My invention relates to improvements in electric soldering irons and more particularly to the type having solder feeding means.

5 It is an object of the invention to provide a heating element having a reservoir for holding a quantity of soldering material and means for forcibly discharging the material from the reservoir upon the article or object on which the work is being done.

10 A further object of the invention is to provide a heating element having a solder holding reservoir and an air pump connected with the reservoir having a spring controlled valve for controlling the discharge of air into the reservoir.

15 Another object of the invention is to provide a device of the above character which is simple and durable in construction, reliable and efficient in operation and inexpensive to manufacture.

20 Other objects and advantages of the invention will be apparent during the course of the following description.

25 In the accompanying drawing, forming a part of this specification and in which like numerals are employed to designate like parts throughout the same,

30 Fig. 1 is a side elevation of my improved tool,

Fig. 2 is a longitudinal sectional view of the same, and,

Fig. 3 is a cross sectional view taken on lines 3—3 of Fig. 2.

35 In the drawing, wherein for the purpose of illustration I have shown a preferred embodiment of my invention, the numeral 5, denotes a wedge shaped hollow body or heating element having a series of heating coils 6, embedded in its walls and the terminal wires 7, extend through the tubular handle 8 connected to the end of the body at one side thereof and are connected with a source of electric energy. The end of the handle is equipped with a hand grip 9 constructed of non-conducting material for holding the tool while in use.

40 The chamber 10, within the body, serves as a lead reservoir and is provided with a filling opening 11 at its rear end and the nose 10' of the body has an orifice 12' leading from the chamber, through which the solder is discharged. The air pump 15 consists of sections 14 and 24, the section 14 having connection with the filling opening of the chamber through the medium of the screw

threads 12. A central bore or air passage 16 extends through the section 14, communicating with the chamber 10. The inner end of the air passage is normally closed by the valve 17 mounted on the end of the valve rod 18, slidably mounted in the bore 16. The outer end of the bore is enlarged, as at 19, forming a shoulder 20, against which one end of the valve spring 21 bears. The other end of the spring bears against the disk 22 connected to the outer end of the valve rod, thereby holding the valve in a closed position. The disk 22 is of the same diameter as the enlarged end of the bore 16, guiding the valve rod in its movement and has a series of perforations 23 for the passage of air.

The section 24 of the pump is connected with the section 14 through the medium of the octagonal shaped head 25, having a screw-threaded extension 26 which is threaded into the octagonal shaped head 27 formed integral with the outer end of the section 14. The heads are adapted for the reception of a wrench or other suitable tool for disconnecting the sections of the pump and removing the lower section from the body for refilling the chamber 10 with solder. The section 24 is provided with a bore 28, slightly larger in diameter than the bore 19 of the section 14, providing a shoulder 29 at the jointure between the sections, against which one end of the pump spring 30 bears. The opposite end of the pump spring bears against the piston 31, slidably mounted in the bore 28 and connected to the end of the plunger 32, slidably mounted in the reduced end 33 of the bore 28. An air duct 33' extends diagonally through the side of the section 24 and communicates with the bore 28, supplying air to the pump. The outer end of the plunger is equipped with a press button 34 for forcing the piston inwardly, the same being returned to its normal position through the action of the pump spring.

In operation, it will be seen, that the lead is put into the chamber 10 through the filling opening 11 and pump 15 then connected therewith. The chamber is then charged with air through operation of the pump and upon heating of the air by the heating coils 6, the expansion of the air will force the molten lead through the orifice 12' in the nose. As the lead is used additional air is forced into the chamber so as to maintain the air at a sufficient pressure to discharge

the lead. The parts of the tool are readily detachable, so they may be cleaned or replaced and are constructed of material best suited for their purpose.

5 It is to be understood that the form of my invention herewith shown and described is to be taken as a preferred embodiment of the same and that certain changes in the shape, size and arrangement of the parts
10 may be made without departing from the spirit of the invention or the scope of the subjoined claims.

Having thus described my invention, I claim:

15 1. The combination with an electric soldering iron having a reservoir, said reservoir having a filling opening and discharge orifice, of a pump casing detachably connected with said filling opening having a
20 longitudinal bore reduced at both its ends, a piston mounted in the outer end of said casing, a plunger connected with said piston, a valve rod slidably mounted in the inner end of said bore, a valve connected to the

inner end of said valve rod, a perforated 25 disk mounted on the outer end of said valve rod for guiding its movement, and a spring mounted on said valve rod adapted to normally hold said valve in a closed position.

2. The combination with an electric sol- 30 dering iron having a reservoir, said reservoir having a filling opening and discharge orifice, of a sectional pump casing detachably connected with said filling opening, having a longitudinal bore com- 35 municating with said reservoir, a piston slidably mounted in said bore, a plunger connected with said piston for actuating the same, a valve for closing the inner end of said bore, a valve rod connected with said 40 valve, slidably mounted in said bore, a perforated disk mounted on the outer end of said valve rod for guiding the movement of said rod, and a spring mounted on said rod beneath said disk, normally holding said 45 valve closed.

In testimony whereof I affix my signature.
CLARENCE SWANSON.