

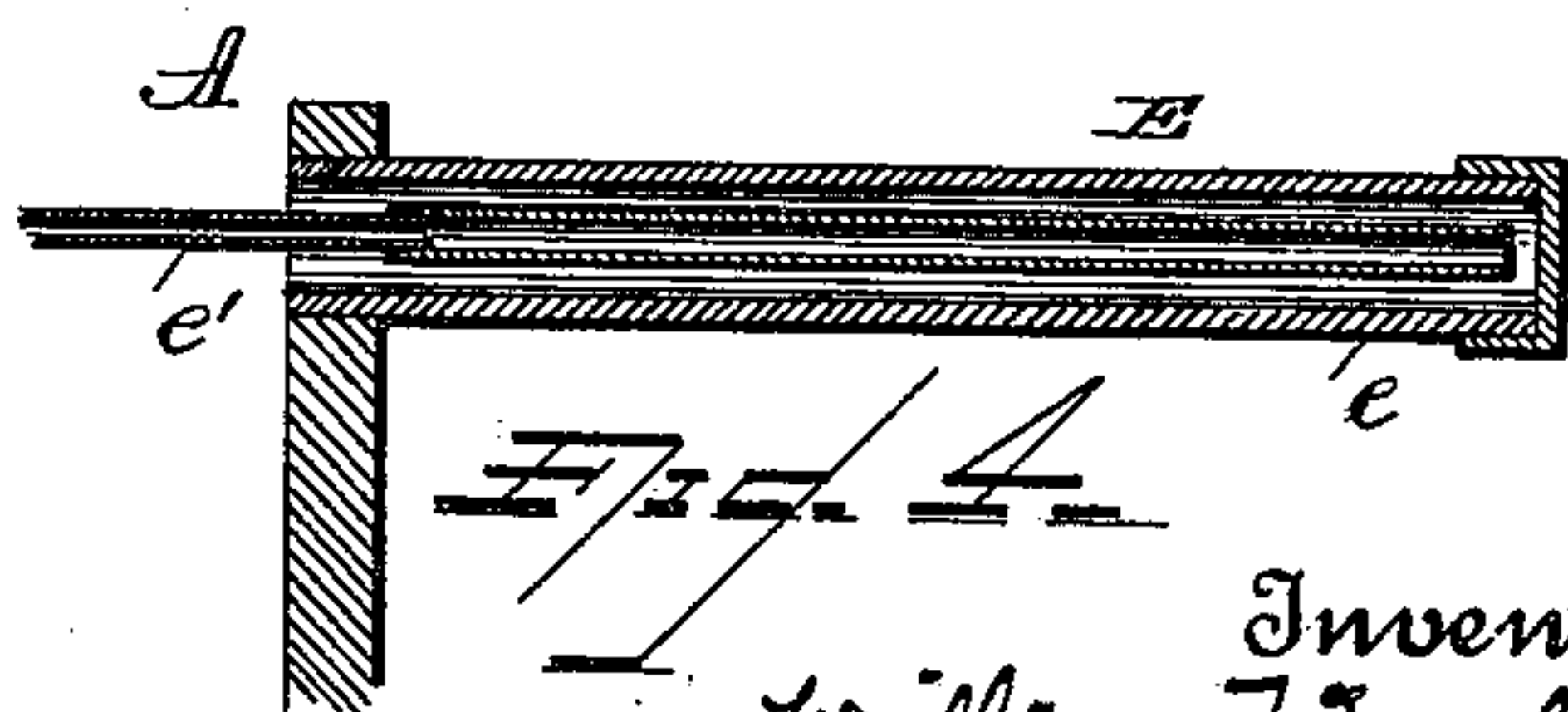
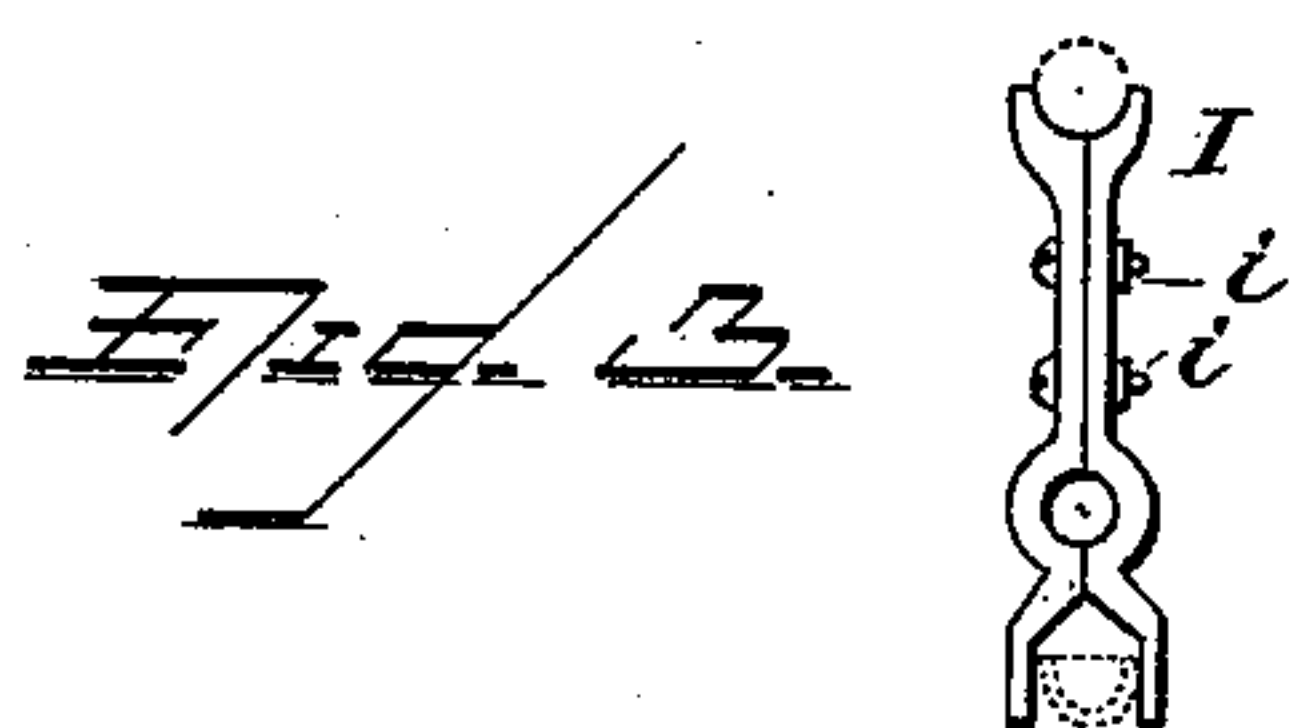
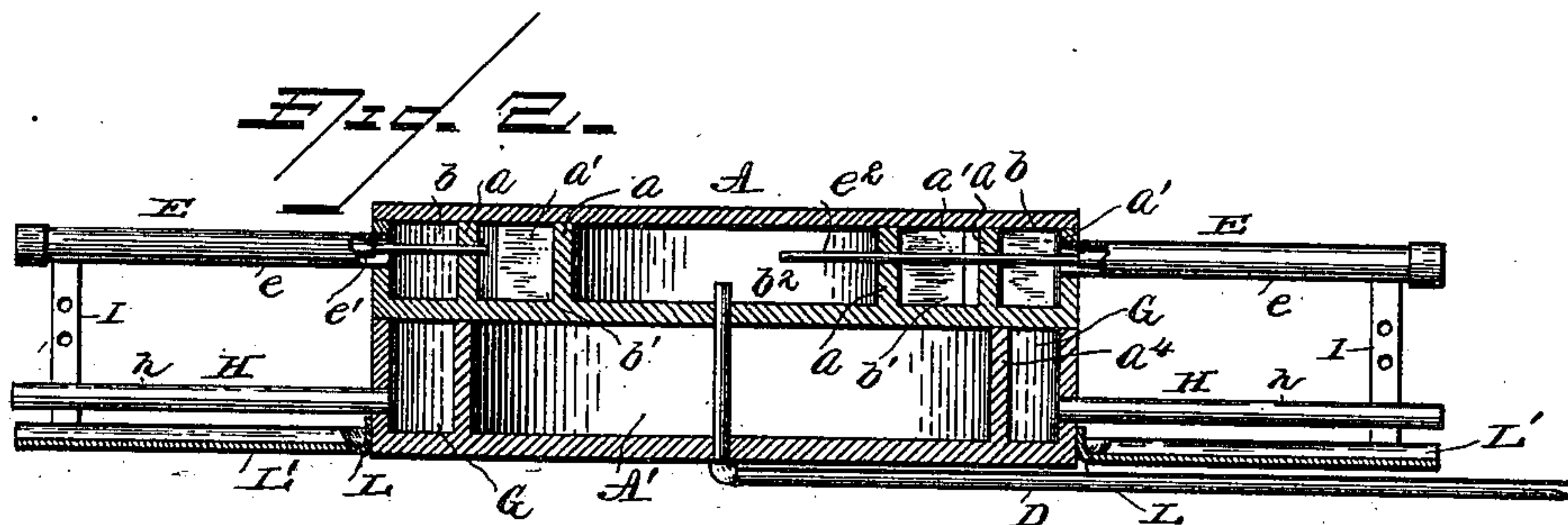
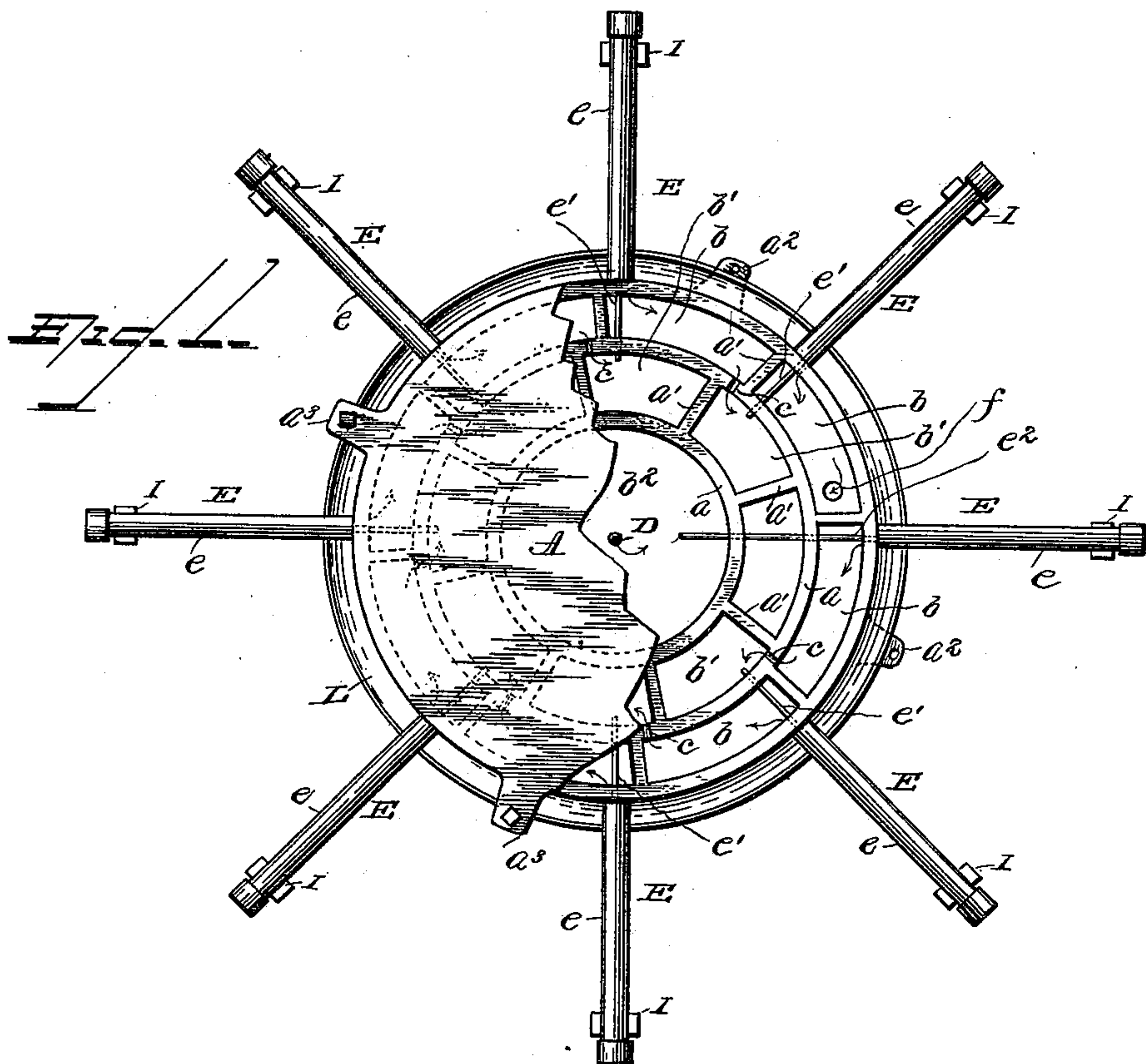
No. 668,548.

Patented Feb. 19, 1901.

W. VOGEL.
TIRE HEATER.

(Application filed Nov. 9, 1900.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM VOGEL, OF FORT DODGE, IOWA.

TIRE-HEATER.

SPECIFICATION forming part of Letters Patent No. 668,548, dated February 19, 1901.

Application filed November 9, 1900. Serial No. 36,002. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM VOGEL, a citizen of the United States, and a resident of Fort Dodge, in the county of Webster and State of Iowa, have invented a Tire-Heater, of which the following is a specification.

My invention is an improvement in tire-heaters of the particular class which employ oil as the fuel; and the object of my said invention is to provide an apparatus of this character which will be economical in the burning of the oil, can be conveniently operated, and will generate a degree of heat that will quickly and effectively heat the tires, the peculiar construction of the apparatus providing for a thorough heating of the oil on its way to the burners.

With the above object in view the invention contemplates the employment of a central casing from which the retorts and burners radiate, the upper part of said casing being divided into a number of compartments communicating with each other and with the retorts in such manner that the oil must pass through all the retorts *seriatim* before entering the lower chamber which communicates with the series of burners, together with a circular trough surrounding the casing and lateral troughs under the burners, the said troughs holding oil which is consumed in starting the apparatus.

The following is a detail description of the construction and operation of my improved tire-heater, reference being had to the accompanying drawings, and to letters thereon, which designate the different parts, and what I claim as my invention and desire to secure by Letters Patent is more specifically set forth in the appended claims.

In the drawings forming a part hereof, Figure 1 is a plan view of a tire-heater constructed in accordance with my invention, the top being partly broken away to show the arrangement of the compartments or cells in the upper part of the casing. Fig. 2 is a transverse sectional view through the center of the apparatus. Fig. 3 is a detail view of the standards which support the outer ends of the retorts and burners. Fig. 4 is a detail sectional view, enlarged, showing the construction of the retorts.

In carrying out my invention the central

casing is constructed of two parts A and A', the upper part A carrying the retorts and the lower part A' supporting the burners. The upper part of the casing is divided by circular walls *a a* and transverse partitions *a'* into two series of compartments or cells *b* and *b'*, the cells of one series being connected to the cells of the other series by openings *c*, and it will be noted that the connected cells *b* and *b'* are out of line with each other, for the purpose hereinafter explained. In the center of the part A of the casing is a chamber *b²*, into which the oil is fed by a supply-pipe D, leading from a suitable reservoir. (Not shown.)

E E designate the retorts or vaporizers, which consist of a cylinder or shell *e* and a feed-pipe *e'*, located centrally in said cylinder or shell. The said cylinder or shell is closed at its outer end by a cap and at its inner end opens into the cells *b*, while the feed-pipe leads from the inner cells *b'* to the outer end of the cylinder or shell. One of the feed-pipes (designated by the letter *e²*) leads from the central chamber *b²* to take the oil therefrom, and it will be noted that the inner cell through which the said feed-pipe passes is not connected with the adjoining outer cell, as the latter opens into the lower part of the casing by way of the opening *f* to feed the oil to the burners after its passage through the several retorts and circulating-cells, as hereinafter explained. The feed-pipes *e'* and *e²* are preferably composed of two sections, (see Fig. 4,) one larger than the other, the larger section being located in the cylinder or shell of the retort in which the oil is vaporized. The opening *f* leads into a circular chamber G in the lower part A' of the casing, said circular chamber being formed by the wall *a⁴*. This chamber communicates with the burners H, consisting of pipes projecting from the casing, said pipes being closed at their outer ends and provided with a line of perforations *h* in their upper side through which the gas passes and is consumed. These burner-pipes are located directly below the retorts.

It will be understood from the foregoing that the oil supplied to the central chamber *b²* passes into the feed-pipe *e²* of the first retort, from said retort into the first outer cell *b*, through the opening *c* into the next cell *b'* of the inner series, from there into the second

retort, and so on around the upper part of the casing through all the retorts, finally passing from the upper part of the casing into the chamber G of the lower part and to the burners. The gas which is consumed at the burners heats the retorts to vaporize the oil, and the heat thus generated also serves to heat the tires which are supported upon the retorts.

The outer ends of the burners and retorts are supported by standards I, composed of two parts bolted together by the bolts and nuts *i*.

In order to start the apparatus, I provide troughs in which oil is burned to heat the burner-pipes and retorts as well as the outer part of the casing. These troughs comprise a circular section L, surrounding the casing, and lateral sections L', located under the burner-pipes, said circular trough being supported upon the ears a^2 , projecting from the bottom of the lower part of the casing and bolted to the ears a^3 of the top, the bolts connecting the two parts of the casing together. In starting the apparatus the oil is turned into the supply-pipe D, and flowing through the cells and retorts and into the burners by way of the chamber G passes out of said burners into the troughs, and after a sufficient quantity of oil collects in said troughs the supply is cut off. The oil in said troughs is then ignited to heat the oil, and when gas is generated the supply is again turned on and the vaporization continues.

From the foregoing description the construction and operation of my improved tire-heater will be readily understood, and it will be observed that the apparatus provides a simple and very effective means for heating tires.

It is apparent that the arrangement of the circulating-cells could be changed or modified without sacrificing any of the advantages of my invention. I therefore do not wish to be limited to the precise arrangement of the cells, but desire protection by Letters Patent within the spirit and scope of my claims.

I claim—

1. In a tire-heater of the character described, the combination, of a central casing, a series of retorts projecting from the upper part of said casing, an oil-supply pipe, means for providing a circulation through the re-

torts *seriatim*, burners projecting from the lower part of the casing, and means connecting said burners to the last retort of the series, substantially as shown and for the purpose set forth.

2. In a tire-heater of the character described, the combination, of a casing divided into upper and lower parts, two rows of cells located in the upper part of the casing, the cell of one series or row being connected to the next cell of the adjoining row; retorts projecting from the upper part of the casing, the shell of each retort being connected to the outer cells while the feed-pipes are connected to the inner cells and one of the feed-pipes extended to receive and supply oil to the first retort; together with an oil-supply pipe, burners projecting from the lower part of the casing, and a chamber communicating with said burners and with the last retort of the series, substantially as shown and for the purpose set forth.

3. In a tire-heater of the character described, the combination, of a casing, retorts projecting from the upper part thereof, circulating chambers or cells connected to each other and to the retorts to cause a circulation from one retort to the other *seriatim*, an oil-supply pipe connected to the first retort of the series, a chamber connected to the last retort of the series, and burners projecting from the lower part of the casing and communicating with said chamber, substantially as shown and described.

4. In a tire-heater of the character described, the combination, of a casing, retorts projecting from the upper part thereof, circulating chambers or cells connected to each other and to the retorts to provide a circulation through the retorts *seriatim*, an oil-supply pipe, a chamber communicating with the last retort of the series, burners projecting from said chamber, a circular trough around the casing, and lateral troughs under the burners, substantially as herein shown and described.

WILLIAM VOGEL.

In presence of—

C. R. KING,

C. W. STAFFORD.