

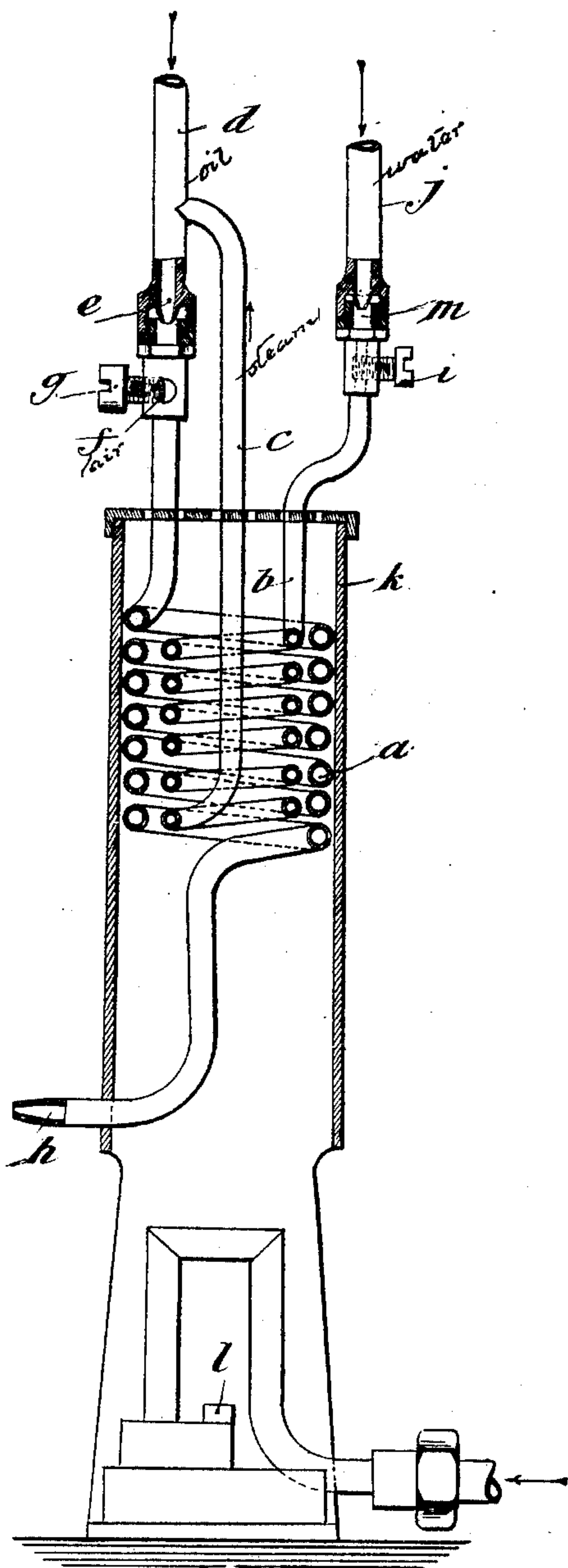
No. 679,697.

Patented July 30, 1901.

C. DE HAAPT.
APPARATUS FOR GASIFYING HYDROCARBONS.

(Application filed June 25, 1900.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

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APPARATUS FOR GASIFYING HYDROCARBONS.

SPECIFICATION forming part of Letters Patent No. 679,697, dated July 30, 1901.

Application filed June 25, 1900. Serial No. 21,530. (No model.)

To all whom it may concern:

Be it known that I, CHARLES DE HAUT, manufacturer, a citizen of Austria, residing at 2 Rue de la Sablonnière, Brussels, in the Kingdom of Belgium, have invented a new and useful Apparatus for Gasifying Petroleum and other Hydrocarbons and Carburants; and I do hereby declare the following to be a full, clear, and exact description of the same.

This invention relates to apparatus for use in the application of processes of converting petroleum and other hydrocarbons and carburets into gas adapted for use as a motive expedient or for lighting, heating, metallurgical, and other like purposes. It has reference especially to apparatus for performing that process for converting hydrocarbons, &c., into gas which consists in mixing finely-divided or atomized hydrocarbon with suitable gases, also preferably finely divided, and in subjecting this mixture to heat, so as to effect the chemical combination essential to deriving from the mixture and maintaining the desired gas.

The invention will be found fully illustrated in the accompanying drawing, wherein is illustrated a vertical sectional view of the preferred form of the apparatus.

In said drawing, *a* designates a tubular coil which in elevation is substantially circular. The lower end of this coil is provided with a discharge-nozzle *h*, while its upper end is connected with a pipe *d* by means of an injecting-atomizer *e*, which discharges into said coil. In the upper end portion of the coil may be arranged an air-duct *f*, controlled by any suitable valve, as *g*. Within the coil *a* is arranged a tubular coil *b*, which is also substantially circular in elevation and has one of its ends connected with a pipe *j*, through the medium of an injecting-atomizer *m*, while its other end (the part *c* thereof) is connected with the pipe *d* above the atomizer *e*. To control the communication between the coil *b* and pipe *j*, a valve *i* is provided. These coils stand with their axes vertical, and they are arranged within a vertical cylindrical casing *k*, which is perforated at the top and in which, at the bottom, is arranged a heating apparatus *l*.

The gasification is adapted to be produced in the coil *a*. In the coil *b* steam is adapted to be generated or turned into a superheated state. Water or steam is adapted to be ad-

mitted to the coil *b* from the pipe *j*. The hydrocarbon is fed to the apparatus through the pipe *d*.

The apparatus being put in operation the water or steam from pipe *j* is forced into the coil *b* in a finely-divided state from the atomizer. While passing through the coil *b* its temperature is raised and a high state of vaporization thereof is produced, whereupon it passes into the pipe *d*. Having reached the pipe *d*, it is drawn by the atomizer *e* with the hydrocarbon into the coil *a*. At the same time air may be admitted through the opening *f*, if desired, as an additional ingredient of the mixture being produced. Having reached the coil *a*, the desired chemical combination, assisted by the heat, is produced, the resultant gas being discharged into a suitable container for it from the nozzle *h*.

By constructing the coils in circular form and, as shown, sufficient in number so that they present a considerable surface to the heat medium and by inclosing the coils in a closed closely-fitting casing having confined openings at the top the maximum effect of the heat may be obtained.

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

In an apparatus for gasifying petroleum or other hydrocarbons, the combination, with a heating device, of a receptacle having an inclosed spiral duct and disposed over said heating device, an atomizer, said atomizer having communication with, and discharging into, said duct, another receptacle for the fluid to be combined with the petroleum, said last-named receptacle having communication with the atomizer beyond the nozzle thereof relatively to the first-named receptacle, another atomizer discharging into said last-named receptacle, and a cylindrical casing closely surrounding said receptacles and having its bottom open and disposed over said heating device and also having confined outlet means at the top thereof, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

CHARLES DE HAUT.

Witnesses:

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