(No Model.)

H. WARDEN.

FILTERING PETROLEUM DISTILLATES FOR THE SEPARATION OF PARAFFINE.

No. 266,929. Patented Oct. 31, 1882.

FIG. 1

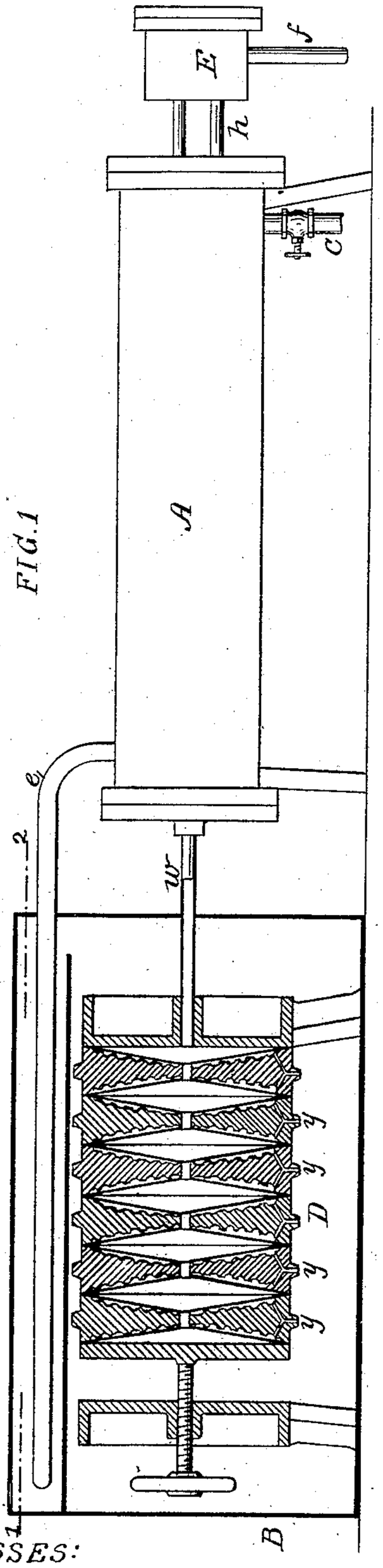
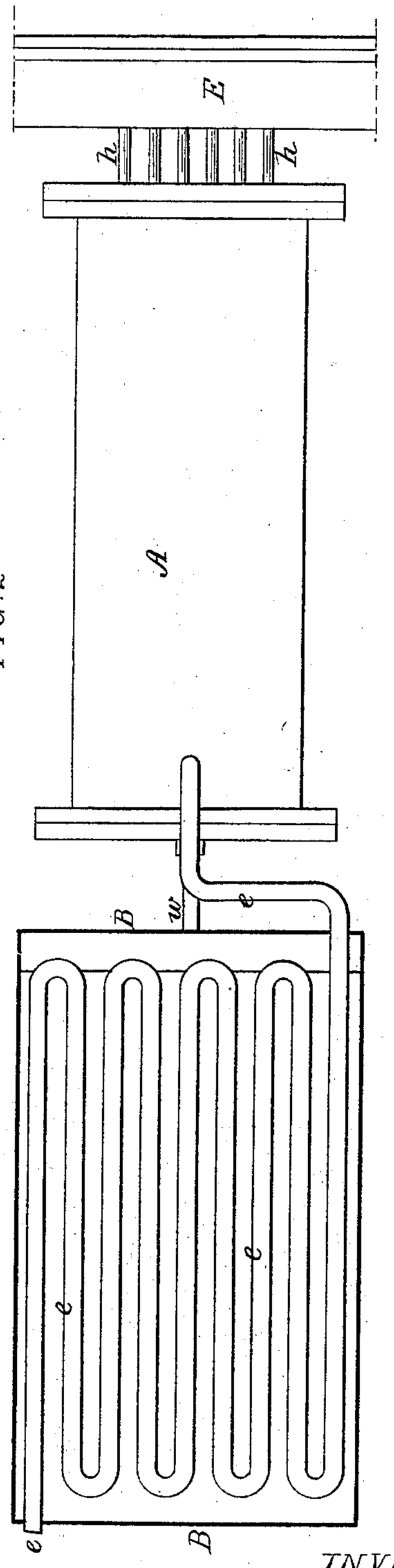


FIG. 2



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UNITED STATES PATENT OFFICE.

HENRY WARDEN, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE ATLANTIC REFINING COMPANY, OF SAME PLACE.

FILTERING PETROLEUM DISTILLATES FOR THE SEPARATION OF PARAFFINE.

SPECIFICATION forming part of Letters Patent No. 266,929, dated October 31, 1882.

Application filed September 22, 1882. (No model.)

To all whom it may concern:

Be it known that I, HENRY WARDEN, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented an Improvement in Filtering Petroleum Distillates, &c., for the Separation of Paraffine, of which the following is a specification.

My invention relates to the separation of paraffine from the paraffine-oil of petroleum distillates; and it consists mainly in filtering the distillate while it is under refrigerating influences.

In the accompanying drawings, Figure 1 is a sectional view of apparatus wherewith my invention may be carried into effect, and Fig. 2 a sectional plan on the line 1 2, Fig. 1.

As the cooling apparatus which I prefer to use forms the subject of a separate application for a patent which was filed by me September 4, 1882, it will suffice to remark here that it consists of a refrigerating-box, A, into which pass a number of tubes, *h*, from a distributing-box, E, these pipes communicating with a receiving-box contained in the refrigerating-chamber, and this box communicating through a pipe, *w*, with the filter-press. Paraffine distillate from a petroleum-still is forced through a pipe, *f*, into the distributing-box, and is directed by suitable valves first into one tube of the series, then into the next tube, and so on, the first tube being again brought into service after all the others in succession have been used as passages for the petroleum distillate.

The filtering-press D, which I prefer, is of well-known construction, and hence need not be minutely described. It will suffice to remark that the paraffine distillate is forced through the tube *w* into the filter, and that the paraffine remains in the bags of the latter, while the oil flows from the outlets *y* into the bottom of the casing or box B, whence it may be discharged into any suitable receptacle. This casing B, which has suitable openings provided with doors, forms a refrigerating-chamber, within which the filtering-press is maintained in a comparatively cool condition, for I have found in practice that, in addition to the preliminary cooling of the petroleum distillate, it should be maintained in a cooled condition during filtration.

While the chamber B may be refrigerated in different ways, I prefer to maintain it in a cool condition by refrigerating gas which has been used in connection with the cooler. This gas is introduced into the cooler through a pipe, *c*, and passes out through a pipe, *e*, which I continue in the zigzag course shown in Fig. 2 throughout a chamber situated above, but communicating with the refrigerating-chamber B of the filter-press, the pipe passing out to a point where the gas can be compressed prior to its reintroduction into the cooler A.

My invention may be applied to the filtration of any material which is best acted upon by the filter-press while in a cool condition.

Without restricting myself to the precise construction and arrangement of appliances herein described and illustrated, I claim as my invention—

1. The process herein described of press-filtering petroleum distillates while the filtering-press is subjected to cooling influences, substantially as set forth.

2. The process herein described of first cooling petroleum distillate and then maintaining it in a cooled condition while it is being press-filtered, as set forth.

3. The combination of a filtering-press with a refrigerating-chamber in which the said press is contained, substantially as described.

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

HENRY WARDEN.

Witnesses:
HARRY DRURY,
HARRY SMITH.