

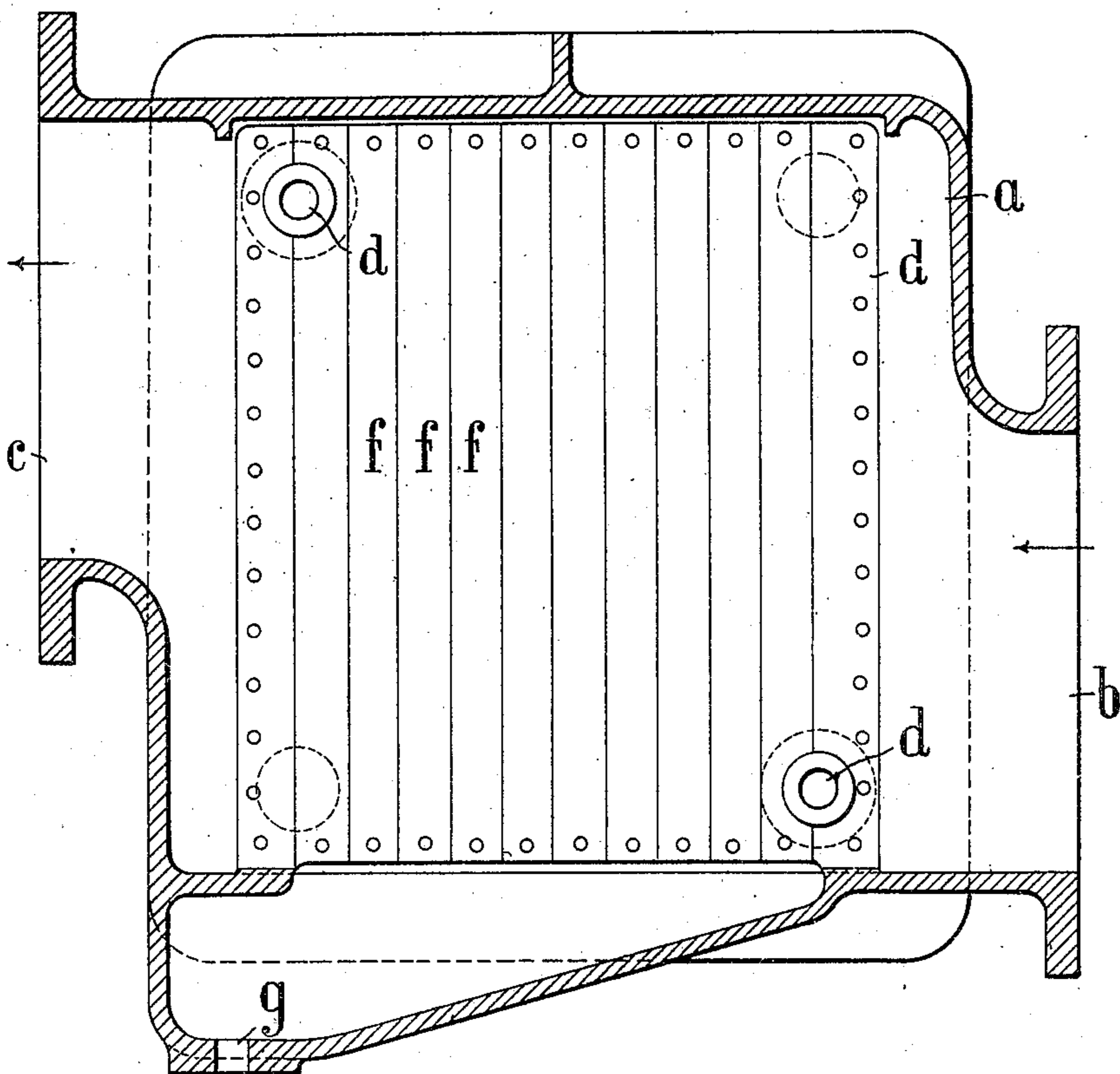
No. 835,919.

PATENTED NOV. 13, 1906.

R. SCHULZ.
OIL SEPARATOR FOR STEAM PIPES.
APPLICATION FILED JULY 22, 1905.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses.

H. L. Amer.

C. Mommers

Inventor.

Richard Schulz.

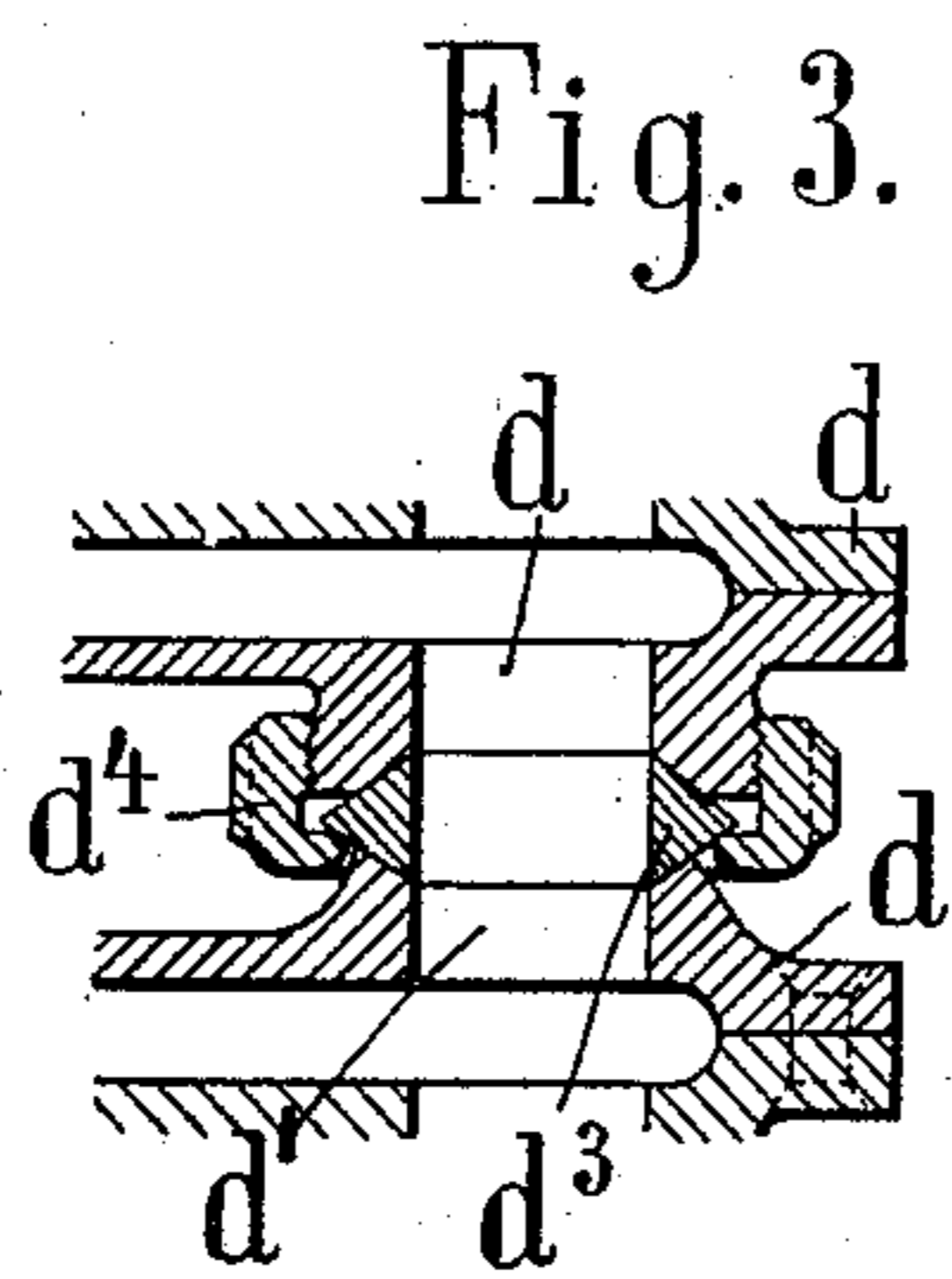
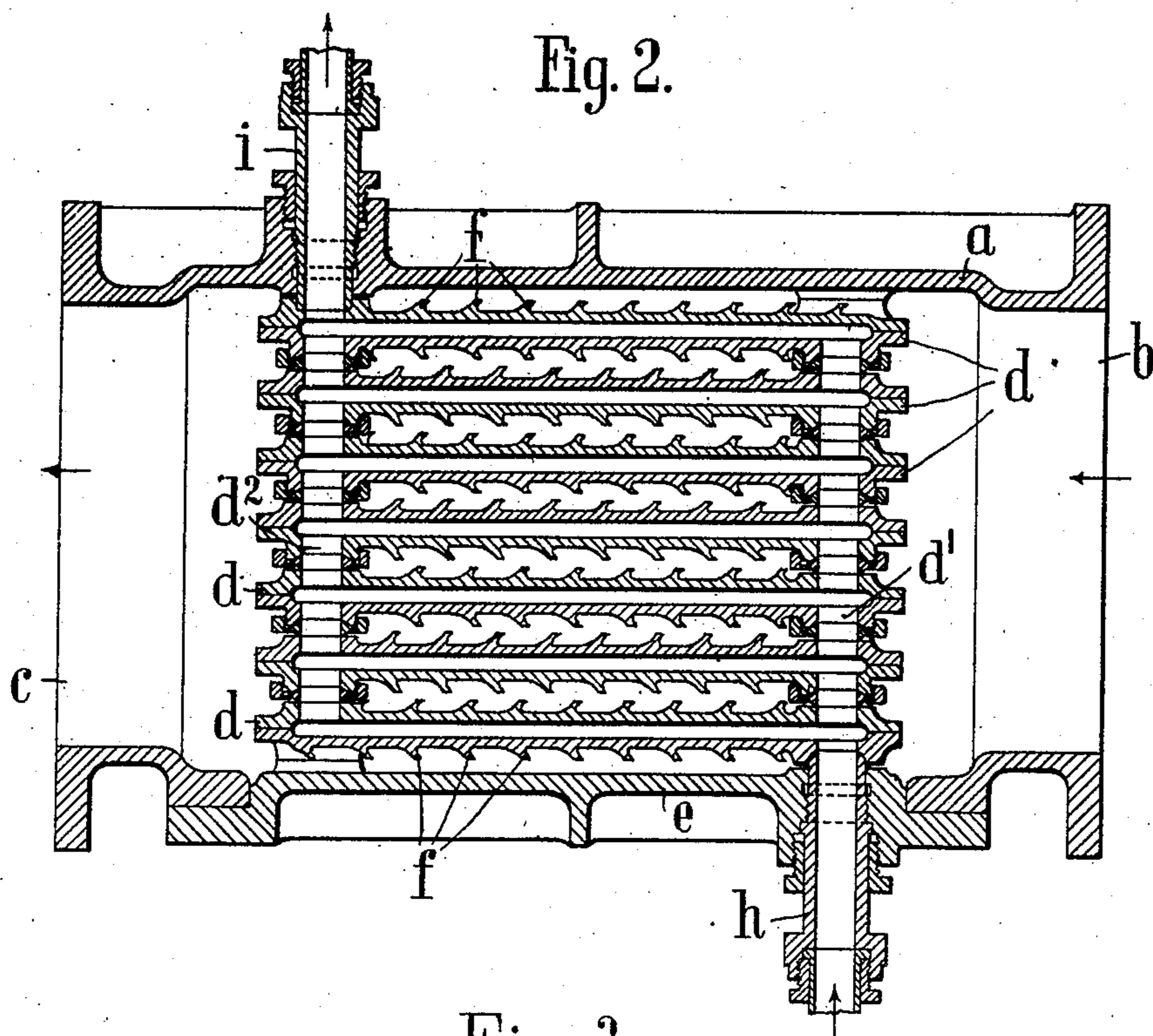
by Henry Orth atty.

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2 SHEETS—SHEET 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

RICHARD SCHULZ, OF BERLIN, GERMANY.

OIL-SEPARATOR FOR STEAM-PIPES.

No. 835,919.

Specification of Letters Patent.

Patented Nov. 13, 1906.

Application filed July 22, 1905. Serial No. 270,847.

To all whom it may concern:

Be it known that I, RICHARD SCHULZ, a subject of the German Emperor, residing at Berlin, Flensburgerstrasse 2, in the Empire of Germany, have invented certain new and useful Improvements in Oil-Separators for Steam-Pipes; 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 letters of reference marked thereon, which form a part of this specification.

This invention relates to an improvement on the oil-separator described in Patent No. 707,728; and its object is to separate with still more certainty from the steam the oil particles, together with the water of condensation deposited. The ribbed or corrugated plates are for this object formed as hollow bodies communicating with one another in order to allow of cooling fluid being passed through them, which can be done in a simple manner. Thus formed, the oil-separator acts as a surface condenser, the steam being cooled on the ribbed plates and deposited in the form of water.

In the accompanying drawings, Figure 1 is a vertical section, and Fig. 2 a horizontal section, of this improved form of oil-separator, while Fig. 3 is a horizontal section, on an enlarged scale, showing the way in which adjacent ribbed or corrugated plates are connected.

As in the form of construction described in Patent No. 707,728, the separating-box *a* is provided with two flanges *b* and *c* to enable it to be fitted in the steam-pipe. The steam enters at *b* against the ribs *f* of the plates *d*, which present their broadside to it, and passes out again at *c*. The oil, conducted by the ribs *f* toward the bottom of the box, collects at the deepest point and is discharged at *g*. The ribbed plates *d*, which are placed side by side, are held together in the separating-box *a* by the cover *e* without other special means for holding them.

Differing from the form of construction described in Patent No. 707,728, the ribbed plates *d* in the present invention are formed as hollow bodies communicating with one another, through which bodies cooling fluid is conducted in order thereby to cool the

steam on the ribbed plates and to cause it to be condensed. Where the ribbed plates are placed side by side parallel to a central plane of the steam-pipe, the formation of such a connection is a simple one. Below near the right-hand corner and above near the left-hand corner of the hollow ribbed plates *d*, placed in proximity to one another, there are two side apertures *d'* and *d''*, formed at somewhat thickened parts of the plates.

As shown in Fig. 3, an external joint is made between two adjacent ribbed plates by means of washer-disks *d'''*. These are held in place on a plate by means of screw-nuts *d''''*, which is necessary where the plates are simply placed side by side without special means for retaining them.

A socket *h*, fitting tight by means of a stuffing-box, is screwed into a screw-thread on the cover *e* opposite the apertures *d'*, with which socket *h* the pipe for admitting the cooling fluid is connected. A suitably-formed screw-socket *i* is placed on the side of the separating-box *a* opposite to the cover *e* and facing the apertures *d''* of the hollow ribbed plates. This socket serves for the attachment of the pipe carrying off the cooling fluid. Thus the ribbed plates *d* are pressed by means of the sockets *h* and *i* when screwed down against the side of the box opposite the lid *e* and against the lid itself, respectively, and thereby form a tight joint externally at the connecting places. After the removal of the cover all the ribbed plates, with their washer-disks and screw-nuts, may without further trouble be removed from the box.

I declare that what I claim is—

1. In an oil-separator for steam-pipes, hollow partitions, ribs thereon forming substantially zigzag steam-passages between said partitions, said partitions having internal communication near their corners with each other, and means for conveying cooling fluid through the partitions, substantially as set forth.

2. In oil-separators for steam-pipes, ribbed hollow partitions, zigzag steam-passages between said partitions washer-disks adapted to form tight joints at the communicating apertures of said partitions, screw-nuts holding said washers in place, a tight-fitting socket screwed into the separator-cover and pressing the ribbed plates against said cover

and a pipe introducing a cooling fluid tightly screwed into said socket, substantially as set forth.

3. In oil-separators for steam-pipes, ribbed
5 hollow partitions, zigzag steam-passages between said partitions, washer-disks adapted to form tight joints at the communicating apertures of said partitions, screw-nuts holding said washers in place, a tight-fitting
10 socket screwed into the wall of the box facing the separator-cover and pressing the ribbed

plates against said cover and a pipe carrying away the cooling fluid, substantially as set forth.

In testimony that I claim the foregoing as
my invention I have signed my name in
presence of two subscribing witnesses.

RICHARD SCHULZ.

Witnesses:

JOHANNES HEIN,
HENRY HASPER.