

J. MUCHKA.

SEPARATOR.

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947,393.

Patented Jan. 25, 1910.

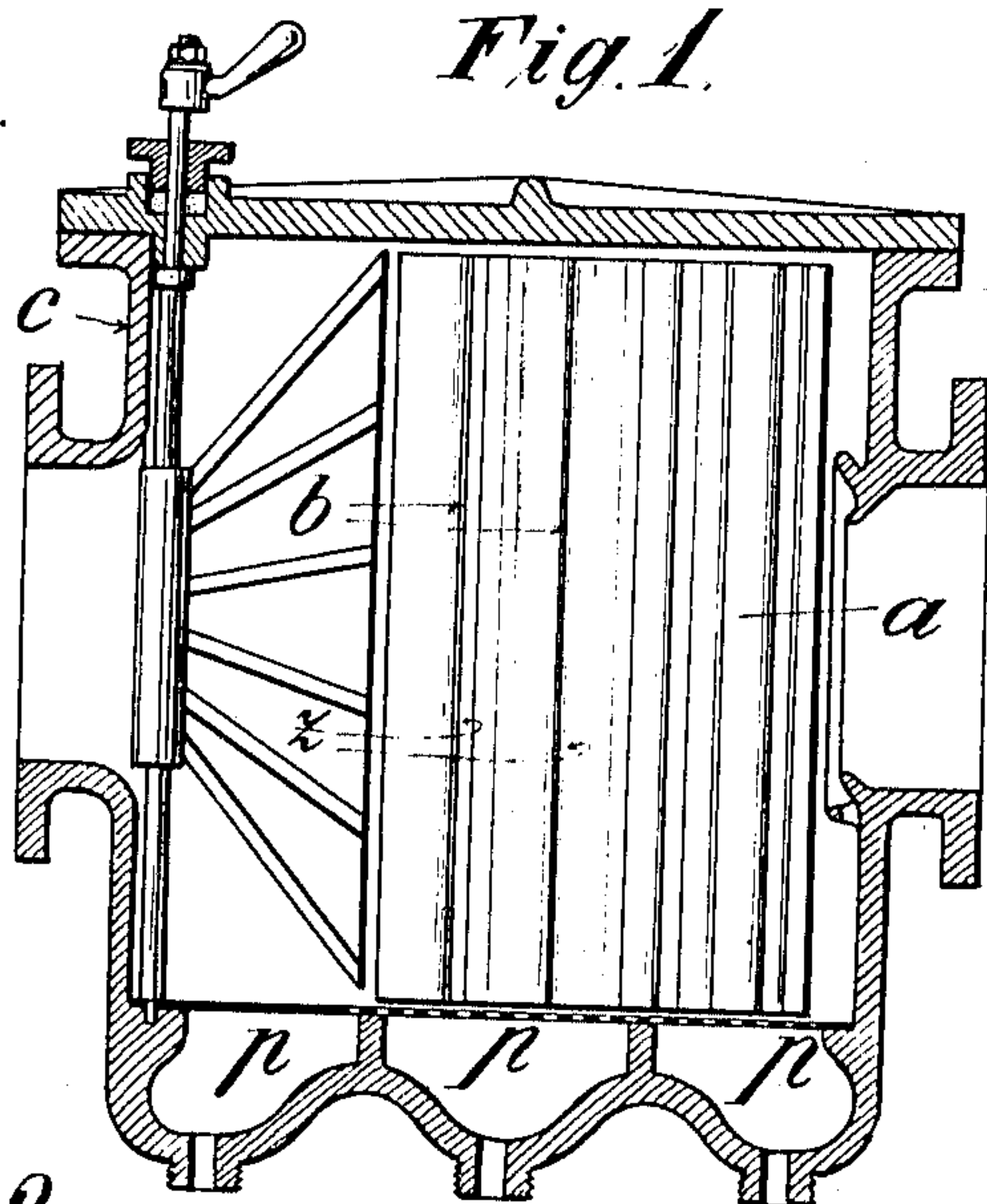


Fig. 2.

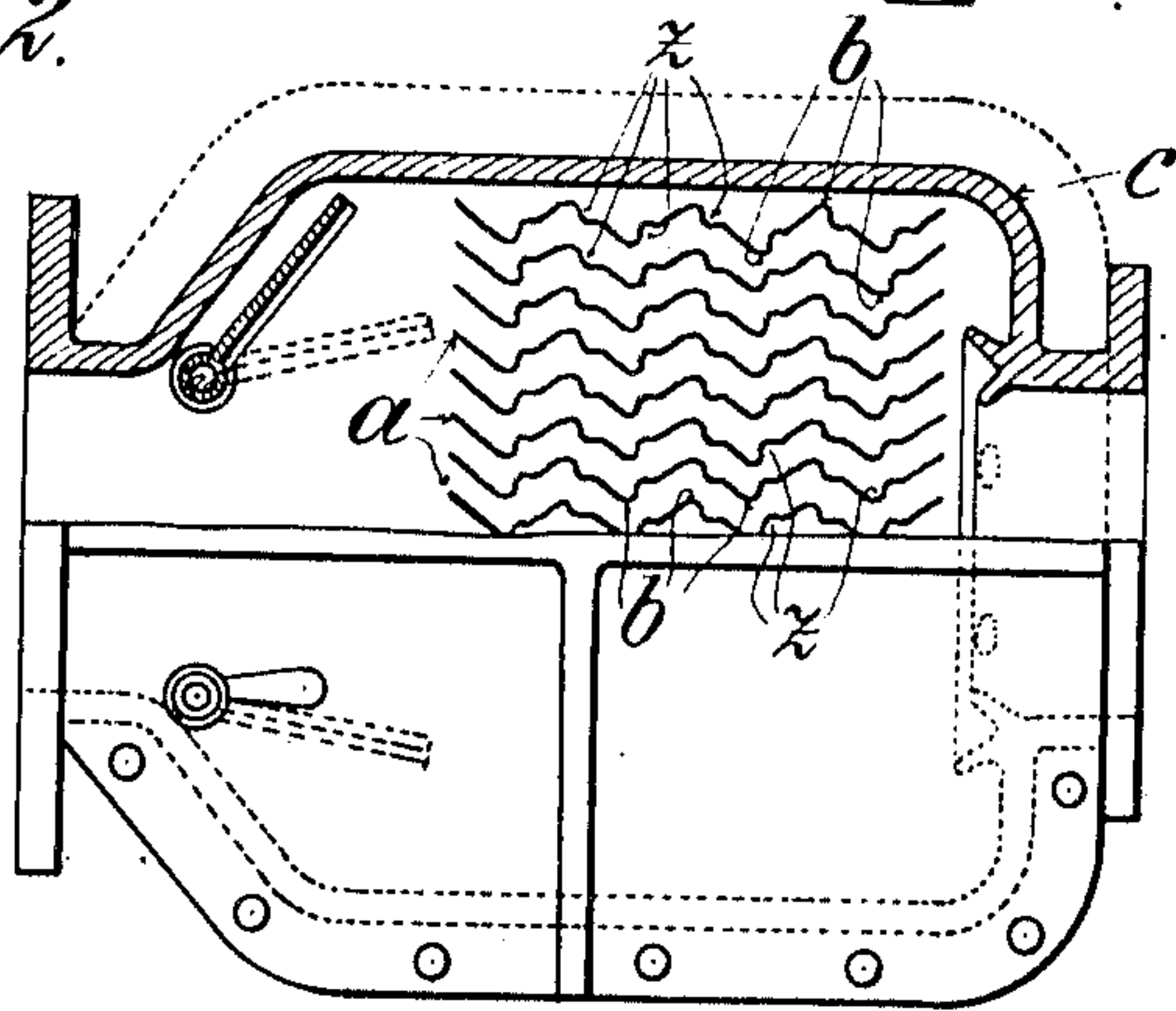
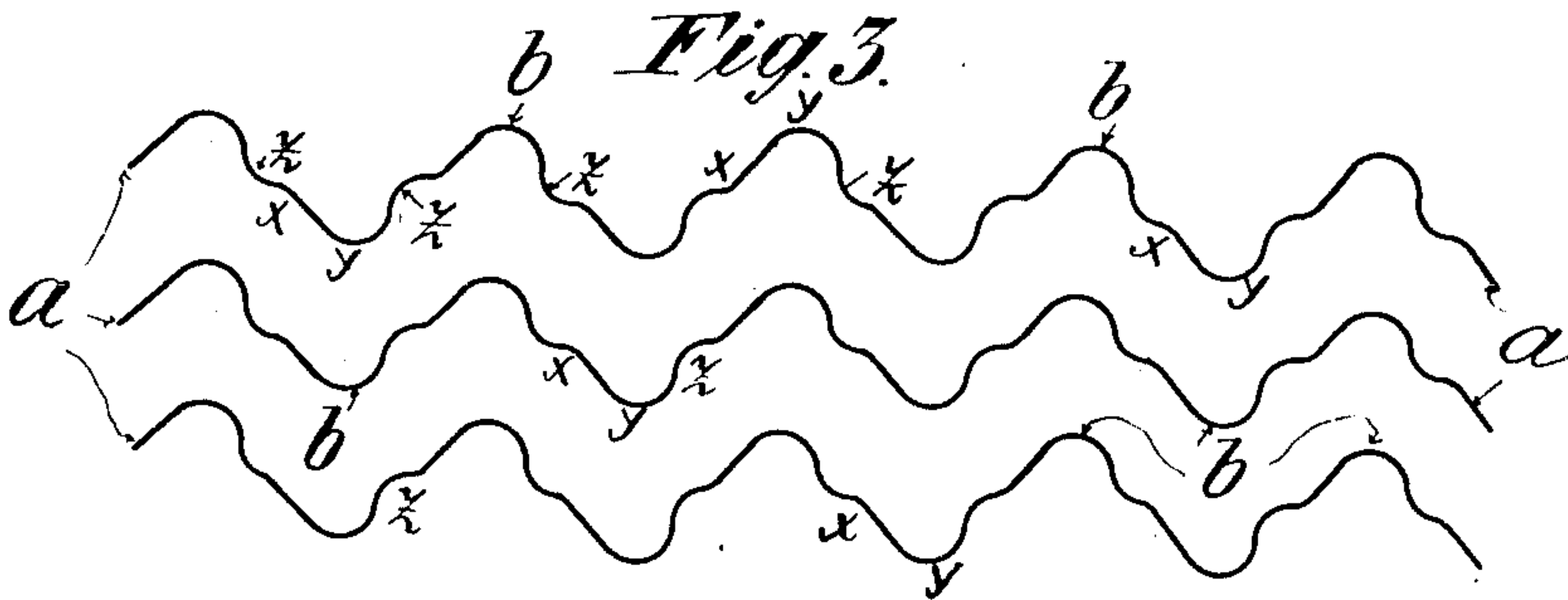


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

JOSEF MUCHKA, OF VIENNA, AUSTRIA-HUNGARY.

SEPARATOR.

947,393.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOSEF MUCHKA, a citizen of Austria, and residing at Vienna, in the Province of Lower Austria, Austria-Hungary, have invented certain new and useful Improvements in Separators, of which the following is a full, clear, and exact specification.

This invention relates to steam separators or the like and has for its object to remove the deposited oil or water from the action of the medium, to increase or hasten the separating action and to insure the formation of large drops of the deposited oil or liquid.

The separator forming the subject of the present invention belongs to that class of separators in which the vapor, gas or steam is led between a number of corrugated surfaces.

The drawing shows an embodiment of the invention as applied to a steam separator.

Figure 1 is a longitudinal section and Fig. 2 a cross section of the apparatus while Fig. 3 shows on a larger scale the construction or special form of the corrugated surfaces.

The apparatus consists of a number of corrugated or zig-zag surfaces *a* having rounded edges *b*; the corrugated surfaces are inclosed by a casing *c* having an inlet and an outlet for the steam or other medium to be delivered from the liquid particles contained therein. The steam or other medium strikes the surface opposite to it and the molecules of oil (or water) cling thereto and are forced around the rounded edges of the corrugated surfaces or bent metal plates on which they run down by the action of gravity.

In order to remove the deposited oil or water from the action of the medium, those parts *z* of the surfaces which are not directly hit by the steam or gas, that is the parts directed toward the outlet end, are channeled as shown in Fig. 3. In these channels *z* the deposited particles of oil or water or the like can collect and run or fall down without being disturbed by the steam of medium to be separated.

In order to increase or hasten the separating action it is preferable to make the parts *x*, *y* (Fig. 3) of the corrugated surfaces *a* on which the particles of oil or liquid

are deposited as smooth as possible at the edges of the corrugations, or if need be to polish the same so that as little friction as possible will be offered to the medium and that the particles of oil or liquid deposited at these places will be forced around the curved edges to those parts of the surfaces which are not directly hit by steam or gas, that is, at the parts *z* directed toward the outlet end.

In order to insure the formation of large drops of oil or liquid at the sides *z* of the corrugated surfaces, which particles will then run or fall down quickly into the oil collecting chamber and thus have no opportunity of being carried along or spoiled by the steam, it is preferable to roughen these sides *z* and thereby assist the drops deposited to adhere thereto.

I claim:

1. An apparatus for extracting oil from steam or water from vapors or gases having corrugated surfaces for deposition of the medium to be separated, said surfaces having channels behind the rounded edges of the corrugated surfaces, and forming protected zones for collecting and running down of the oil or water drops deposited on the corrugated surfaces.

2. The combination with an apparatus for separating oil from steam or water from vapors or gases, of corrugated separation surfaces shaped to form channels behind the rounded edges of the corrugated surfaces forming protected zones for collecting and running down the deposited drops of oil or water, the parts of the corrugated surfaces on which the particles of oil or water are deposited being smoothed or polished.

3. The combination with an apparatus for separating oil from steam or water from vapors or gases, of corrugated separation surfaces being shaped to form channels behind the rounded edges of the corrugated surfaces, the parts of the latter forming the channels being roughened.

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

JOSEF MUCHKA.

Witnesses:

WILHELM BERGER,

ROBERT W. HEINGARTNER.