

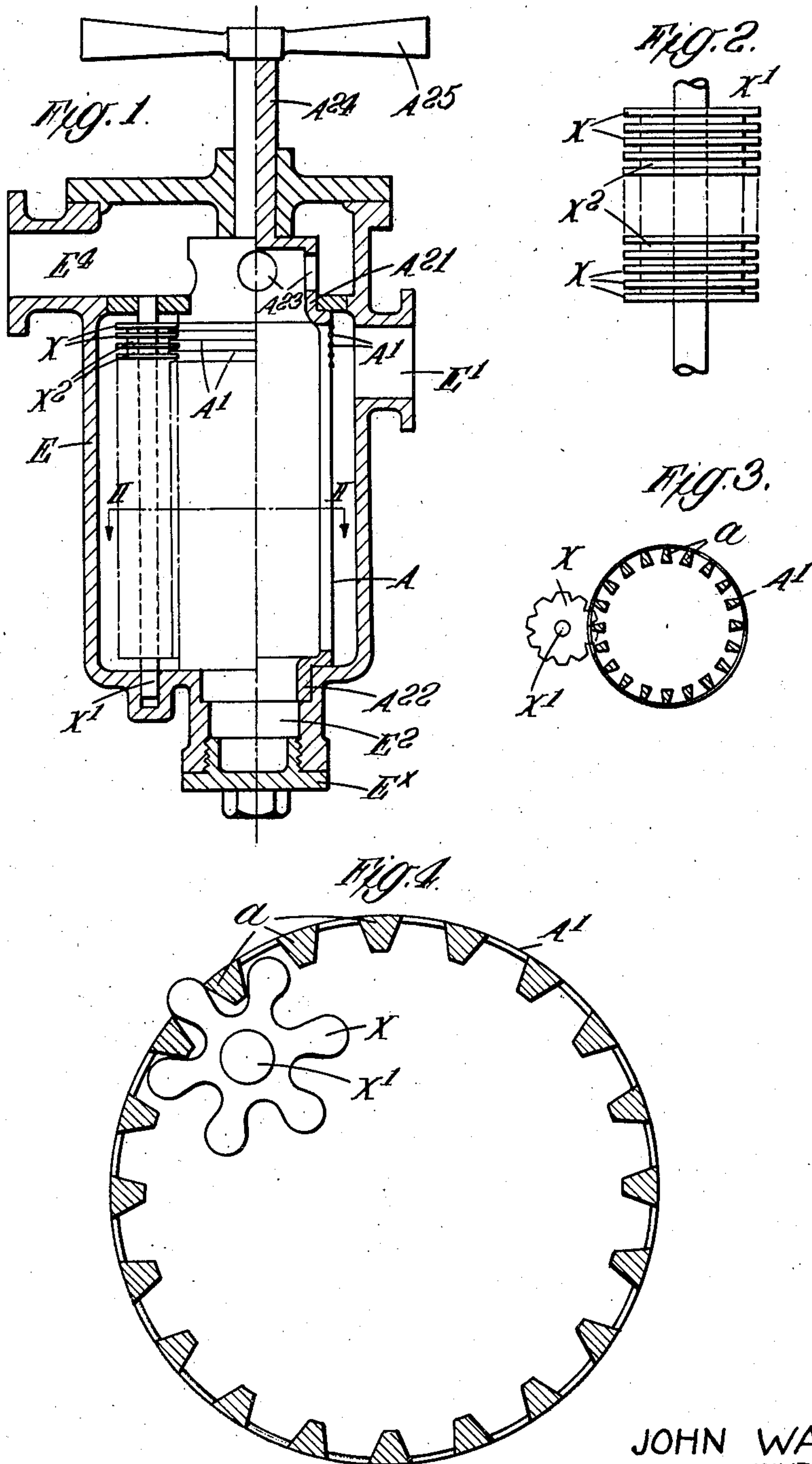
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J. WARDLE

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APPARATUS FOR STRAINING LIQUIDS OR GASES

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JOHN WARDLE
INVENTOR

BY *Haseltine, Lake & Co.*
ATTORNEYS

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APPARATUS FOR STRAINING LIQUIDS
OR GASES

John Wardle, Westminster, London, England, as-
signor to Lolos Strainers Limited, Barrow-in-
Furness, England, a British company

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6 Claims. (Cl. 210—167)

This invention relates to apparatus for strain-
ing liquids or gases and its chief object is to pro-
vide a mechanical cleaning device for the strain-
ing medium.

5 In order that the said invention may be clearly
understood and readily carried into effect the
same will now be described with reference to the
accompanying diagrammatic drawing and will be
defined in the appended claims.

10 In the drawing:—

Figure 1 is a central vertical section of one form
of strainer provided with a cleaning device in ac-
cordance with this invention;

15 Figure 2 is an enlarged view of part of the
cleaning device shown in Figure 1;

Figure 3 is a section on line II—II on Figure 1;
and

20 Figure 4 is a section illustrating a modification
in which the cleaning elements are located within
the strainer body.

In Figures 1, 2, and 3, the strainer body A is
formed peripherally with longitudinally disposed
ribs a around which the wire A^1 is wound spirally,
and with longitudinal slits, grooves, or the like,
25 (not shown) for the passage of the liquids or
gases. The cleaning device comprises toothed or
notched discs X that engage between the convo-
lutions of the wire A^1 and gear with the ribs a .
The discs X are carried by a spindle X^1 . The
30 discs X may be formed as independent elements
and spaced apart by distance pieces X^2 or they
may be formed integrally with each other and
with the distance pieces X^2 (and with the spin-
dle X^1 also if desired) by forming a toothed cyl-
35 inder and cutting slots in the teeth for the re-
ception of the convolutions of wire. The spindle
 X^1 is mounted in the casing E so as to be capable
of axial sliding movement or the discs or cylinder
may be axially slidable on the spindle X^1 . The
40 strainer body A and cleaning device are located
within the casing E which has an inlet opening
 E^4 , outlet opening E^1 , and a sump E^2 . The strain-
er body A is journalled at A^{21} , A^{22} , in the casing E
and at A^{21} is provided with apertures A^{23} , through
45 which the liquid or gas from the inlet E^4 enters
into the interior of the strainer body A and passes
between the convolutions of wire A^1 to the outlet
 E^1 . The strainer body A is also provided with a
spindle A^{24} that extends through an aperture in
50 the upper wall of the casing E and has a handle
 A^{25} on its outer end. Rotation of handle A^{25}
causes the strainer body A and cleaning device to
rotate so that any foreign matter located between
the convolutions of wire is dislodged into the in-
55 terior of the body A whence it falls into the sump

E^2 from which it can be removed after detaching
a screw plug E^x . During such rotation the con-
volutions of wire cause the discs X or spindle X^1
to move axially.

Figure 4 illustrates a modification in which the
cleaning elements or discs X are mounted within
the strainer body the teeth a of which latter are
accordingly formed of increasing cross-sectional
area towards their outermost surfaces, the teeth
on the discs X also being suitably shaped. In this
10 arrangement the gas or liquid will pass between
the convolutions of wire A^1 from the outside to
the interior of the strainer body and the dirt will
be pressed by the discs X to the outside of the
strainer body when the latter and the discs X are
15 rotated.

What I claim and desire to secure by Letters
Patent of the United States is:—

1. Apparatus for straining fluid comprising a
cylindrical strainer body provided with passages 20
for the fluid, and having a helical groove on
its outer surface, a straining medium consisting
of a wire wound in said helical groove, and me-
chanical cleaning devices provided with teeth
which pass between adjacent convolutions of 25
the wire and which enter said passages thereby
gearing with said body.

2. Apparatus for straining fluid comprising
a rotatably mounted cylindrical strainer body pro-
vided with longitudinal openings for the fluid 30
and with a helical groove on its outer surface, a
straining medium consisting of a wire wound in
the said helical groove, a spindle parallel to but
offset from the axis of the cylindrical strainer
body, and toothed cleaning devices mounted on 35
said spindle and provided with teeth which pass
between adjacent convolutions of the wire and
enter said openings thereby gearing with said
strainer body.

3. Apparatus as in claim 2, wherein said spindle 40
is mounted within the strainer body and means
are provided whereby the normal flow of fluid
occurs from outside the strainer body through the
straining medium into the interior of the strainer
body.

4. Apparatus as in claim 2 wherein said spindle 45
is mounted outside the strainer body and means
are provided whereby the normal flow of fluid
occurs from the interior of the strainer body
through the straining medium to the exterior of 50
the strainer body.

5. Apparatus as in claim 1 wherein the clean-
ing devices comprise integral projections of a
slotted and toothed cylinder.

6. Apparatus for straining fluid comprising a 55

cylindrical strainer cage provided with a surrounding helical groove and provided with a straining medium including a wire wound in said groove forming fluid passages opening to the cage interior between adjacent convolutions of the wire, mechanical cleaning means provided with teeth entering passages between the wire convolutions and means for rotating said cage and straining medium and thereby causing circumferential movement of said cage and straining medium with respect to the cleaning means and axial movement of the cleaning means with respect to the cage and straining medium. 5

JOHN WARDLE.