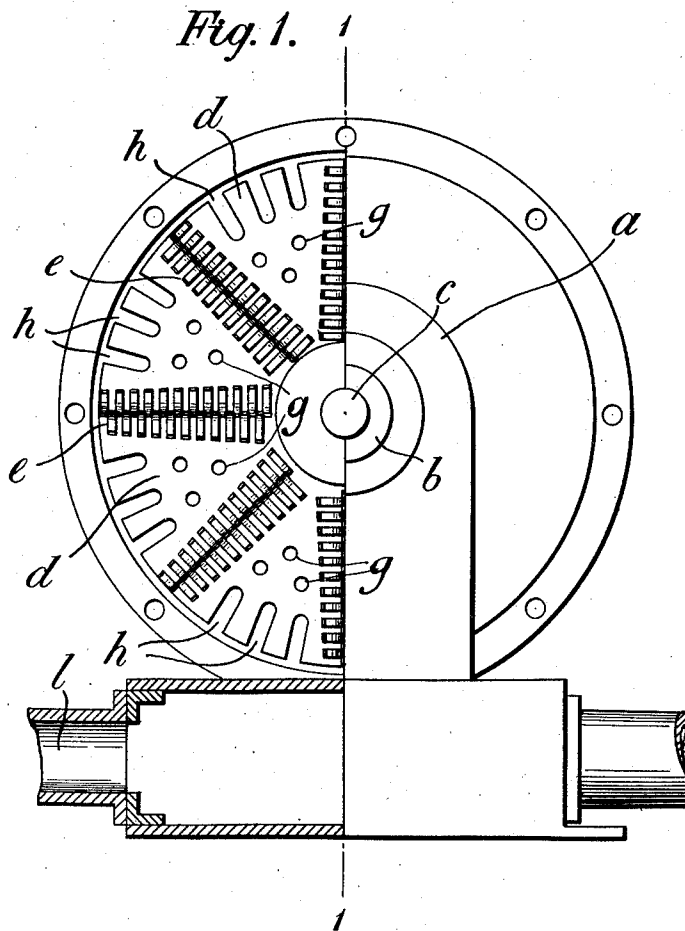


M. & J. H. WHITE.
 APPARATUS FOR WASHING AND SCRUBBING GASES.
 APPLICATION FILED JUNE 10, 1911.

1,025,729.

Patented May 7, 1912.

2 SHEETS-SHEET 1.



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1,025,729.

2 SHEETS-SHEET 2.

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UNITED STATES PATENT OFFICE.

MATTHEW WHITE AND JAMES HENRY WHITE, OF LUTON, ENGLAND.

APPARATUS FOR WASHING AND SCRUBBING GASES.

1,025,729.

Specification of Letters Patent.

Patented May 7, 1912.

Application filed June 10, 1911. Serial No. 632,425.

To all whom it may concern:

Be it known that we, MATTHEW WHITE and JAMES HENRY WHITE, both of 74 Inker-man street, Luton, Bedfordshire, England, have invented a new and useful Improve-ment in Apparatus for Washing and Scrub-
5 bing Gases; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a
10 part hereof.

Our invention has reference to rotary ap-
paratus for washing and scrubbing gases to
15 separate dust and other impurities there-
from and to extract the tar and resinous
matters so that the gas is finally discharged
for use in a highly purified condition.

Primarily the invention is designed for
use in connection with apparatus for the
20 manufacture of suction gas from wood re-
fuse and bituminous coal for power or heat-
ing purposes but its application to such use
is not limited thereto as obviously it may
be applied for scrubbing and washing other
25 gases.

In order that our invention may be read-
ily understood and carried into effect by
those skilled in the art to which it apper-
tains we will now proceed to describe the
30 same fully for which purpose reference is
to be had to the accompanying drawings in
which—

Figure 1 is a side elevation partly in sec-
tion of an apparatus constructed in accord-
35 ance with our invention. Fig. 2 is a ver-
tical section along the lines 1—1 of Fig. 1.
Fig. 3 is a detail view hereinafter more par-
ticularly referred to.

In carrying our invention into practice
40 we provide an approximately cylindrical
casing *a* in which is journaled in appro-
priate bearings *b* a revoluble shaft *c* adapt-
ed to be driven by any suitable known
means not shown. Keyed or splined to the
45 shaft *c* are a plurality of disks *d* in the ex-
ample illustrated in Fig. 2 two of said disks
are shown but it is obvious that a greater
number may be employed. Bolted to each
side of the disks *d* are a plurality of curved
50 fins *e* arranged as shown in Fig. 1 in radial
lines from the center to the periphery of the
disks. Approximately conical casings *f* are
mounted in the casing *a* in which the fins *e*
are adapted to rotate as will be clearly seen
55 with reference to Fig. 2. The fins *e* as above
stated are secured to each side of the disks *d*

projecting as shown in Fig. 3 alternately in
opposite directions that is to say one fin is
curved upward while the adjacent fin is
curved downward. The disks *d* are pro-
60 vided with holes or apertures *g* and with
slots *h* in the periphery to admit of the pas-
sage of the gases from one side of the disk
to the other. The lower portions of the con-
ical casing *f* are provided with outlet con-
65 duits *i* serving for the passage from the ap-
paratus of the tar and water.

Arranged in any suitable position in the
casing *a* as shown in Fig. 2 is a pipe *j* having
a perforated cross piece *k* through which a
70 spray of water may be introduced into the
interior of the apparatus. *l* is an inlet for
the gases to be washed.

The operation of an apparatus con-
structed in accordance with our invention 75
is as follows:—The gas from the generator
is introduced into the apparatus at *l* and
passes upward as shown by the arrows in
Fig. 2 and into the casing *f* where it is split
up by the fins *e* on the rotating disk *d* and
80 passes through the apertures *g* to the oppo-
site side of the disks whence it passes into
the space *m* from which it is conducted
away for use. The gas in its passage
through the apparatus is subjected to the
85 action of the spray of water issuing from
the member *k* the tar and other impurities
being thus washed out of the gases and
finally passing away from the conduits *i*.

It is to be noted that in our improved
90 device the tar laden gas passes into the
center where there are no running bearings
and is taken out on the outside in a purified
state therefore obviating choking or clog-
ging of the bearings with tar.
95

What we do claim and desire to secure by
Letters Patent is:—

1. In an apparatus for washing and
scrubbing gases, the combination with a
case, of a revoluble shaft mounted therein,
100 a plurality of disks rigidly secured to said
shaft and rotatable therewith, fins secured
laterally to said disks and curved trans-
versely with respect thereto, and means for
introducing a spray of water into the casing.
105

2. In an apparatus for washing and
scrubbing gases, the combination with an
approximately cylindrical casing, of bear-
ings carried by said casing, a revoluble
shaft mounted in said bearings, a plurality
110 of disks provided with a plurality of aper-
tures and slots therein, keyed to said shaft,

5 fins secured laterally thereof to said disks and carried thereby said fins being alternately curved transversely with respect to the said disks in opposite directions, conical casings within which the curved fins are adapted to rotate, means for supply a spray of water to the interior of the apparatus, and means for the discharge of the purified gas and for the tar and other impurities.

10 3. In an apparatus for washing and scrubbing gases, the combination of a casing provided with inlet and outlet means, a disk revolubly mounted within said casing with the said inlet and outlet means at each side
15 of the plane thereof, and a plurality of fins secured laterally to said disk and curved transversely with respect thereto.

4. In an apparatus for washing and scrubbing gases, the combination of a rev-

olubly mounted disk, disposed in a vertical 20 plane, a plurality of fins secured laterally of said disk and carried thereby, the fins being curved laterally with respect to said disk and increasing in length from the periphery of said disk toward the center thereof, a frusto 25 conical shell positioned adjacent the said fins, and a conduit positioned in alinement with said frusto conical shell and fins at the lower ends thereof to carry away matter disposed thereon responsive to the force of 30 gravity.

In testimony whereof we affix our signatures in presence of two witnesses.

MATTHEW WHITE.

JAMES HENRY WHITE.

Witnesses:

STACY D. ADAMS,

HARRY ARNOLD.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."