

(No Model.)

T. W. GREEN.
CYLINDER FOR SHAFTS OF PRESSURE BLOWERS.

No. 601,649.

Patented Apr. 5, 1898.

Fig. 2.

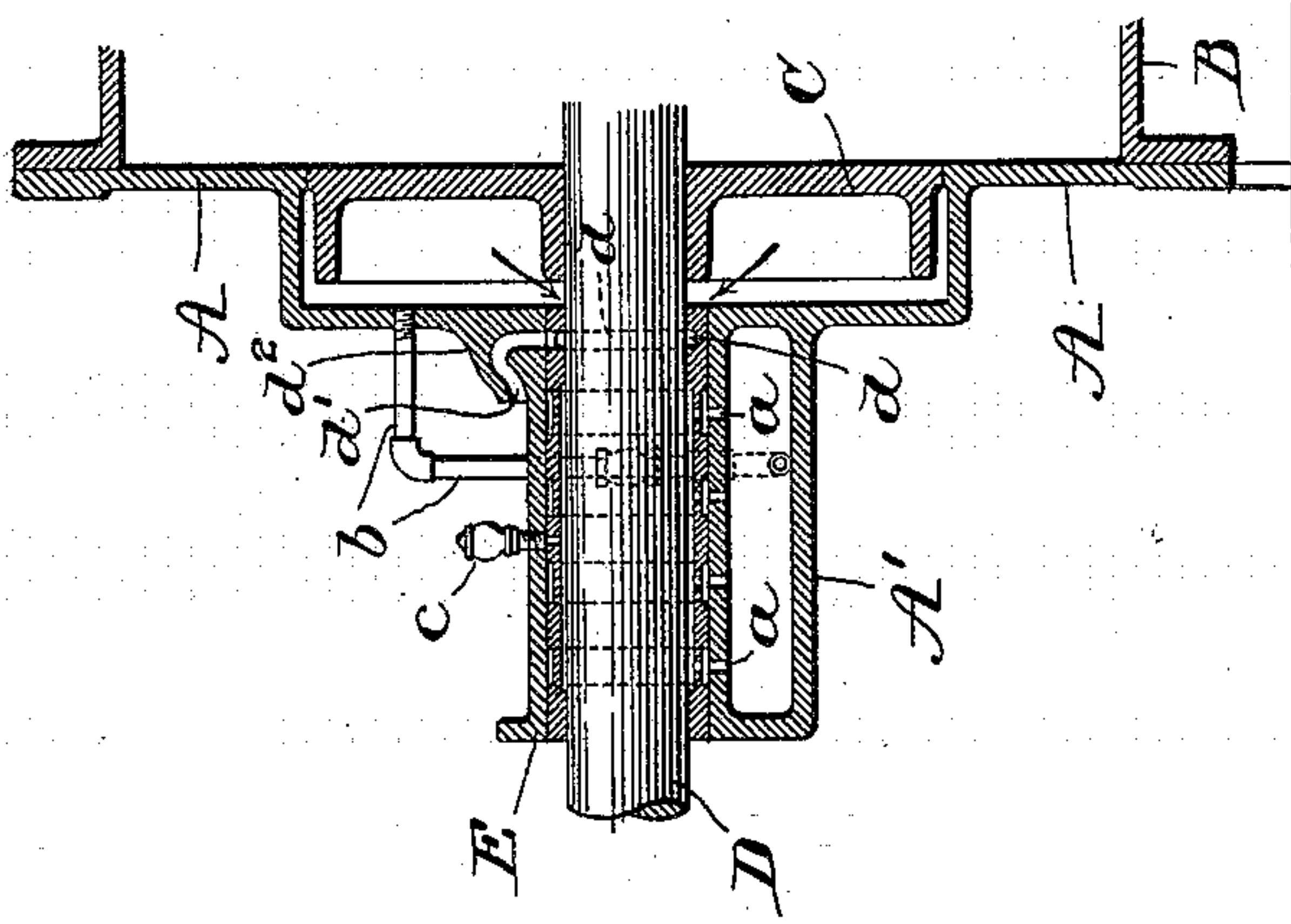
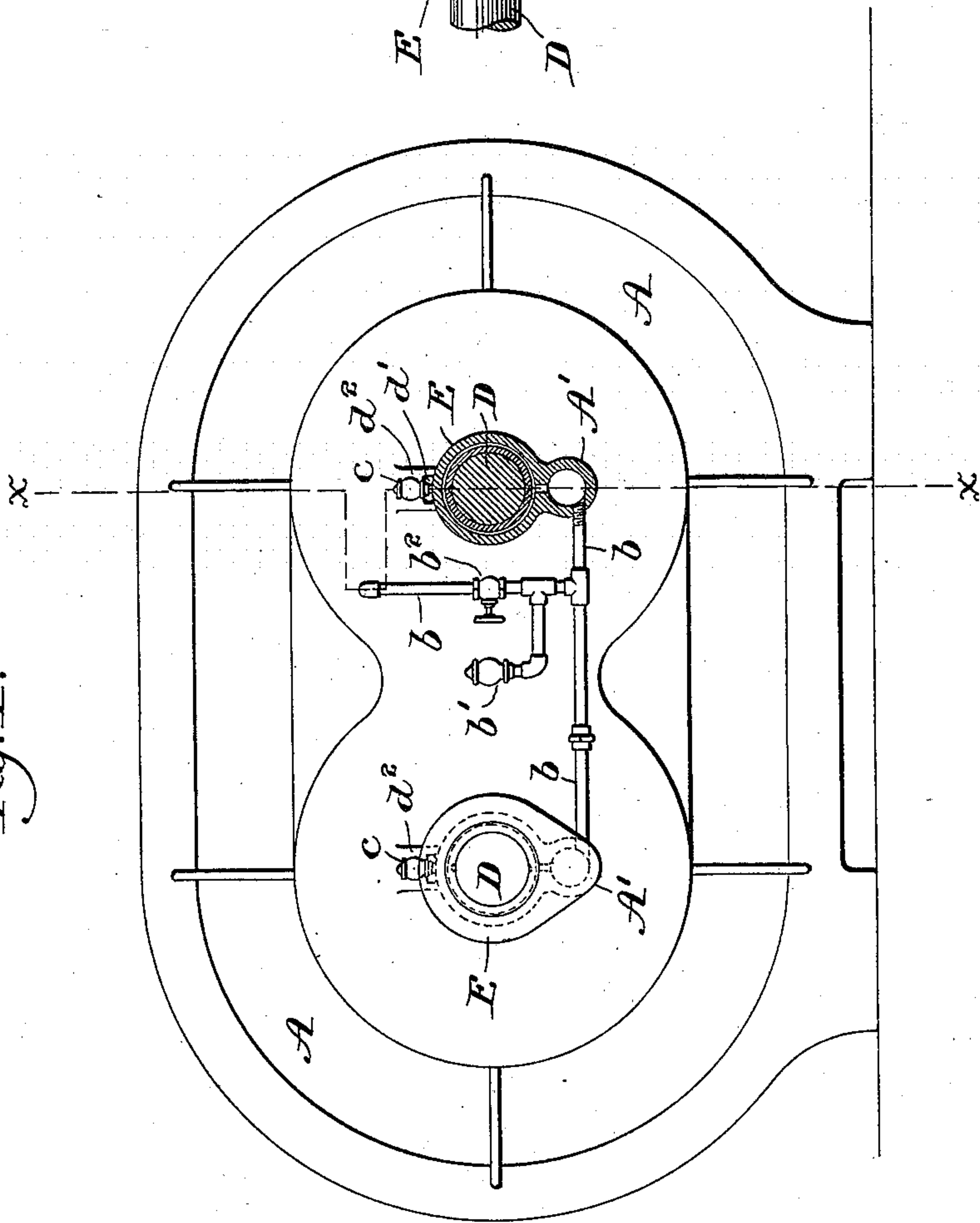


Fig. 1.



Witnesses.

M. L. Love
J. A. Skaut.

Inventor.

Thomas W. Green
by Thomas S. Mowley

Attorney.

UNITED STATES PATENT OFFICE.

THOMAS W. GREEN, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO
THE WILBRAHAM BAKER BLOWER COMPANY, OF SAME PLACE.

OILER FOR SHAFTS OF PRESSURE-BLOWERS.

SPECIFICATION forming part of Letters Patent No. 601,649, dated April 5, 1898.

Application filed March 27, 1897. Serial No. 629,470. (No model.)

To all whom it may concern:

Be it known that I, THOMAS W. GREEN, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Oilers for Shafts of Pressure-Blowers, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to oilers for the driving-shafts of pressure-blowers; and the objects of my improvement are to keep oil in constant contact with the journals on the driving-shafts of machines of this class and to prevent the pressure from the inside of the blower forcing the oil out at the ends of the shafts. To keep the oil in constant contact with the shaft, I construct the journal-box with an oil-reservoir that is connected by a pipe with the inside of the blower, thus allowing the pressure from the blower to act upon the oil in the reservoir and force it up through passage-ways against the journal of the shaft. To prevent the oil from being forced out at the end of the shaft by the pressure from the inside of the blower, I form on the inner end of the journal-box an annular groove that connects with a vertical passage-way or vent formed on the inner end of the journal-box.

In the accompanying drawings, Figure 1 is an end elevation, partly in section, of a rotary blower having my improvement thereon. Fig. 2 is a vertical sectional view of the end of a blower on line X X of Fig. 1.

A represents the end castings forming the supports for the driving-shafts.

B is a section of the casing surrounding the impellers of the blower and attached to the end casting A.

C is the solid head on one of the impellers.

D is the driving-shafts, extending through the impellers.

E is a journal-box formed on the end casting A.

A' is an oil-reservoir formed on the under side of the journal-box E.

a a are oil passages or ways extending from the oil-reservoir up through the journal-box to the journal on the driving-shaft.

b b is a pipe extending from the oil-reservoir to the inside of the casing surrounding the impellers.

b' is an oil-cup on the pipe b.

b² is a valve for cutting off the pressure from the inside of the blower.

d is an annular groove formed in the journal-box E.

d' is a vent or passage-way formed on the journal-box.

d² is an overhanging lip forming a cover to prevent dirt from falling into the vent-passage d' and getting on the shaft D.

c is an oil-cup in the journal-box E.

To fill the oil-reservoirs A' A', the valve b² is first closed, so as to cut off the pressure from the inside of the blower. The oil is then poured into the cup b', flowing through the pipes b into reservoirs. After the reservoirs are filled the valve b² is opened, and the pressure from the inside of the blower, acting through the pipes b, will force the oil to pass up through the ways a a against the journals on the shafts D. The oil-cups c being kept filled, any loss of oil in the reservoirs will be replenished therefrom. The pressure from the inside of the blower around the driving-shaft D at the points indicated by the arrows would under ordinary circumstances force the oil out at the ends of the shafts. To avoid this difficulty, annular grooves d are formed around the inside of the inner ends of the journal-boxes and the vents d' made to register therewith. By this arrangement I relieve that part of the shaft that extends forward from the annular groove from any pressure, thus preventing the oil from being forced out.

Instead of the annular groove d being formed on the inside of the journal-box E it may be made on the outside of the driving-shaft D, if desired.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a rotary blower, the combination of the journal-box E, provided with one or more of the oilways a, extending into the oil-reservoir A', and having therein the annular groove d, and vent-passage d', with the pipe b, hav-

95

100

ing suitable oil-inlet and extending from the oil-reservoir to the inside of the blower, substantially as shown.

2. In a rotary blower the combination of
5 the journal-box E, provided with the oilways a , and oil-reservoir A', having suitable oil-inlet and annular groove d , registering with the vent-passage d' , having the lip or cover d^2 ,
10 with a pipe b , extending from the oil-reservoir to the inside of the blower and provided with a valve b^2 , located between the reservoir and the casing surrounding the blower, substantially as shown.

3. In a rotary blower the journal-box E,
15 having therein the oil way or ways a , and the vent-passage d' , and the reservoir A', provided with a suitable inlet for the oil and connected with the inside of the blower, in combination with the shaft D, having therein
20 an annular groove registering with the vent-passage in the journal-box, substantially as shown.

4. In a rotary blower, the combination of
25 the impeller-shaft D, surrounded by an annular groove, with a journal-box provided with the vent-passage d' , having the overhanging lip or extension d^2 , substantially as and for the purpose described.

5. In a rotary blower a vent for shafts, said vent consisting of an annular groove surrounding the shaft and a passage leading from
30 said groove to the outside of the journal-box, said vent being located in said journal-box between the blower-head and the oil-carrying journal-bearings of the journal-box, as set
35 forth and for the purpose specified.

6. In a pressure-blower, the combination of the journal-box E, the journal therein and a suitable bearing for said journal, an oil-reservoir formed on the under side of the journal-box, and the oil-passages a , a , extending
40 from the reservoir up through the journal-box to the journal for the purpose of supplying oil to said journal, with the impeller or blower and pipes b , b , connecting the interior
45 of the said blower with the oil-reservoir for the purpose of creating a pressure in said oil-reservoir to force the oil therefrom up through the passages a , a , onto the said journal, as set forth.

In testimony whereof I affix my signature
in presence of two witnesses.

THOMAS W. GREEN.

Witnesses:

THOMAS D. MOWLDS,

SAML. H. KIRKPATRICK.