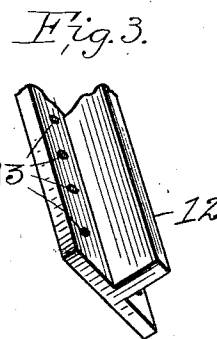
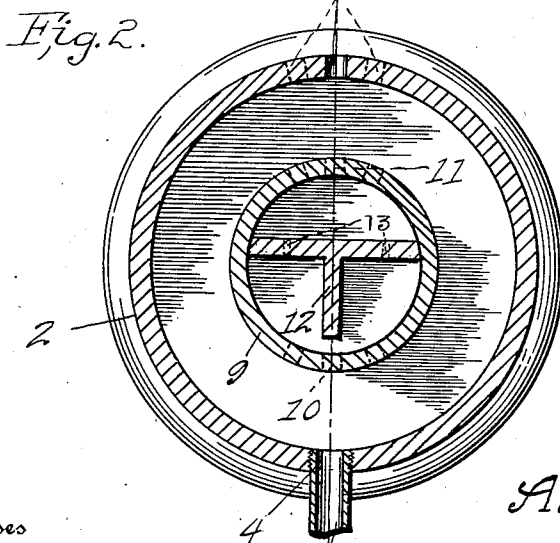
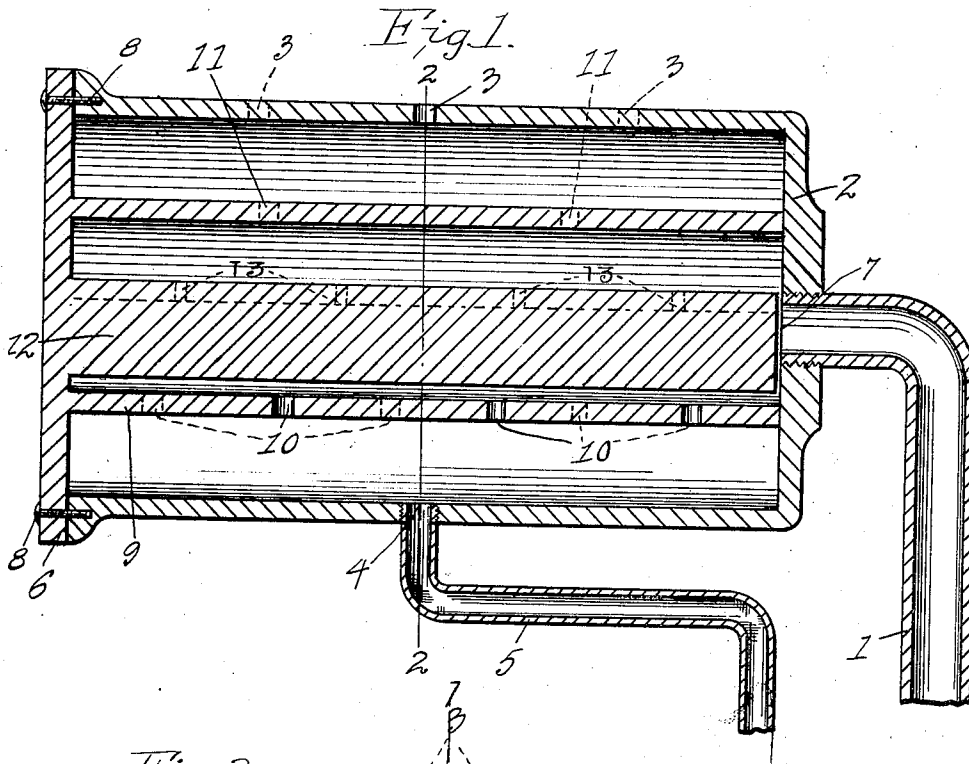


A. F. BERGHAHN.
 AIR AND OIL SEPARATOR FOR AIR COMPRESSORS.
 APPLICATION FILED DEC. 21, 1912.

1,064,429.

Patented June 10, 1913.



Witnesses

Robert M. Sutphen
 A. L. Hind.

Inventor
 A. F. Berghahn.

By *Watson E. Coleman*
 Attorney

UNITED STATES PATENT OFFICE.

AUGUST FRED BERGHAHN, OF BELLEVILLE, ILLINOIS.

AIR AND OIL SEPARATOR FOR AIR-COMPRESSORS.

1,064,429.

Specification of Letters Patent. Patented June 10, 1913.

Application filed December 21, 1912. Serial No. 738,098.

To all whom it may concern:

Be it known that I, AUGUST F. BERGHAHN, a citizen of the United States, residing at Belleville, in the county of St. Clair and State of Illinois, have invented certain new and useful Improvements in Air and Oil Separators for Air-Compressors, of which the following is a specification, reference being had to the accompanying drawings.

This invention comprehends certain new and useful improvements in air compressors, and has for its primary object to provide an air vent or air and oil separator for compressors.

Another object is to provide a vent, or air and oil separator which is extremely simple in construction and which will be highly efficient and effective in the performance of its duty.

With the above and other objects in view, as shall become apparent as the description proceeds, this invention consists in the novel details of construction, combination and arrangement of parts as I shall hereinafter fully describe, claim, and particularly point out in the accompanying drawings, in which—

Figure 1 is a vertical longitudinal section through the air and oil separator for air compressors. Fig. 2 is a cross sectional view on the line 2—2 of Fig. 1. Fig. 3 is a fragmentary perspective view of the baffle member.

Referring more particularly to the drawings, in which similar reference characters designate corresponding parts throughout the several views, the numeral 1 designates a pipe leading to the crank shaft chamber of a compressor (not shown), and connected with one end of the outer casing 2 of my improved vent or air and oil separator. The outer casing is provided with air outlet openings 3 in the upper face thereof, while the oil discharge opening 4, having one end of the oil return pipe 5 secured therein, is located in the under face of said outer casing. The oil return pipe 5 may have its opposite end connected with the crank shaft chamber (not shown) to return the oil to the said chamber after the air has been separated from the same, as will be presently described.

The end 6 of the outer casing 2, opposite the end having the opening 7 for the pipe 1,

is removably secured against the open end 55 of the casing 2 by bolts 8, or other suitable fastening means.

Within the outer casing 2 is an inner casing 9, which has one end secured to the removable head 6, while the opposite end is adapted for engagement against the integral end of the casing around the opening 7. The inner casing 9 is provided in its lower portion with a plurality of oil escape openings 10, while the air escape openings 11 are provided in the upper portion of said inner casing. Within the casing 9 is positioned the baffle member 12 which is of T-shaped form in cross section and has one end secured to the removable head 6 of the outer casing 2. The free end of the baffle member 12 extends to the opening 7 in the opposite end of the casing 2. The side edges of the baffle member 12 engage with the sides of the inner casing 9 and the horizontal wings of the baffle member 12 are provided with the spaced apertures 13 on opposite sides of the downwardly directed wing of said member. The purpose of this construction will presently appear.

The air which mixes with the oil in the crank shaft chamber of the air compressor, instead of escaping to the atmosphere directly from the chamber, as has heretofore been the case, travels through the pipe 1 and into the inner casing 9 where the mixture of air and oil comes into engagement with the baffle member 12 and is forced against the interior of the inner casing 9, causing the air and oil to separate. The oil travels down the sides of the inner casing 9 and finds its way through the openings 10 in the lower portion thereof, thus leaving the inner chamber and finding its way to the lower portion of the outer chamber and finally escaping from the outer chamber 2 by means of the oil return pipe 5 and traveling back to the crank shaft chamber. The air, after separating from the oil in the inner chamber 9, travels upwardly through the air outlet openings 11, into the outer chamber 2 and finally escapes from the outer chamber 2 to the atmosphere, by means of the air escape openings 3 in the upper portion of the outer chamber 2. It will be understood that the air entering the inner casing 9 below the horizontal wings of the baffle member 12, will, after separating from

the oil, travel upwardly through the apertures 13 to the air outlet openings 11 in the upper portion of said inner casing.

By means of this improved vent or air and oil separator, the air is separated from the oil before escaping to the atmosphere and the oil is returned to the crank shaft chamber, thus saving a considerable quantity of oil as well as keeping the compressor as clean as possible.

Owing to the extremely simple construction of this device, and the minimum number of parts included in the same, it is adapted for use upon compressors of various types and will be cheap to manufacture.

Having thus fully described my invention, what I claim is:—

1. An oil and air separator comprising an outer casing having one end open, a removable head for said open end, the casing being provided with a pipe opening in the opposite end, means for securing the head in position, an inner casing carried by the head, said inner casing having one end surrounding the pipe opening in the outer casing, a baffle member in the inner casing, said baffle member being of T-shaped form in cross section and carried by the removable head, said inner casing being provided with oil outlet openings in its lower portion, said in-

ner casing being also provided with air outlet openings in its upper portion, the outer casing being provided with air escape openings in its upper portion, a supply pipe secured in the pipe opening of the outer casing, and an oil return pipe secured in the lower portion of the outer casing.

2. An oil and air separator comprising an outer casing having one head formed therewith and a pipe secured centrally in said head, a removable head for the opposite end of the casing, an inner casing carried by the removable head and having its free end engaged against the integral head of the outer casing around the pipe, a longitudinally extending baffle member of T-shaped form in cross section secured at one end to the removable head within the inner casing and having its opposite end engaged against the end of the pipe, the horizontal portions of the baffle member being perforated, the upper and lower portions of the inner casing being perforated, and an oil return pipe secured in the lower portion of the outer casing.

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

AUGUST FRED BERGHAHN.

Witnesses:

CLAUDE BARNES,
J. W. TAYLOR, Jr.