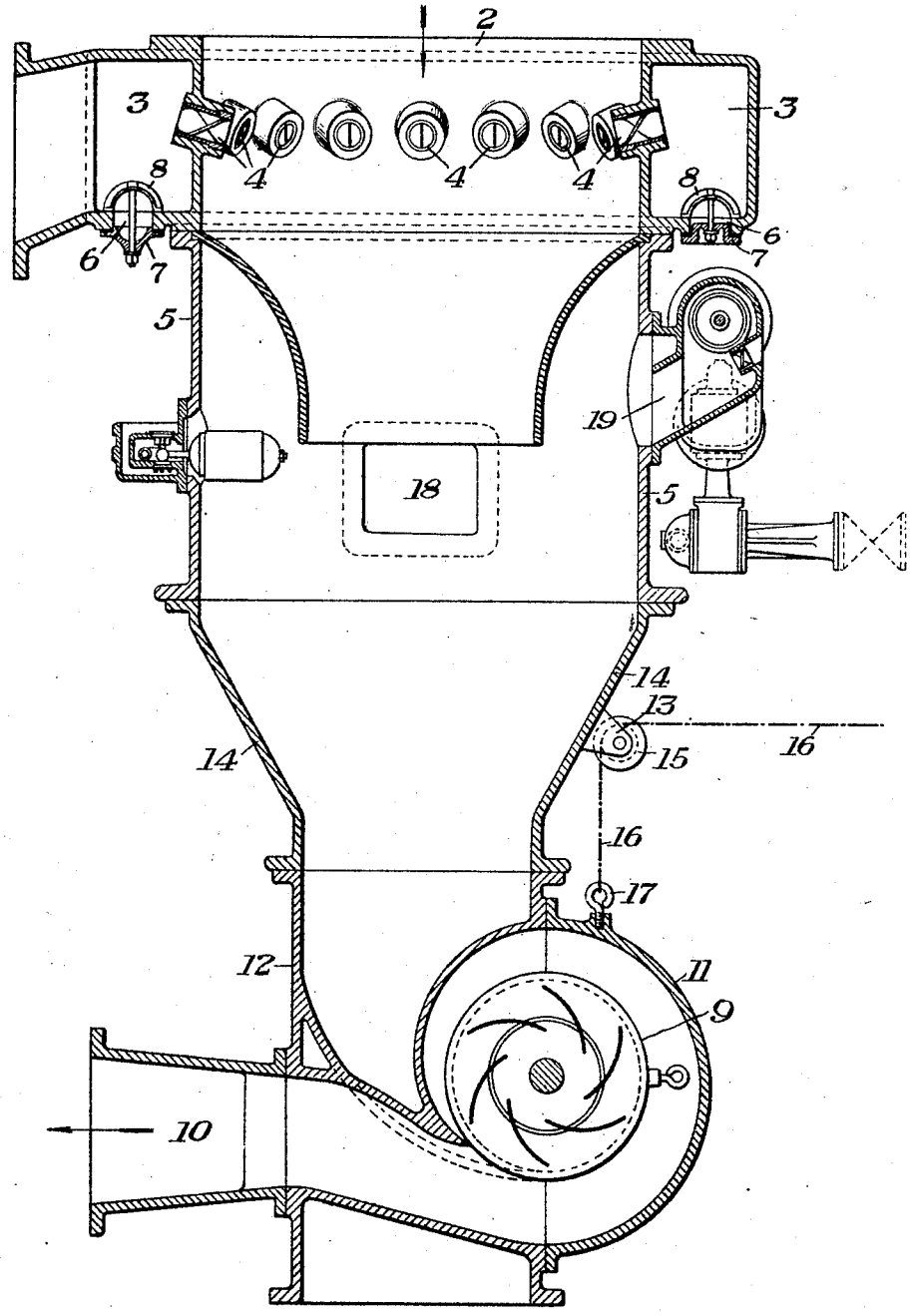
Dec. 1, 1925. 1,564,052

R. N. EHRHART

CONDENSER

Original Filed Oct. 28. 1918



INVENTOR

Raymond N. Ehrhart

By Byrnes, Kiebus & Darnell

Att'ys.

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UNITED STATES PATENT OFFICE.

RAYMOND N. EHRHART, OF EDGEWOOD, PENNSYLVANIA, ASSIGNOR TO ELLIOTT COMPANY, OF PITTSBURGH, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

CONDENSER.

Original application filed October 28, 1918, Serial No. 259,946. Divided and this application filed November 30, 1923. Serial No. 677,667.

To all whom it may concern:

Be it known that I, RAYMOND N. EHRHART, a citizen of the United States, residing at Edgewood, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Condensers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

The present invention relates broadly to condensers, and more particularly to condensers of the jet type, although certain features of the construction are equally adaptable to general condenser work with condensers of other types.

In accordance with my invention, means of improved character are provided for permitting access to the water-injection nozzles and to the condensate pump.

In the drawings, the figure of which represents more or less diagrammatically one form of condenser in vertical section, there is disclosed a steam inlet 2, having a surrounding water box 3. Leading from the water box is a series of injection or spraying means 4, arranged to discharge into the inlet chamber.

This inlet chamber is preferably made in a separate piece from the body 5 of the condenser and the water box 3 is formed integrally therewith, the latter being of larger diameter than the body of the condenser, so that its bottom wall forms a surrounding overhang. This overhang is provided at intervals with hand holes 6, each of which is closed by a hand hole plate or cover 7, secured by a crab 8, located within the water box. The hand holes are so spaced and located and are sufficient in number to give access to all the injection or spraying means of the series. This not only makes it unnecessary to remove the inlet chamber to obtain access to the water box and nozzles, but it permits all the seats for the cover plates 7 to be made at a single facing operation during the manufacture of the condenser.

In the preferred embodiment of the invention, there is provided a centrifugal pump 9, having the usual discharge pipe 10. The pump casing section 11 is made separately from the body 12, so as to permit it to be readily removed to give access to the pump. Heretofore, in this general type of condensers, the matter of removal of the pump covers has been more or less difficult, owing to the fact that the overhanging portions of the condenser are such that their projected area entirely covers the pump covers. It has therefore not been possible to make a convenient block-and-tackle connection for effecting the removal of such covers. To overcome this difficulty, I provide a suitable lug or bracket 13 on the intermediate section 14 of the condenser, in which there is journaled a pulley 15. A line or cable 16 can readily be run over this pulley and down to an eye bolt 17, on the pump cover 11. This line can be carried off horizontally, or in fact, in almost any convenient direction, to a block-and-tackle. The cover may therefore be easily raised out of position, a comparatively slight pull on the line 16 serving to produce the necessary outward movement of the cover. After the cover has been removed, the same pulley can be used to advantage in the removal of the pump shaft.

Access to the interior of the condenser may be gained through a suitable man hole 18, closed by the usual cover plate, and vapors may be withdrawn from the condenser through a suitably arranged outlet 19.

The present application is a division of my copending application, Serial No. 259,946, filed October 28, 1918, which eventuated in Patent No. 1,533,840 of April 14, 1925. The features herein shown with respect to my jet condenser are shown in my divisional application filed June 16, 1925, Serial No. 37,456.

The advantages of the present invention arise from a condenser construction in which ready access to all of the parts is permitted.

I claim:

1. A condenser having a water pump casing section provided with a removable cover portion, and a lifting connection on the condenser for the removal of said cover portion, substantially as described.

2. A jet condenser having a water pump casing section provided with a removable projecting cover portion, and a lifting connection on the condenser for the removal of said cover portion, substantially as described.

3. A condenser having a water pump casing section provided with a removable cover portion, and a lifting connection for the removal of said cover portion, said lifting connection having a pulley supported on a partially overhanging portion of the condenser above said cover portion, substantially as described.

4. A jet condenser having a water pump casing section provided with a removable projecting cover portion, and a lifting connection for the removal of said cover portion, said lifting connection having means supported on a partially overhanging portion of the condenser above said casing for cooperation with a cable, substantially as described.

5. In a condenser, a water pump casing section supporting the same and provided with a removable cover portion, and a lifting connection on the condenser for the removal of said cover portion, substantially as described.

In testimony whereof I have hereunto set my hand.

RAYMOND N. EHRHART.