

C. H. WAY.
HEAT RADIATING DEVICE.
APPLICATION FILED OCT. 8, 1904.

945,881.

Patented Jan. 11, 1910.

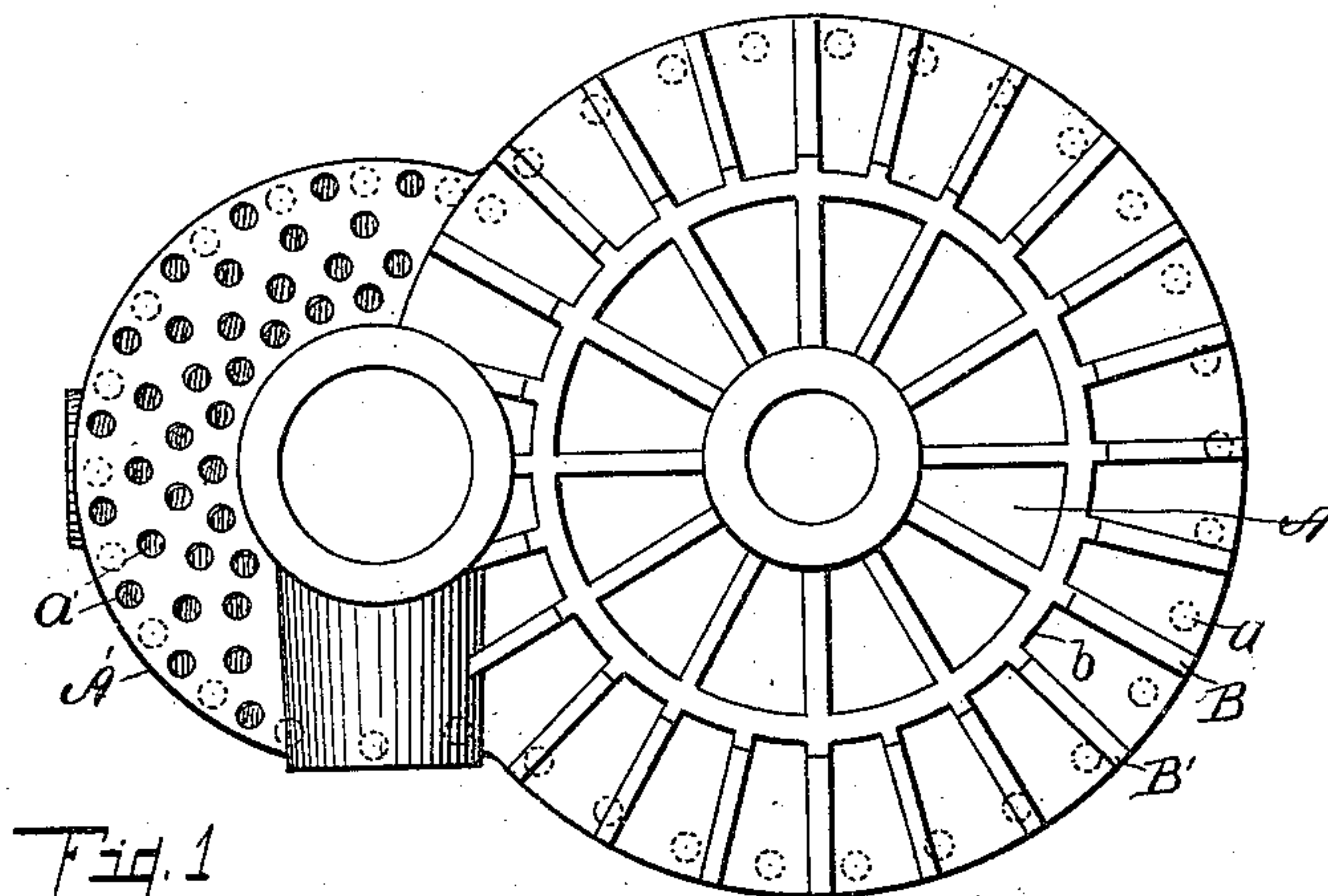


Fig. 1

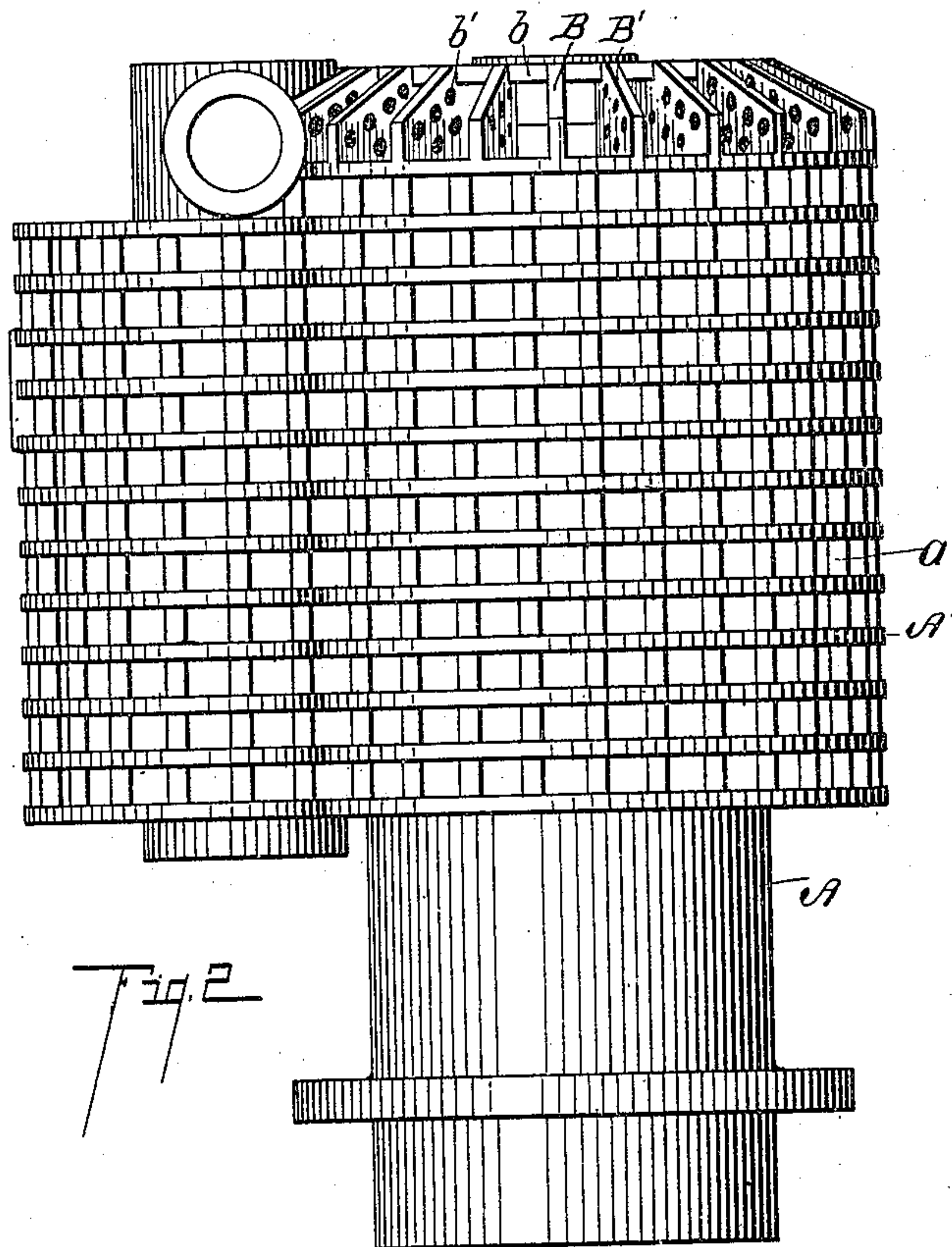


Fig. 2

Witnesses:
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UNITED STATES PATENT OFFICE.

CHARLES H. WAY, OF LANSING, MICHIGAN, ASSIGNOR, BY MESNE ASSIGNMENTS, TO
THE "NEW WAY" MOTOR COMPANY, OF LANSING, MICHIGAN, A CORPORATION.

HEAT-RADIATING DEVICE.

945,881.

Specification of Letters Patent.

Patented Jan. 11, 1910.

Application filed October 8, 1904. Serial No. 227,715.

To all whom it may concern:

Be it known that I, CHARLES H. WAY, a citizen of the United States, residing at the city of Lansing, county of Ingham, State of Michigan, have invented certain new and useful Improvements in Heat-Radiating Devices, of which the following is a specification.

This invention relates to improvements in heat radiating devices.

My improved heat radiating device is particularly applicable as a cooling device for cylinders for gas or explosion engines, and I have illustrated and described it in that relation in this application although it is advantageous for use in other relations.

The objects of this invention are: First: To provide an improved heat radiating device which possesses a very large area of radiating surface comparatively and is at the same time simple in structure, compact and economical to produce. Second, to provide an improved heat radiating device for gas or explosion engines possessing the above advantages.

Further objects, and objects relating to structural details, will definitely appear from the detailed description to follow.

I accomplish the objects of my invention by the means described in the following specification.

The invention is clearly defined and pointed out in the claims.

A structure embodying the features of my invention is clearly illustrated in the accompanying drawings forming a part of this specification, in which,—

Figure 1 is an end elevation of a gas or explosion engine embodying the features of my invention. Fig. 2 is a side elevation of the structure appearing in Fig. 1.

In the drawings, similar letters of reference refer to similar parts in both views.

Referring to the drawing, the cylinder A is provided with projecting heat radiating flanges or fins A' preferably circumferentially arranged. These flanges A' are connected by a plurality of bars *a* preferably arranged close to the outer edges of the fins, as clearly appears in Figs. 1 and 2 of the drawings. These bars not only add to the radiating area and capacity of the fins but also serve as effective braces therefor so that the fins can be made much thinner than would otherwise be possible, and still be

sufficiently strong. The fins A' are also provided with a plurality of perforations *a'*. These perforations also increase the radiating area and capacity of the flanges allowing the circulation of air therethrough so that it is effectively brought into contact with all parts of the flanges. The bars *a* are also so positioned that the currents of air passing between the flanges are brought into contact therewith.

The cylinder head is provided with radially arranged radiating flanges B and B', the flanges B extending to the center of the head and the flanges B' extending only partially across the head, as shown in Fig. 1. These flanges B and B' are connected by bars *b* which serve to brace the same and also to add to their radiating capacity and also with perforations *b'* corresponding to the perforations *a'* of the flanges A'. The fins are cast integral with the cylinder body.

By thus arranging the parts, I secure a maximum amount of radiating surface in proportion to the size of the structure. This surface is so disposed as to produce the most effective results, and, as before stated, the radiating flanges are so braced that the liability of the same being broken is remote.

By arranging the parts as I have heretofore described, I am enabled, as heretofore stated, to secure a maximum amount of radiating surface in proportion to the size of the structure. The radiating flanges or fins may be made comparatively thin and at the same time are so braced by the connecting bars or rods that there is no danger of their being fractured in ordinary use. By making the flanges or fins thin a large number can, of course, be placed in the same amount of space, and by connecting the same by bars, as described, the radiating surface and capacity is very materially increased. The perforations allow the air to circulate freely through the fins.

I have illustrated and described my improved heat radiating device in detail as applied to engine cylinders although I desire to remark that it is applicable for use in other relations as will readily appear to those skilled in the art to which my invention relates.

I have illustrated and described the application of my invention in the form preferred by me on account of its structural simplicity and economy, as I desire to claim the same

specifically as illustrated and described, as well as broadly.

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

1. A heat radiating device comprising a body portion; a plurality of thin foraminated heat radiating flanges arranged close together on said body; and a plurality of connecting bars for said flanges located adjacent to their outer edges, said body, flanges and connecting bars being one integral casting.

2. A heat radiating device, comprising a body portion; a plurality of thin heat radiating flanges arranged close together on said

body; and a plurality of connecting members for said flanges located adjacent to their outer edges, said body, flanges and connecting members being one integral casting. 20

3. A heat radiating device, comprising a body portion; a plurality of thin heat radiating flanges arranged close together on said body; and a plurality of connecting members for said body, and said body, flanges and connecting members being one integral casting. 25

In witness whereof I have hereunto set my hand in the presence of two witnesses.

CHARLES H. WAY.

Witnesses:

W. H. NEWBROUGH,
E. W. GOODNOW.