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A. T. KORTZ

2,209,028

ROTOR

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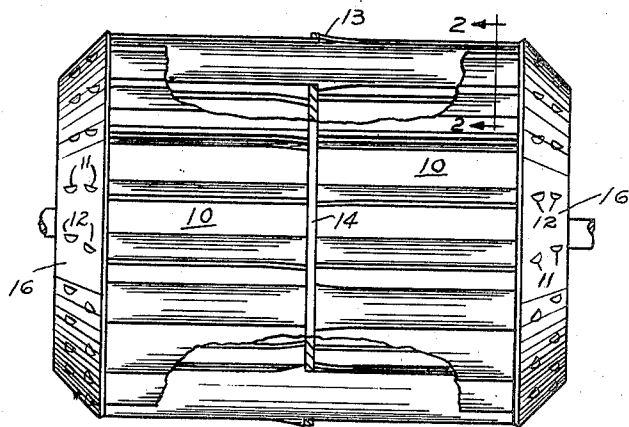


Fig. 1

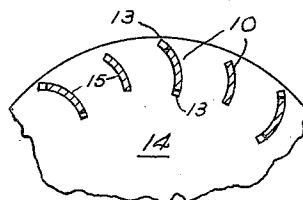


Fig. 2

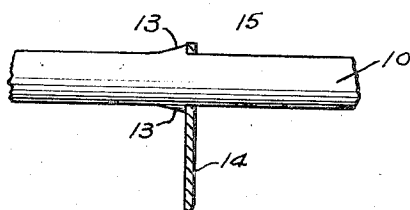


Fig. 3

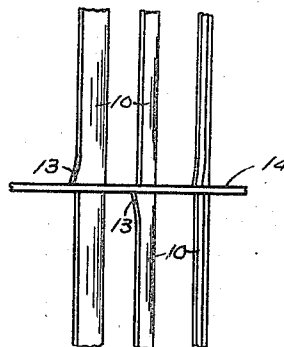


Fig. 4

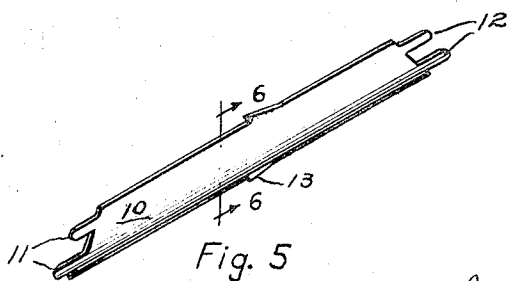


Fig. 5



Fig. 6

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ROTOR

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Application January 25, 1940, Serial No. 315,477

1 Claim. (Cl. 230—134)

The present invention relates to rotors and more particularly to fans or blowers.

The primary objects of the instant invention are to provide a rotor of the character above indicated having a novel vane assembly; to provide such a rotor whose vanes are secured to a middle vane supporting disc in a novel manner; to provide such a rotor whose vanes need not be spot welded to the middle vane supporting disc; and, to provide such a rotor which is simple in construction, efficient in use and economical in manufacture.

An illustrative embodiment of the invention is shown in the accompanying drawing, wherein:

Figure 1 is a side elevational view of the rotor, portions thereof being broken away;

Figure 2 is a sectional view thereof on line 2—2 of Figure 1;

Figure 3 is a fragmentary view of a portion of one of the vanes disposed in its assembled relation with respect to its middle vane supporting disc;

Figure 4 is a view similar to Figure 3 but showing the manner in which alternate vanes are assembled with respect to their middle vane supporting disc;

Figure 5 is a perspective view of one of the vanes; and

Figure 6 is a sectional view thereof on line 6—6 of Figure 5.

Referring then to the drawing wherein like parts of the structure shown are designated by the same numerals in the several views, a plurality of vanes 10, identical in form and arcuate in cross section, are provided with spaced projecting fingers 11, 12 at their opposite ends and with shoulders on opposite sides of their respective lengths medially thereof which shoulders are formed by enlarged side portions 13.

A middle vane supporting disc 14 is provided with a plurality of arcuately formed slots 15 adjacent its periphery within which the vanes 10 are projected, the shoulders on each alternate vane abutting the surface of the middle vane

supporting disc 14 on opposite sides thereof as best shown in Figure 4.

Vane supporting end rims 16 for supporting the opposite ends of the several vanes and here shown as oppositely angularly disposed with respect to each other, are each provided with a plurality of pairs of spaced apertures within which the fingers 11, 12 of the several vanes are projected and thereafter bent over into engagement with the outer surface of the end rim through whose apertures the fingers are projected.

Since the shoulders of each alternate vane abut opposite sides of the middle vane supporting disc 14 and since the opposite ends of the several vanes are each secured to the oppositely disposed end rims 16, the vanes are secured in rigid assembly without spot welding and therefore in an economical manner.

It will thus be seen that the rotor herein shown and described provides a fan or blower whose vanes are assembled in a novel manner and that the rotor is simple in construction and economical in manufacture.

While but one specific embodiment of the invention has been herein shown and described, it will be understood that certain details of the construction shown may be altered or omitted without departing from the spirit of the invention as the same is defined in the following claim.

I claim:

A rotor comprising a vane supporting disc provided with a plurality of spaced vane receiving slots adjacent its periphery, a vane disposed within each slot, each vane having a pair of oppositely disposed shoulders intermediate its length in abutting engagement with the surface of the disc, the shoulders on alternate vanes being disposed adjacent one surface of the disc and the shoulders on the other vanes being disposed adjacent the opposite surface of the disc, and a pair of rims each secured to the vane ends on opposite sides of the disc.

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