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H. C. SWIFT

2,357,618

BLADE WHEEL

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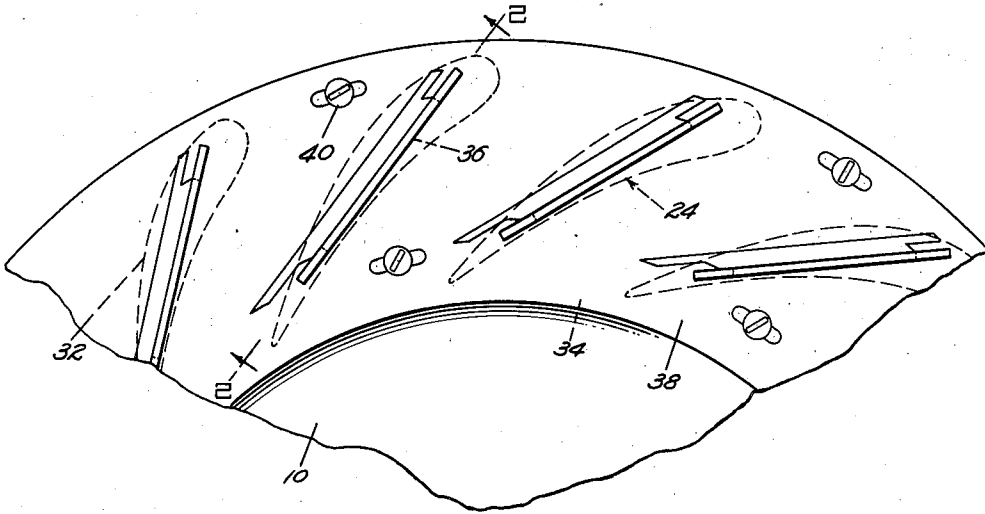


FIG. 1

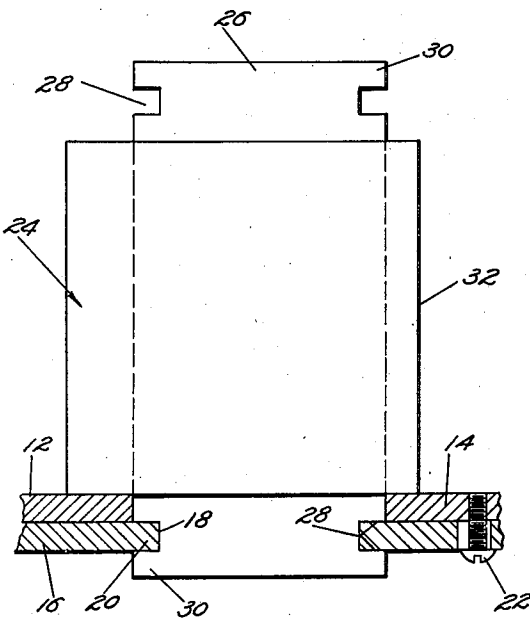


FIG. 2

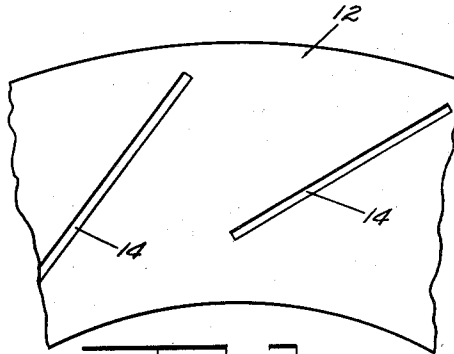


FIG. 3

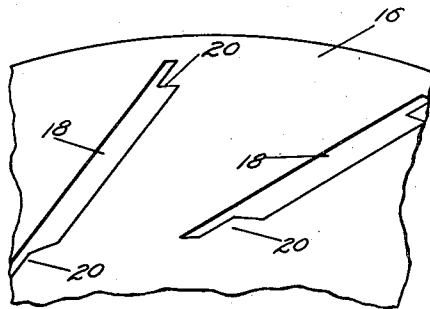


FIG. 4

INVENTOR.
HARVEY C. SWIFT
BY
O. H. Fowler

UNITED STATES PATENT OFFICE

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BLADE WHEEL

Harvey C. Swift, Detroit, Mich., assignor to Hydraulic Brake Company, Detroit, Mich., a corporation of California

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2 Claims. (Cl. 230—134)

This invention relates to blade wheels, and more particularly to blades or vanes and the mountings thereof.

Broadly the invention comprehends a composite vane having fastening means for support of the vane. In an illustrated embodiment of the invention a flat metallic plate has thereon between its ends a rubber or plastic vane of the desired character. The ends of the plate project beyond the vane and are slotted to provide lugs for securing the vane against displacement.

An object of the invention is to provide a composite vane having means for securing the vane against displacement.

Another object of the invention is to provide a rubber or plastic vane having a metallic core extended beyond the vane to provide fastening means.

Yet another object of the invention is to provide a blade wheel having spaced shrouds provided with registering slots for the reception of blades, and means carried by the shrouds for locking the blades in the slots.

Other objects and advantages of the invention will appear from the following description taken in connection with the drawing forming a part of this specification, and in which—

Fig. 1 is a side elevation of a blade wheel incorporating the invention;

Fig. 2 is a sectional view substantially on line 2—2 Fig. 1;

Fig. 3 is a fragmentary view of the shroud; and Fig. 4 is a fragmentary view of the lock ring.

Referring to the drawing, 10 represents the body of a wheel having thereon a disc or shroud 12 provided with spaced openings or slots 14. A ring 16 mounted for slight rotation on the disc or shroud has spaced slots 18 adapted to register with the slots in the shrouds and parts 20 adapted to overlay the slots. The ring 16 is supported on screws 22 threaded into the shroud, and the screws also serve to secure the ring in adjusted position.

A plurality of blades indicated generally at 24 each includes a flat metallic plate or core 26 having adjacent their respective ends, oppositely disposed transverse slots 28, providing lateral lugs 30, and vulcanized or molded to this metallic core 26 between the slots 28 is a rubber or plastic vane 32 of any desired character or profile.

As shown, one end of each of the metallic cores is inserted in the slots 14 of the disc or shroud

with the edges of the vanes abutting the shroud. The ring 16 is then slightly rotated so that the parts 20 thereof overlay the slots 14 and fit snugly in the slots 28 in the core with the adjacent lug 30 embracing the ring. The screws 22 are then adjacent to lock the ring against displacement.

A disc or shroud 34 corresponding to the shroud 12 has slots 36 registering with the slots 14 in the shroud 12. The slots 36 receive the other ends of the cores 26, and a lock ring 38 corresponding to the lock ring 16 is mounted for slight rotation on the shroud 34 and has parts adapted to enter the slots 28 in the core and to bear against the lugs 30 so as to effectively secure the blades between the shrouds 12 and 36 and the ring 38 is secured in place as by screws 40.

Blades of this particular structure may be provided at a very small cost and are susceptible of being easily and quickly assembled in a blade wheel of any type desired.

While this invention has been described in connection with certain specific embodiments, the principle involved is susceptible of numerous other applications that will readily occur to persons skilled in the art. The invention is, therefore, to be limited only as indicated by the scope of the appended claims.

Having thus described the various features of the invention, what I claim as new and desire to secure by Letters Patent is,

1. A blade wheel comprising a disc having spaced slots, a plurality of composite blades arranged on the wheel, each blade having a metallic core embedded in plastic material having a streamlined contour, the core having parts extended beyond the sides of the blade for insertion in the slots and oppositely disposed notches in the extended parts, and a retaining ring slidable on the disc having parts received by the notches.

2. A blade wheel comprising a disc having rectangular slots, a plurality of blades each having a metallic core of cross-section similar to the slots in the disc, said core providing tongues at its respective ends, a ring juxtaposed with the disc and having slots of greater area than the cross-section of the core for receipt of the core, and means on the ring adapted to engage the tongues upon shifting of the ring relative to the disc so as to lock the blade upon the disc.

HARVEY C. SWIFT.