No. 892,262. PATENTED JUNE 30, 1908.

C. H. JAEGER.

ROTOR FOR CENTRIFUGAL PUMPS.

APPLICATION FILED FEB. 7, 1908.

Fig. 2.

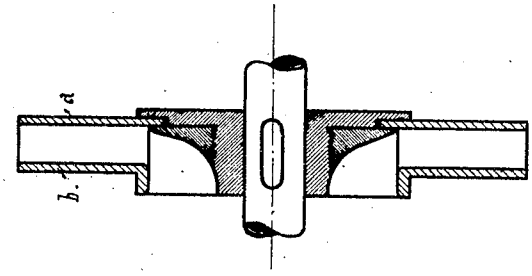
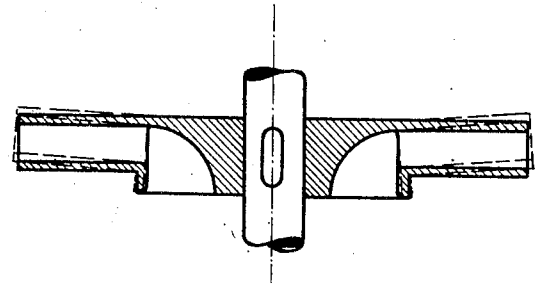


Fig. 1.



Witnesses:
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CARL HERMANN JAEGER, OF LEIPZIG-LINDENAU, GERMANY.

ROTOR FOR CENTRIFUGAL PUMPS.

No. 892,262. Specification of Letters Patent. Patented June 30, 1908.

Application filed February 7, 1908. Serial No. 414,798.

To all whom it may concern:

Be it known that I, CARL HERMANN JAEGER, a subject of the German Emperor, and residing at Aurelienstrasse 4, Leipzig-Lindenau, Germany, have invented certain new and useful Improvements in Rotors for Centrifugal Pumps, of which the following is a specification.

The present invention relates to centrifugal pumps and particularly to rotors for the same which rotate in one direction and which are provided with a side wall clamped to the hub.

At high speeds wheels having inlets at one side only are unfavorably strained by only the one of the two sides being firmly connected with the hub, this being not possible with the second, since the necessary inlets are situated in it. Accordingly this latter wall is only a ring which at high speeds will expand more than the other side wall, the latter being firmly connected with the hub or consisting of one piece with it, and therefore being more capable of offering resistance to the centrifugal forces. The consequence of this unequal straining or expansion, which is increased still more by the tangential forces of the blades, is that the diameter of the rotor is increased unequally in such a manner that the diameter of the one wall becomes greater than that of the wall which is capable of offering more resistance. Since the blades form a rigid connection between the two walls, however, the latter cannot expand independently, and the consequence is that the more resisting wall or disk is bent in the manner indicated in Figure 1 in the drawing.

An important object of the present invention is to do away with this defect.

In order that the invention may be clearly understood reference is made to the accompanying drawing in which one embodiment is represented by way of example, and in which:—

Fig. 1 is a vertical section through a wheel of a form customary hitherto, whereas Fig. 2 is a like view of a rotor in accordance with the present invention.

Referring to the drawing, according to the present invention the wall *a* is likewise separated from the hub, but so however that it has an equal or only slightly less internal diameter than the wall *b*. Consequently this wall *a* can now expand like the other and the tangential forces of the blades are transmitted uniformly to both walls.

For transmitting the turning movement, the wall or disk *a* is clamped loosely with the hub, so that it must participate in the rotation of the hub but can nevertheless expand and contract radially.

What I claim as my invention and desire to secure by Letters Patent is:—

1. In a rotor for centrifugal pumps, the combination with a hub, of an impeller element having an annular wall at one side clamped loosely to said hub so that said wall rotates with said hub and is free to move radially on said hub by the tangential forces of the rotation thereof.

2. In a rotor for centrifugal pumps, the combination of a hub fixed on a shaft, a disk loosely attached to and adapted to be rotated by said hub, a second disk, and blades mounted between said disks, the attachment of the former disk to said hub being sufficiently loose so that the disk can expand radially, for the purpose of both disks being strained approximately equally and preventing them being bent laterally.

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

CARL HERMANN JAEGER.

Witnesses:
RUDOLPH FRICKE,
SOUTHARD P. WARNER.