No. 875,647. PATENTED DEC. 31, 1907.

N. C. BASSETT.

BLADE FASTENING.

APPLICATION FILED OCT. 29, 1906. RENEWED MAY 27, 1907.

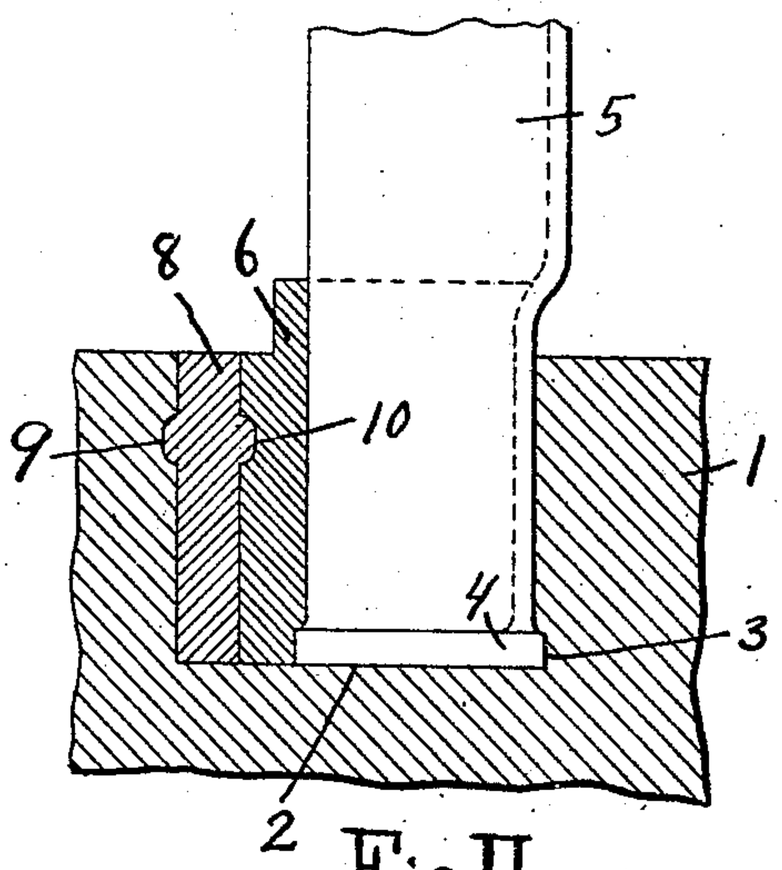

Fig. II.

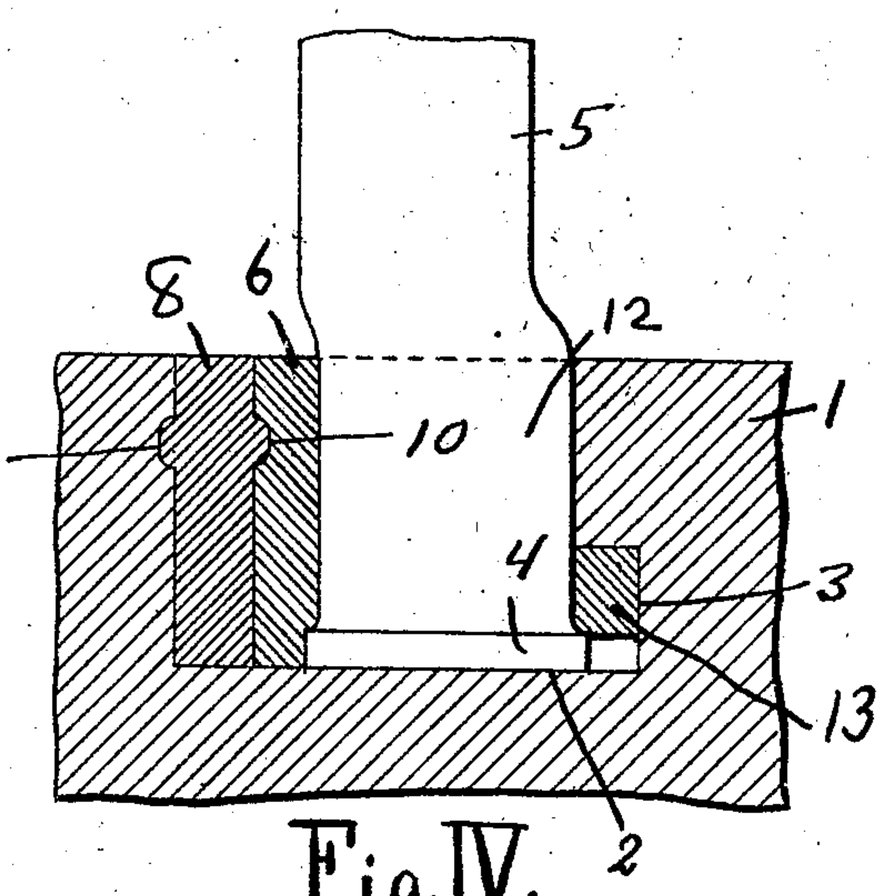

Fig. IV.

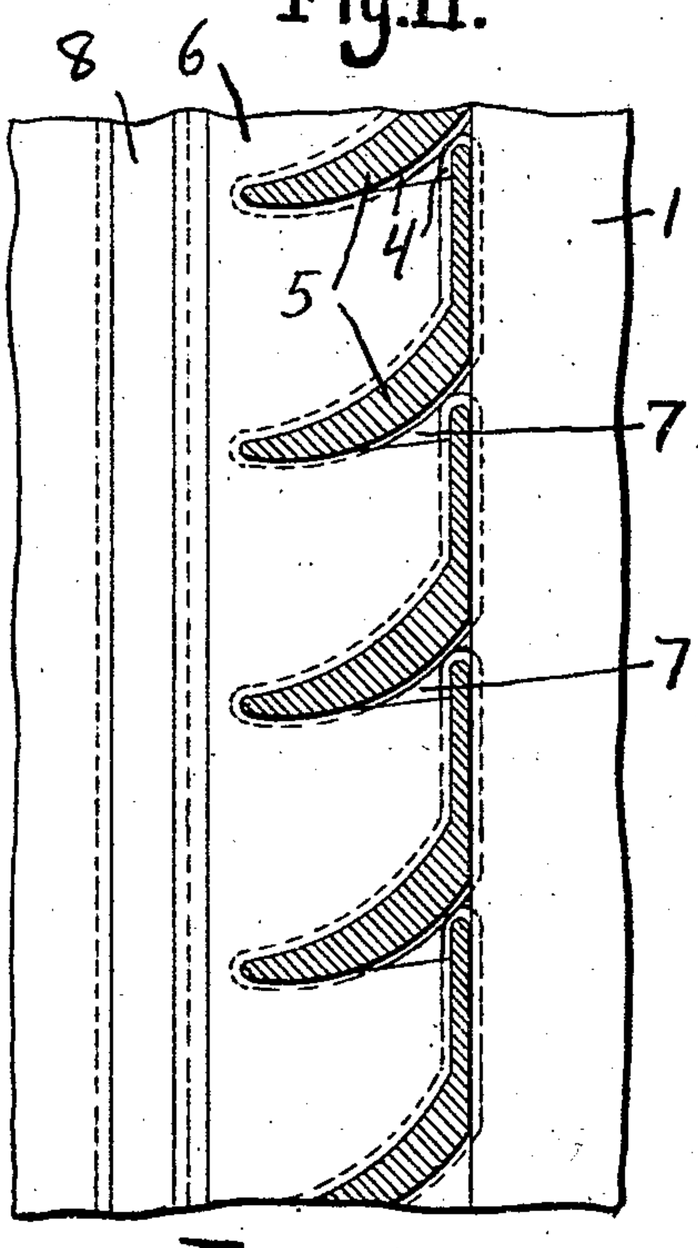

Fig. I.

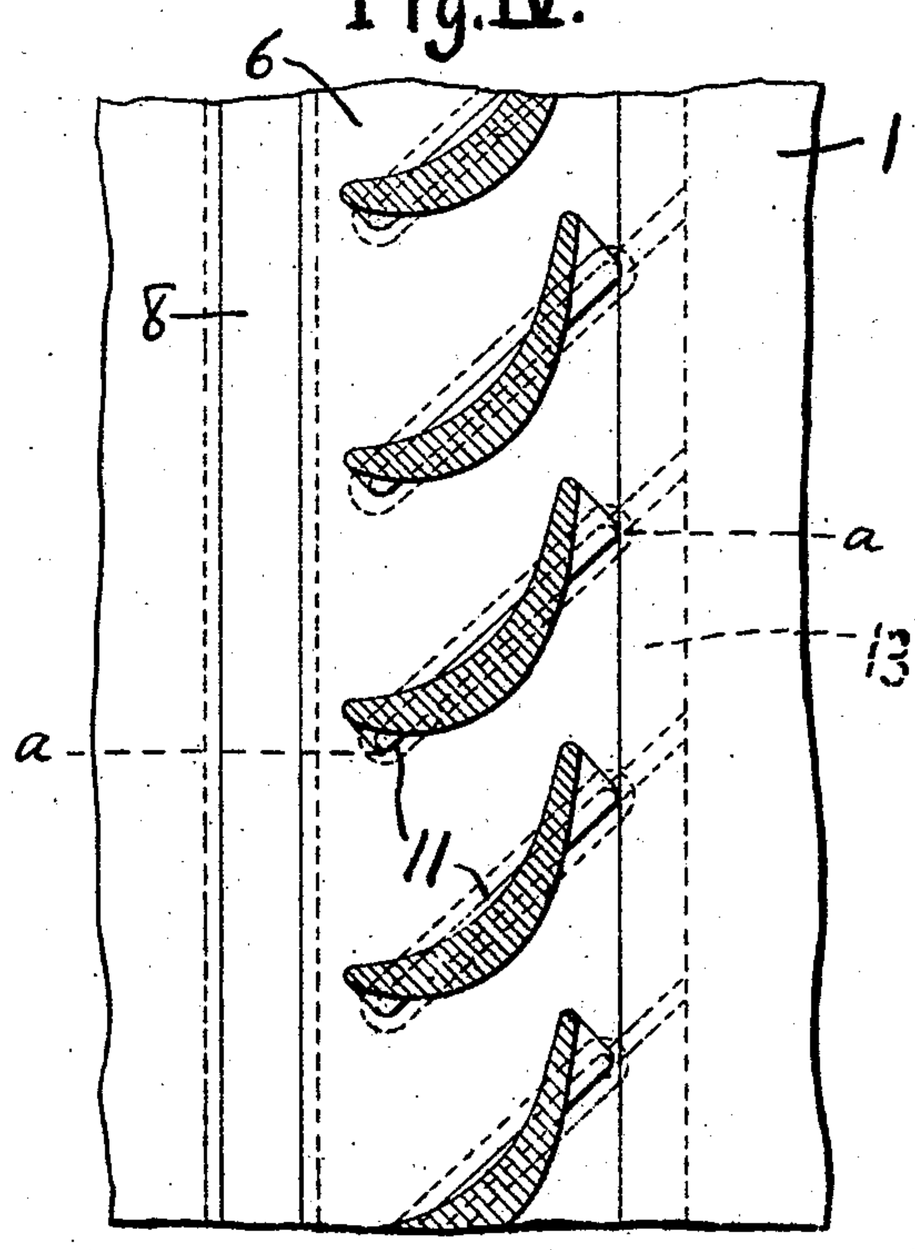

Fig. III

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BLADE-FASTENING.

No. 875,647. Specification of Letters Patent. Patented Dec. 31, 1907.

Application filed October 29, 1906, Serial No. 341,077. Renewed May 27, 1907. Serial No. 375,956.

To all whom it may concern:

Be it known that I, NORMAN C. BASSETT, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Blade-Fastenings, of which the following is a specification.

This invention relates to fastening devices suitable for fastening the blades of fluid propelled engines, or the blades of fans or pumps for propelling fluid, and generally it relates to a fastening means which is capable of being used in any relation where it is desirable to firmly secure to a member a plurality of similarly associated elements.

The term "blade" as used in this specification and in the claims is used in the generic sense to include any equivalent elements which it might be desirable to secure to a member in a similar manner and is not intended to restrict this invention to any specific art or machine, the term "blade" being used for convenience as this invention is particularly well suited for use in the construction of steam turbines.

The purpose of this invention is to provide a simple, strong and reliable construction for the purpose described.

In the drawings which accompany this specification and form a part thereof and on which the same reference characters are used to designate the same elements wherever they may appear in each of the several views and which illustrate embodiments of this invention,—Figure 1 is a plan view of a fragment of a blade-carrying member with blades secured therein, the blades being shown in section. Fig. 2 is a sectional elevation of the parts as shown by Fig. 1. Fig. 3 is a plan view of a fragment of a blade-carrying member with blades secured therein, the blades being shown in section. Fig. 4 is a sectional elevation of the parts as shown by Fig. 3, taken on the line *a*—*a* of Fig. 3.

The blade-carrying member 1 is provided with a recess 2, one side of said recess being undercut, as at 3, and adapted to receive a projection 4 formed on the blade 5.

The numeral 6 designates a blade-holding member which is notched to receive the blades, as shown at 7, and the numeral 8 represents a calking strip or member which is inserted in the recess 2 and firmly calked to secure the several parts in place.

The wall of the recess adjacent the calking strip may be provided with a depression or recess 9, and the blade-holding member 6 may be provided with a corresponding depression or recess 10, into which depressions the material of the calking strip 8 is adapted to be forced, thereby locking the parts positively against relative movement.

In Figs. 3 and 4 the blade-holding member 6 is shown as provided with elongated, diagonally extended slots or notches 11 which are adapted to receive the roots 12 of the blades 5, and in each of the forms illustrated the blade-holding member 6 is provided adjacent to said notches with a recessed portion to receive the projections 4 on the blades.

In the construction as shown by Figs. 3 and 4, the undercut portion in the recess 2 is sufficiently large to accommodate not only the projections 4 on the feet of the blades, but also a portion 13 of the blade-holding member 6 which projects beyond the blades and enters said recess.

In the construction as shown by Figs. 1 and 2, the blade-holding member 6 is provided with notches which are substantially triangular in shape as viewed in plan, and it will be noticed by reference to Fig. 1 that a small vacant space is left with this construction when the parts are fully assembled. As shown by Fig. 1, the roots 12 of the blades in this construction are bent at a considerable angle as compared with the rest of the blade so as to lie snugly both against the edge of the blade-holding member 6, and also against the wall of the recess 2.

As shown by Figs. 3 and 4, the lower parts of the blades are bent so as to be substantially flat, and the roots of said blades are adapted to impinge against the wall of the recess 2 and be retained thereagainst with the projections thereon seated in the recess of said wall in a manner similar in a general way to that disclosed by Fig. 1.

It will be apparent from the above description that this invention provides a very simple, strong and efficient method of fastening in blades, as the blades being hooked into a recess formed in the wall of the recess 2 and bearing against a wall of said recess, are especially well positioned to avoid any distortion

which might otherwise result from the pressure exerted by the member 8 while it is being calked into place.

What I claim is,—

1. The combination with a blade-carrying member, provided with a recess a side of which is undercut, blades provided with projections adapted to be received within the undercut portion of said side, a blade-holding member provided with notches seated in the recess of said blade-carrying member, and means to secure said blades and blade-holding member within the recess of said blade-carrying member.

2. The combination with a blade-carrying member, provided with a recess a side of which is undercut, blades provided with projections adapted to be received within the undercut portion of said side, a blade-holding member provided with notches seated in the recess of said blade-carrying member, said blade-holding member being recessed adjacent said notches to receive projections on the blades, and means to secure said blades and blade-holding member in the recess of said blade-carrying member.

3. The combination with a blade-carrying member, provided with a recess a side of which is undercut, blades provided with projections adapted to be received within the undercut portion of said side, a blade-holding member provided with notches seated in the recess of said blade-carrying member, said blade-holding member being recessed adjacent said notches to receive projections on the blades and being provided with a projection adapted to engage with said side within the undercut portion thereof, and means to secure said blades and blade-holding member in the recess of said blade-carrying member.

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

NORMAN C. BASSETT.

Witnesses:

FRANK E. DENNETT,

JOHN OLSEN.