Oct. 20, 1931. P. SUTER 1,827,770

ROTARY FAN

Filed Feb. 6, 1926

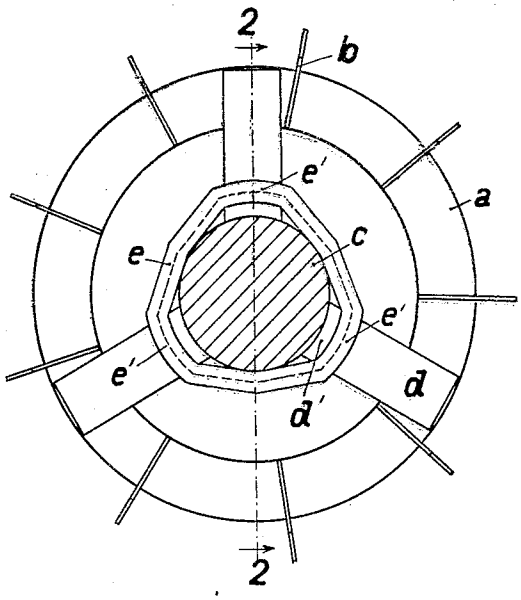

Fig. 1.

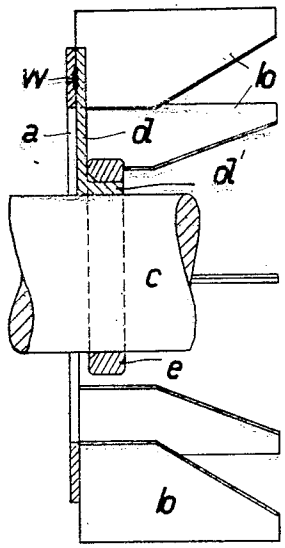

Fig. 2.

Philipp Suter
Inventor

By Crowell, Heist & Worden
Attorneys

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UNITED STATES PATENT OFFICE

PHILIPP SUTER, OF BADEN, SWITZERLAND, ASSIGNOR TO AKTIENGESELLSCHAFT BROWN BOVERI & CIE., OF BADEN, SWITZERLAND, A JOINT-STOCK COMPANY OF SWITZERLAND

ROTARY FAN

Application filed February 6, 1926, Serial No. 86,596, and in Germany February 6, 1925.

This invention relates to improvements in rotary fans.

One of the objects of the present invention is to provide an improved rotary fan construction having advantages over such constructions of the prior art as regards simplicity of construction and cost of manufacture.

Other objects and advantages will hereinafter appear.

For the purpose of illustrating the invention, one embodiment thereof is shown in the drawings, wherein

Figure 1 is a front elevational view; and

Fig. 2 is a side elevational view, partly in section, the section being taken on the line 2—2 in Fig. 1.

The improved rotary fan construction includes a fluid-impelling unit disposed about and in spaced and concentric relation with the operating shaft *c*, such unit comprising the ring or hoop *a* with the blades *b* extending laterally therefrom and provided with the circumferentially-spaced and radially and inwardly directed spacing members *d* provided at their respective inner ends with the parts or feet *d'* extending axially of the shaft and seating thereupon, the members *d* operating to maintain concentric relation between the shaft and the fluid-impelling unit and being secured at their respective outer ends to ring *a* by any suitable means such as the spot welds *w*.

The parts or feet *d'* are embraced by the fastening means or band *e* which may be shrunk over the shaft and parts *d'*, as indicated, to hold the latter in firm seating engagement with the shaft. The parts or feet *d'* may be slightly flexible so that they yield somewhat to the constraining pressure of the fastening band, which action contributes toward a better driving connection between the shaft and the fluid-impelling unit.

The fastening means or band *e* engages the adjacent faces of the spacing members *d*, as more clearly shown in Fig. 2, and thereby provides lateral reenforcement for the same.

As shown in Fig. 1, the band *e* has a polygonal configuration, the peripheral portions *e'* which engage the parts or feet *d'* being joined by the intermediate peripheral portions which are substantially tangential of the shaft *c* and between which the feet *d'* are locked to hold the same in fixed relation with respect to each other in a direction circumferentially of the shaft *c*.

While but one embodiment of the invention has been shown and described, it will be understood that various changes might be made such as in the size, shape and arrangement of the parts without departing from the spirit of the invention or the scope of the claim.

I claim:

In rotary fan construction, an operating shaft, fluid-impelling structure disposed about said shaft and provided with feet portions engaging and extending axially of said shaft, said feet portions being disposed in spaced relation with respect to each other in a direction circumferentially of said shaft, and a band disposed about said shaft and said feet portions and holding the latter in firm engaging relation with said shaft, said band having a polygonal configuration comprising peripheral portions engaging said feet portions and joined by intermediate peripheral portions substantially tangential of said shaft and between which said feet portions are locked in said relation with respect to each other.

In testimony whereof I have hereunto subscribed my name at Zurich, Switzerland, on the 20th day of January, A. D. 1926.

PHILIPP SUTER.