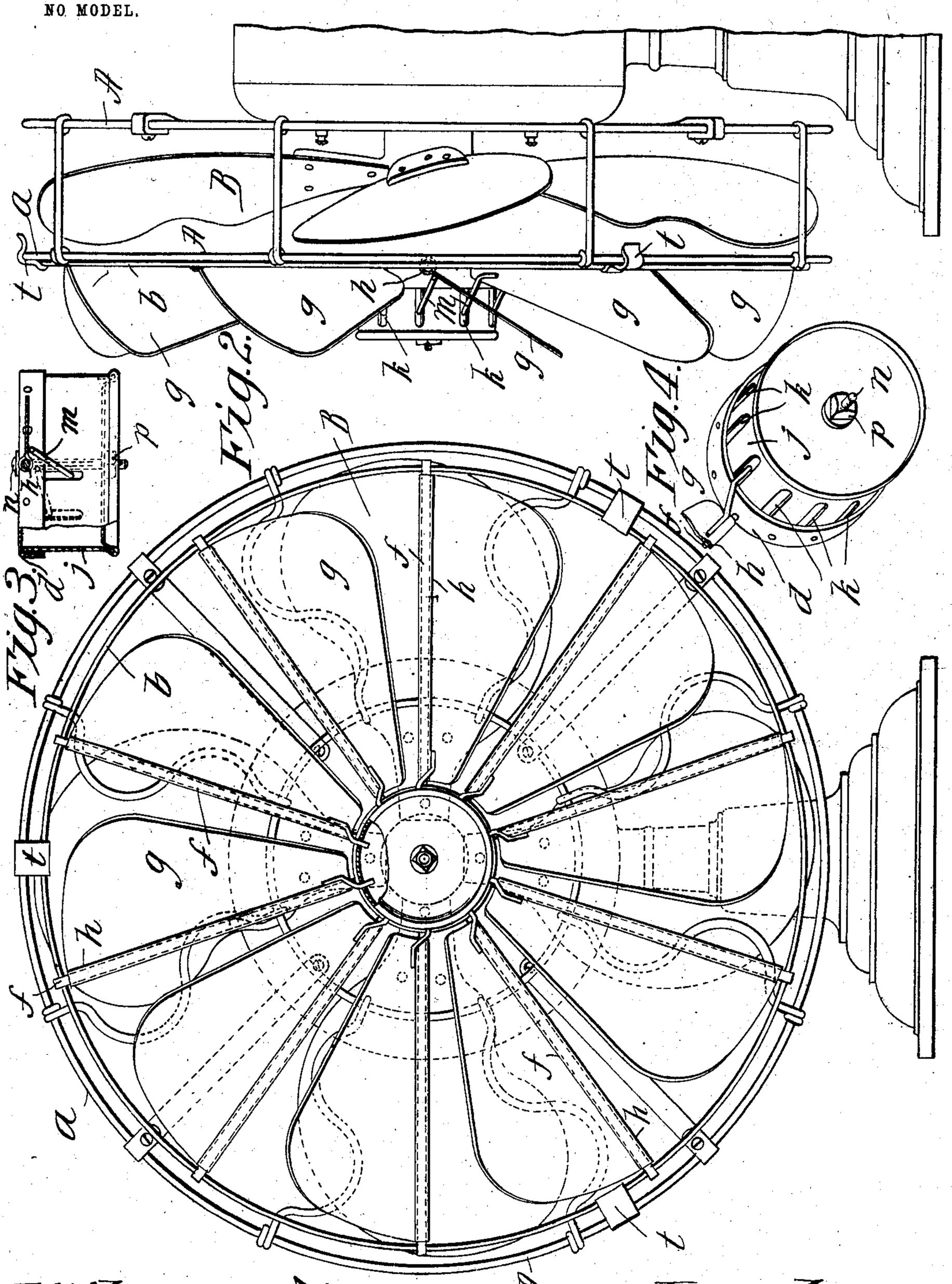
No. 751,325. PATENTED FEB. 2, 1904.

N. MORGAN.

FAN DEFLECTOR.

APPLICATION FILED AUG. 3, 1903.

NO MODEL.



Witnesses:
J. D. Garfield
A. V. Leahy.

Fig. 1.

Inventor:
Newton Morgan,
by Wm. F. Bellows.
Attorney.

No. 751,325. Patented February 2, 1904.

UNITED STATES PATENT OFFICE.

NEWTON MORGAN, OF SPRINGFIELD, MASSACHUSETTS.

FAN-DEFLECTOR.

SPECIFICATION forming part of Letters Patent No. 751,325, dated February 2, 1904.

Application filed August 3, 1903. Serial No. 167,967. (No model.)

To all whom it may concern:

Be it known that I, NEWTON MORGAN, a citizen of the United States of America, and a resident of Springfield, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in Fan-Deflectors, of which the following is a full, clear, and exact description.

This invention relates to an attachment or appliance to be supported at the front of the guard of a rotary electric fan for deflecting and diffusing the current of air produced by the fan.

By the employment of the device the air-current from the fan may be directed concentrated, as usual, or may be more or less divergent from a direction in the line of the axis of the fan, and may be distributed to give gentle or tempered air circulation throughout a very considerable space in the room.

The invention consists in the combinations and arrangsments of parts, all substantially as hereinafter fully described, and set forth in the claims.

In the drawings, Figure 1 is a front elevation showing the improved fan-deflector as applied on and in front of the cage or guard for a rotary electric fan. Fig. 2 is substantially a side elevation of Fig. 1. Fig. 3 is a plan view of the central or hub portion of the appliance, Fig. 4 being a perspective view of such central portion.

In the drawings, A represents the cage or guard of an ordinary electric-motor fan B, comprising a circular ring member *a*.

The improved deflector-fan embodies a frame which comprises an outer ring *b*, an inner concentric circular cup-shaped part *d*, and radial rods *f f*, extended between and engaged with the outer ring and the central member.

The deflector-blades *g*, a series of which are provided, are, as shown in the drawings, approximately in the form of elongated triangles, having their long edges of tubular form, as shown at *h*, to inclose and have bearings for their rotational movements on the said radial rods as their respective axes.

Fitted adjacent and arranged for a rotational movement relatively to the cup-shaped central member is a second cup-shaped member *j*, which is provided with a series of slots *k* in its circumferential side, the lengths of which slots are parallel with the axis of the part *j*, and in these slots engage the extremities of angular operating members *m* of the respectively journaled blades, such operating members being advantageously constituted by wires which are bent twice, as shown, the extremity of each opposite that which engages into one of the slots being soldered on the side of the blade near its inner end.

A threaded stud *n* extends axially through the two cup-shaped parts *d* and *j*, receiving at its threaded extremity the clamping-nut and washer *p* and serving to hold the two cup-shaped parts together, leaving the one, *j*, capable of having its rotational shifting movement relatively to the other.

The members *m*, which are rigid extensions of the blades mounted for the swinging movements, as described, operate as cranks to individually swing the blades; and the impingement of the edges of the slots against such crank-like extensions on the turning of the cup-shaped part *j* in the one or the other direction correspondingly causes the swinging of all of the blades into a common plane transverse of the axis of the deflector appliance or into various planes individual to the respective blades, which are more or less nearly parallel with the axis of the appliance, and manifestly according to the positions of the blades the fan-current may be practically shuttered and impeded, concentrated along the line of the fan-axis, or deflected and diffused throughout a considerable area, all as may be desirable or agreeable in an office, hospital, operating-room, or other place.

Various changes may be made in the details of construction and arrangement without departure from my invention.

As a convenient means for detachably connecting the deflector appliance on the fan-guard, a plurality of spring-clips *t* are provided on the encircling ring of the deflector-frame, which may be sprung or snapped to engagement with and about the ring *a* of the guard. Of course these clips might be re-

versely arranged—that is, they might be provided to the fan-guard to engage with the deflector-frame.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a device of the character described, the combination with the protective cage of a rotary fan, of an air-current-deflecting device consisting of a frame comprising an outer circular ring, a central member and connections extending between the latter and the ring, attachment-clips for connecting the ring to the fan-cage, deflector-blades located between the said inner member and outer ring having individual operating extensions, and a rotary part shiftable on the central member with which said operating extensions are respectively engaged, for the purposes set forth.

2. In a device of the character described, the combination with a circular frame comprising an outer ring and an inner member, of a series of blades arranged between the outer ring and the inner member, mounted for swinging movements individually and having operating extensions, and a part rotationally shiftable on the said central member with which said extensions engage, for the purposes set forth.

3. In a device of the character described, the combination with a circular frame comprising an outer ring, and an inner member, of a series of blades arranged between the outer ring and the inner member, mounted for swinging movements individually and having operating extensions, and a cup-shaped part rotationally shiftable on the said central member, having a plurality of slots in which said extensions engage, for the purposes set forth.

4. In a device of the character described, the combination with a circular frame, comprising an outer ring, an inner member, and the radial rods, of a series of blades arranged between the outer ring and the inner member, having tubular portions encircling the rods and adapted for swinging movements, individually, and having operating extensions, and a part rotationally shiftable on the said central member with which said extensions engage, for the purposes set forth.

5. In a device of the character described, the combination with the deflector-frame comprising the outer ring, the central cup-shaped member and the radial rods extending between the cup-shaped member and the outer ring, of the deflector-blades having the edges *f* thereof, of tubular form embracing the respective rods and having the projections *m* at their inner ends, and the cup-shaped part *j* having the series of slots *k* in which said projections *m* respectively engage, said part *j* being rotationally shiftable relatively to the said central member of the deflector-frame.

Signed by me at Springfield, Massachusetts, in presence of two subscribing witnesses.

NEWTON MORGAN.

Witnesses:

WM. S. BELLOWS,

A. V. LEAHY.