No. 889,649. PATENTED JUNE 2, 1908.

G. W. WEISS.

POWER FAN.

APPLICATION FILED MAY 5, 1906.

Fig. 4

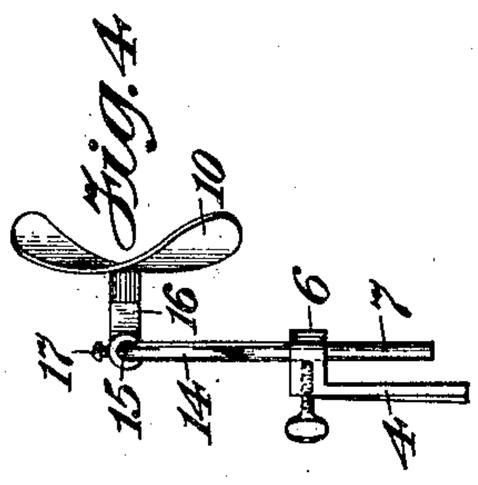

Fig. 2

Fig. 3

Fig. 1

WITNESSES:

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GEORGE W. WEISS, OF NEW YORK, N. Y.

POWER-FAN.

No. 889,649. Specification of Letters Patent. Patented June 2, 1908.

Application filed May 5, 1906. Serial No. 315,383.

To all whom it may concern:

Be it known that I, GEORGE W. WEISS, a citizen of the United States, and resident of New York, in the county of Kings and State of New York, have invented certain new and useful Improvements in Power-Fans, of which the following is a specification.

This invention relates to power fans and more particularly to that class of power fans adapted to be used in connection with machines, such for instance as sewing machines, for the benefit of the operators thereof; the object of the invention being to provide a fan of the class referred to that will be cheap in construction, effective in operation, and capable of being readily adjusted to direct the current of air created thereby in any desired direction relative to the operator.

With such object in view, my invention consists in the novel construction, arrangement, and combinations of parts as hereinafter set forth in detail and pointed out in the claims.

Referring now to the accompanying drawings forming part of this specification; Figure 1 is a rear side view of a fan embodying my invention secured on a sewing machine table with its driving-pulley in operative engagement with the fly-wheel of a sewing machine, the latter being shown as broken away adjacent to its rear end. Fig. 2 is an end view of the parts shown in Fig. 1, looking from the left. Figs. 3 and 4 are front and side views, respectively, of a modified form of the invention.

A fan embodying my invention may be located upon any suitable support and be actuated from any suitable motive power, but the same is herein shown as being located upon a sewing machine table, indicated at 2, and as being adapted to be actuated from the fly-wheel of a sewing machine, indicated at 3.

The fan preferably comprises a supporting standard 4 upon which the several movable parts of the fan are supported and which is adapted to be fixedly secured at its base to the table 2 by suitable fastening means, such as the screws 5. At its upper end the standard 4 is provided with a laterally projecting arm 6 having a vertical perforation in which is supported a vertically and rotatably adjustable stem 7 having at its upper end a substantially U-shaped bracket 8 in which is journaled a shaft 9 having fixedly attached thereto a fan 10. With such described adjustable connection between the stem 7 of the fan-carrying bracket and the standard 4, the fan 10 may be adjusted vertically, and also angularly in a horizontal plane, to direct the current of air created thereby in a desired direction with respect to the operator of the machine or other person using the same, and after the fan has been adjusted to a desired position, it will then be held stationary in such position by suitable fastening means, such as the set-screw 12 in the standard 4 engaging the stem 7.

The adjustment of the fan as described is sufficient under all ordinary conditions, but in some instances it may be desirable to have an angular adjustment of the same in a vertical plane, and in order to provide for this I form the stem, as shown in Figs. 3 and 4, with an extension 14 having a horizontally arranged end 15 upon which a fan-shaft-carrying-bracket 16 is mounted to be capable of oscillating movement in a vertical plane, the said bracket being adapted to be held in stationary adjusted position relative to its supporting stem by means of a set-screw 17.

As a means for driving the fan, I have journaled a shaft 20 in a bracket 21 mounted on the standard below its upper end, which shaft is provided with a friction-disk or pulley 22 for engagement with a suitable motor, such as the fly-wheel 3 of a sewing-machine, and is belted to the fan-carrying shaft 9 by a belt 23 passing over grooved belt-pulleys 24 located on the respective shafts as shown. The said belt 23 may be made of elastic material if desired so as to be self-adjusting to any change in the vertical position of the fan-carrying shaft 9, but ordinarily I prefer to employ a non-elastic belt, in which event I provide a means for automatically controlling the slack in the belt upon any change in position of the fan being effected, such means as herein shown comprising a spring arm 26 attached at one end to the bracket 21, as at 27 and at its opposite end carrying a pulley 28 for engagement with the belt at a point intermediate of the belt-pulleys 24 as shown. It will be seen that by this structure, the belt is always maintained taut as the pulleys 28 and 22 are in substantially fixed relation to each other, so that movement of the pul-

ley 22, when adjusted, in no way tends to slacken the belt, as would be the case were the pulley 28 secured to the standard or in some other position permitting substantial relative movement between the pulleys.

In order that the friction-disk or pulley 22 may be readily moved to and from an operative position of contact with the fly-wheel 3 of the machine whereby the fan will be caused to either operate or be stationary, I have pivoted the bracket 21 to the standard at 30 and located an adjusting-screw 31 in the standard in a position to have the bracket yieldingly held against one end thereof by means of a spring, as indicated at 32. With this arrangement and combination of parts, a mere turning of the screw 31 in the proper direction will cause the friction-disk 22 to be moved either to or from a position of engagement with the fly-wheel 3 for the purpose stated.

What I claim is:

1. A power fan comprising a supporting standard, a bracket rotatably mounted thereon for adjustment in a horizontal plane, a fan operating shaft journaled on said bracket, a second bracket pivotally supported on the standard, a driving shaft journaled on said bracket and geared to the fan operating shaft, means on said driving shaft to receive rotatory movement, a spring to move said pivoted bracket in one direction, and means to move it in another direction against the force of the spring.

2. A power fan comprising a supporting standard, a bracket rotatably mounted thereon for adjustment in a horizontal plane, a fan operating shaft journaled on said bracket, a second bracket pivotally supported on the standard, a driving shaft journaled on said bracket, a driving belt connecting said shafts, means on said driving shaft to receive rotary movement, a spring to move said pivoted bracket in one direction, means to move it in another direction against the force of the spring, and a spring actuated pulley mounted on said second bracket and engaging said belt to maintain automatically the same taut irrespective of the adjustment of said bracket.

3. A power fan comprising a supporting standard, a fan carrying shaft journaled at the upper portion thereof and means whereby it is adjustable with relation thereto into different angular positions, a bracket movably mounted on the standard at a point below said shaft the movement of said bracket being independent of the adjustment of the fan carrying shaft, a driving shaft journaled on said bracket and geared to drive the fan carrying shaft, a spring to move the bracket in one direction, and means to move it in another direction against the force of the spring.

4. In a power fan, a standard, a bracket rotatably mounted thereon for adjustment in a horizontal plane, a horizontal extension to said bracket, a sleeve mounted on said extension, a fan shaft journaled on the sleeve, said sleeve being rotatable about said extension to permit adjustment of the fan shaft in a vertical plane, and means for securing said sleeve in adjusted position.

5. A power fan, comprising a supporting standard, a rotary shaft having a fan attached thereto, a bracket carrying said shaft and having an adjustable connection with the standard said connection permitting adjustment independent of the fan carrying shaft, a bracket pivotally connected to the standard, a driving shaft carried by said bracket and having a pulley for engagement with an actuating part, a belt operatively connecting said driving shaft with the fan-carrying shaft, and means comprising a spring and an adjustable screw for moving the said bracket to shift the pulley of the supported driving shaft to and from an operative position for engagement with its actuating part.

Signed at New York, in the county of New York and State of New York this 10th day of April A. D. 1906.

GEORGE W. WEISS.

Witnesses:

CHAS. F. DANE,

M. E. STANTON.