

(No Model.)

C. NICHOLSON.

FAN ATTACHMENT FOR SEWING MACHINES.

No. 537,063.

Patented Apr. 9, 1895.

Fig. 1.

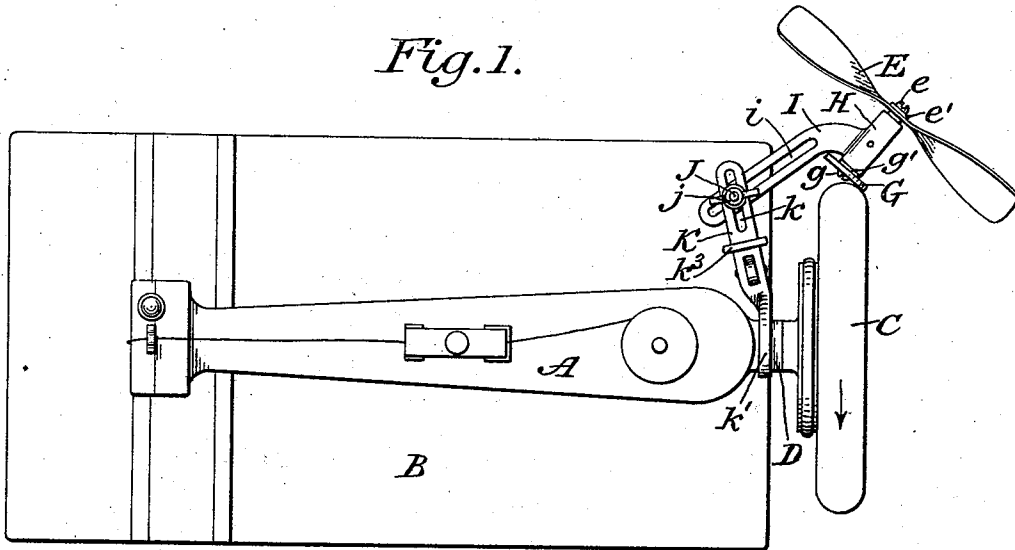


Fig. 2.

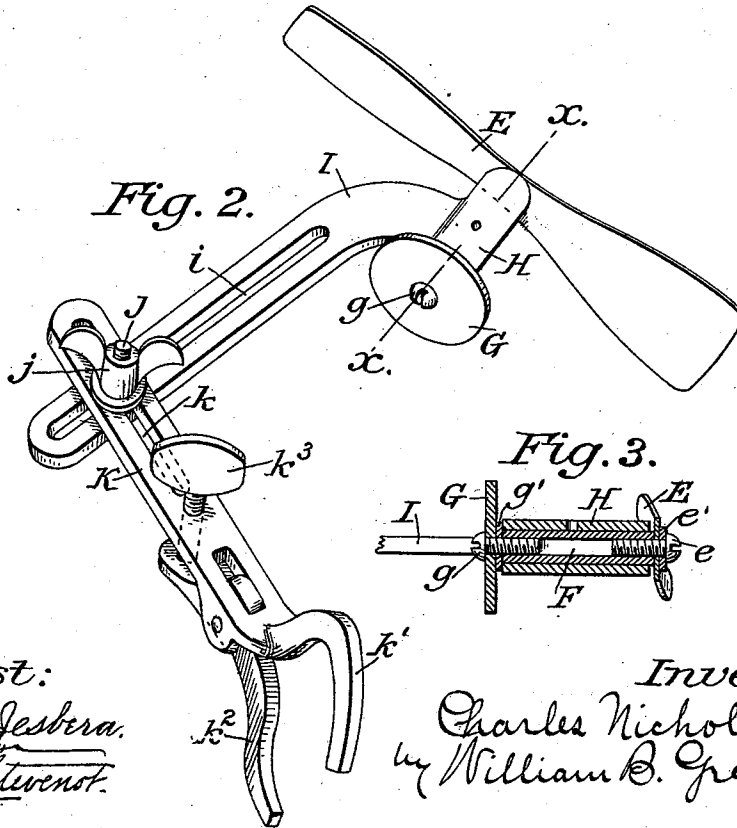
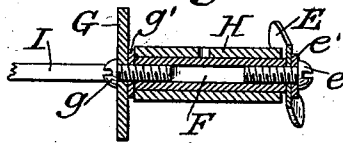


Fig. 3.



Attest:

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FAN ATTACHMENT FOR SEWING-MACHINES.

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Application filed September 22, 1894. Serial No. 523,795. (No model.)

To all whom it may concern:

Be it known that I, CHARLES NICHOLSON, a citizen of the United States, and a resident of the city, county, and State of New York, have invented certain new and useful Improvements in Fan Attachments for Sewing-Machines; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

In the operation of sewing machines in warm weather or in closed rooms it is desirable that some means be provided to produce a current of air directed toward the operator to keep the operator cool and prevent perspiration of the hands and soiling of the goods operated upon, which sometimes happen with fine fabrics when the hands are moist. Various forms of fan attachments have been devised for the purpose, but have been generally found unsatisfactory on account of the increased power necessary to run the machine, the liability to get out of order, the interference with the material operated upon or with the operator in starting or stopping the machine, the disfiguring of the machine table and the impossibility of adjusting the fan to vary the direction of the air current.

It is the object of this invention to overcome the above objections, and to produce a device which shall be efficient, simple, durable and cheap, and it consists of the novel construction of a fan attachment more particularly hereinafter described and set forth in the claims.

In the accompanying drawings, Figure 1 is a plan view of a sewing machine bed-plate and its needle arm having my fan attachment secured thereto. Fig. 2 is a perspective view of the fan attachment, and Fig. 3 is a cross section on the line $x-x$ of Fig. 2.

The fan attachments heretofore devised have generally been secured to the sewing machine table, and in a short time become loose and inefficient, and mar or otherwise disfigure the table top, while in most cases such attachments are secured in such a position as to be in the way of the operator or of the material operated upon. In other constructions the fans are operated by means of

cords running over wheels or pulleys and necessitate corresponding changes in the sewing machine to make their adaptation possible, thereby increasing the cost. I secure my attachment at the opposite side of the sewing machine to that occupied by the operator, and thereby do not interfere with the material operated upon, nor with the operator, and in such position that the fan may be driven more directly by the fly or hand wheel of the machine.

My attachment comprises in brief a friction-wheel adapted to bear upon the fly or hand wheel of the sewing machine, a fan mounted upon a stud or shaft and adapted to be driven by said friction wheel, and a support for the friction wheel and fan so arranged and constructed that the attachment may be applied readily to any ordinary machine and the fan set with reference to the hand or fly wheel to vary the direction of the current of air as the individual operator may prefer.

In the drawings I have illustrated a form of the attachment which is well adapted for most styles of sewing machines, but it will be understood that the details may be varied according to the peculiar necessities of other styles of machines.

The usual arm A of the machine is represented as supported upon the bed-plate or table B while the hand or fly wheel C is shown as having a bearing for its shaft in a hub D projecting from the arm A.

The fan E is a rotary fan of ordinary construction and is preferably secured by a screw e and washer e' against the end of a sleeve or tubular shaft F, as shown clearly in Fig. 3. The friction disk G is preferably secured to the other end of the same sleeve F by a screw g . As ordinary metal tubing can be used for the shaft F and readily tapped for the screws e and g , this construction is cheap as well as efficient. The shaft or sleeve F has a bearing in a sleeve H and a washer g' is interposed between the disk G and the end of the sleeve H to reduce friction on the bearing.

As indicated above the sleeve H is so supported as to permit the fan to be fixed in any desired position. For this purpose I prefer the arrangement shown in which the sleeve H is formed on or secured to the end of an

arm I which is bent or formed so that the axis of the bearing may be approximately parallel with a longitudinal slot *i* formed in the main portion of the arm. This arm, if it
 5 were long enough and properly bent might be secured to the bed-plate B by the screw J and thumb-nut *j*, but as such arrangement would be awkward and require a hole in the bed-plate or table, I prefer to secure it by the
 10 same means to another member K which also is provided with a longitudinal slot *k* and is further provided with a clamp by which it may be secured to some part of the arm A or frame-work of the machine itself. As repre-
 15 sented in Figs. 1 and 2 the member K has a bent finger *k'* and has pivoted thereon to co-operate with the fixed finger *k'* a finger *k*². A set screw *k*³ is tapped into the member K and bears upon the inner end of the finger
 20 *k*² so that by adjusting the set screw the member K may be clamped firmly upon any part which may be grasped by the fingers, as upon the projecting hub D.

By loosening the thumb-nut *j* and the set
 25 screw *k*³ the disk G may be set to bear properly upon any ordinary hand-wheel C while at the same time the axis of the shaft H may be fixed in such position as to cause the current of air from the fan to be directed as re-
 30 quired.

From what has already been set forth the mode of use and operation as well as the advantages of my improved attachment will be understood clearly. In practice I find that the
 35 fan, which may be quite small because of its capacity for adjustment to throw the air where it is required, can be operated at a proper speed without any appreciable consumption of power.

40 I claim as my invention—

1. The combination of a rotary fan, a friction disk connected to the fan to drive the same, a bent arm to support said fan and disk with the latter in contact with its driving
 45 wheel, said arm having a longitudinal slot, and a screw passing through said slot, where-

by said arm may be adjusted both longitudinally and angularly and the fan set to direct the current of air as required, substantially as shown and described.

2. The combination of a rotary fan, a tubular shaft, a screw tapped into the end of said shaft to secure the fan thereto, a friction disk, a second screw tapped into the opposite end of said shaft to secure the disk thereto, a
 55 sleeve bearing for said shaft, and an arm to support said bearing, substantially as shown and described.

3. The combination of a rotary fan a friction disk connected to the fan to drive the
 60 same, a slotted arm to support said fan and disk with the latter in contact with its driving wheel, a second arm or member also slotted and having a clamp by which it may be secured upon a fixed part, and a screw passing
 65 through said slots and adapted to secure the first arm upon the second in adjusted position, substantially as shown and described.

4. The combination with a rotary fan and a wheel to drive the same, of a supporting arm
 70 consisting of two independent parts or members, the one being movable with respect to the other to make more or less of angle therewith, one member having a bearing for the fan and wheel and the other member having
 75 a clamp by which it may be secured in adjusted position upon a fixed part and means to secure the first member in adjusted position upon the second member, whereby the fan and disk may be supported with their
 80 axes of rotation in different positions with respect to the driving wheel to direct the current of air as required, substantially as shown and described.

In testimony whereof I have signed my
 85 name to this specification in the presence of two subscribing witnesses.

CHARLES NICHOLSON.

Witnesses:

A. N. JESBERA,
 A. WIDDER.