Jan. 20, 1942. T. CROCELLA ET AL 2,270,650

SEWING MACHINE ATTACHMENT

Filed July 30, 1940

Fig. 1.

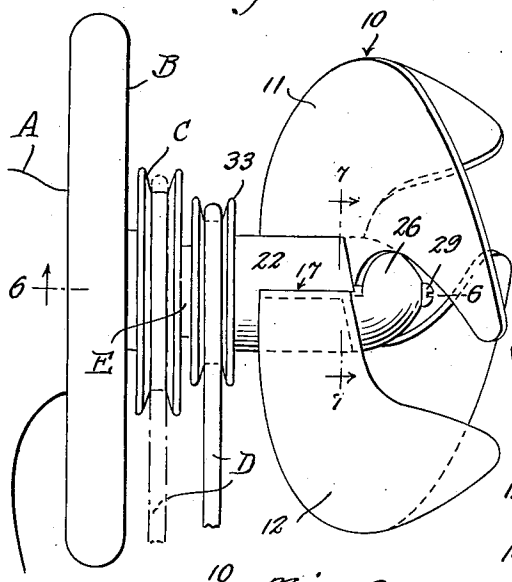


Fig. 2.

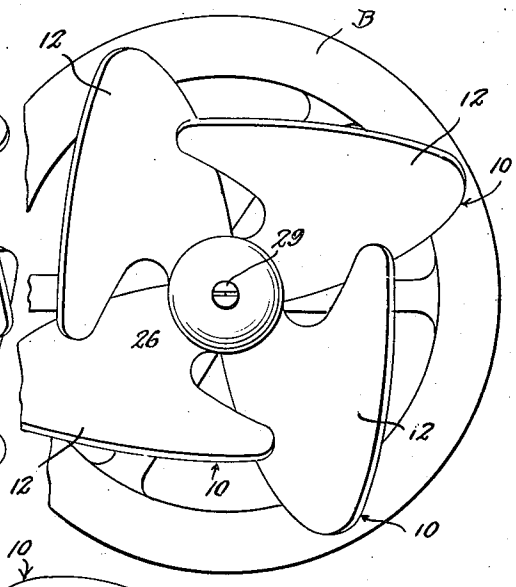


Fig. 3.

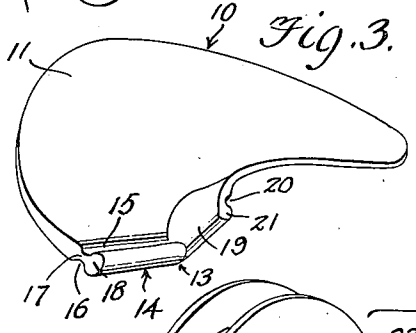


Fig. 4.

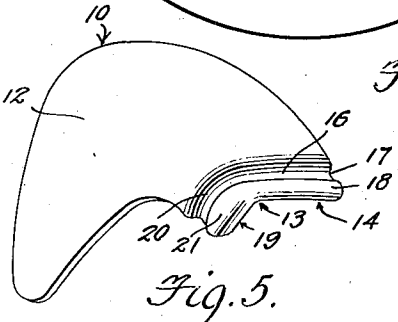
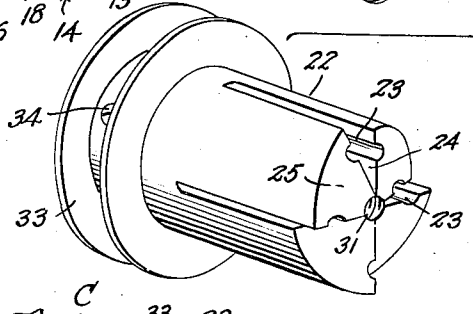


Fig. 5.



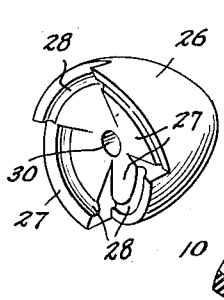


Fig. 7.

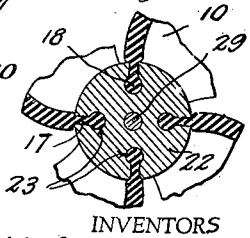
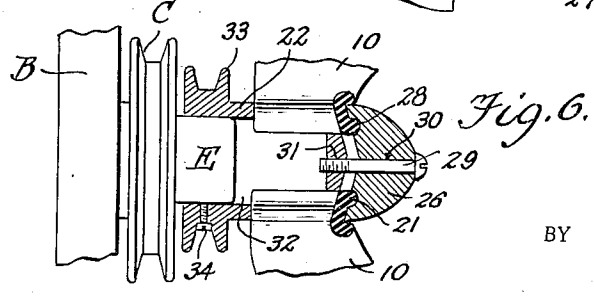


Fig. 6.



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SEWING MACHINE ATTACHMENT

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Application July 30, 1940, Serial No. 348,536

5 Claims. (Cl. 230—248)

This invention relates to attachments for sewing machines and the like and has particular reference to a fan attachment for directing a current of air towards the operator of the machine and which includes flexible resilient blades and a mounting therefor adapted to be attached to the fly wheel hub of the machine.

The invention primarily comprehends a fan attachment of the indicated character which includes flexible resilient fan blades and a mounting therefor composed of a pair of axially arranged sections which are so constructed and arranged as to clamp the bases of the blades thereto so that a portion of each blade is disposed parallel to the axis of the mounting and the remaining portion at an angle thereto in order to effect the retention of the blades in angulated relation with the forward faces thereof in concave formation.

The invention further resides in a fan attachment of the indicated character which includes a mounting section having an axial bore extending inwardly from one end thereof to fit over the hub of the sewing machine fly wheel and which section is provided with radially arranged longitudinal slots extending inwardly from the opposite end thereof and opening through its periphery, together with a blade for each slot, said slots and a portion of the base of each blade being so constructed as to interengage for anchoring the blades against radial displacement, and a blade retaining section removably secured to the mounting section for clamping the remaining base portions of the blades between the sections to secure said blades in the slots against axial displacement.

More particularly the invention is directed to a fan attachment of the type previously set forth in which the mounting sections are provided with mating notched confronting ends formed with substantially ratchet-shaped teeth having inclined faces between which a portion of the blade bases are clamped and wherein the shoulder portions of the teeth coincide with the longitudinal blade receiving slots.

As a still further feature the invention embodies a fan attachment in which the mounting section is formed with a pulley sheave which is preferably of smaller diameter than the usual fly wheel sheave in order to increase the speed at which the machine and fan operate.

With the foregoing and other objects in view, reference is now made to the following specification and acccompanying drawing in which there is illustrated the preferred embodiment of the invention, and in which:

Fig. 1 is a view in side elevation of a fragmentary portion of a sewing machine with a fan attachment constructed in accordance with the invention affixed thereto.

Fig. 2 is an end view thereof.

Fig. 3 is a perspective of one of the blades removed as viewed from the forward concave side thereof.

Fig. 4 is a similar perspective of the blade as viewed from the opposite side thereof.

Fig. 5 is a collective perspective view of the blade mounting with the sections thereof in separated juxtaposition.

Fig. 6 is a fragmentary longitudinal sectional view taken approximately on the line 6—6 of Fig. 1.

Fig. 7 is a fragmentary transverse sectional view taken approximately on the line 7—7 of Fig. 1.

Referring to the drawing by characters of reference, A designates generally a conventional sewing machine provided with the usual fly wheel B and sheave C over which the belt D is trained for driving the machine and which wheel and sheave are carried by a hub E affixed to the driving shaft of the machine.

The fan attachment includes a plurality of flexible resilient blades 10 fashioned from rubber composition or other equivalent material and which blades each has a concave forward face 11 and a convex rear face 12, and each is formed with an angulated base 13, one of the angulated portions 14 of the bases being provided on opposite sides thereof with aligned longitudinally extending grooves 15 and 16 respectively defining a longitudinally extending neck portion 17 and an enlarged beaded inner edge 18, and the other angulated portion 19 of each of the bases of said blades being provided with an arcuate groove 20 in the rear face thereof defining a beaded edge 21.

The attachment also embodies a fan blade mounting which mounting includes a cylindrical section 22 having circumferentially spaced radially arranged longitudinal keyhole slots 23 extending inwardly from the outer end thereof and which open through the periphery of the section, one of said slots being provided for each blade and in which slots the angulated portions 14 of the bases of the blades are respectively disposed with the enlarged beaded edges innermost and the longitudinally extending neck portions 17 thereof respectively positioned in the restricted stem portions of the slots to thereby secure the blades therein against radial displacement.

The said section has its outer end formed with radially arranged notches defining ratchet shaped teeth having right angular shoulders 24 coinciding with the slots 23 and inwardly and circumferentially inclined faces 25 against which faces the angulated base portions 19 of the blades 10 are respectively clamped by a blade retaining section 26 having complementary confronting inclined

faces 27 each provided with an arcuate groove 28 and adapted to respectively receive the beaded edges 21 of the angulated portions 19 of the blades and which retaining section 26 is removably secured to the mounting section 22 by a bolt 29 protruding through a longitudinal opening 30 in the retaining section and threadedly engaging an aperture 31 in the mounting section 22 to thereby secure the angulated portions 19 of the blades 10 between the confronting inclined faces of the said sections to retain the blades in the slots against axial displacement.

The blade mounting section 22 is formed with an axial bore 32 extending inwardly from the inner end thereof and which bore is of a size to fit over the hub E of the machine, and adjacent its inner end the said section is provided with a pulley sheave 33 over which is optionally trained the belt D, the sheave 33 preferably being of lesser diameter than the sheave C for driving the machine and fan at a relatively greater rate of speed. The fan attachment is demountably attached to the hub E by one or more set screws 34 engaging the hub through threaded openings in the bottom of the groove of the sheave 33.

A fan attachment is thus provided for sewing machines and the like which attachment may be readily affixed for rotation with the driving shaft of the machine and in which the blades are independently carried by the mounting and are detachably connected therewith to permit of their replacement. The blades are carried by the mounting with their concave faces disposed forwardly and pitched in the direction of rotation so as to entrap and direct a relatively large volume of air towards the forward portion of the machine. The flexible character of the blades prevents injury in the event of accidental engagement therewith when in operation and the blades being secured to the mounting with the bases retained in their normal angulated formation, the concavo-convex formation of the blades is maintained when the blades are revolving at a relatively high rate of speed.

What is claimed is:

1. In a fan attachment for sewing machines, a plurality of flexible resilient blades having angulated beaded inner edges and a mounting therefor adapted to be affixed to the hub of the fly wheel of the machine to turn with the driving shaft thereof, said mounting including a pair of axially disposed sections having mating notched confronting ends defining ratchet teeth having inclined faces, one of said sections having keyhole slots extending inwardly from one end thereof between said adjacent inclined faces for receiving therein one of the angulated portions of the beaded inner edges of the blades and the other of said sections having arcuate grooves in the inclined faces thereof for receiving therein the beaded inner edges of the remaining angulated portions of the blades with said remaining angulated portions of the blades disposed between the confronting inclined faces of said sections, and means for securing said sections together.

2. In a fan attachment for sewing machines, a plurality of flexible resilient blades having beaded inner edges and a mounting therefor adapted to be affixed to the hub of the fly wheel of the machine to turn with the driving shaft thereof, said mounting including a pair of axially disposed sections having mating notched confronting ends defining ratchet teeth having inclined faces, one of said sections having keyhole slots extending inwardly from one end thereof between said adjacent inclined faces for receiving therein a portion of the beaded inner edges of the blades with the remaining portion of the inner edges of the blades disposed between the confronting inclined faces of said sections, and means for securing said sections together.

3. In a fan attachment for sewing machines, a plurality of flexible blades having angulated bases and a mounting therefor adapted to be affixed for turning movement with the driving shaft of the sewing machine, said mounting including a blade mounting section having slots extending inwardly from one end thereof for receiving therein one of the angulated portions of the bases of the blades respectively for anchoring the same against radial displacement and a blade retaining section removably secured to the mounting section between which sections the remaining angulated portions of the bases of the blades are clamped for securing the same within the slots against axial displacement.

4. In a fan attachment for sewing machines, a plurality of flexible blades having angulated bases and a mounting therefor adapted to be affixed for turning movement with the driving shaft of the sewing machine, said mounting including a blade mounting section having slots extending inwardly from one end thereof for receiving therein one of the angulated portions of the blades respectively for anchoring the same against radial displacement and a blade retaining section removably secured to the mounting section, said sections having mating inclined portions at their confronting ends between which mating portions of the sections the remaining angulated portions of the bases of the blades are clamped for securing the same within the slots against axial displacement.

5. In a fan attachment for sewing machines, a plurality of flexible resilient blades having beaded inner edges and a mounting for said blades including a pair of axially disposed sections having mating notched confronting ends, one of said sections having an axial bore extending inwardly from one end thereof adapted to receive therein the hub of the fly wheel of the sewing machine to turn with the driving shaft thereof and said section having circumferentially spaced radially arranged keyhole slots extending inwardly from the opposite end thereof and opening through the periphery of the section for receiving therein a portion of the bases of the blades with the beaded inner edges of the blades disposed in the enlarged portion of the slots respectively for anchoring the blades against radial displacement, the remaining portion of the bases of the blades being disposed between the confronting notched faces of said sections to dispose the same at an angle to the portion thereof in the said slots, to thereby retain the blades with their forward faces in concave formation, and said slotted section being provided with a pulley sheath over which the driving belt is adapted to be trained for driving the sewing machine and attachment, and means for securing said sections together.

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