J. D. TURNER.

FAN FOR TEXTILE MILLS.

APPLICATION FILED DEC. 1, 1917.

1,392,029.

Patented Sept. 27, 1921.

2 SHEETS—SHEET 1.

Fig. 1.

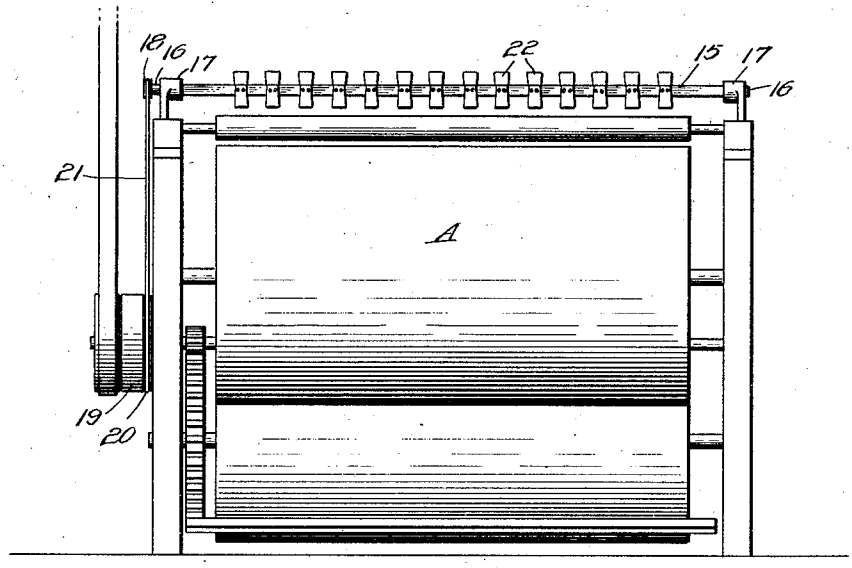
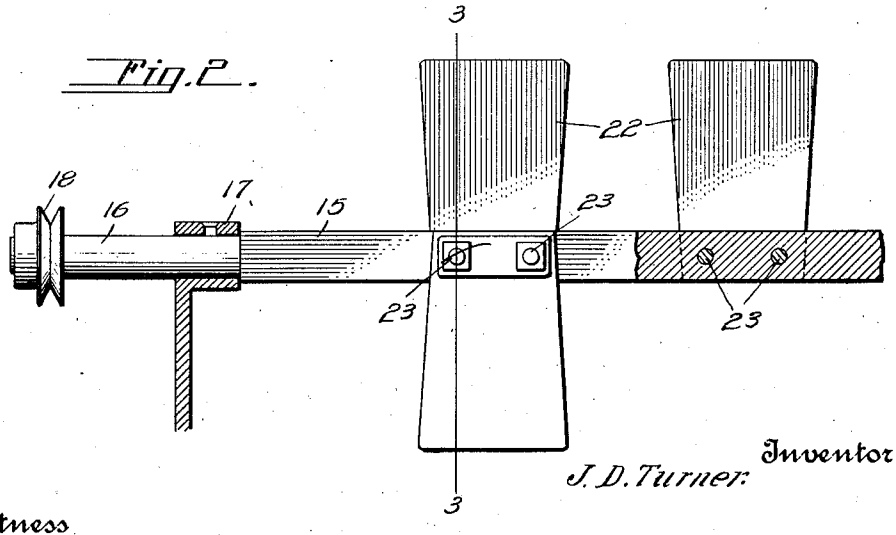


Fig. 2.



Witness
F. L. Gibson.
Wm. Bagger

Inventor
J. D. Turner.
By Victor J. Evans
Attorney

Published by AsbestosClaims.Law
asbestosclaims.law/library/22258/1

J. D. TURNER.

FAN FOR TEXTILE MILLS.

APPLICATION FILED DEC. 1, 1917.

1,392,029.

Patented Sept. 27, 1921.

2 SHEETS—SHEET 2.

Fig. 3.

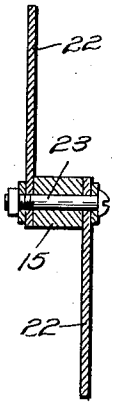


Fig. 4.

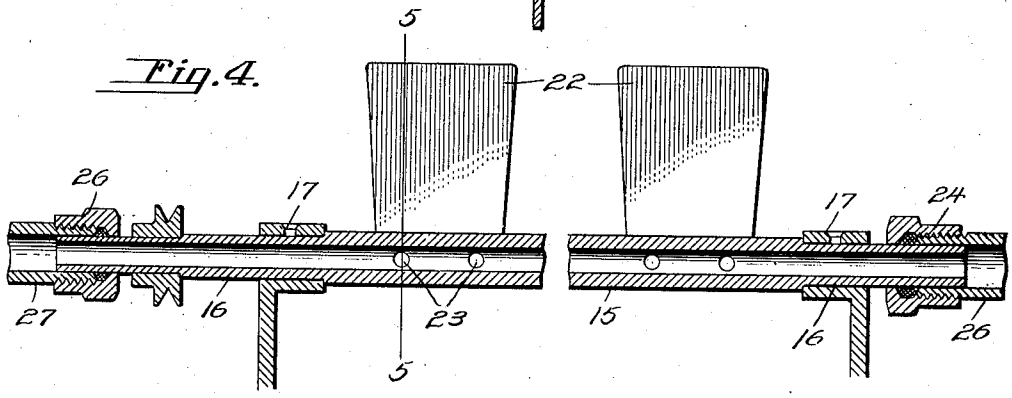
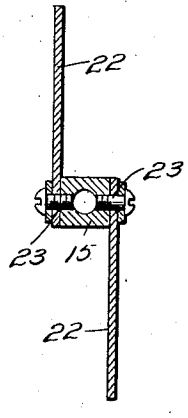


Fig. 5.



Witness

G. C. Gibson.

Wm. Bagger.

Inventor

J. D. Turner.

By Victor J. Evans

Attorney

Published by AsbestosClaims.Law

asbestosclaims.law/library/22258/2

UNITED STATES PATENT OFFICE.

JOSEPH D. TURNER, OF HUNTSVILLE, ALABAMA, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, OF ONE-FOURTH TO M. A. SHIELDS AND ONE-FOURTH TO MILTON C. GILES, BOTH OF HUNTSVILLE, ALABAMA.

FAN FOR TEXTILE-MILLS.

1,392,029. Specification of Letters Patent. Patented Sept. 27, 1921.

Application filed December 1, 1917. Serial No. 204,895.

To all whom it may concern:

Be it known that I, JOSEPH D. TURNER, a citizen of the United States, residing at Huntsville, in the county of Madison and State of Alabama, have invented new and useful Improvements in Fans for Textile-Mills, of which the following is a specification.

This invention relates to fans for textile mills and has particular reference to a fan adapted to be applied to and used in connection with warping machines and other like machines of conventional construction.

The invention has for its object to produce a simple and improved fan which may be readily applied to any machine of the character described for the purpose of blowing away lint dust and other obstructive matter that would otherwise settle in the reeds and in the stop motion drop wires thereby clogging the same and interfering with the successful and continuous operation of the machine.

A further object of the invention is to produce a simple and improved fan of the character described having spaced wings or blades which will enable the operatives to have access to the parts of the machine beneath and intermediate such blades.

A further object of the invention is to produce a fan of the character described having blades which are composed of a flexible substance, such as indurated fiber which, while sufficiently stiff and rigid to set in motion the desired air currents will be sufficiently soft and flexible to avoid possibility of causing serious injury to the hands of operatives if the same should be struck by the fan blades.

A further object of the invention is to produce a fan of the character described having a shaft of tubular form, the same being connected with a source of live steam for the purpose of heating the air which is set in motion thereby, this being particularly desirable when the weather is cold and when the air currents set in motion by the fan would be liable to chill the operatives.

With these and other ends in view which will readily appear as the nature of the invention is better understood, the same consists in the improved construction, arrangement and combination of parts which will be hereinafter fully described and particularly pointed out in the claims.

In the accompanying drawing has been illustrated a simple and preferred form of the invention, it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alterations and modifications within the scope of the claims may be resorted to when desired.

In the drawing;—

Figure 1 is a front view of a conventional warping machine to which the invention has been applied.

Fig. 2 is a longitudinal sectional view on an enlarged scale of a portion of the fan detached from the warping machine.

Fig. 3 is a transverse sectional view taken on the line 3—3 of Fig. 2.

Fig. 4 is a longitudinal sectional view illustrating a modification whereby the shaft of the fan constitutes a steam pipe.

Fig. 5 is a transverse sectional view taken on the line 5—5 in Fig. 4.

Corresponding parts in the several figures are denoted by like characters of reference.

The improved fan as illustrated in Figs. 1 to 3 inclusive comprises a shaft 15 which has been shown as being of square cross section, said shaft being provided at the ends thereof with spindles 16 supported for rotation in bearings 17 rising from the frame of a warping machine, the latter being generally designated by A. It is to be understood that the warping machine may be of any well known conventional construction, and that the use of the invention is not limited in its application to warping machines, but that it may be applied to textile machinery of various kinds.

One of the spindles 16 carries a grooved pulley 12. A driving pulley 19 of the warping machine has been shown as being provided with a circumferential groove 20 from which a belt or band 21 is trained over the grooved pulley 18, thereby transmitting motion to the fan shaft when the warping machine is in operation and interrupting the motion of the fan shaft when the motion of the warping machine is interrupted.

The shaft 15 is provided with wings or blades 22, the same being secured in pairs on diametrically opposite sides of the shaft with respect to which the said blades extend

Published by AsbestosClaims.Law
asbestosclaims.law/library/22258/3

in opposite directions, said blades being secured on the shaft by means of bolts, clamps or in any other convenient manner, the fastening means being generally designated by 23. The pairs of blades are to be sufficiently spaced apart to enable the operatives to reach the subjacent parts of the machine, between the pairs of blades, without danger of being struck by the latter. It is the intention however to construct the said blades from sheets of fibrous material, such as indurated fiber, which while possessing sufficient rigidity to set in motion the desired air currents will be sufficiently flexible to avoid serious injury to the hands of the operatives in case of accidental contact.

In Figs. 4 and 5 there has been illustrated a modified form of the invention whereby the fan shaft, here designated by 15 is of tubular form, constituting a live steam pipe, said pipe being provided at the ends thereof with couplings 24, 25 one of which is to be connected in any convenient manner with a source of supply 26 of live steam while the other coupling is to be connected with a return pipe, a portion of which has been shown at 27. When the weather is cold a circulation of live steam may be maintained in the fan shaft 15 whereby the latter will be heated, thereby heating the air that is set in motion by the fan and thus avoiding cold air currents which would prove uncomfortable and injurious to the operatives.

From the foregoing description, taken in connection with the drawings hereto annexed, the operation and advantages of this invention will be readily understood. The importance of disposing of the fluff, lint, dust and foreign matters carried by the yarn is well recognized, such obstructive matter being not only liable to settle in the reeds and drop wires, thereby clogging the same and interfering with the operation of the machine, but also, if retained by the yarn, to deteriorate the quality of the cloth produced. By the improved fan the lint and other obstructive matter will be blown clear of the machine, the parts of the latter being left free from clogging, stops and interruptions will be fewer than heretofore, thus enabling the machine to be tended with less labor and raising the quality of the product. The improved fan is simple in construction and is capable of being installed at a very moderate expense with most satisfactory results.

I claim;—

1. The combination of a textile machine, and an exposed fan supported for rotation thereon; said fan being characterized by wings spaced apart throughout the length of the machine to displace lint and to permit an operative to reach between the wings.

2. The combination of a warping machine and an exposed fan mounted at the top of the machine and extending throughout the length thereof; the said fan comprising a shaft, and wings on said shaft and separated by intervening spaces, whereby the wings are enabled to blow away obstructive matter and the operator is free to reach between the wings.

3. The combination of a warping machine and an exposed fan mounted at the top of the machine and extending throughout the length thereof; the said fan comprising a shaft and flexible wings on said shaft and separated by intervening spaces, whereby the wings are enabled to blow away obstructive matter and the operator is free to reach between the wings without fear of injury.

4. The combination of a warping machine and an exposed fan mounted at the top of the machine and extending throughout the length thereof; the said fan comprising a hollow shaft adapted for connection with a source of heat supply, and flexible wings separated by intervening spaces, whereby the wings are enabled to blow away obstructive matter and the operator is free to reach between the wings.

In testimony whereof I affix my signature.

JOSEPH D. TURNER.

Published by AsbestosClaims.Law
asbestosclaims.law/library/22258/4