Aug. 10, 1926. 1,595,726

G. L. PIERCE

BRUSH FOR CLEANING TEXTILE MACHINERY

Filed Feb. 5, 1925

Fig. 1.

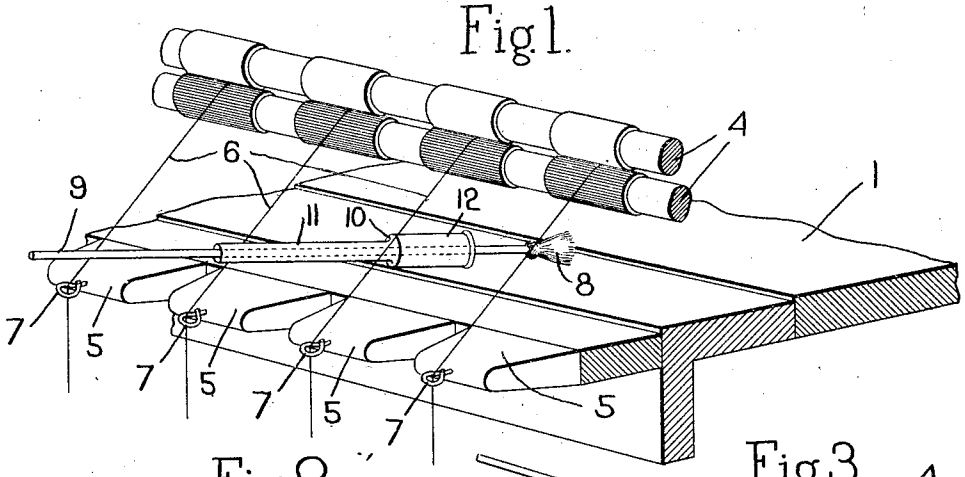


Fig. 2.

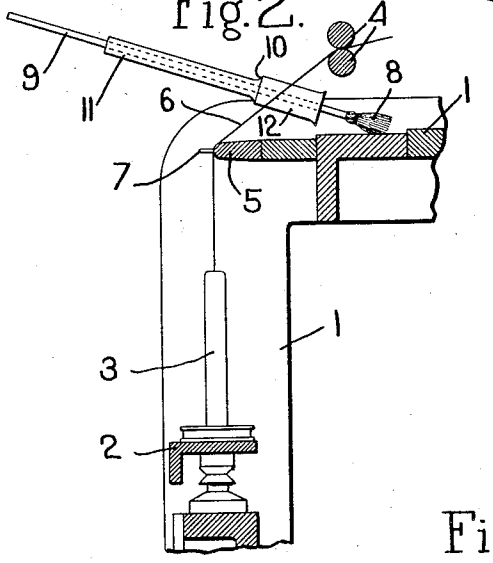


Fig. 3.

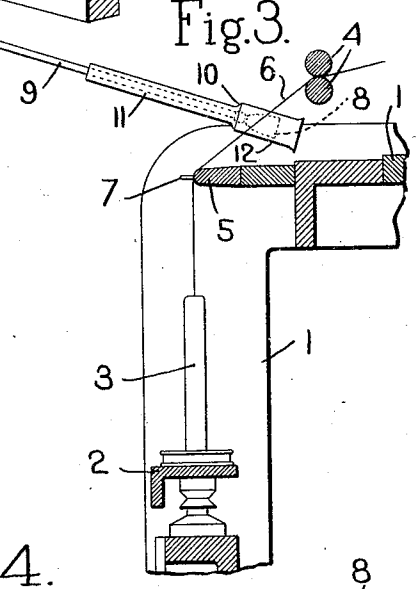


Fig. 4.

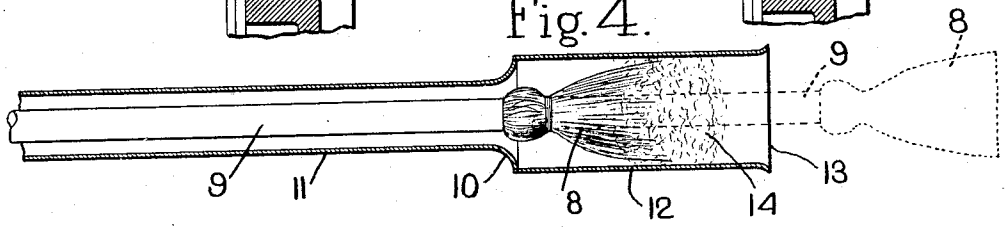
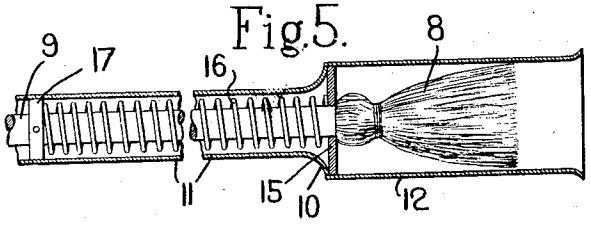


Fig. 5.



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UNITED STATES PATENT OFFICE.

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BRUSH FOR CLEANING TEXTILE MACHINERY.

Application filed February 5, 1925. Serial No. 6,921.

This invention relates to a brush which is especially adapted for cleaning the lint from textile machinery.

During the operation of any textile machine more or less lint will accumulate on the frame and stationary parts of the machine. In the case of a spinning machine, roving machine or similar machine it is highly desirable that the lint should be kept away from the sliver or yarn ends for if even a small bunch of lint gets caught on or becomes attached to the sliver or yarn said lint will be twisted into the end and will thus form a bunch or slub. It is, therefore, necessary to frequently clean the lint from a spinning frame to prevent such an occurrence.

My invention relates to a brush which may be used for gathering together and picking up the lint on a spinning frame or other piece of textile machinery and which can be manipulated readily without danger of breaking the yarn ends and without danger that any of the lint which is being gathered up by the brush will be caught in the yarn ends.

The invention comprises a brush having a handle by which it may be manipulated and a housing for the brush which has a brush-receiving chamber open at one end and into which the brush may be withdrawn, said chamber being large enough to receive not only the brush but also the lint which may be gathered up by the brush. In using the device the brush will be withdrawn into the housing and then the housing is inserted between the yarn ends after which the brush is projected from the housing and is manipulated to gather up the lint in the immediate vicinity. The lint, of course, will stick to the brush and when the brush has been properly loaded it is withdrawn into the housing carrying with it the lint after which the housing with the brush withdrawn into it is removed from between the yarn ends. During the operation of withdrawing the brush from between the yarn ends the lint-laden brush is enclosed within the housing so that there is no danger that any lint from the brush will be caught on the yarn ends.

In order to give an understanding of the invention I have illustrated in the drawings a selected embodiment thereof which will now be described after which the novel features will be pointed out in the appended claims.

Fig. 1 is a fragmentary perspective view of a portion of a spinning frame showing the manner in which my improved brush is used;

Figs. 2 and 3 are vertical sectional views of the spinning frame, Fig. 2 showing the brush in use in gathering up the lint and Fig. 3 showing the brush being withdrawn;

Fig. 4 is a sectional view of the brush;

Fig. 5 is a view similar to Fig. 4 but showing a modified form of the invention.

While my improved brush is adapted for use in cleaning lint from various textile machines I have for the illustrative purposes herein shown it as it would be used in cleaning lint from a spinning machine or roving machine.

1 indicates the frame of a spinning or roving machine which is provided with the usual ring rail 2 and with a plurality of bobbins 3 on which the yarn is wound as it is spun.

4 indicates the front drawing rolls and 5 indicates the thread-boards over which the slivers 6 pass, each thread-board having the usual guide eye 7. These parts are such as are usually found in a spinning machine or roving machine.

During the operation of these machines more or less lint will gather on the thread-board and other parts of the frame and in order to avoid the forming of knots or slubs in the yarn by reason of bunches of lint being drawn into and twisted with the yarn ends it is customary to clean the lint from the frame at frequent intervals. The brush forming the basis of this application is intended for accomplishing this end and in such a way as to minimize the danger of breaking the yarn ends during the cleaning operation and to avoid all possibility that any of the lint which is being removed or cleaned from the frame will be caught by the yarn ends.

The brush embodying the invention comprises a brush member 8 provided with an elongated handle 9. Associated with the brush is a housing indicated generally at 10. This housing is formed with an elongated tubular handle portion 11 through which the handle 9 of the brush extends and with an enlarged brush-receiving portion 12 which is open at one end as shown at 13.

This brush-receiving portion 12 is somewhat larger than the brush so that the brush may freely enter it and it is also considerably longer than the brush portion 8.

The handle portion 11 of the housing is somewhat shorter than the handle portion 9 of the brush so that in all operative positions of the brush the end of the handle thereof will project beyond the handle portion 11 of the housing.

In using the device the brush will be withdrawn into the housing and then the housing with the brush therein may be inserted between two yarn ends as shown in Figs. 1 and 2. The brush is then projected from the housing, as also seen in Figs. 1 and 2, and is then in condition to be used in brushing and picking up the lint in the immediate vicinity. The operator can easily manipulate the brush and housing with the brush projected so as to gather up the lint which because of its nature will stick to the brush. When the brush has gathered a sufficient accumulation of lint it is then withdrawn into the housing as shown in Figs. 3 and 4 and while the housing is still in position between the yarn ends. The withdrawing of the brush into the housing carries with it the quantity of lint 14 which has been accumulated on the brush so that said lint is entirely protected by the portion 12 of the housing. It will be noted that this portion 12 is considerably longer than the brush head so that when the lint-laden brush is withdrawn into the portion 12 the lint will be entirely within the housing and protected thereby. The lint-laden brush and housing may then be removed from between the yarn ends 6 and the lint cleared off from the brush after which the operations are repeated. The portion 12 of the housing thus encloses the lint as it is being removed from between the yarn ends and hence there is no danger that in removing the lint any of it will be caught by the yarn ends.

The handle portion 11 of the housing is made of a considerable length so that in manipulating the brush the operator may hold said handle portion 11 in one hand and may grasp the projecting end of the brush handle 9 in the other hand. This enables the operator to move the brush forward and backward through the housing as necessary and also permits him to move the housing and brush laterally as a unit as found necessary or convenient in sweeping up and gathering together the lint.

In Fig. 5 I have illustrated a different embodiment of the invention in which a spring is employed for normally holding the brush withdrawn into the brush-receiving portion 12. In this embodiment of the invention the housing is provided with a partition 15 through which the handle 9 extends and which acts as a backing for the spring 16 that encircles the handle, the other end of the spring abutting against a collar 17 fast to the handle 9. The spring 16 thus tends normally to hold the brush in its retracted position shown in Fig. 5.

In using a brush having this construction it is necessary for the operator to hold the brush projected against the action of the spring 16 during the time that the lint is being swept up or gathered together and after a quantity of lint has been picked up by the brush 8 then the handle 9 of the brush may be released and the spring 16 will automatically withdraw the brush into the portion 12 of the housing.

I claim.

1. A brush device for use in cleaning lint from textile machinery comprising a brush member having a handle, a housing member for the brush provided with an elongated tubular handle portion through which the handle of the brush loosely extends and also provided with an enlarged open ended brush-receiving portion into which the brush may be withdrawn, said brush-receiving portion being enough larger than the brush to freely receive the latter without compressing it and also any lint which may be gathered up by the brush.

2. A brush device for use in cleaning lint from textile machinery comprising a brush member having a handle, a housing member for the brush provided with an elongated tubular handle portion through which the handle of the brush extends and also provided with an enlarged open ended brush-receiving portion into which the brush may be withdrawn, said brush-receiving portion being enough larger than the brush to freely receive the latter and any lint which may be gathered up by the brush, the handle of the brush being longer than the handle portion of the housing so that the end of the brush handle is accessible beyond the handle end of the housing when the brush is projected, and said handle portion of the housing being larger than the handle of the brush, whereby when the housing is held in one hand and the brush projected therefrom said brush can be moved laterally relative to the housing for the purpose of picking up lint.

In testimony whereof, I have signed my name to this specification.

GEORGE L. PIERCE.