July 2, 1963 B. B. ROGERS 3,095,685

TRAVELER CLEANER

Filed Nov. 24, 1961

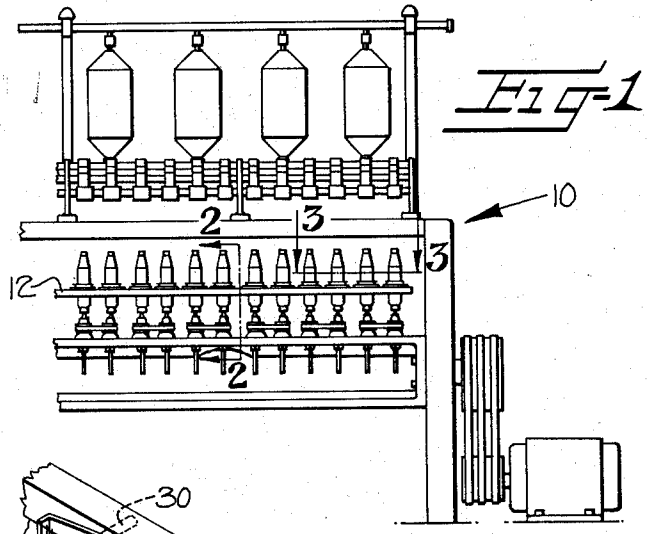


Fig-1

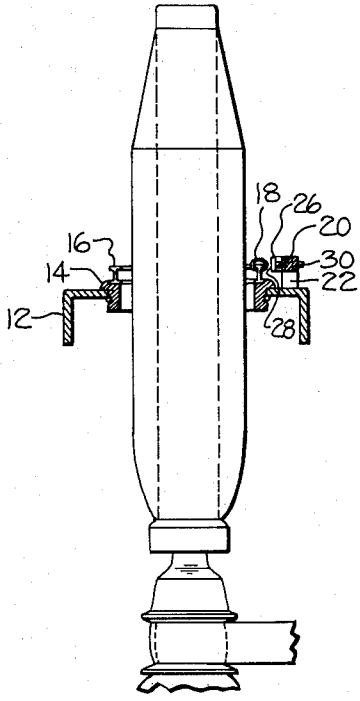


Fig-2

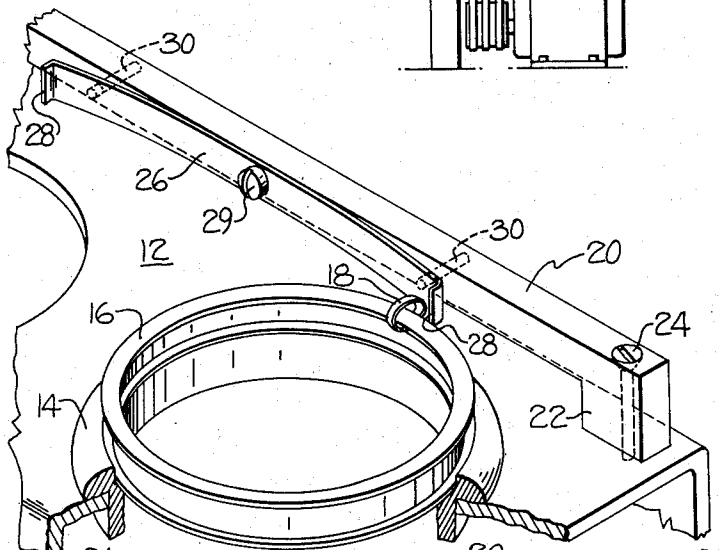


Fig-4

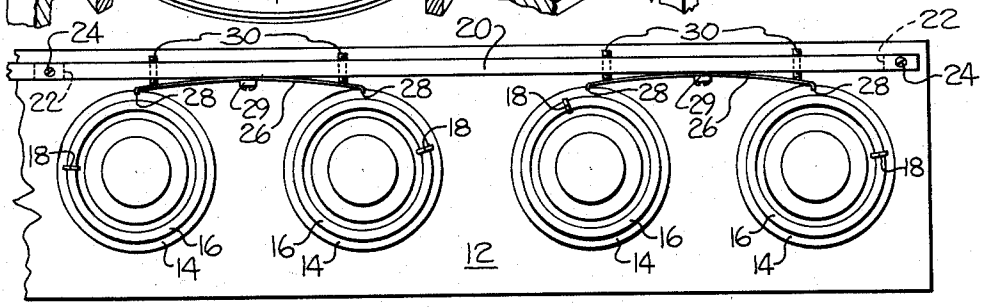


Fig-3

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TRAVELER CLEANER

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This invention relates to traveler cleaners for spinning frames and the like and, more particularly, to an improved traveler cleaner and an improved assembly of such cleaners.

A traveler cleaner, in order to adequately perform its function of preventing accumulations of lint, must be precisely located in close proximity to the path of movement of the traveler about its ring. This requires, first, that the cleaner be readily capable of precise positional adjustment, since relocation thereof is frequently necessary, as whenever a different size traveler is substituted for that previously in use. Secondly, and equally important, the cleaner must be capable of steadfastly maintaining whatever position in which it has been located, irrespective of the machine vibration and accidental impacts to which it is subjected, until such time as further adjustment is desired. The realization of either one of these requisite capabilities in a traveler cleaner of sufficiently simple and economical construction presents serious difficulties, and these difficulties are considerably enhanced when realization of both of the foregoing capabilities is attempted, since they are to a certain extent contradictory or in conflict with each other.

With the foregoing in mind, a primary object of this invention is the provision of a traveler cleaner readily capable of precise positional adjustment, yet also capable of maintaining whatever adjusted position in which it has been located, irrespective of the vibration and blows to which it might be subjected, until repositioning thereof is desired.

A related object is the provision of a traveler cleaner and an assembly of traveler cleaners possessing the foregoing capabilities, that are of simplified construction and that can be manufactured, installed and maintained easily and economically.

A more specific object is the provision of a traveler cleaner including an elongate spring-like member and utilizing the resilient properties thereof both to permit ready adjustment for different size travelers, and to maintain a desired position of adjustment irrespective of machine vibration and similar disrupting factors.

Still other objects and advantages will be in part evident and in part pointed out hereinafter in the following description of an illustrative embodiment of the invention, which description should be read in conjunction with the accompanying drawings, in which—

FIGURE 1 is a partially diagrammatic front elevation of a section of a spinning frame equipped with a traveler cleaner assembly embodying the invention;

FIGURE 2 is an enlarged vertical section taken substantially along line 2—2 of FIGURE 1 through the ring rail and associated components of the spinning frame;

FIGURE 3 is an enlarged fragmentary plan view looking in the direction of the arrows 3—3 of FIGURE 1 of the ring rail and associated components; and

FIGURE 4 is an enlarged fragmentary perspective view of the extreme righthand end of the ring rail and associated components shown in FIGURES 1 and 3, some of the structure being broken away and the bobbins not being shown.

Referring more particularly to the drawings, the numeral **10** designates in its entirety a spinning frame or the like having a ring rail **12** mounting a longitudinally extending series or line of ring holders **14**. As is well known, each ring holder **14** receives a spinning ring **16** about which a traveler **18** rapidly revolves while spinning frame **10** is in operation, and accumulations of lint upon these travelers must be prevented.

The improved assembly shown in FIGURES 2–3 for preventing congestion of travelers **18** includes support means in the form of a rigid bar **20** having a plurality of spaced depending legs **22**. Bar **20** is substantially equal in length to ring rail **12** and, when supported thereon by legs **22**, extends behind and generally parallel to the line of ring holders **14** and rings **16**, as best shown in FIGURE 3. Suitable removable fasteners such as screws **24** extend through legs **22** and into ring rail **12**, and constitutes the only necessary means for maintaining bar **20** in place, which permits expeditious installation of the instant cleaner assembly with a minimum amount of machine downtime since, as will subsequently be more apparent, all of the remaining components of the assembly can be supported by and preassembled upon bar **20**.

Referring now primarily to FIGURE 3, bar **20** is provided along its forward face **25** with a plurality of spaced elongate resilient members **26**, there preferably being a single member **26** for each two rings **16** upon spinning frame **10**. Since all of the members **26** and their associated components are identical, description herein of the one adjacent the rightmost end of ring rail **12**, shown in FIGURES 3 and 4, will suffice for each.

The member **26** shown in FIGURE 4 has a length approximately equal to the distance between the centers of a pair of adjacent rings **16**, and is formed of tempered spring steel or like material possessing comparable resilient properties. A flange **28** is provided at each end of member **26** which, except for these flanges, may be substantially flat or planar when in a relaxed, nondeflected condition. Flanges **28** both extend in the same direction substantially normal to the greater length of member **26**, and the terminal edge of each may either be substantially flat, as shown, or beveled.

Member **26** extends generally longitudinally of bar **20**, and is anchored thereto by fastening means, such as the screw **29** shown, engaging the medial portion of the former and secured to forward face **25** of the latter at a point thereon approximately equidistant from the centers of a pair of adjacent rings **16**. Flanges **28** of member **26** face away from bar **20** and, by virtue of the aforementioned length and central location of member **26**, each flange lies more or less directly behind the center of a ring **16**, as may be seen in FIGURES 3 and 4. When thus secured by screw **29** or other suitable fastening means, member **26** is incapable of rotative or other movement, except that the end portions thereof bearing flanges **28** are susceptible to being deflected forwardly toward rings **16**.

Such deflection may be accomplished by adjustable means in the form of a pair of set screws **30** received by a pair of threaded bores extending transversely through bar **20** behind the free end portions of member **26**. As shown in FIGURE 3, set screws **30** engage member **26** at points thereon spaced inwardly from flanges **28**, and preferably are of such a length as to project at all times behind bar **20** so as to be readily accessible for manual rotation. Rotation of set screws **30** in the appropriate direction advances the same through their bores, deflecting the flanged free end portions of member **26** away from bar **20** and toward rings **16**. Deflection of member **26** in this manner is continued until the terminal edges of flanges **28** are located precisely the optimum distance from ring **16** to achieve maximum cleaning of the travelers **18** revolving thereabout. Member **26** is then maintained by set screws **30** in this deflected condition with flanges **28** adjacent rings **16** as

illustrated in FIGURES 3 and 4, until such time as repositioning thereof is desired.

If either free end portion of resilient member 26 should be accidentally forced away from its set screw 30 toward the adjacent ring 16, as might occur by reason of a blow thereon during doffing, such displacement would be only momentary since the free end portion would be immediately return to its former position due to the resiliency of member 26. And it will be appreciated that the rapidity of this return movement is enhanced by the fact that member 26 is prestressed or preloaded by reason of its normal deflection by screws 30. It should also be noted that screws 30 have a damping effect upon member 26 which insures that the return of its free end portions to their optimum positions will not only be immediate, but also will be unaccompanied by oscillation or vibration thereof which might otherwise ensue.

When a change in operating conditions, such as the substitution of different size travelers 18 for those previously in use, makes repositioning of one or both flanges 28 desirable, this can be quickly and easily effected merely by rotation of one or both set screws 30 in the appropriate direction. Thus, if a larger size traveler 18 is substituted for that shown in FIGURE 4 upon ring 16, the spacing between ring 16 and that flange 28 adjacent thereto may be easily adjusted merely by retracting the corresponding set screw 30 through its bore to an appropriate extent. Similarly, if a smaller size traveler 18 is substituted for that shown in FIGURE 4, the position of flange 28 may be properly adjusted merely by advancing set screw 30 through its bore, thereby further deflecting flange 28 away from bar 20. Adjustment of the position of one or both of the flanges 28 in this manner can be accomplished with considerable precision due to the fact that member 26, by reason of its resiliency, constantly maintains a counterforce upon set screws 30. This counterforce against set screws 30 obviates the tendency to overadjust the same and, moreover, discourages loosening thereof which might otherwise occur by reason of the vibration inherent in the operation of spinning frame 10 and like machines.

It will thus be seen that there has been provided a traveler cleaner and assembly of traveler cleaners realizing the objects and possessing the advantages hereinbefore noted. The embodiment of the invention hereinbefore described is of exceedingly economical manufacture. Resilient members 26, for instance, can be economically formed by stamping, and the remaining components of the assembly may be readily obtained since they are of standard construction. Since all of the resilient members 26, screws 29 and set screws 30 can be carried by and preassembled upon bar 20, installation of the cleaner assembly upon spinning frame 10 can be expeditiously effected with minimum machine downtime and inconvenience. And of primary importance, the optimum adjustive position for each traveler cleaner can be independently realized with facility and precision, and maintained constant until such time as further adjustment is deemed desirable due to a change in traveler size or other operating conditions.

In the drawings and specification there has been set forth a preferred embodiment of the invention and, although specific terms are employed, they are used in a generic and descriptive sense only and not for purposes of limitation, the scope of the invention being defined in the claims.

That which is claimed is:

1. A traveler cleaner for a spinning frame or the like having a ring about which a traveler revolves, said traveler cleaner comprising:

(*a*) an elongate resilient member carried by said frame and having a free end portion; and

(*b*) means carried by said frame in association with said resilient member for maintaining said resilient member in a deflected position with said free end portion thereof adjacent said ring.

2. A traveler cleaner for a spinning frame or the like having a ring about which a traveler revolves, said traveler cleaner comprising:

(*a*) an elongate resilient member carried by said frame and having a flanged free end portion; and

(*b*) adjustable means carried by said frame in association with said resilient member for maintaining said resilient member in a deflected position with said flanged free end portion thereof disposed adjacent said ring so as to clean said traveler revolving thereabout.

3. A traveler cleaner for a spinning frame or the like having a pair of rings about which travelers revolve, said traveler cleaner comprising:

(*a*) an elongate resilient member carried by said frame and having opposed free end portions; and

(*b*) means carried by said frame in association with said resilient member for maintaining said resilient member in a deflected position with said free end portions thereof adjacent said rings.

4. A traveler cleaner as in claim 3, wherein said free end portions of said resilient member are flanged, and wherein said means is adjustable for varying the deflected position of said resilient member.

5. A traveler cleaner for a spinning frame or the like having a pair of rings about which travelers revolve, said traveler cleaner comprising:

(*a*) an elongate resilient member having flanged opposite end portions; and

(*b*) means carried by said frame for mounting the medial portion of said elongate resilient member substantially equidistant from the centers of said rings, the flanged end portions of said resilient member being free and disposed adjacent said rings so as to clean said travelers revolving thereabout.

6. A traveler cleaner for a spinning frame or the like having a pair of rings about which travelers revolve, said traveler cleaner comprising:

(*a*) an elongate resilient member;

(*b*) means upon said frame mounting the medial portion of said resilient member substantially equidistant from the centers of said rings, the end portions of said resilient member being free; and

(*c*) means carried by said mounting means in association with said resilient member for maintaining said resilient member in a deflected position with said free end portions thereof disposed adjacent said rings so as to clean said travelers revolving thereabout.

7. A traveler cleaner assembly for a spinning frame or the like having a ring rail mounting a line of rings about which travelers revolve, said cleaner assembly comprising:

(*a*) support means detachably secured to said ring rail and extending longitudinally thereof generally parallel to said line of rings;

(*b*) a plurality of elongate resilient members carried by said support means in longitudinally spaced relation to each other, each of said resilient members being secured through its medial portion to said support means and the end portions thereof being free; and

(*c*) adjustable means carried by said support means for maintaining said resilient members in desired deflected positions with said free end portions thereof adjacent said rings.

8. A traveler cleaner assembly for a spinning frame or the like having a ring rail mounting a line of rings about which travelers revolve, said cleaner assembly comprising:

(*a*) an elongate support bar detachably mounted upon said ring rail and extending longitudinally thereof generally parallel to said line of rings;

(*b*) a plurality of elongate resilient members spaced along the length of and extending generally parallel to said support rod;

(*c*) fastening means extending through the medial portion of each of said resilient members and securing the same to said support bar, the end portions of each of said resilient members being freely deflectable away from said support rod toward said line of rings; and

(*d*) means carried by said support rod in engagement with said resilient members for maintaining said resilient members in deflected positions with said free end portions thereof disposed adjacent said rings so as to clean said travelers revolving thereabout.

9. A traveler cleaner assembly as in claim 8, wherein said last-named means is adjustable for varying the deflected positions of said resilient members when desired.

10. A traveler cleaner assembly as in claim 8, wherein said last-named means engages said resilient members at points thereon spaced inwardly from the ends thereof.

References Cited in the file of this patent

UNITED STATES PATENTS

2,256,446 Alleman ---------- Sept. 16, 1941

FOREIGN PATENTS

26,228 Great Britain ---------- Aug. 22, 1907