(No Model.)

J. H. WEBSTER.

METHOD OF AND APPARATUS FOR CLEANING BELTS FOR CARRYING GRANULAR MATERIAL.

No. 263,634. Patented Aug. 29, 1882.

Fig. 2.

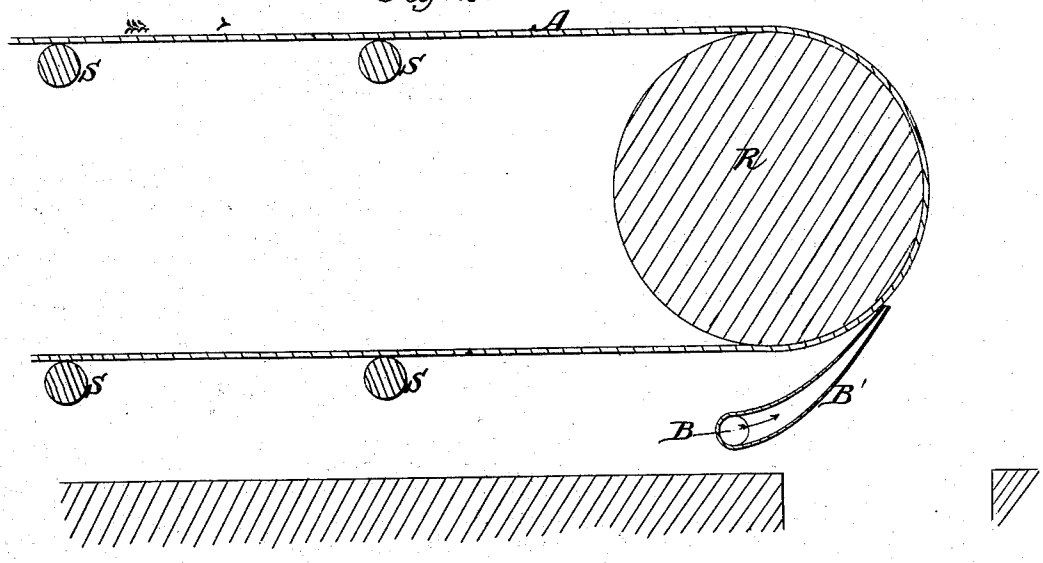


Fig. 1

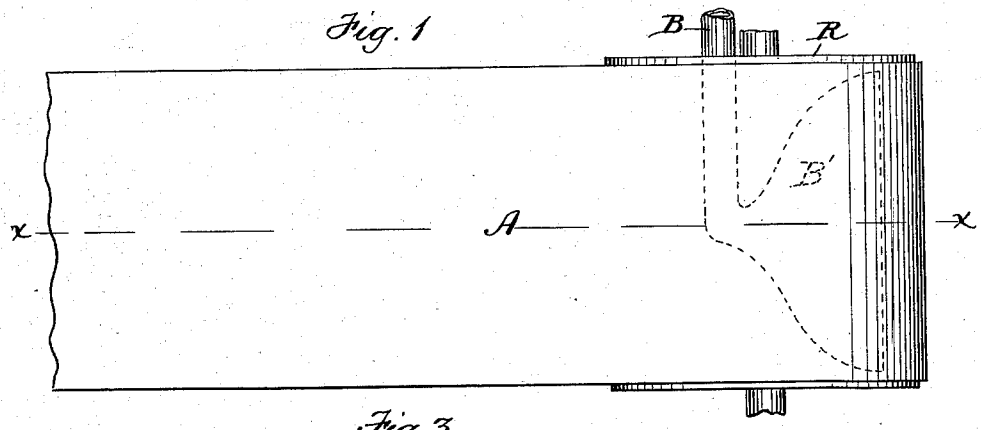
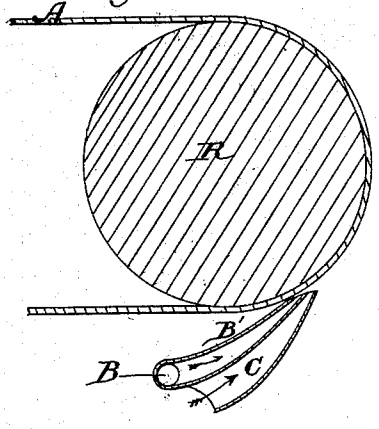


Fig. 3.



Witnesses.
J. F. Brown
A. L. White

Inventor
J. H. Webster
by Wright & Brown
Attys

N. PETERS. Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

JOHN H. WEBSTER, OF BOSTON, MASSACHUSETTS.

METHOD OF AND APPARATUS FOR CLEANING BELTS FOR CARRYING GRANULAR MATERIAL.

SPECIFICATION forming part of Letters Patent No. 263,634, dated August 29, 1882.

Application filed April 3, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. WEBSTER, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in Methods of and Apparatus for Cleaning Belts for Carrying Granular Material, of which the following is a specification.

This invention relates to an endless carrying-belt used for conveying damp granular material.

The invention is intended chiefly for use in connection with belts used for conveying damp animal charcoal from sugar-filters to a point where it is collected to be burned or revivified. These belts run horizontally, receive the damp char on their upper surfaces, and carry it to the point where the direction of the belt is changed by passing over a supporting-pulley. Here a part of the char falls by gravitation into a suitable receptacle, but usually a small portion adheres to the surface of the belt, and unless removed is carried along the under surface thereof and gradually dislodged and falls upon the surface under the belt, thereby causing waste of material, and in time accumulating in such quantities as to obstruct the belt and require removal, the under side of the belt usually running near the ground or floor.

Heretofore a rotating brush or wiper has been employed to remove the adhering particles from the belt; but the friction is so great that any device in rubbing-contact with the belt is rapidly worn away and rendered useless.

My invention consists in removing the adhering grains or particles by a current of air or other fluid under pressure, thereby effectually cleaning the belt and preventing waste of the material without involving wear of mechanism used therefor, as I will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a top view of a portion of a carrying-belt and a device for directing a fluid under pressure against it; and Fig. 2 represents a section on line *x x*, Fig. 1. Fig. 3 represents a similar section of a modification.

The same letters of reference indicate the same parts in all the figures.

In the drawings, A represents the carrying-belt, of the usual construction, driven and supported by end rollers, R, (only one of which is shown,) and supported at intermediate points by smaller rollers S. When employed for conveying animal char the belt is arranged to run horizontally under a series of sugar-filters and to receive the char discharged therefrom. The char deposited on the belt is mainly discharged therefrom at the point where the belt passes over one of the rollers R into a suitable receptacle or into the buckets of an elevating-belt.

In carrying out my invention I provide a pipe or tube, B, extending from a suitable apparatus for supplying air or other fluid under pressure—such, for example, as an ordinary direct-acting blowing engine. The pipe B terminates in a nozzle, B′, which is laterally elongated, so as to present a long and narrow discharge-orifice about equal in length to the width of the belt and extending across the latter, as shown in dotted lines in Fig. 1. The nozzle B′ is so arranged that it will direct the blast or current passing through it upon the portion of the belt which is passing downwardly and backwardly on the roller R, the direction of the blast being nearly tangential with the curved portion of the belt, but slightly inside of a true tangent, so that it will impinge with sufficient force upon the surface of the belt to dislodge the grains of char that may adhere thereto.

If desired, steam may be employed to create the blast, and in this case a flue or passage, C, may be provided on one side of the nozzle B′, as shown in Fig. 3, to give the air mingling with the steam emerging from the nozzle the same general direction as the steam.

It will be seen that there is no mechanism in contact with the belt, and therefore that no wear can take place from friction thereon. The grains removed by the blast will fall into the same receptacle as the bulk of the char. Hence there are no scattering and waste. It is obvious that my invention above set forth may be employed in connection with belts for carrying any damp granular material—such as sand, sawdust, &c.—without departing from the spirit of my invention.

I am aware that in drying apparatus carrying-belts have been made to move in a casing through which a gentle upward current of air is forced by a blower, the current being in-

tended only for drying purposes and having substantially the same effect on all parts of each belt, so that it is not adapted to remove adhering material. In my invention the blast or stream of air is concentrated and directed forcibly against a part of the belt from which the non-adhering portion of the material has been previously removed, in the ordinary manner, without affecting the other parts of the belt.

I claim—

1. The method herein described of cleaning belts used for carrying damp granular material, consisting in directing against a part of the belt from which the non-adhering material has been discharged a concentrated blast or stream of air or other fluid having sufficient force or pressure to remove the adhering material, as set forth.

2. The combination, with a belt or carrier running upon suitable supporting-pulleys, of a conductor connected to suitable forcing apparatus and terminating in a tip or nozzle arranged to deliver a concentrated stream of air or other fluid under pressure against a part of the belt from which the non-adhering material has been discharged, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 1st day of April, 1882.

JOHN H. WEBSTER.

Witnesses:
C. F. BROWN,
A. L. WHITE.