Nov. 14, 1933. J. F. PALMER 1,935,250

ERASER CLEANER

Filed Oct. 14, 1931

Fig. 1

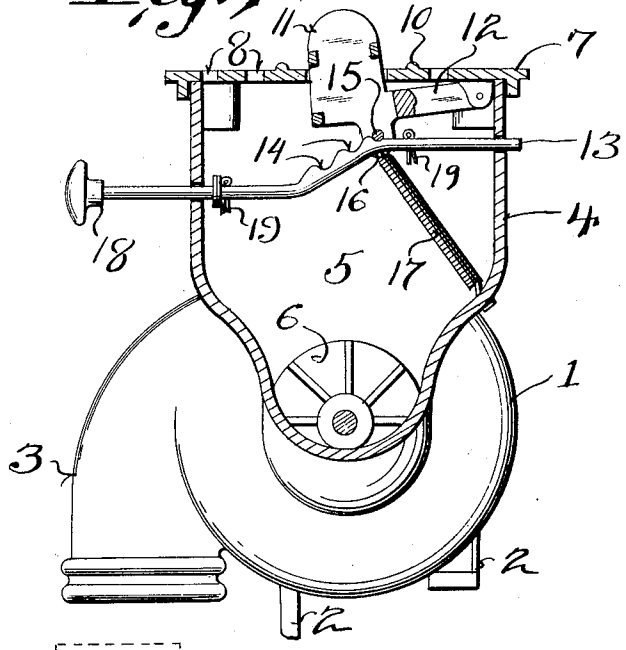


Fig. 2

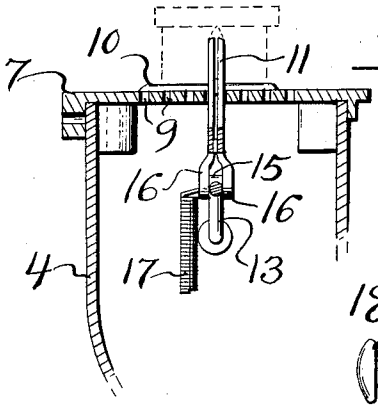


Fig. 4



Fig. 3

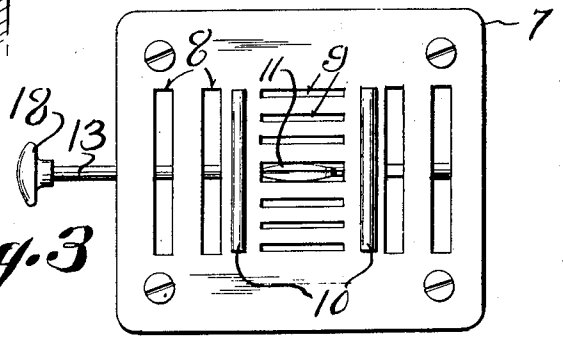
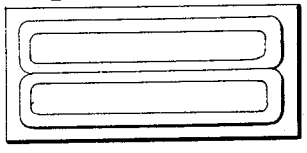


Fig. 5



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1,935,250

ERASER CLEANER

John Frederick Palmer, Milwaukee, Wis.

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12 Claims. (Cl. 15—15)

This invention appertains to a novel device for cleaning blackboard erasers, and is an improvement over my prior Patent #1,757,545 granted to me on May 6th, 1930.

In the cleaning of blackboard erasers considerable difficulty is experienced in the removal of all of the chalk dust therefrom.

It has been found that a vacuum means is an ideal method of removing the chalk dust from the erasers, but even with the use of such an appliance, the chalk dust, particularly between the plies or strips of the wiping or erasing felts of some erasers is not all removed.

It is, therefore, a prime object of my invention to provide a novel device incorporated with a vacuum eraser cleaner for spreading the felts of the eraser, so as to permit the vacuum or suction to operate effectively on the felts for removing all of the chalk dust.

Another prime object of my invention is the provision of a suction finger forming a part of the eraser vacuum cleaner and carried by the cleaner table, the suction finger being insertible between the cleaning or wiping felts of the erasers for effectively removing all of the dust therefrom.

A further salient object of my invention is the provision of means for adjustably mounting the suction finger, whereby the active height of the same can be readily regulated relative to the cleaning table, so that the finger can be positioned for most efficiently operating on felts of different heights, as the erasers wear incident to continuous use, the suction finger being so mounted as to permit the same to be swung entirely below the cleaning table, when erasers are being cleaned, which do not require use of the suction finger.

A further important object of my invention is the provision of a cleaning table provided with novelly arranged suction openings, with deflecting ribs for the cleaning felts of an eraser formed thereon and arranged adjacent to the suction openings, whereby when the erasers are drawn over the table, the ribs will serve as an effective means for deflecting the cleaning felts of the eraser and loosening the chalk dust therefrom, so as to permit the efficient removal of the dust from the eraser by the vacuum or suction means.

A still further object of my invention is the provision of a vacuum cleaner for blackboard erasers of the above character, which will be durable and efficient in use, one that will be simple and easy to manufacture and one which can be placed upon the market at a reasonable cost.

With these and other objects in view, the invention consists in the novel construction, arrangement and formation of parts, as will be hereinafter more specifically described, claimed and illustrated in the accompanying drawing, in which:

Figure 1 is a sectional view through the suction chamber of an eraser cleaner, constructed in accordance with my invention and illustrating the suction or vacuum finger incorporated therewith;

Figure 2 is a transverse section through the suction chamber taken at right angles to Figure 1, and showing the suction or vacuum finger in its operative position;

Figure 3 is a top plan view of the eraser cleaning table, with the vacuum or suction finger;

Figure 4 is a detailed transverse section through the vacuum or suction finger;

Figure 5 is a plan view of one type of blackboard eraser for which the present invention is adapted.

Referring now more particularly to the accompanying drawing, the numeral 1 designates a suction fan casing provided with the legs 2 adapted to be secured to any suitable support. The usual discharge spout 3, communicating with the fan casing, may be provided with a conventional dust bag, or hose, not shown. Projecting from the fan casing 1 is a housing 4, forming a suction chamber 5, which communicates with the fan casing through the opening 6. The housing 4 is flared and open at the top, and has secured thereto a table 7, which forms a closure therefor.

As best shown in Figure 3, the table 7 is provided with transverse slots 8 adjacent its ends, and intermediate the transverse slots are the spaced longitudinal slots 9. The transverse ribs or projections 10, formed on the table adjacent the ends of the longitudinal slots, serve to engage the surface of an eraser as the same is longitudinally reciprocated across the face of the table, thus loosening the dust upon the face of the eraser, which is then drawn through the transverse and longitudinal slots 8 and 10, respectively.

While there are various structures of blackboard erasers, the majority of those in use at the present time are made up of longitudinal strips or felt secured to a back, such as shown in Figure 5, and while cleaners of the general type disclosed in the aforesaid patent and illustrated in connection with the present invention serve to effectively remove the dust from the surface of the eraser, the dust which works into and between the folds or cleaning felts is inaccessible and difficult to remove.

The present invention, which is designed to overcome the foregoing difficulty, comprises a hollow finger or tongue 11 carried by an arm 12, pivotally connected to the table 7 within the suction chamber 5.

As shown in the drawing, the finger or tongue

11 is arranged to be projected through one of the transverse slots 9, preferably centrally of the table, and is held in adjusted position by means of the latch bar 13 provided with stepped notches 14, adapted to engage the pin 15 carried by spaced ears 16 serving to straddle the latch bar, as best shown in Figures 1 and 2, thus guiding and preventing tilting of the latch bar, as the same is reciprocated. A spring 17, connected with one of the ears 16 and the housing 4, serves to normally hold the suction finger into engagement with the latch bar.

As best shown in Figure 1, the latch bar is slidably mounted within openings in the housing 4, and one of the ends is provided with a manipulating button 18. Movement of the latch bar is limited by means of cotter pin 19.

In operation, an eraser is positioned upon the table, as indicated in dotted lines in Figure 2, and as the same is reciprocated longitudinally across the table, the dust in the surface of the eraser is loosened and drawn through the slots of the table. When it is desired to remove dust from between the folds or cleaning felts of the eraser, the suction finger 11, which is normally retracted within the suction chamber 5, may be projected to any desired height by means of the latch bar 13, and in its projected position, the finger, which is comparatively thin in cross section and tapered inwardly at its top edge, is readily projected between the folds or felts of the eraser, and being in communication with the suction chamber the dust between and within the cleaning or wiping felts will be drawn through the finger and discharged through the fan casing. Obviously, the adjustment of the finger not only permits the same to be retracted when desired, but also compensates for erasers of various heights.

The suction finger 11 forms an admirable means for spreading the felts, so as to permit the suction to effectively operate on the erasers.

From the foregoing description, taken in connection with the drawing, it will be readily seen that an extremely simple and efficient device has been provided, which materially reduces the cost of manufacture and increases the efficiency of a conventional suction cleaner and provides for the removal of dust heretofore inaccessible, but highly objectionable, due to the fact that the same eventually works out of the eraser when in use.

Changes in details may be made without departing from the spirit or the scope of my invention, but what I claim as new is.

I claim:

1. In a blackboard eraser cleaner, a suction housing having a cleaning table provided with suction openings communicating with the interior of the suction housing, and a suction finger projecting through the cleaning table and communicating with the suction housing.

2. In a suction cleaner for blackboard erasers, a suction housing, a cleaning table for receiving the erasers forming a part of said housing and having suction openings therein communicating with the interior of the housing, and an adjustable suction finger movable through the cleaning table.

3. In a vacuum cleaner for blackboard erasers, a housing, means for creating a suction in said housing, a table top for the housing over which the erasers to be cleaned are drawn, said housing being provided with a series of transverse suction openings and a series of longitudinally extending suction openings, and upstanding deflecting ribs for the wiping felts of an eraser carried by the table top and arranged between certain of the suction openings.

4. In a suction cleaner a body having a suction chamber and a table provided with openings communicating with the suction chamber, suction means projecting through one of said openings from the chamber for engagement between the felts of an eraser to remove the dust therefrom.

5. In a suction eraser cleaner, a suction chamber and a table provided with openings communicating with the chamber, hollow means projecting through one of said openings and communicating with the suction chamber of said cleaner for engaging between the felts of an eraser to remove the dust therefrom.

6. In a suction eraser cleaner, a body having a suction chamber and a table provided with openings communicating therewith, suction means projecting through one of said openings from the chamber for engaging between the felts of an eraser to remove the dust therefrom, and means for adjusting the amount of projection of said means.

7. In a suction eraser cleaner, a suction chamber and a table provided with openings communicating with the suction chamber, hollow means projecting through one of said openings and communicating with the suction chamber of the cleaner for engaging between the felts of an eraser to remove the dust therefrom, and means for adjusting the amount of projection of said hollow means.

8. In a suction eraser cleaner, a body having a suction chamber, a table provided with openings communicating with the chamber, a hollow suction finger for projection through one of said openings, and means for adjusting the projection of said suction finger.

9. In a suction eraser cleaner, a body having a suction chamber and a table provided with openings communicating therewith, a hollow suction finger pivotally carried by said table for projection through one of said openings, and means for adjusting the projection of said finger.

10. In a suction eraser cleaner, a suction housing having a table mounted thereon and provided with openings, a hollow suction finger pivotally carried by said table within said housing for projection through one of said openings, and means carried by the housing for adjusting the projection of said finger.

11. In a suction eraser cleaner, a suction housing having a table mounted thereon and provided with openings, a hollow suction finger pivotally carried by said table within said housing for projection through one of said openings, and a stepped latch bar for engaging said finger for adjusting its position with relation to said table.

12. A suction eraser cleaner comprising a housing having a suction chamber, a table mounted on said housing and provided with openings communicating with the suction chamber, transverse webs formed on said table adjacent said openings, and means projecting through one of said openings for engaging between the wiping felts of an eraser to remove the dust therefrom.

JOHN FREDERICK PALMER.