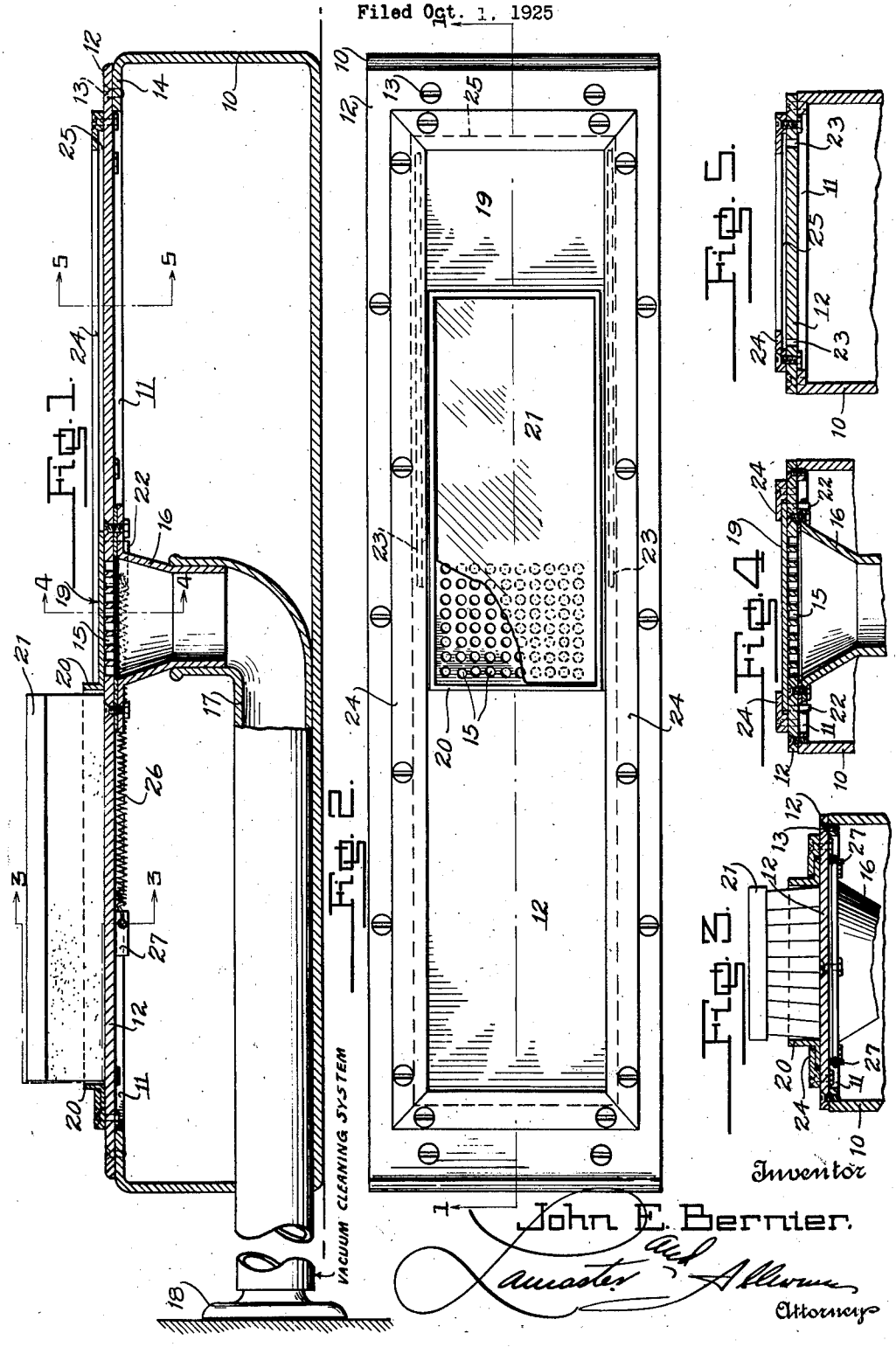
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BLACKBOARD ERASER CLEANER

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BLACKBOARD-ERASER CLEANER.

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The present invention relates to cleaners of the type adapted to remove chalk dust from blackboard erasers.

An object of the present invention is to provide a device which may be mounted in a wall, a casing or the like for the reception of blackboard erasers to remove the chalk therefrom without spreading the chalk dust through the air such as is occasioned in the method of beating together a pair of the erasers.

Another object of the invention is to provide a device of this character which may be attached, either permanently or otherwise, to the vacuum cleaning systems installed in the school or other building where the blackboards are used.

A further object of the invention is to provide a vacuum cleaning device of this character which is normally closed to maintain the vacuum in the system and which may be opened by positioning an eraser in the device and moving the eraser into a predetermined position to be operated upon so that the suction of the cleaning device may remove effectively all particles of chalk dust and the like and prevent the spreading of chalk dust into the surrounding area.

The above and various other objects and advantages of this invention will be in part described and in part understood from the following detail description of the present preferred embodiment, the same being illustrated in the accompanying drawings, wherein:—

Fig. 1 is a longitudinal vertical section taken through a blackboard eraser cleaner constructed according to the present invention, and showing an eraser in position thereon;

Fig. 2 is a top plan view of the same, partly broken away to show the suction mouth of the device;

Fig. 3 is a fragmentary transverse section, enlarged, taken on the line 3—3 of Fig. 1;

Fig. 4 is a similar view taken on the line 4—4 of Fig. 1; and

Fig. 5 is a like view taken on the line 5—5 of Fig. 1.

Referring to the drawing, 10 designates a casing of metal or the like which may be entirely closed at its ends, sides and bottom but which is provided with an opening 11 in its top. A top plate 12 is removably secured by screws 13 or the like to the inturned marginal flanges 14 at the top of the casing 10 in order to detachably support the mechanism hereinafter described.

The top plate 12 of the casing is provided with a grating or reticulated portion 15 forming a mouth or opening beneath which is secured a downwardly tapering funnel or mouth piece 16 to the lower end of which is fitted a suction pipe 17 which leads outwardly through the casing 10 and is connected to a fitting 18 of a suction cleaning system which may be installed in the building. There is thus maintained at all times a suction in the mouth piece 16 and pipe 17. The mouth 15 of the cleaner is normally closed by a shutter 19 which comprises a flat plate slidably mounted on the upper face of the top plate 12 and which also comprises one end of a slide which is in the form of an upstanding frame or flange 20 into which is loosely fitted the lower end of an eraser 21 to be cleaned.

The frame 20 is open at its top and the eraser is adapted to be fitted downwardly through the frame and against the top plate 12. When the eraser 21 is slid longitudinally over the top plate 12 it carries the slide therewith and consequently removes the shutter 19 from the mouth 15 of the device and brings the lower end of the eraser over the apertured mouth 15. As suction is constantly maintained in the mouth of the cleaner, the suction withdraws the chalk dust and other loose particles from the eraser 21 as the latter is moved back and forth over the mouth of the cleaner.

The slide is provided at its outer end, or at the end upon which the shutter 19 is mounted, with a pair of depending ears 22 which project downwardly through longitudinal slots 23 which are formed in the top plate 12 near the opposite longitudinal edges thereof. The slide is held in place by a pair of longitudinal guide bars 24 which are secured along the opposite longitudinal edge portions of the top plate 12 and which have undercut grooves 25 providing channels. The opposite edge portions of the slide engage in the grooves for holding the slide from displacement from the plate. The depending lugs 22 are attached at their lower ends to the forward ends of a pair of contractile springs 26 which are anchored at their rear ends to lugs 27 secured to the underside of the top plate 12. The springs 26 normally tend to hold the slide in one position, such as shown in Fig. 1 and wherein

the shutter 19 closes the mouth of the cleaner.

The pipe 17 may be permanently or detachably connected to the coupling 18 of the vacuum cleaner system. The casing 10 may be mounted in any suitable manner so that the eraser may be merely placed in the slide and then pushed toward the opposite end of the casing in order to uncover the mouth of the cleaner and move the eraser across the mouth of the cleaner. In this manner the dust and other particles are collected in the mouth 16 and carried therefrom through the pipe 17 into the vacuum cleaning system.

It is, of course, understood that various changes and modifications may be made in the details of construction and design of the above specifically described embodiment of this invention without departing from the spirit thereof, and being limited only by the scope of the following claims.

What is claimed is:—

1. A blackboard eraser cleaner comprising a casing having an opening in the top thereof, a top plate removably secured to the casing and over the opening in the top thereof, said top plate having a reticulated portion intermediate the ends thereof, a suction conduit mounted within the casing and terminating at the intake end beneath the reticulated portion, guide bars mounted on the top plate, a slide adapted to engage at opposite sides beneath said guide bars, said slide normally engaging at its lower side the upper side of said top plate, said slide also having a shutter portion at one end, and an open upstanding frame at the opposite end, said frame being adapted to loosely receive an eraser therein, and means connected to the slide for normally urging the shutter end over the reticulated portion.

2. A blackboard eraser cleaner comprising a casing having an opening in the top thereof, a top plate secured to the casing over said opening, said top plate having a reticulated portion intermediate its ends, a suction head removably secured to the top plate beneath the reticulated portion thereof, a suction pipe connected at its inner end to said suction head and at its outer end to a vacuum cleaning system, a slide slidably mounted on the top plate, said slide comprising a shutter portion and a frame portion, yieldable means connected to said slide for normally urging same into closed position, said shutter when the slide is in closed position being adapted to close the reticulated portion of said top plate.

3. A blackboard eraser cleaner comprising a casing having an opening in the top thereof, a top plate secured to the casing over said opening, said top plate having a reticulated portion intermediate its ends, a slide slidably mounted on said top plate, said slide comprising a shutter portion at one end, and an open frame at the opposite end, said frame being adapted to receive an eraser therein, yieldable means mounted on the top plate and connected to said slide for normally holding the shutter portion of the slide over the reticulated portion of the top, and a suction conduit terminating beneath the reticulated portion of the top plate for removing dust from an eraser.

4. A blackboard eraser cleaner comprising a casing open at its top, a top plate removably secured to the casing, said top plate having a reticulated portion intermediate its ends, a suction head connected to the top plate beneath the reticulated portion, a suction pipe leading from said head outwardly through the casing for connection to a vacuum cleaning system, a pair of guide bars secured to the top plate along the opposite longitudinal edge portions thereof, a slide fitted on the upper surface of the top plate beneath the guide bars, said slide having a shutter portion at one end to cover said reticulated portion of the top plate and having an open frame at its other end exposing the upper surface of the top plate therethrough, said frame adapted to receive an eraser therein and to be shifted lengthwise of the top plate by pressure through the eraser to move the eraser over the upper surface of the top plate and across said reticulated portion, and means connected to the slide for normally urging the same into position with the shutter over said reticulated portion.

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