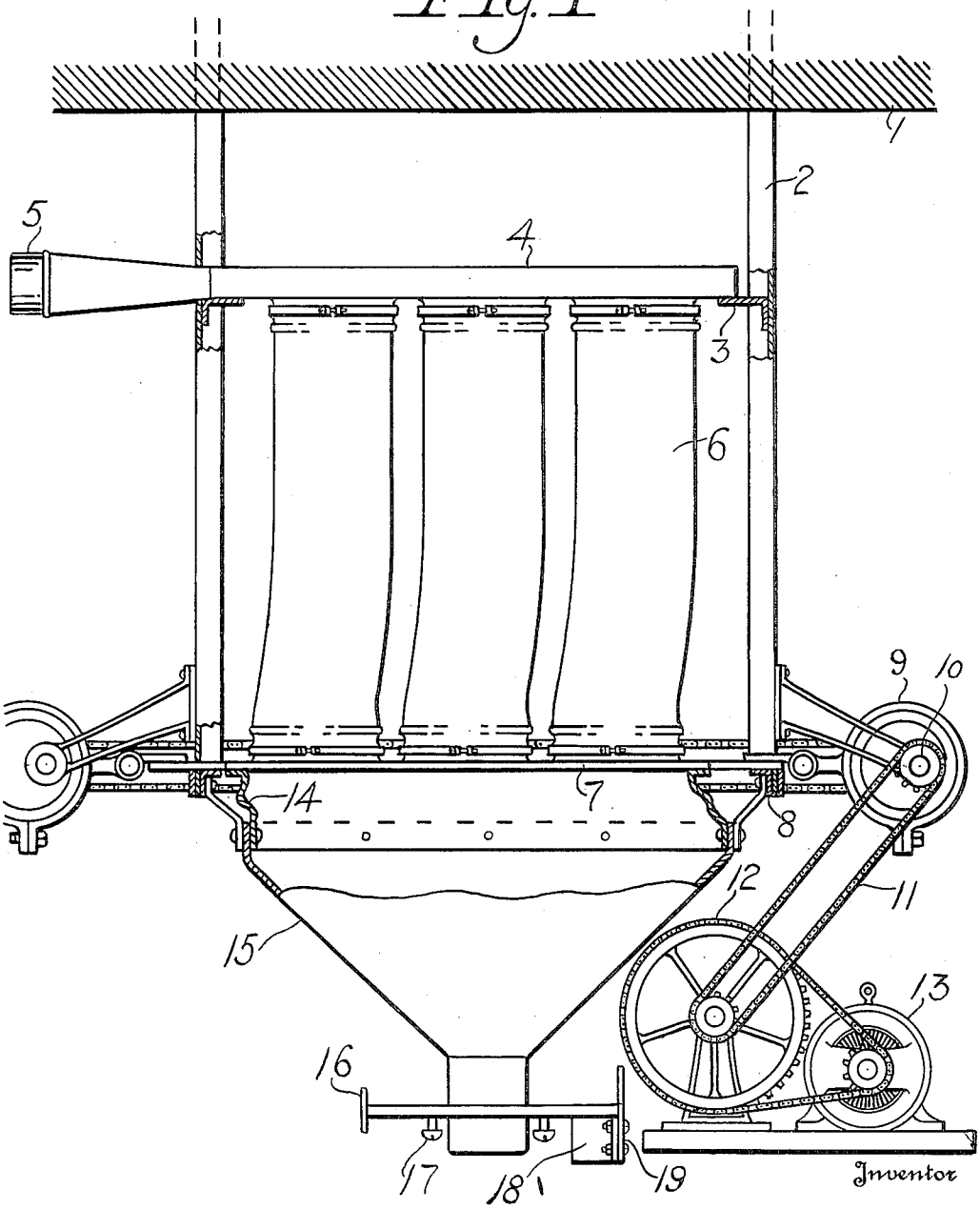
May 30, 1933. E. A. KLEISSLER 1,912,280

DUST COLLECTOR

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Fig. 1




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Fig. 2

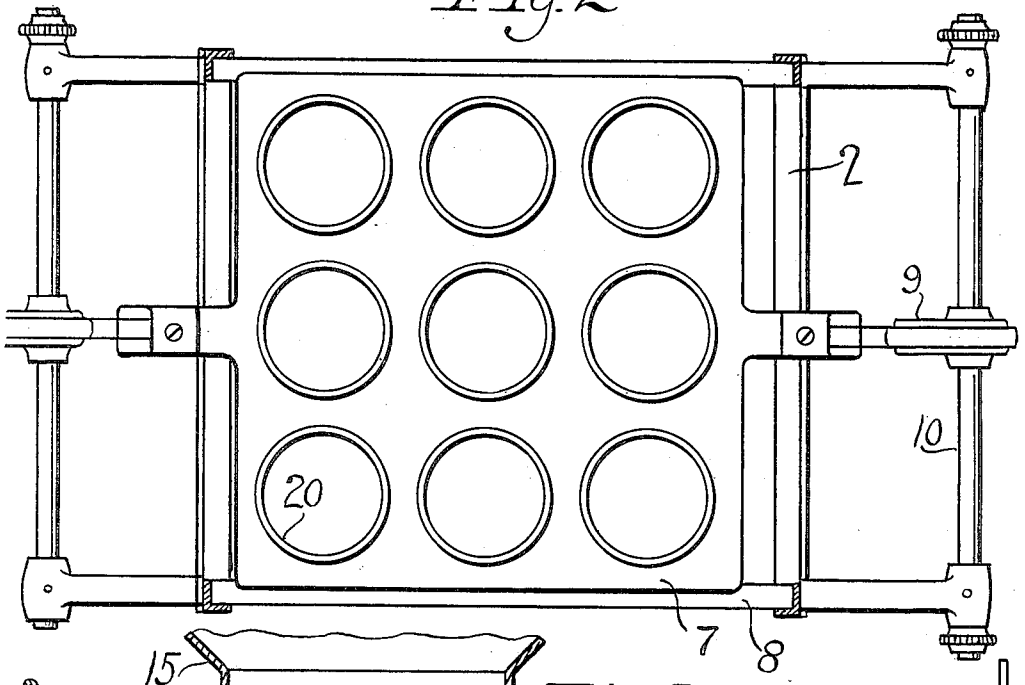



Fig. 3

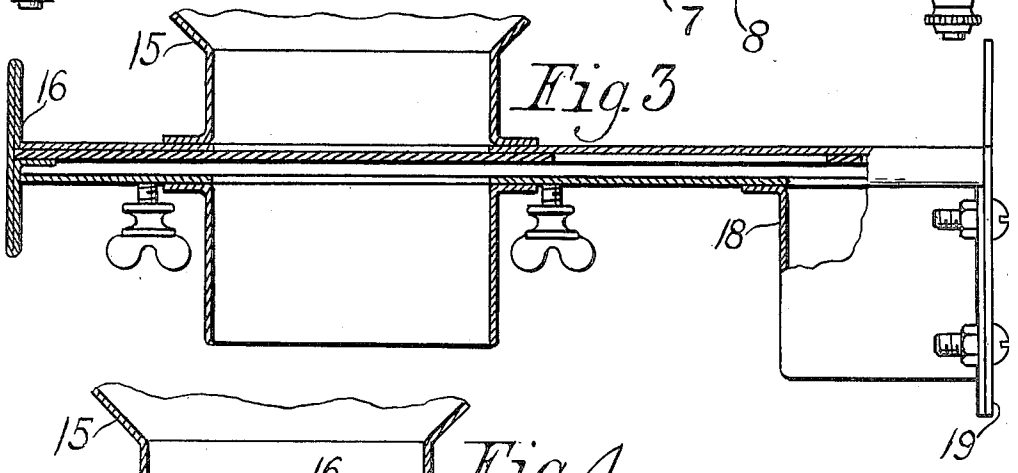
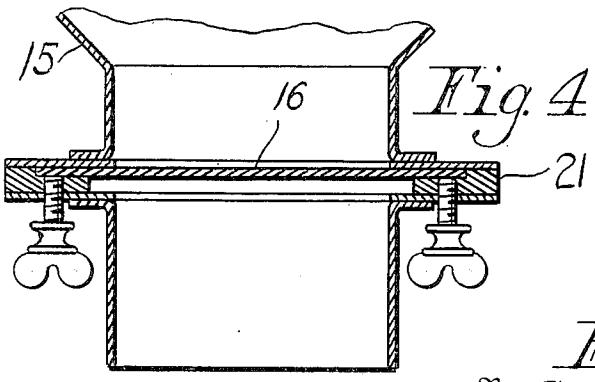



Fig. 4




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# UNITED STATES PATENT OFFICE

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## DUST COLLECTOR

Application filed October 17, 1931. Serial No. 569,507.

This invention relates to dust collectors, and is intended for service in any enclosure wherein the air is dust laden from any cause, and from which atmosphere the dust may be filtered by pervious fabric devices employed in such apparatus.

The object of this invention is the provision of parts of special construction and operation whereby it is believed the fabric air filtering members may be constantly and sufficiently agitated to free them of the accumulated dust and to cause the dust to fall into a hopper for subsequent removal.

In the accompanying drawings are illustrated the construction and disposition of the parts of this invention. Fig. 1 represents a side view, partly in section, showing all parts assembled. Fig. 2 is a top view of the reciprocating plate. Fig. 3 is a longitudinal section of the sliding damper and its housing. Fig. 4 is a vertical cross section of the damper and its guides and housing.

Throughout the description and drawings the same number is used to refer to the same part.

Considering the drawings, a frame 2 of any chosen construction is supported from the ceiling 1 of a room, or from any other convenient support. The frame carries suitable brackets 3 upon which rests an intake receptacle 4, which may obviously be varied in size and shape within the purview of this invention.

The intake receptacle 4 has an end nozzle 5, and the bottom of the receptacle is in open communication with the vertically arranged fabric cylinders or bags 6, pervious to air but preventing the passage of dust particles. The lower ends of the fabric members 6 are in open communication with a plate 7. The plate moves back and forth on supports or guides 8, and has a reciprocating movement imparted to it by the eccentrics 9 on shafts 10. It is not intended to limit this invention to the mechanism including the eccentrics, as such devices may be readily modified for the same operation. A shaft 10 is connected by sprocket chain 11 with speed reducing gear 12 driven by a motor 13.

A flexible skirt 14 is attached to the plate 7 and to the top of hopper 15. The plate may thus be moved with respect to the hopper. The skirt may be of the same fabric as the bags 6, to pass air but to collect dust.

The mouth or outlet of the hopper is bisected by a suitable housing for a sliding damper 16, and adjacent to the hopper mouth are screws 17 adapted to secure the damper releasably in its closed position. At the end of the damper housing is placed a dust box 18 having a removable closure 19.

In Fig. 2 are shown the collars carried by the movable plate 7, and to which the lower ends of the fabric members 6 are secured by the usual clamping rings. The collars are marked 20.

The operation of this invention will be understood from an inspection of Fig. 1. The dust enters the receptacle 4 with the air current driven by any motor force and fan not shown. The air is expelled through the fabric bags, but the dust is collected. The bags are continuously shaken back and forth and the dust is dislodged from the insides of the bags and drops into the hopper and down its slanting sides into the outlet of the hopper. During the collection of the dust the damper is clamped closed by the screws illustrated, but when it is desired to discharge the hopper of the accumulated dust the damper is moved to the left and the dust may descend into any receiver held below the hopper mouth. As the damper is moved back and forth a certain portion of dust and other particles will be deposited in the guides 21 in which the damper slides, but the end of the damper pushes the dirt along until it falls into the open top dust box 18 shown.

Having now described this invention and the mode of its operation, I claim:—

1. In a dust collector, the combination with a supporting frame of an intake receptacle, a plurality of air pervious fabric members in open communication with the receptacle, a sliding plate in open communication with said members, said plate being attached to the members, means for holding and guiding said perforated plate in horizontal sliding relation with said frame, means pivotally attached to the plate for reciprocating the

plate, a hopper, means for supporting the hopper, a flexible skirt connecting said plate and hopper, and a damper for opening and closing the hopper.

2. In a dust collector, the combination with a supporting frame, of an intake receptacle, a plurality of air pervious fabric members in open communication with the receptacle, a sliding perforated plate in open communication with said members, said plate being attached to the members, means for holding and guiding said plate in horizontal sliding relation with said frame, a revoluble eccentric supported adjacent to one side of the plate, means for revolving the eccentric, and the said eccentric being pivotally connected with said plate whereby the plate is horizontally reciprocated, a hopper supported by said frame, a flexible skirt connecting the said plate and hopper, and a damper for opening and closing the hopper.

In testimony whereof I affix my signature.

EDWIN A. KLEISSLER.