No. 832,450. PATENTED OCT. 2, 1906.

W. F. L. BETH.

SHAKING DEVICE FOR TUBULAR AND LIKE FILTERS.

APPLICATION FILED FEB. 16, 1905.

2 SHEETS—SHEET 1.

Fig. 3.

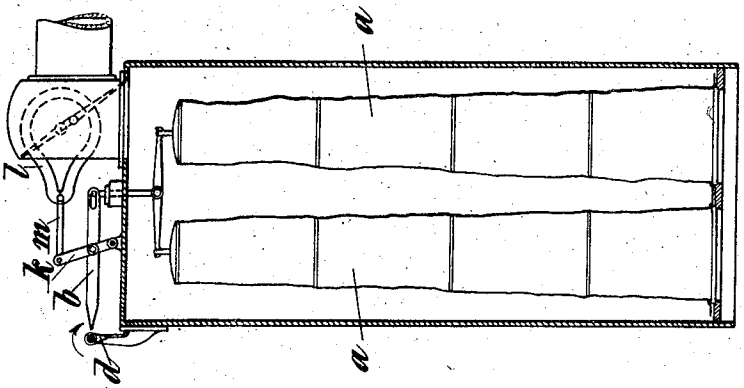


Fig. 2.

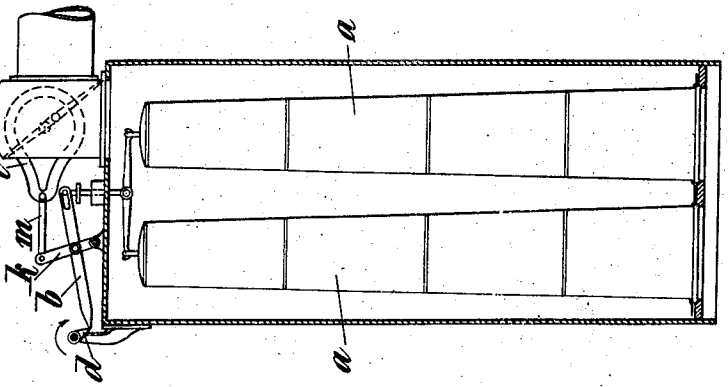
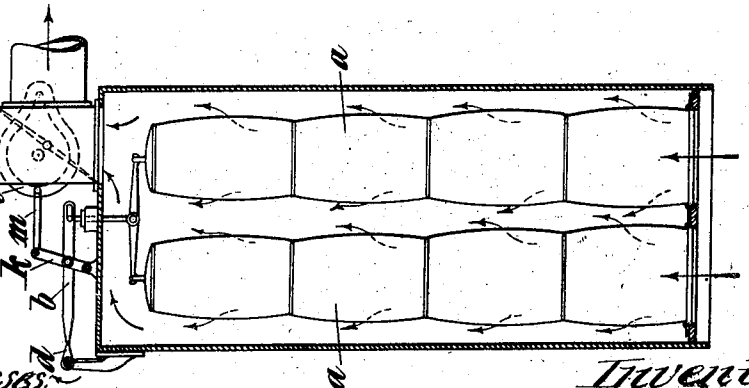


Fig. 1.



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SHAKING DEVICE FOR TUBULAR AND LIKE FILTERS.

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2 SHEETS—SHEET 2.

Fig. 6.

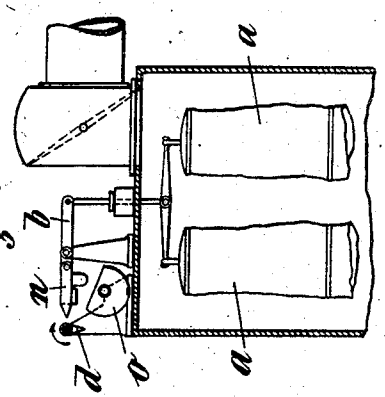


Fig. 9.

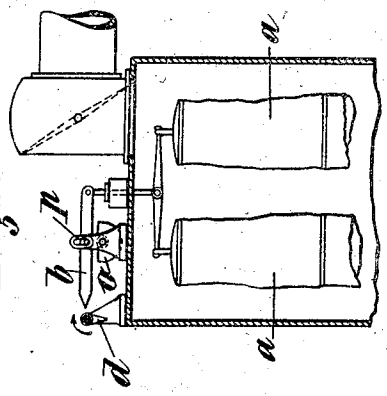


Fig. 5.

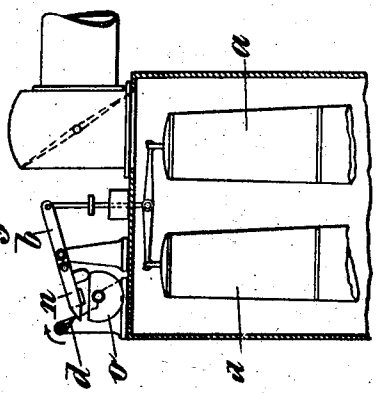


Fig. 8.

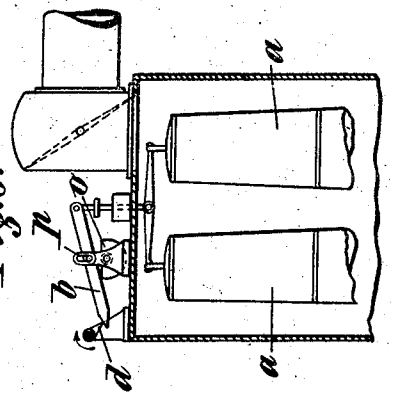


Fig. 4.

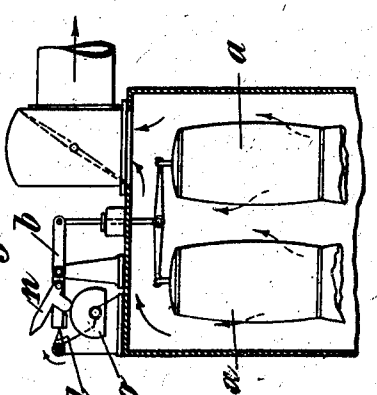
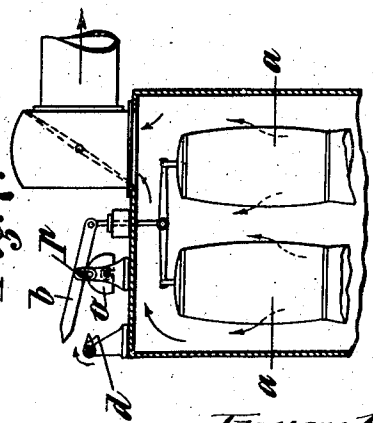


Fig. 7.



Witnesses:

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By James L. Norris.

Atty.

UNITED STATES PATENT OFFICE.

WILHELM FRIEDRICH LUDWIG BETH, OF LÜBECK, GERMANY.

SHAKING DEVICE FOR TUBULAR AND LIKE FILTERS.

No. 832,450. Specification of Letters Patent. Patented Oct. 2, 1906.

Application filed February 16, 1905. Serial No. 245,963.

To all whom it may concern:

Be it known that I, WILHELM FRIEDRICH LUDWIG BETH, manufacturer, a subject of the German Emperor, residing at Lübeck, Germany, have invented certain new and useful Improvements in Shaking Devices for Tubular and Like Filters, of which the following is a specification.

In tubular trunk filters or for separating dust and the like from dust-charged air in order to obtain a periodical cleaning of the filter by moving the filter trunk or sleeve up and down the trunks or sleeves are hung on two-armed levers, which are rocked up and down by lift-cams mounted on a transversely-placed shaft. In order that this rocking up and down may not take place at each revolution of this cam-shaft, but at greater intervals, these cams are displaceably mounted on the shaft and may be moved to and fro thereon by means of a suitable operating mechanism, so that each lever is only encountered at long intervals by the respective lift-cam. This longitudinal displacement of the cams on the shaft involves drawbacks, as it produces considerable sliding friction, owing to the encrusting or fouling of the parts displaced, and thus wastes a considerable amount of power.

Now this invention has for its object an arrangement which avoids the said drawback by the means hereinafter described.

In the accompanying drawings various forms of construction are shown in Figures 1 to 9.

The form of construction shown in Figs. 1 to 3 is a vertical section of the arrangement in various positions. A two-armed lever *b*, which carries the tubular trunk or filter *a*, is mounted on a rocking lever *k* in such a way that it is only encountered by the rotating cam *d* at stated or determined times—that is to say, when this lever *k* is brought into the position shown in Fig. 2 in any suitable manner by means of the operating parts—for instance, by the rotating cam-disk *l* by means of a push-rod *m*. When the cam *d* releases the lever *b*, it passes into the position shown in Fig. 3, and on the further rotation of the cam-disk *l* the lever *k* is again brought into the position shown in Fig. 1.

Figs. 4, 5, and 6 show another form of construction. An oscillating contact *n* is mounted on a lever *b*, which does not itself come into contact with the cam *d*. In the position shown in Fig. 4 a rotating cut-out disk *o* holds the oscillating contact *n* erect or upright; but in the position shown in Fig. 5 this disk has released it and it has dropped down, so that it is encountered by the cam *d*, and so tips up the lever *b*. In Fig. 6 the action of the cam *d* has ceased, the lever *b* has tilted back into its initial position, and on the further rotation of the disk *o* the condition shown in Fig. 4 is reëstablished.

The form of construction shown in Figs. 7 to 9 is similar. The lever *b* is pivotally displaceable in an oval slot *p*. The rotating cut-out disk *o* holds this lever *b* in the raised position, as shown in Fig. 7, in which it is not encountered by the cam *d*. In Fig. 8 the disk *o* has allowed the pivot or axis of rotation to drop, whereby the free end of the lever *b* comes into the path of the cam *d*, and consequently the lever is tilted up. After the release by the cam *d* the lever *b* assumes the position shown in Fig. 9 until the disk *o* again raises it into the position shown in Fig. 7.

I declare that what I claim is—

1. In a device of the class described, the combination with a plurality of filters, a double-arm lever connected to the filters by the opposite terminals thereof, a rocking arm having connection with the lever at a point intermediate its ends, a lever pivotally connected at a fixed point and to the rocking arm, a rotary tripping member, a rotatable element having a cam-slot, a link member connected to the pivotal lever and engaging the cam-slot for shifting the rocking arm horizontally into and out of the path of the tripping member so that the latter may act upon the free end of the rocking arm to cause periodical stretching and sudden releasing of the filters.

2. In a device of the class described, a casing having a communication at the top thereof forming a discharge-spout, a plurality of normally slack filters arranged in rows and connected with each other, a double-arm lever connected at opposite terminals thereof to the filters, a rocking lever exterior of said casing and having a slot near one terminal thereof, a link member connected to the double arm intermediate its ends and mounted in the slot, an oscillatory lever pivotally connected to the exterior of the casing and to the

rocking arm, a rotatable tripper-arm mounted on said casing, a revoluble member having a cam-slot, and a link connected with the oscillatory lever and in engagement with the slot to cause the rocking lever to move horizontally into and out of the path of the tripper-arm for periodically stretching and suddenly releasing the filters

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILHELM FRIEDRICH LUDWIG BETH

Witnesses:
ERNST ADOLF BUCHOLTZ,
W. OTTO.