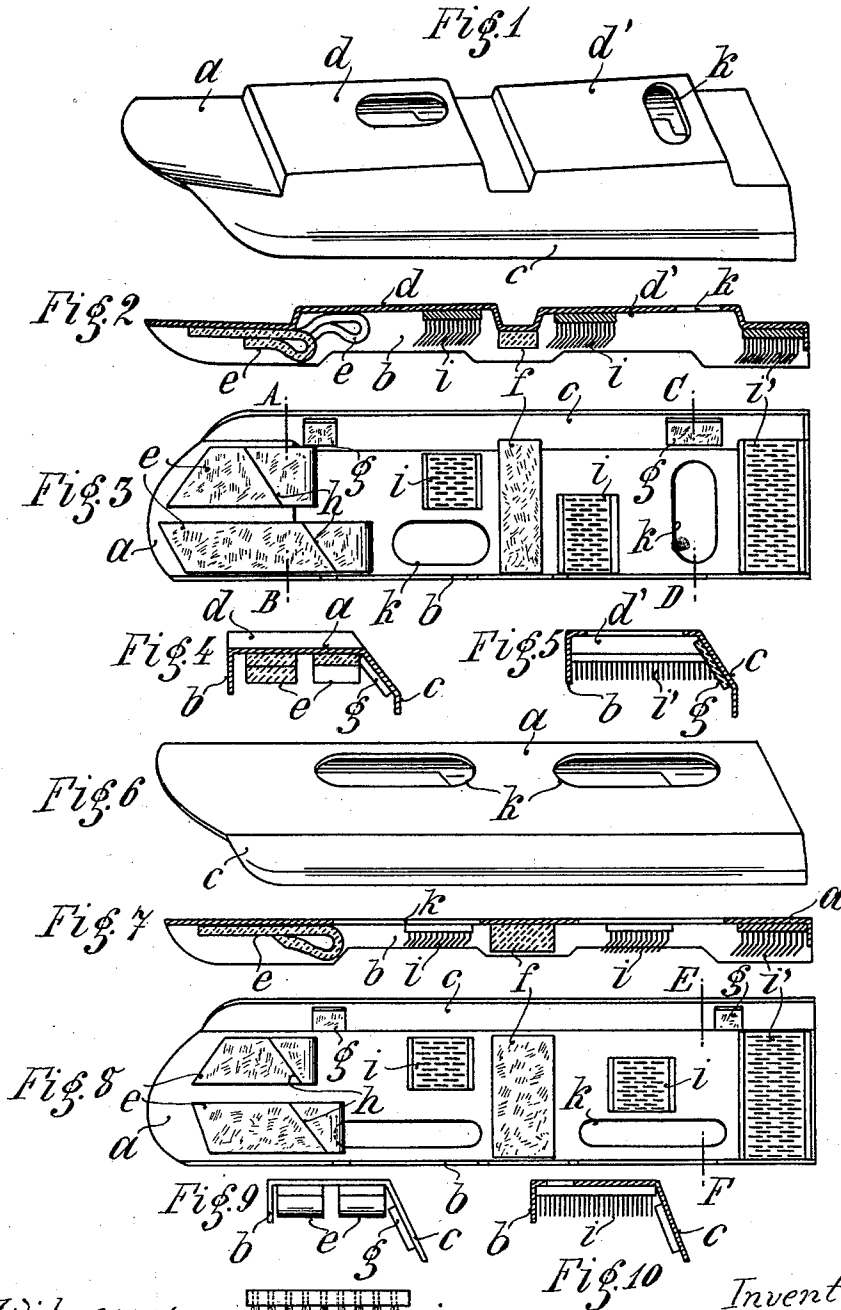


A. BRUNNER.
CLEANING DEVICE.
APPLICATION FILED APR. 5, 1913.

1,085,662.

Patented Feb. 3, 1914.

2 SHEETS-SHEET 1.



Witnesses:-

S. Brashers

M. Newcomb



Fig. 11

Fig. 10

Inventor:-

Arnold Brunner

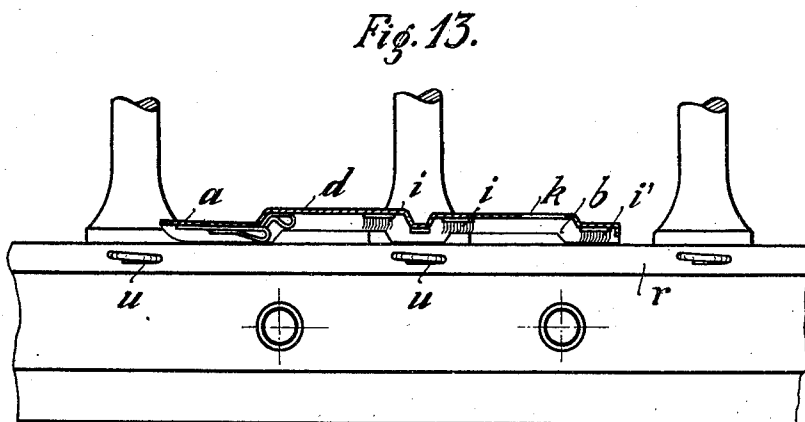
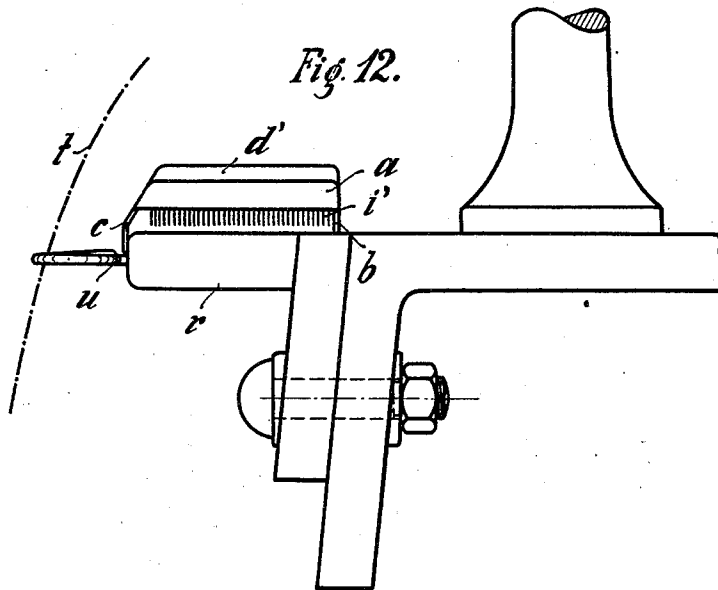
by Paul D. Phillips
attorney

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Witnesses:-
D. F. Schilling
Hermann Knoch

Inventor:-
Arnold Brunner
by *D. F. Schilling*
his attorney

UNITED STATES PATENT OFFICE.

ARNOLD BRUNNER, OF MUNICH, GERMANY.

CLEANING DEVICE.

1,085,662.

Specification of Letters Patent.

Patented Feb. 3, 1914.

Application filed April 5, 1913. Serial No. 759,160.

To all whom it may concern:

Be it known that I, ARNOLD BRUNNER, a subject of the German Emperor, and residing at Munich, Bavaria, German Empire, have invented certain new and useful Improvements in Cleaning Devices, of which the following is a specification.

The present invention has reference to certain new and useful improvements in cleaning devices, and relates more particularly to an improved construction of cleaning tool for cleaning the board or rail which carries the thread guides in ring spinning and twisting machines.

I am aware that there are already known certain thread board cleaners with partial felt lining and a small dust collecting chamber, but these cleaners cannot completely take up and retain the dust and other waste owing to their construction, but simply shove ahead these impurities and let them drop out at the sides and at the rear, thereby occasioning slipping and soiling of the threads. The cleaner according to this invention, which effectively does away with these drawbacks, is made up of several dust-chambers, arranged behind one another, and each one being provided with felt linings and a strip of card clothing. Furthermore, each chamber is provided with cut-outs through which the accumulated flue can readily be taken out during operation.

The nature of my invention will best be understood when described in connection with the accompanying drawings, in which—

Figure 1 shows a perspective top view of the device, Fig. 2 a longitudinal section, and Fig. 3 a view from below. Fig. 4 represents a cross-section on line A—B, and Fig. 5 a cross-section on line C—D of Fig. 3. Fig. 6 represents a perspective top view of a modification. Fig. 7 a longitudinal section, and Fig. 8 a view from below thereof. Fig. 9 represents a front elevation, Fig. 10 a cross-section on line E—F of Fig. 8, and Fig. 11 a constructional detail. Fig. 12 shows a rear view of the cleaner in operative position on the thread board; Fig. 13 represents a side view thereof, with the cleaner in longitudinal section.

Referring to Figs. 1-5, the top plate is preferably of sheet metal and integral with the two side cheeks *b* and *c*, of which the latter *c*, which is wider than the cheek *b*, extends at an obtuse angle, in order to keep it away from the threads when in use on the

thread board. The narrower cheek *b* is provided with recesses *l* which aid in gathering the flue. To the roof of the tapering front end is secured a felt tongue *e*, preferably consisting of two halves with oppositely disposed front edges, as clearly shown in Fig. 3. At the rear end these two cloth strips are bent double, forming loops with slantingly extending front edges *h*. Back of these loops is provided the first chamber *d*, whose rear wall is formed by a depression *m* in the top plate *a* and a strip of felt *f* secured thereto, and back of this felt bridge *f* is a second chamber *d'*. Within each chamber is provided a card *i*. The cheeks *b* and *c* may be lined internally with cloth strips *g* (Fig. 5) for further aiding in cleaning. The front edges *h* of the double-back parts of the felt tongue *e* extend in a slanting direction across the tool for the purpose of preventing the dust from heaping up, and for leading it toward the inner side of the thread board. This is of importance in machines with perforated thread board, as otherwise the dust would fall through these perforations. The tops of the chambers *d*, *d'* are somewhat depressed toward the front, so that the cards *i* lie at different heights, and the card *i'*, which closes the rear chamber, is still further depressed, preventing any egress of dust at this extremity.

In place of the cards, or for supplementing them, brushes *j* (Fig. 11) may be employed.

In Figs. 6-10 is shown a modified construction, in which the top plate is perfectly flat, and the chambers are formed simply by a heavy cross piece of felt *f* or the like, and cards *i*, *i'* of increasing tooth length are used.

In the top plate of both constructions shown there may be provided cut-outs *k* opening into the respective chambers, through which the accumulated flue may be removed with the fingers, in case so much dust collects in cleaning that the cleaner cannot hold it all before reaching the end of the thread board.

In use the cleaner is placed on top of the thread board *r* (Figs. 12 and 13) at the side and is advanced thereon by hand, preferably in jerks, its depending cheek *c* gliding on the straight shanks of the eyes *u* for the threads *t*, and it completely incloses the respectively covered portion of the thread board, the narrower cheek *b* resting

on top of the thread board. The height of the cheeks is so chosen that there is formed a hollow space between the thread rail and the cleaner, which is then made tight by the felt tongue *e*, the linings *g*, the felt bridge *f* and the cards *i*, *i'*. On advance of the tool the dust lying on the thread board will be gathered by the felt tongue into a tuft, and on this tuft becoming large enough it will detach itself from the tongue and be successively carried into the chambers *d*, *d'* and carried along therein. The flue may then be removed through the cut-outs in the top plate or be shaken out below. A soiling of the threads is effectively prevented, and since the friction of the cleaner on the thread board is more pronounced at the narrower cheek and the felt strips, the tool has the tendency to turn away from the thread side, which greatly improves the operation.

The thread board is quickly and thoroughly cleaned with such a tool without the threads being dirtied or slipped, and at the same time a commercially valuable flue is handily gathered.

What I claim is:—

1. In a cleaner of the character described, in combination, a frame comprising a top plate, a narrow recessed cheek and a wide, angularly extending cheek, said frame so shaped as to present succeeding chambers with slanting roofs, a felt bridge separating

said chambers, a card in each said chamber, and a card forming the rear wall of the rear chamber, a felt tongue at the front part of said frame, and means for allowing removal of the accumulated flue from said chambers from above.

2. A cleaner of the character described, comprising in combination, a top plate with tapering front end, a narrow recessed cheek and a wide cheek, the former extending rectangularly and the latter at an obtuse angle from said top plate, a two-part felt tongue folded back at the rear end, its front edge approximately conforming to the front edge of said top plate and its folded-back rear edge extending obliquely across the width of said tongue, a felt bridge dividing the tool into two chambers, said top plate being provided with a cut-out for each said chambers, a card in each chamber, a card forming the rear wall of the rear chamber, each of said cards being closer to the bottom plane of the tool than the preceding one, and auxiliary cloth strips at the side cheeks.

In testimony whereof I affix my signature in presence of two witnesses.

ARNOLD BRUNNER.

Witnesses:

A. V. W. COTTER,

H. O. OSGOOD.