

(No Model.)

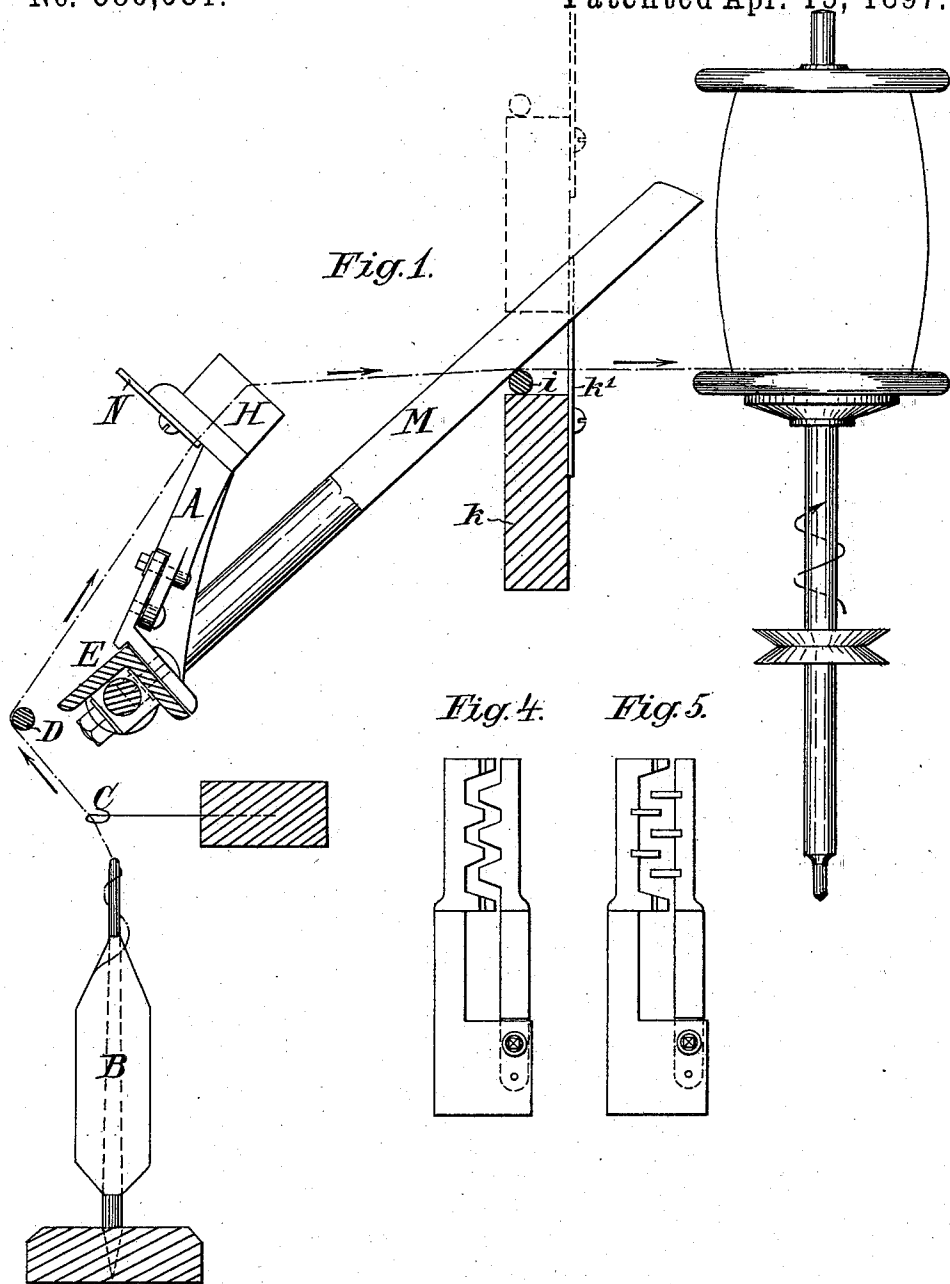
2 Sheets—Sheet 1.

L. DRACH.

APPARATUS FOR CLEANING TEXTILE FIBERS.

No. 580,681.

Patented Apr. 13, 1897.



WITNESSES.

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INVENTOR:

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BY

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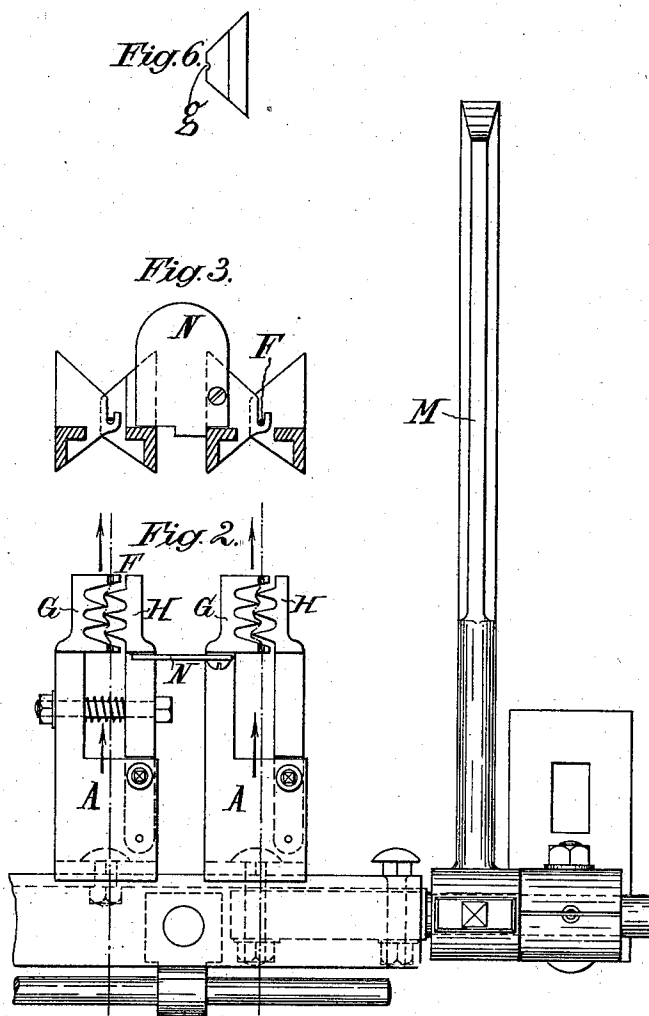
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UNITED STATES PATENT OFFICE.

LOUIS DRACH, OF BÜHL, GERMANY.

APPARATUS FOR CLEANING TEXTILE FIBERS.

SPECIFICATION forming part of Letters Patent No. 580,681, dated April 13, 1897.

Application filed April 23, 1896. Serial No. 588,709. (No model.)

To all whom it may concern:

Be it known that I, LOUIS DRACH, a subject of the Emperor of Germany, residing at Bühl, in the Empire of Germany, have invented new and useful Improvements in Apparatus for Cleaning Textile Fibers in Winding-Machines or other Similar Machines, of which the following is a specification.

For removing in reeling the impurities adhering to textile fibers, such as husks, straw, knots, and the like, fine shags or brosses have hitherto been used over which the threads were passed. These means have, however, the drawback that they do not sufficiently clean the thread and that they tear out from the thread also good fibers and accumulate them, so that the down which is formed is carried away by small thicknesses or small knots in the thread and transmitted to the bobbin. Another drawback consists of the difficulty of controlling by the said means the tension of the thread.

This invention has for its object to avoid these inconveniences; and it consists in certain features of construction and arrangement hereinafter described and claimed.

Reference is to be had to the accompanying drawings, in which—

Figure 1 is a side elevation, with parts in section, of my improved machine. Fig. 2 is a plan of said machine. Fig. 3 is a cross-sectional elevation of the cleaning device proper. Figs. 4 and 5 are plan views showing modified constructions of the cleaning-teeth, and Fig. 6 is a separate plan view of one of said teeth.

Like letters refer to like parts in all the views.

From the cops B, Fig. 1, or from the reel carrying the yarn to be wound off the threads pass through thread-guides C over the rod D and enter the cleaning device. This device consists of two toothed jaws G and H, as indicated in the plan view of Fig. 2, the teeth of which enter between those of the companion jaw to a suitable depth and between which the thread is led through in a broken or zig-zag line. According to the number, quality, and tension of the thread the toothed jaws are removed from or approached to each other. The jaw G may be cast in one piece with the lengthening A, serving to secure the cleaning apparatus to the winding-machine, while the

other jaw H is connected in an adjustable manner with the jaw G by means of hinge and screw-bolt or the like.

For guiding the thread between the teeth of the jaws G and H the fore and rear tooth is provided with a hook F, as shown in the cross-section of Fig. 3. Each thread is led through a cleaning device and there are secured therefor, by means of screws to an angle-iron E, Fig. 1, as many such devices as there are led threads on one side to the winding-machine. The angle-iron E is pivotally mounted on the frame of the machine, and for turning the said angle-iron on its pivot I provide a lever M, supported by a rod *i* of the thread-guide board K. To the latter is fixed by screws the blade of sheet metal K', through the slots of which the threads pass to the bobbins. By raising and lowering the thread-guide board for distributing the coils of the thread upon the length of the bobbin the cleaning devices are also raised and lowered at the same time by the lever M, so that the angle of inclination of the threads, and in consequence also their tension, remains always the same. The teeth of the jaws may be of metal or of any other hard material. They may have the shape of a trapezium, as shown in Fig. 4, or they may be inserted as rectangular plates, as illustrated in Fig. 5, and arranged in any suitable number successively, one behind the other. Moreover, each tooth may have in its middle part a small groove *g*, as shown in Fig. 6, wherein the thread is guided.

At the passage of the thread on the sharp edges of the teeth the impurities, such as husks, straw, and movable fibers (dead cotton) are scraped out, knots are removed, and weak parts of the thread are torn, so that at the later warping and dressing a rupture of the threads will happen less frequently. Furthermore, owing to the adjustable arrangement of the teeth the tension of the thread can exactly be controlled. In the former constructions a frequent cleaning of the device was necessary. This is in the present invention avoided, and, moreover, the wear of the described arrangement, and in consequence the expenses, in comparison with the use of shag, plush, or brosses, are extremely small. Between each two cleaning devices a guide-plate N, the upper part of which is semicircularly

shaped, is screwed (see Figs. 1, 2, and 3) for facilitating the introduction of the thread into the toothed portion of the device.

I claim—

- 5 1. A device for cleaning textile fibers, comprising a fixed toothed jaw, and a toothed jaw pivoted at one end to the fixed jaw, the teeth of one jaw being arranged to partly overlap the teeth of the opposing jaw, the pivot connecting the jaws being arranged at one side of a median line drawn longitudinally through the toothed portions of said jaws, a bolt adjustably connecting the pivoted jaw with the fixed jaw, the said bolt being located between 10 the pivot and the free ends of the jaws, and means for drawing the thread through the jaws, substantially as described.
2. The combination with a device for cleaning textile fibers, comprising jaws provided 20 with teeth arranged to form a zigzag path for

the thread of a pivoted support upon which said jaws are mounted, a thread-guide board through which the thread passes to the bobbin, a lever connected at one end with the pivoted support for the jaws, and having its free 25 end supported on a rod connected with the thread-guide board, whereby when the thread-guide board is raised and lowered to distribute the coils of thread upon the bobbin, the cleaning device is also raised and lowered by the 30 lever and the angle of inclination of the threads and their tension is maintained, as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of 35 two subscribing witnesses.

LOUIS DRACH.

Witnesses:

E. SCHAEFFER,
LATSCHAZ.