H. L. OFFERMANN.

GILL BOX DRAWING HEAD.

APPLICATION FILED JULY 18, 1908.

960,107. Patented May 31, 1910.

Fig. 1.

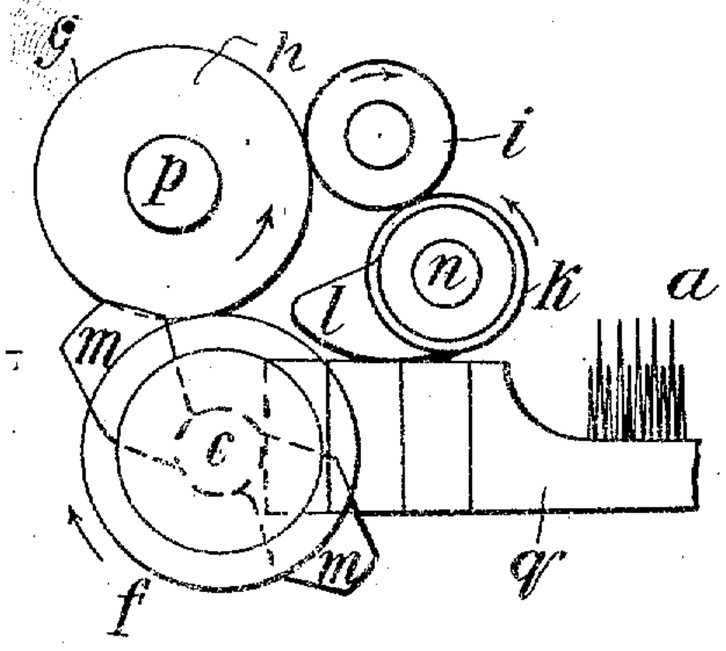


Fig. 2.

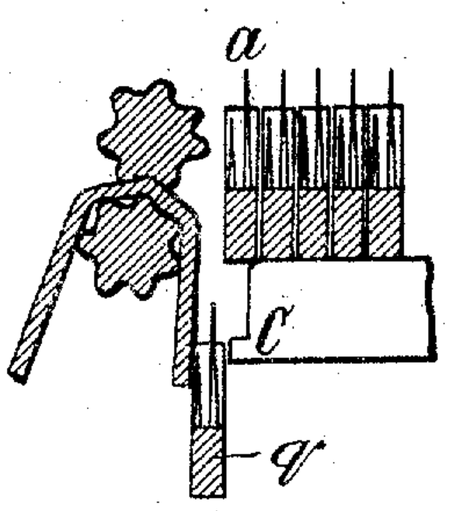


Fig. 3.

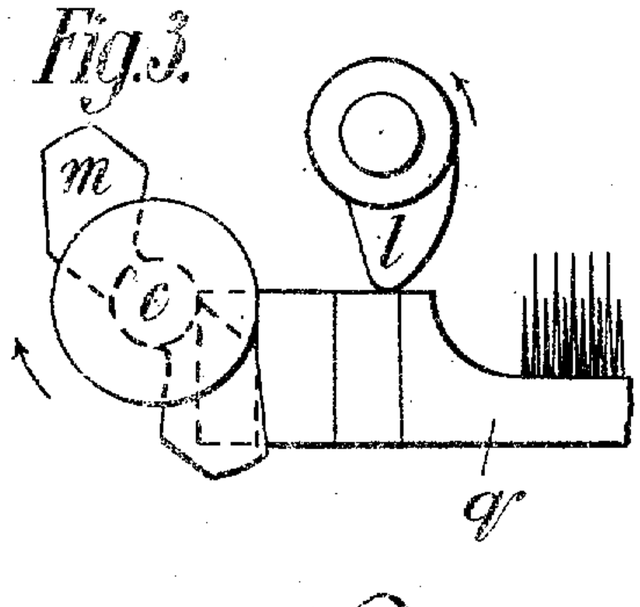


Fig. 4.

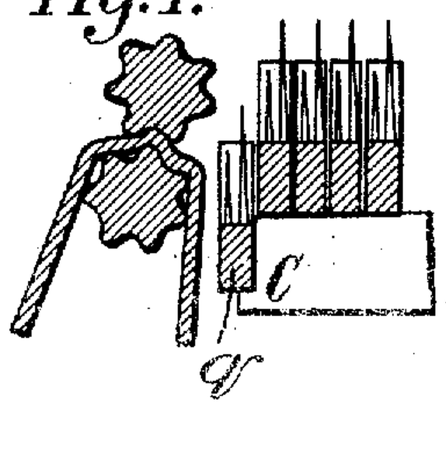


Fig. 5.

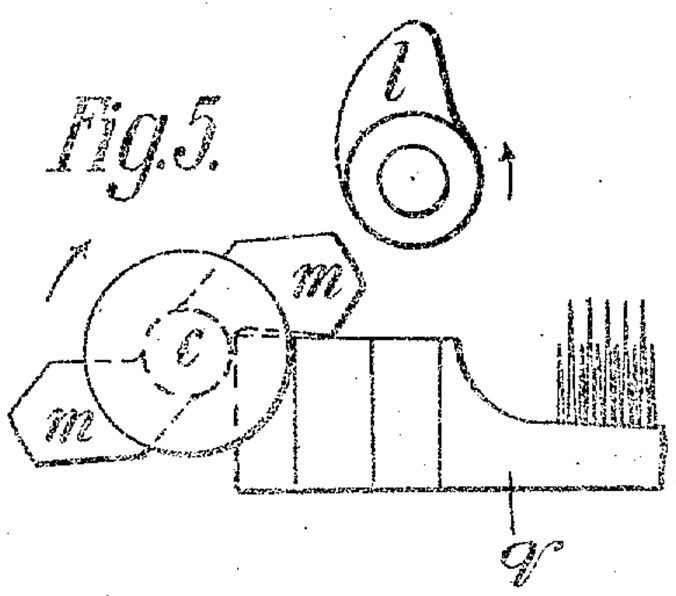


Fig. 6.

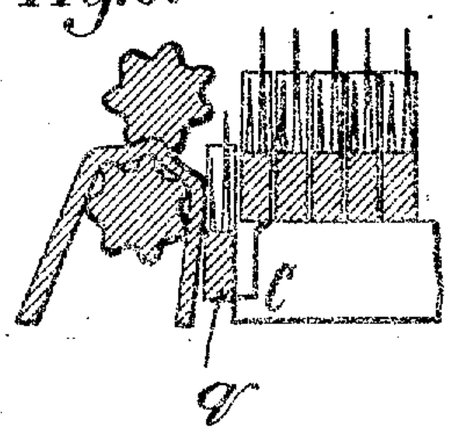


Fig. 7.

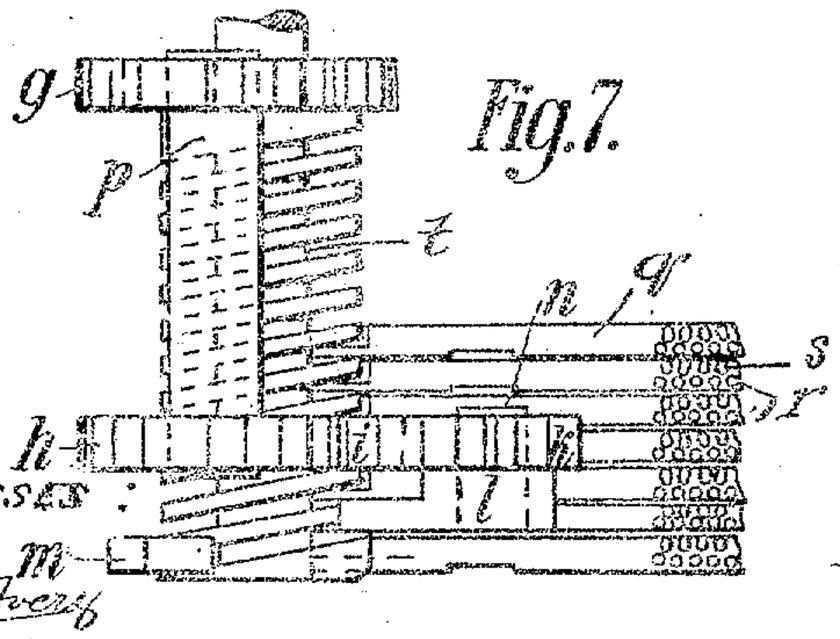
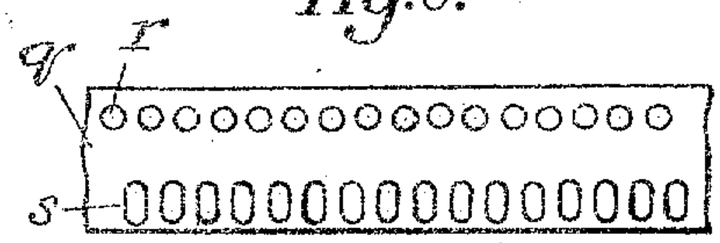


Fig. 8.



WITNESSES:

W. M. Avery

W. Harrison.

INVENTOR

Hubert Leopold Offermann

BY Munn & Co.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

HUBERT LEOPOLD OFFERMANN, OF LEIPZIG, GERMANY.

GILL-BOX DRAWING-HEAD.

960,107. Specification of Letters Patent. Patented May 31, 1910.

Application filed July 18, 1908. Serial No. 444,242.

To all whom it may concern:

Be it known that I, HUBERT LEOPOLD OFFERMANN, a subject of the King of Saxony, residing at 21 Bismarkstrasse, Leipzig, Germany, have invented certain new and useful Improvements in Gill-Box Drawing-Heads; and I do hereby declare the following to be a full, clear, and exact description of the invention.

My invention relates to drawing heads, used in connection with fallers in textile work, and more particularly to fallers having two rows of pins, the back row which is so much higher than the front row that when the front row has left the sliver the back row still remains therein, and in which the withdrawal of the fallers is accomplished in such a manner that the pins of the front and shorter row are first withdrawn and the withdrawal of the pins of the back row is only accomplished when, through the further progress of the faller, this row has reached a point corresponding to the point at which the front row was depressed. In this drawing process an auxiliary hammer or cam is employed, by means of which the fallers are pressed down on to their intermediate position in such a manner as to allow the withdrawal of the front row of pins from the sliver. In the construction used heretofore, owing to the limited surface on which the auxiliary hammer has to work on the fallers, both are subject to much wear, so that the lowering of the fallers is more or less uncertain, and as the auxiliary hammer forms one piece with the gill screw—being too small to be screwed or soldered on to the same—it has been necessary, in the case of excessive wear, to replace this part by the expensive expedient of an entirely new gill screw. This disadvantage I seek to overcome, by providing a large wearing surface, and by so connecting the auxiliary hammer that the latter is driven by a set of wheels connected with the guiding screw. This is done in such a manner that the action of the main hammer and of the auxiliary hammer on the fallers is accomplished alternately and at the desired moment. Another disadvantage is that when the faller is in its intermediate position, the projecting part of the back row of pins is subject to the same tendency in the uppermost position of the faller as the front and shorter row, with the result that the back pins are inclined to penetrate farther than the front pins, by which they expose themselves to the greater influence of the drawing rollers. This disadvantage is overcome by the back row being composed of flat pins, whose cross section is calculated in such a manner that the projecting portion possesses the same power of resistance against being pushed through as the front pins.

In the accompanying drawing—Figures 1 and 2 show in front view a portion of a drawing head at the moment of the commencement of the action of the auxiliary hammer. Figs. 3 and 4 show the same parts as they appear at the expiration of its action. Figs. 5 and 6 show the mechanism as it appears at commencement of action of the main hammer. Fig. 7 shows in plan view a portion of the drawing head together with the guide screw and the set of wheels driving the auxiliary hammer, and Fig. 8 shows a faller whose front row is composed of round pins, whose higher and back row of pins are flat.

On the axle *c* of the guide screw is fixed a toothed wheel *f* which, by means of the wheel *g* drives a short shaft *p* (Fig. 7). On this shaft a wheel *h* is placed which by means of an intermediate wheel *i* drives the auxiliary hammer *l* which is connected with the wheel *k* and turns around the pivot *n*. As the wheels *f*, *g*, *h*, carry twice the number of teeth as the wheel *k*, the motion of the auxiliary hammer corresponds to that of the main hammer in such wise that each stroke or blow of the auxiliary hammer is followed at the proper interval by one from the main hammer. By this arrangement the striking surface of the auxiliary hammer is a larger one and the wear consequently minimized.

The faller *a* being in the position indicated in Figs. 1 and 2, is engaged by the auxiliary hammer *e* and thus forced downwardly until it engages the intermediate step C shown in Figs. 3 and 4. The action of the machine being continued, the faller finally arrives at the end of the gill screw as indicated in Figs. 5 and 6 and it is there engaged by the main hammer *m* and thus forced entirely down.

I claim—

1. In a drawing head for gill boxes, a faller having rows of pins, the pins of one row being of greater length than the pins of the other row, a main hammer, an auxiliary hammer, the hammers being mounted on

different axes, and means for operating the hammers alternately and at intervals.

2. In a drawing head for gill boxes, a faller having rows of pins, the pins of the rear row being of greater length than the pins of the front row, a rotary main hammer, a rotary auxiliary hammer mounted on the shaft adjacent to the main hammer shaft, a guide screw, and gearing for operating the auxiliary hammer from the guide screw.

HUBERT LEOPOLD OFFERMANN.

Witnesses:
RUDOLPH FRICKE,
SOUTHARD P. WARNER.