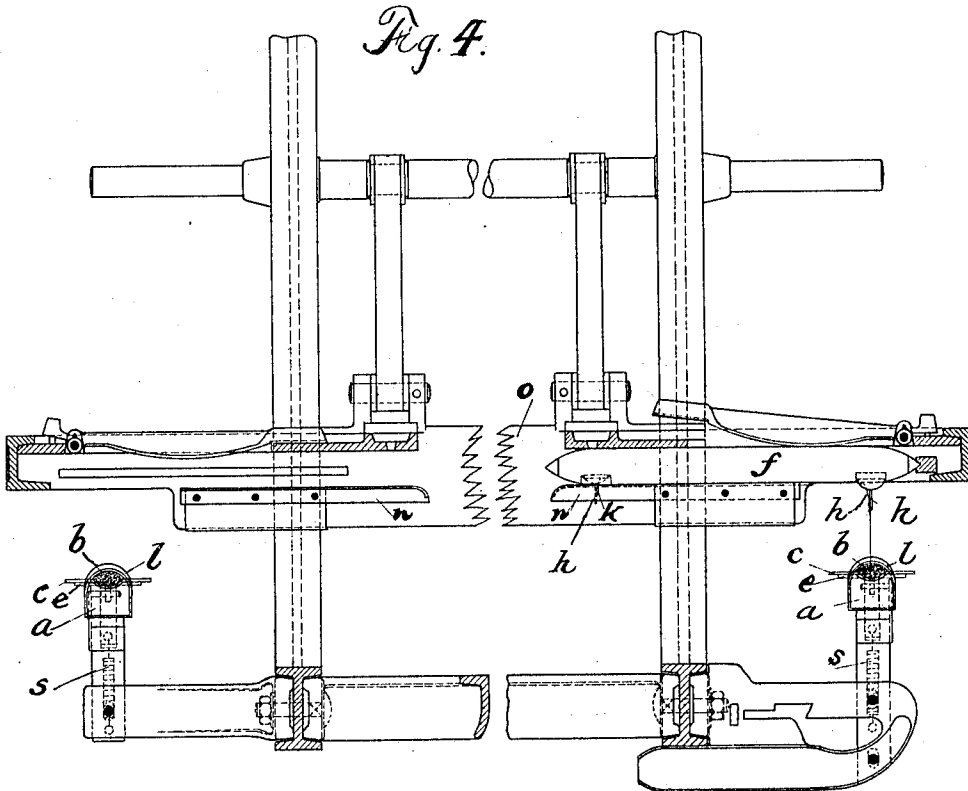
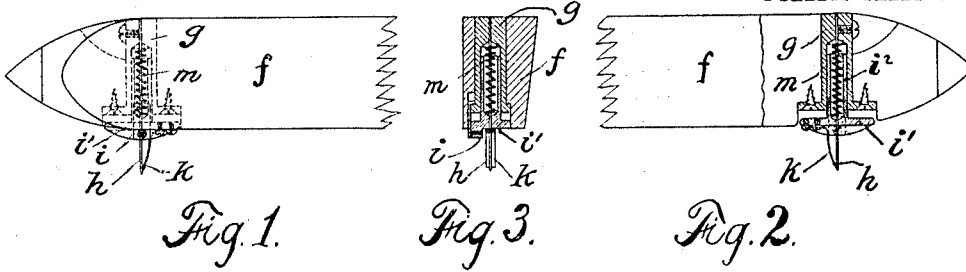


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HAIRCLOTH LOOM.
APPLICATION FILED SEPT. 20, 1911.

1,054,249.

Patented Feb. 25, 1913.

2 SHEETS—SHEET 1.



Witnesses.
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1,054,249.

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2 SHEETS—SHEET 2.

Fig. 5.

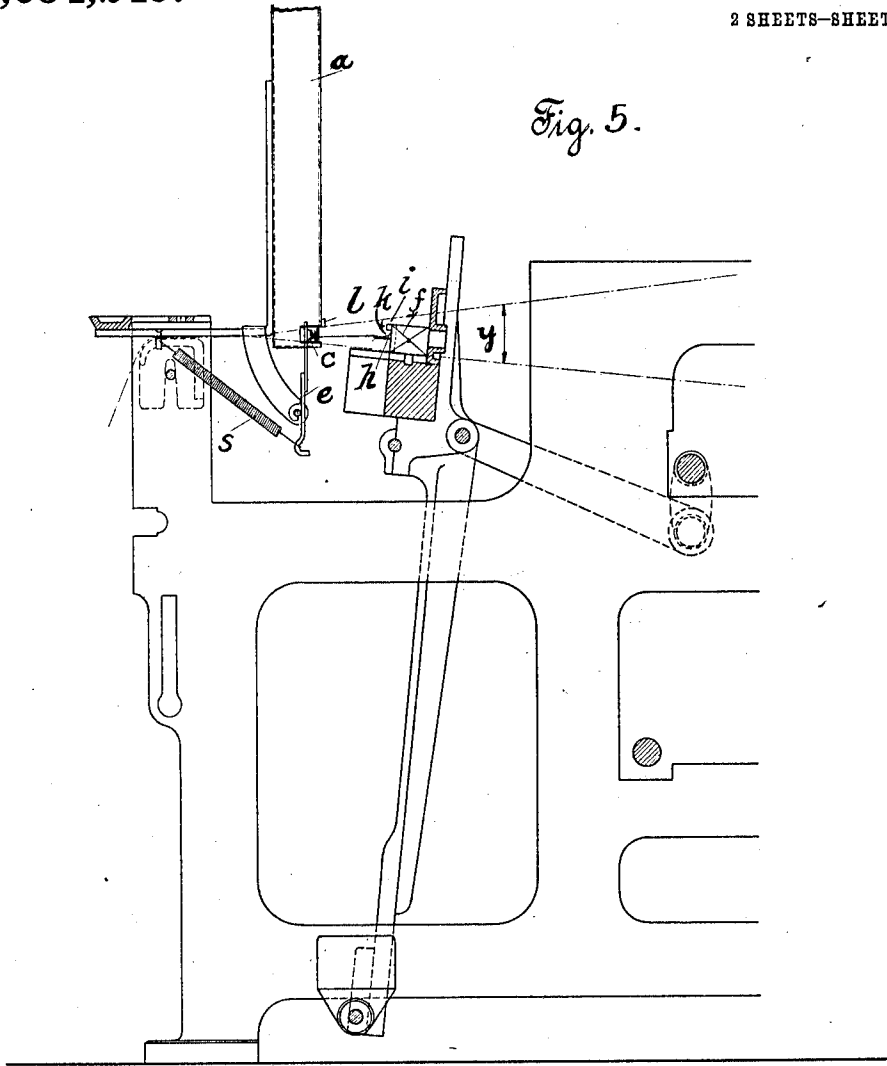


Fig. 6.

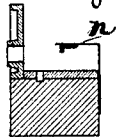


Fig. 8.

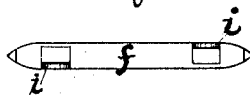


Fig. 7.

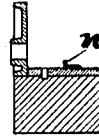
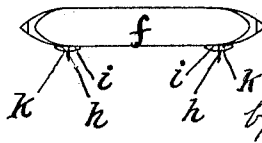


Fig. 9.



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HAIRCLOTH-LOOM.

1,054,249.

Specification of Letters Patent.

Patented Feb. 25, 1913.

Application filed September 20, 1911. Serial No. 650,302.

To all whom it may concern:

Be it known that I, KARL HEINRICH STÖBBE, a subject of the King of Saxony, residing at Chemnitz, in the Kingdom of Saxony, German Empire, have invented certain new and useful Improvements in Haircloth-Looms, of which the following is a specification.

My invention relates to a device for withdrawing individual horsehairs by the shuttle of a loom from a stock of horsehair in vertical boxes or receptacles. Devices for removing individual horsehairs from a stock of horsehair are well-known, but the same do not remove only a single hair with certainty.

An important object of my invention is to provide a gripper which is closed while its most important parts are still in the stock of horsehair.

A further object is to provide such a gripper which is opened by a spring-pressed stop being struck as soon as the needle point and its spring have entered into the bundle of hairs, while the gripper closes as the slay retreats, so that one hair is caught between the small hook of the gripper and its spring and is inserted into the shed.

The subject-matter of my invention is a gripper for the shuttles of haircloth looms, in which the horsehair, contained in vertical boxes each of which are provided with a pressing device, are presented before the blow of the slay to the shuttle provided at each end with a gripper which opens by impacting on a spring-pressed stop as soon as the needle point and its spring have entered into the bundle of hair, while the grippers are closed by spring-pressure when the slay moves backward.

One illustrative embodiment of my invention is represented by way of example in the accompanying drawing, wherein:—

Figure 1 is an elevation of the one end of the shuttle provided with my improved gripper, Fig. 2 shows the other end of the shuttle, the gripper being shown in sectional elevation, and Fig. 3 is a transverse section through the gripper taken on the line X—X in Fig. 2; Fig. 4 is a top plan view of parts of a loom showing the arrangement of the horsehair receptacles and the slay, the shuttle being shown in its right-hand position. Fig. 5 is a vertical section of a portion of the loom showing the relation of the hair cans or magazines and slay,

and the relation of the throttle to the shed. Figs. 6 and 7 are cross sections illustrating the bars on the slay that open the grippers. Fig. 8 is an elevation, and Fig. 9 is a plan of the shuttle.

Referring to the drawing, *a* designates receptacles or cans each containing a stock of horsehair *b*; a small rod *c* traversing each can is pressed by the spiral spring *d* with the aid of a forked intermediate lever *e* toward the incision in the front of each can *a* in order always to hold the ends of the hairs together. Each can *a* has a stop or abutment *z*. Each end of the shuttle *f* is provided with a gripper. This comprises a flanged socket *g* let into and secured in the shuttle, the hooked needle *h* secured in the end of the socket, an end plate *i*¹, carrying the clamping spring *k*, and having a tubular projection *i*² surrounding the needle and guided in the socket, the spring *m* in the tubular projection tending to press the end plate outward, and a catch *i*, having a projecting head, clasping the flange of the socket *g* and the end plate *i*¹ and so arranged that it can push the latter inward and compress the spring *m*. The shuttle runs in the slay *o*, on which the striking bars *n* one at each end of the slay are so arranged that when the shuttle is thrown, the catch *i* is moved backward when the hair is to be released by the gripper. To this end, I arrange the head of the catch *i* at the one end plate *i*¹ above and at the other end plate below the level of the needles.

The improved grippers operate as follows:—Shortly before the blow of the slay and after a needle *h* and its spring *k* have entered into the bundle of horsehairs *b* in a can *a*, the gripper is opened owing to the head of the catch *i* striking on one of the projections *l*, whereby the end plate *i* and the spring *k* thereon are driven backward, so that between the latter and the hook of the needle a small space is made which is at once filled by adjacent hairs. As soon as the slay *o* removes from the projection *l* the spiral spring *m* presses the end plate *i*¹ and with it the spring *k* toward the hook of the needle *h*, whereby one hair is gripped. Individual hairs are gripped with certainty owing to both the hooked needle and its clamping spring being still located in the bundle of hairs when they close. As the slays moves farther backward the gripped hair is withdrawn from the receptacle and

inserted into the open shed in well-known manner by the shuttle. As the shuttle completes its passage through the shed *y* it comes in contact with one of the bars *n* which depresses the catch *i* and releases the hair. The catches and needles are at the side of the shuttle. One catch *i* is above the needle and the other is below, the bars *h* being similarly situated.

10 I claim: —

1. In a hair-cloth loom, the combination of stationary receptacles for horsehair, with a shuttle having a gripper arranged laterally at each end thereof, each gripper being adapted to enter into one of the receptacles, and comprising a hooked needle fixedly mounted in the shuttle and a spring contacting with the needle and displaceable relatively thereto.

20 2. In a hair-cloth loom, the combination of two stationary receptacles for horsehair, with a shuttle, and a gripper arranged at each end of the latter, each gripper being adapted to enter into one of the receptacles, and comprising a socket fixed in the shuttle, a spring-pressed end plate guided in the socket, a hooked needle fixedly mount-

ed in the socket and projecting through the end plate, and a spring mounted on the end plate and resting against the needle. 30

3. In a hair-cloth loom, the combination of two stationary receptacles for horsehair, each having an abutment and an incision in front thereof, with a shuttle movable from one receptacle to the other, a hooked 35 needle fixedly mounted at each end of the shuttle, and adapted to enter into the incision in one of the said receptacles, an outwardly spring-pressed plate surrounding each needle and movable parallel thereto, 40 and a spring mounted on each plate and contacting with the hooked portion of the appertaining needle, each plate being retained in its outer position by a catch having a head adapted to be driven by the abut- 45 ment on one of said receptacles and drive the appertaining plate and spring thereon away from the hook of the needle.

In witness whereof I have hereunto set my hand in the presence of two witnesses. 50

KARL HEINRICH STÖBBE. [L. s.]

Witnesses:

KURT SINGER,
SIDNEY RICH.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."