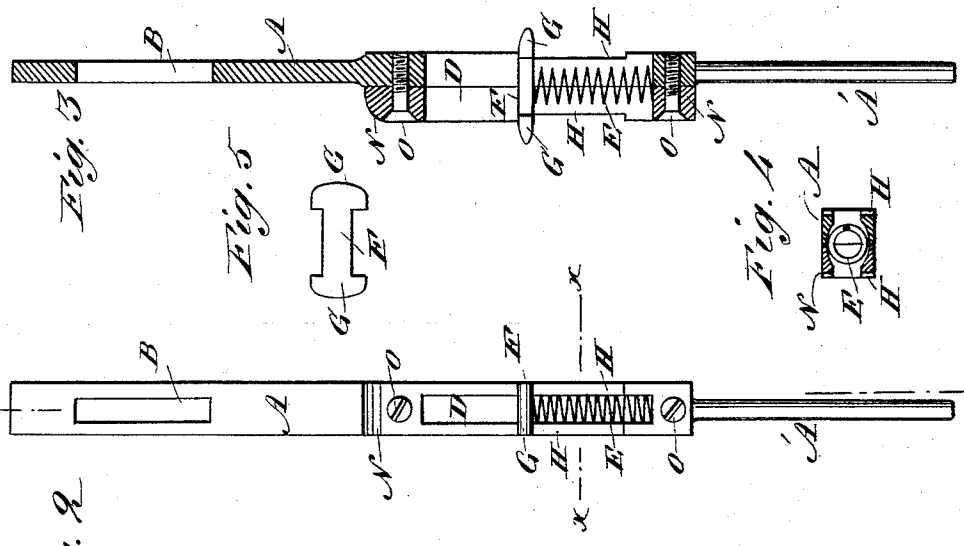
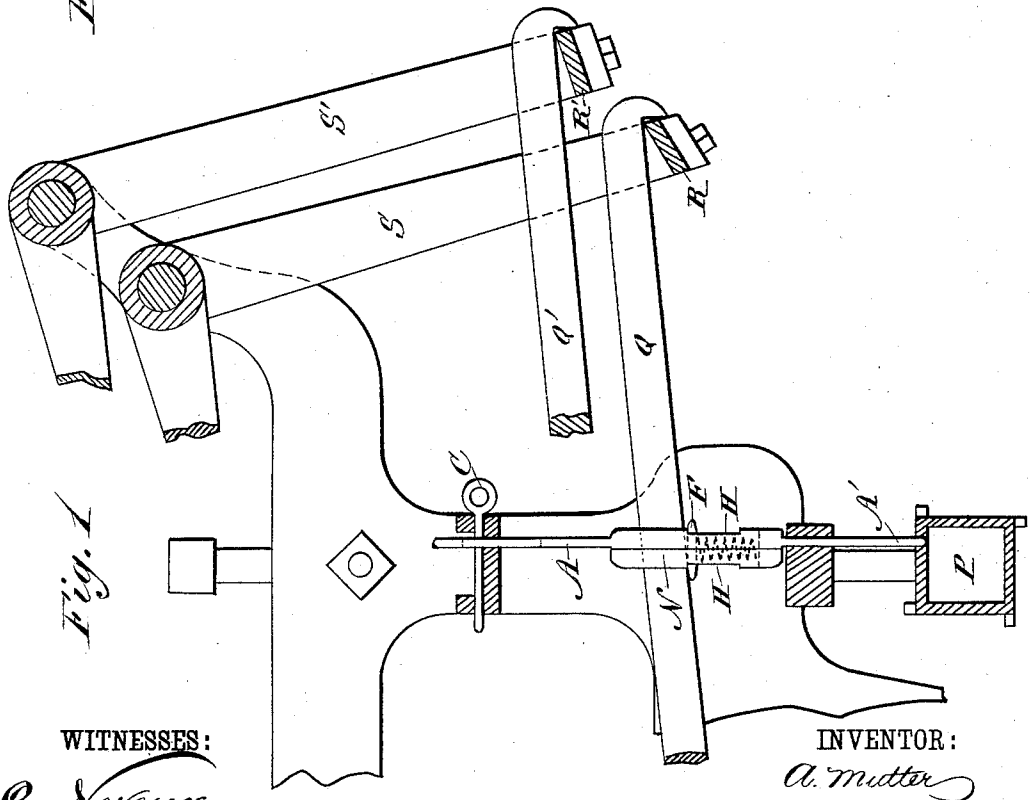
(No Model.)

A. MUTTER.

NEEDLE FOR JACQUARD LOOMS.

No. 327,188. Patented Sept. 29, 1885.





WITNESSES:

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UNITED STATES PATENT OFFICE.

ANDREAS MUTTER, OF PATERSON, NEW JERSEY.

NEEDLE FOR JACQUARD LOOMS.

SPECIFICATION forming part of Letters Patent No. 327,188, dated September 29, 1885.

Application filed March 27, 1884. (No model.)

To all whom it may concern:

Be it known that I, ANDREAS MUTTER, residing in Paterson, in the county of Passaic and State of New Jersey, have invented a new and Improved Needle for Jacquard Looms, of which the following is a full, clear, and exact description.

This invention comprises certain new and useful improvements used in Jacquard looms, such, for instance, as that for which Letters Patent No. 225,852, March 23, 1880, were granted J. Miesch, for adjusting the harness-lifting hooks in such a position that they can or cannot be acted on by the lifting or swinging mechanism provided for the purpose of acting on the said hooks.

The object of my invention is to prevent the needles from punching holes through the Jacquard cards, and also to prevent undue friction and wear.

The invention consists in the construction and arrangement of parts, as will be hereinafter fully described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a longitudinal sectional elevation of part of a Jacquard mechanism showing in side view one of my improved Jacquard needles combined with the said mechanism. Fig. 2 is an enlarged edge view of my improved Jacquard needle. Fig. 3 is a longitudinal sectional elevation of the same on the line *y y*, Fig. 2. Fig. 4 is a sectional plan view of the same on the line *x x*, Fig. 2. Fig. 5 is a plan view of the plate resting on the top of the spring held in the needle.

The needle A is provided at its top with a longitudinal slot, B, through which a pin, C, passes to prevent the needle from dropping.

The needle is preferably made flat, with the exception of the lower end, A′, which is rounded.

The needle A is provided with a longitudinal slot, D, on the bottom of which a spiral spring, E, rests, on the end of which spring a plate, F, rests, which is adapted to slide vertically between the sides of the groove.

The plate F is provided at each end with a flat cross-piece, G.

The sides of the needle are provided in each edge with a recess, H, which extends up to about one-half of the height of the slot D from the top of the same.

The inner edges of the cross-pieces G of the plate F rest against the bottoms of the recesses H, and the shoulders at the top and bottom ends of the recesses form checks for the movement of the plate F. The inner surfaces of the sides of the slot D are slightly recessed, so as to hold the spring E in place, as shown in Fig. 4.

The hooked bar that is controlled in position by the needle is held between the plate F and the upper end of the slot D, and in working with the needle presses against the plate F, which compresses the spring E more or less. The yielding of the spring takes up and counteracts part of the pressure exerted by the above-mentioned hooked bar on the needle.

If the needle is forced against a Jacquard card its end will not punch or perforate the card, as the force by which the end of the needle is forced against the card is to a great extent taken up by the spring in the needle.

The needle can be made of one single piece or of two pieces, as shown, the piece N being held on the body of the needle A by screws O, thus enabling the spring E and the plate F to be placed into the needle or removed from the same very easily and readily.

The needle can be worked in a horizontal or vertical position, and can be used in Jacquard mechanisms of all constructions.

In the Jacquard mechanism shown in Fig. 1 P is the prism.

Q Q′ are the hooked bars connected with the cords from which the harnesses are suspended; R R′, the knives held between swinging arms S S′. The hooked bars Q Q′ pass through the needles between the plates F and the upper ends of the slots D, and the said hooked bars press the needle downward on the prism P. These parts may be operated substantially in the manner in which the corresponding parts are operated in the mechan-

ism shown by the patent to Miesch hereinbefore mentioned.

Having thus described my invention, I claim as new, and desire to secure by Letters Patent—

1. The combination, with a Jacquard needle having a slot, D, and also having recesses H in the side edges, of the spring E, held in the slot, and the plate F resting on or against the same, and provided with end cross-pieces, G, substantially as herein shown and described.

2. A needle composed of a body having a longitudinal slot and a removable piece, N, secured to said body and formed with a longitudinal slot in alignment with that of the body, as shown, combined with a spring held in said slots, substantially as set forth.

ANDREAS MUTTER.

Witnesses:
THOMAS RAU,
MICHAEL RAU.