J. ASBACH.

Loom for Weaving Wire-Fabrics.

No. 206,068. **Patented July 16, 1878**

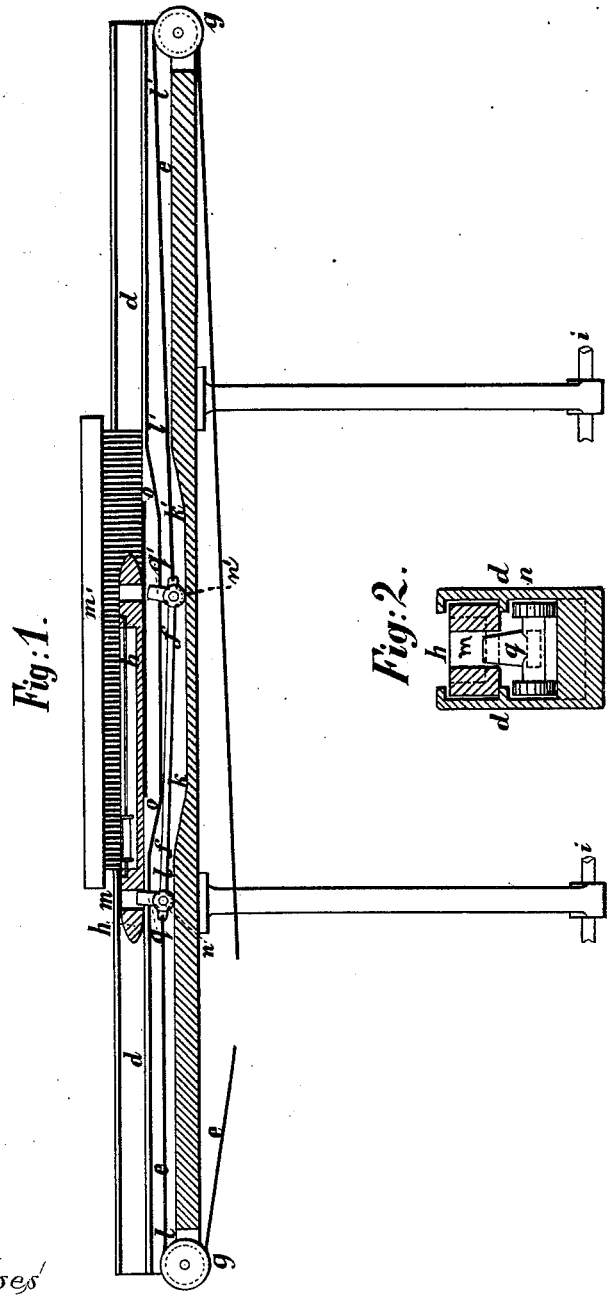

Fig. 1.

Fig. 2.

Witnesses:

Erasmus Paul.

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UNITED STATES PATENT OFFICE.

JOSEPH ASBACH, OF CHEMNITZ, SAXONY.

IMPROVEMENT IN LOOMS FOR WEAVING WIRE FABRICS.

Specification forming part of Letters Patent No. **206,068**, dated July 16, 1878; application filed August 22, 1877.

To all whom it may concern:

Be it known that I, JOSEPH ASBACH, of the city of Chemnitz, Saxony, have invented certain Improvements in Power-Looms for Wire Fabrics, of which the following is a specification:

This invention relates to an improvement in looms for the manufacture of wire fabrics, and especially to the manner in which the shuttle is actuated.

The nature of the invention consists in driving the shuttle by means of a carriage actuated upon its entire course by positive mechanism, the carriage having two lugs or fingers firmly attached to or forming part of the same, which alternately project into holes in the shuttle.

This improved arrangement of shuttle-motion is represented in the annexed drawing, Figure 1 of which shows a longitudinal section of the batten of a power-loom, with the appertaining parts; and Fig. 2, a transverse section thereof, on a larger scale.

The shuttle *h* is made somewhat longer than the width of the fabric to be woven, and the beam *d* of the batten or lathe is about three times as long as the former. Within the beam *d* there is a channel, in the lower part or on the bottom of which a carriage, *f*, is made to move alternately to the right and to the left by means of the cords *e*, passing over the guide-pulleys *g*, and actuated by any suitable mechanism. The middle part, *k k*, of the bottom of the said channel is lower than the ends thereof for a distance about equal to the width of the fabric, and this depressed part of the channel is connected, by short inclines *k l* and *k' l'*, with the higher end parts *l l* and *l' l'*. The wheels *n* and *n'* of the carriage *f* are at such a distance from each other that while those at one end rise on one incline the wheels at the other end descend.

The shuttle *h* moves in the same channel as the carriage *f*, but in a race or way above the latter and in a straight line, being guided by ledges, which form said race or way, as shown in Fig. 2.

The carriage is provided at its ends with the lugs or fingers *q* and *q'*, either rigidly fixed to or forming part of the same, and corresponding with the holes *m* and *m'* in the shuttle.

In the position shown in the drawing, the wheels *n* of the carriage *f* are on the higher part of the channel-bottom, so that the lug *q* projects into the hole *m* of the shuttle and drives the same. The wheels *n'* meanwhile roll on the lower part, *k k'*, of the channel-bottom; consequently the lug *q'* is out of action. Supposing the carriage to be moving toward the right, the wheels *n* will descend on the incline *l k*, while the wheels *n'* rise on the incline *l' k'*, so that the lug *q'* enters into the hole *m'* of the shuttle and acts as the driver, while the lug *q* comes out of action and passes underneath the plate *o*, on which the lower shed of the warp bears. Toward the end of the course of the carriage both lugs *q* and *q'* come temporarily into engagement with the shuttle. The shuttle is thus constantly driven by either one or the other of the lugs of the carriage, and consequently there is always a direct and even pull on the wire constituting the weft.

I am aware that pins or fingers vertically reciprocated in guides attached to a carrier by means of arms or studs traveling in a guideway formed between two bars or plates, and which carriage slides on or between longitudinal guide bars or racks, which pins or fingers alternately engage and drive the shuttle, is not new.

In my improved construction, the fingers driving the shuttle form part of a carriage provided with wheels or bearers, running on the bottom of a channel within the beam of the lathe.

The advantages which this construction presents over the former invention consist in a simplicity of construction, involving a less number of parts, whereby a smaller amount of friction is encountered. A reduction of the driving power may thus be made, great wear and tear of the parts avoided, a greater certainty of action is secured, and a great reduction of the space required for the structure is obtained. Thus many advantages are secured, and the cost of a complex structure avoided.

What I claim, therefore, is—

In a power-loom, the batten *d*, which contains the shuttle-race and a channel or way for its driver, the bottom of which channel or way is depressed near its middle part, in combination with the carriage *f*, having wheels *n* and *n'*, and fixed lugs or fingers *q* and *q'*, and the shuttle *h*, having holes *m* and *m'*, substantially as set forth, and for the purpose described.

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

JOSEPH ASBACH.

Witnesses:

CARL AUGUST VETTERMANN,

CARL SINCHLEGOTT THURMEN.