

March 15, 1927.

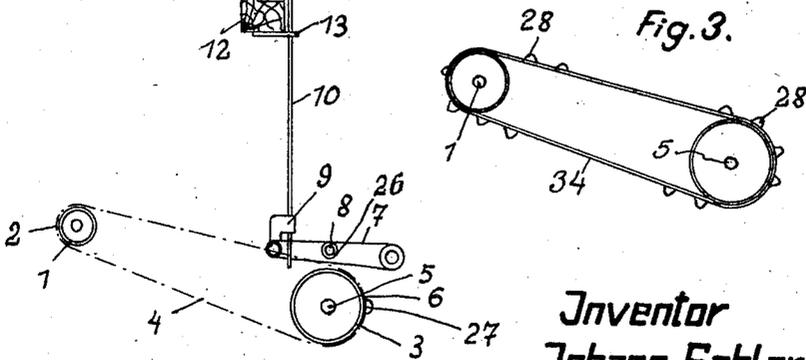
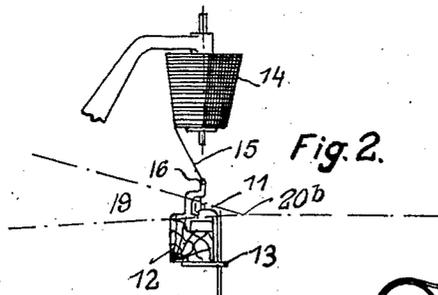
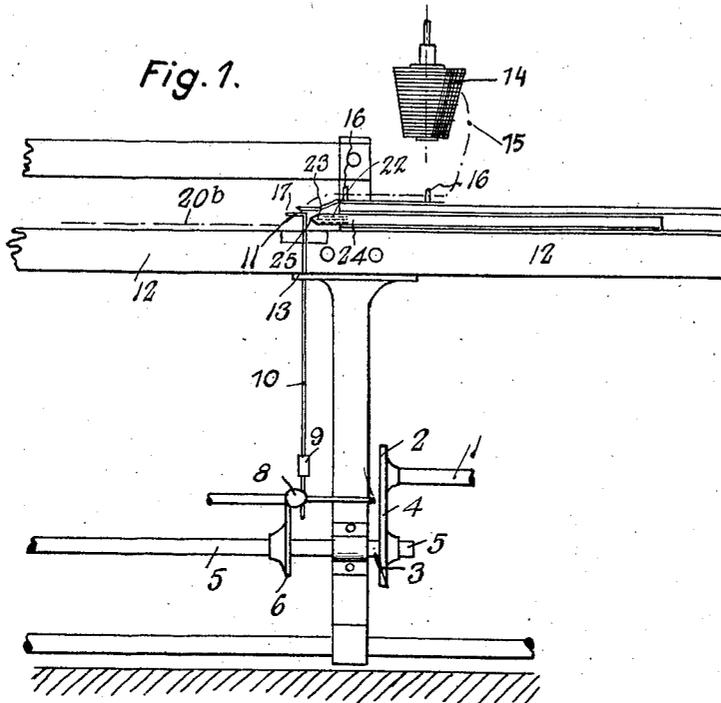
1,620,723

J. GABLER

LOOM FOR WEAVING

Filed Feb. 16, 1925

2 Sheets-Sheet 1



Inventor
Johann Gabler.
By *Edward J. ...*
Pat.

March 15, 1927.

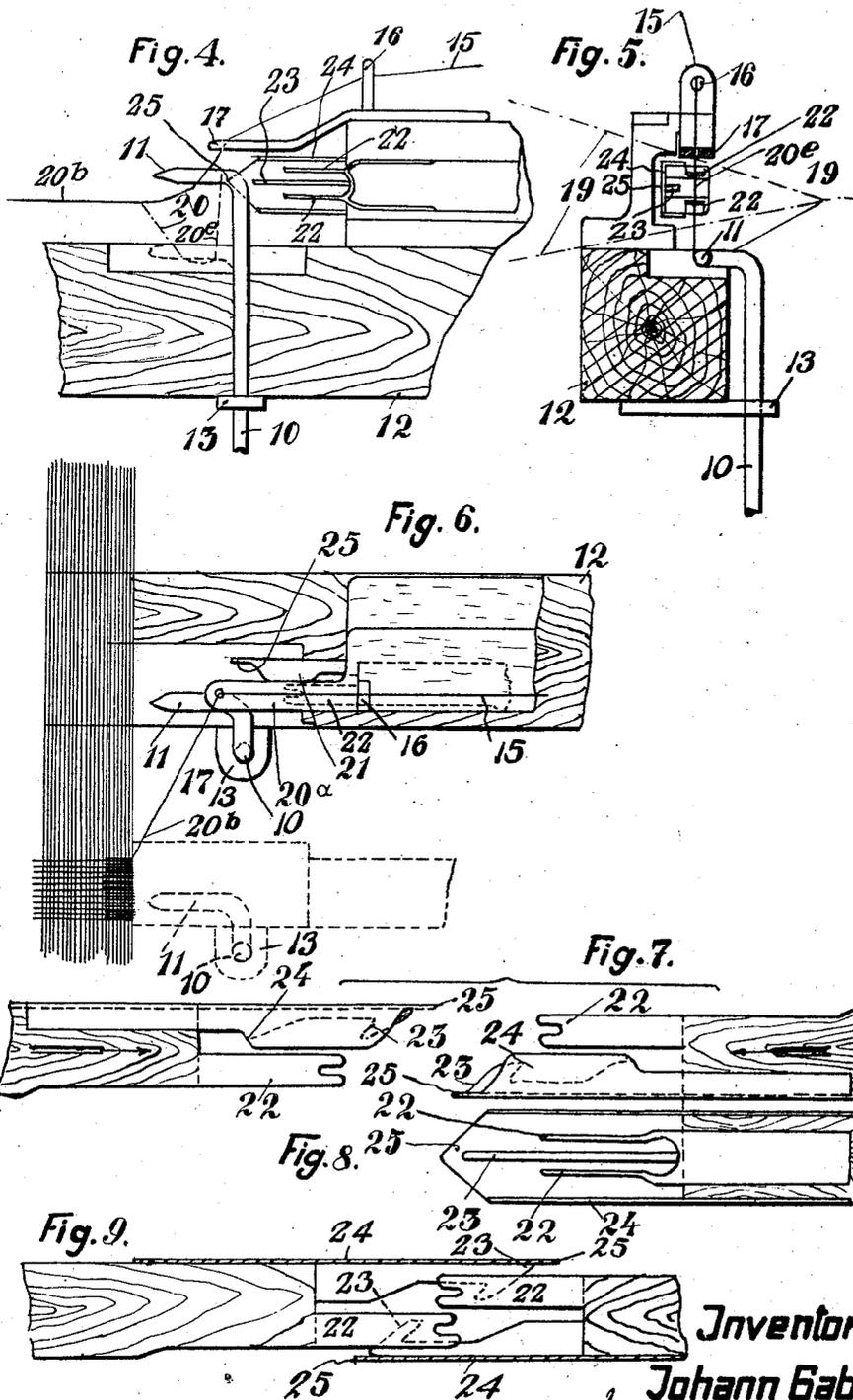
1,620,723

J. GABLER

LOOM FOR WEAVING

Filed Feb. 16, 1925

2 Sheets-Sheet 2



Inventor
Johann Gabler.
by J. Oudersma

UNITED STATES PATENT OFFICE.

JOHANN GABLER, OF ETTLINGEN, GERMANY.

LOOM FOR WEAVING.

Application filed February 16, 1925, Serial No. 9,510, and in Germany February 13, 1924.

This invention relates to improvements in weft inserting mechanism for looms for weaving of the type in which the weft is inserted half way through the shed by means of a weft rod or needle and taken the remainder of the distance by means of a hook device.

According to this invention a combined weft insertion and withdrawing rod is arranged at both sides of the loom so that a weft thread can be inserted double from either side of the shed to the centre and withdrawn from the other side after the portion attached to the end of the previous pick has been cut.

Owing to the fact that the weft is inserted in a given rotation as desired from both sides of the weave, a firm edge and a regularly bound selvedge of fabric can be made for any combination. For instance, when using a simple linen binding it is advisable to insert the weft in the proportion of 2:2, i. e. from each side two wefts one after the other are inserted, with the result that each weft inserted from the same side will lie in a different shed and engages the most extreme warps.

Through this invention it is further possible to weave in multi-colors a number of patterns by using two bobbins with differently dyed weft material, inasmuch as according to the pattern as many wefts are inserted from one side as correspond to the requirements.

In order to enable the feeders to carry out their task in a regular manner, the insertion devices consist of a combined fork and hook, so that according to the work desired each weft insertion device may serve as weft feeder or remover. In order to prevent any loose warp threads from being caught on the entry of the new insertion device in the shape of a fork and hook, the latter is provided with protecting contrivances which divide the warp threads.

One form of the invention is illustrated in the accompanying drawing viz:—

Fig. 1 shows the front view of the right side of a loom with the weft inserting device for one feeder and bobbin;

Fig. 2 shows the side of the slay, partly in section, from which can be seen the working operation of the thread feeder;

Fig. 3 is a modification of the arrangement shown in Fig. 2 showing a pattern chain for operating the thread feeder.

Fig. 4 shows a front view of the upper part of the weft feeder with the front parts, in the shape of fork and hook, of the weft insertion device.

Fig. 5 is a section through the insertion device.

Fig. 6 is a plan view of the upper part of the weft feeder and of the front part of the insertion device.

Fig. 7 is a plan (enlarged) from below of part of Fig. 4.

Fig. 8 is a side view of part of Fig. 7; and

Fig. 9 is a plan similar to Fig. 7 showing the hooks 23 in the centre of the shed and with the protecting device or warp divider 25 in section.

The loom operates as follows:—

The rotating shaft 1 drives, through the chain 4 and chain wheels 2 and 3, the shaft 5 on which latter a pattern disc 6 is fixed. The disc 6 by means of the lever 7, runner 8 and the bracket 9 lifts at the moment of the impact of the reed the thread feeder 10, which is bent at right angles at the top and is connected to slay 12 at 13, so that the warp feeder will take the position shown in dotted lines in Fig. 6. Normally the weft 15 extends from the bobbin at a particular side of the loom through the eyes 16, 17 direct to the fell of the cloth as shown at 20^b, Fig. 4 in which position it does not lie in the path of the inserter 22.

When it is desired to insert a weft however, from this particular side the feeder 11 is raised at the beat up so as to pass over the weft 20^b when the slay moves back from the dotted line position Fig. 6, to that shown in full lines. The feeder is then moved down taking with it the weft 20^b into the position 20, 20^a where it lies in the path of the inserter 22. Accordingly therefore as the feeder 11 at a particular side is, or is not operated, a weft is or is not inserted from this side when the inserting device 22 moves inwards.

When the insertion device 22, acting in this case as the feeder, passes into the shed, the part 20^a of the weft thread 20 lies in the path of the fork 22 of the insertion device and is moved through same up to the centre of the shed, where it is then taken over by the hook 23 of the other insertion device working in this case as the remover. When the insertion device moves back from its central position in the shed the hook 23 from the other side takes the weft thread

20 along with it in the well-known manner as described in my prior British specification No. 204,143.

5 In order to prevent any loose warp threads, which may be hanging down, from being damaged by the insertion device, the latter is provided with a protector 24, ending in point 25 by which the warp threads are divided.

10 In order to have the feeders working in the desired rotation, the pattern disc or dobbie, which works the feeders, is provided with several studs, 26 and 27. It is of course necessary that the shaft 5 stand in
15 the correct ratio of gear to the inserting devices. In order to give a greater range of patterns, a pattern chain 34 with studs or tappets 28 may be used, as shown in Fig. 3. It is of course necessary that the same arrangement should exist on both sides of the
20 machine.

What I claim as my invention and desire to protect by Letters Patent is:—

25 1. Weft inserting mechanism for looms for weaving of the type referred to comprising at both sides of the loom a combined weft insertion and withdrawing rod, a sliding rod

to bring the weft into the path of the inserter and a pattern chain for controlling the movement of the sliding rod. 30

2. Weft inserting mechanism for looms for weaving of the type referred to comprising at both sides of the loom a forked ended rod for inserting a weft thread to the centre of the shed, a hook thereon for withdrawing a weft thread inserted to the centre of the shed from the opposite side of the loom, a sliding rod to bring the weft into the path of the inserter and a pattern chain for controlling the movement of the
35 sliding rod. 40

3. Weft inserting mechanism for looms for weaving of the type referred to comprising at both sides of the loom a combined weft insertion and withdrawing rod, protectors on the insertion rod to divide any loose warp threads in the shed, a sliding rod to bring the weft into the path of the inserter and a pattern chain for controlling the movement of the sliding rod. 45 50

In testimony whereof I have hereunto set my hand.

JOHANN GABLER.