

1,018,601.

Patented Feb. 27, 1912.

Fig. 1.

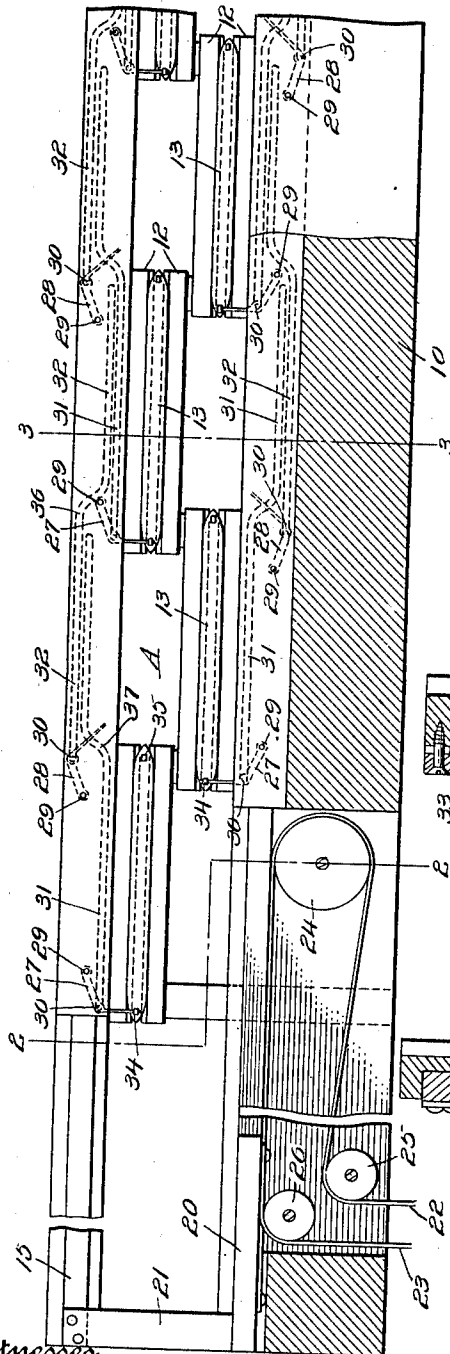


Fig. 4.

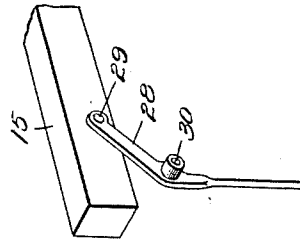


Fig. 3.

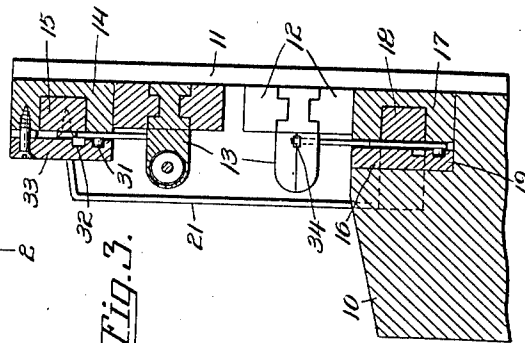
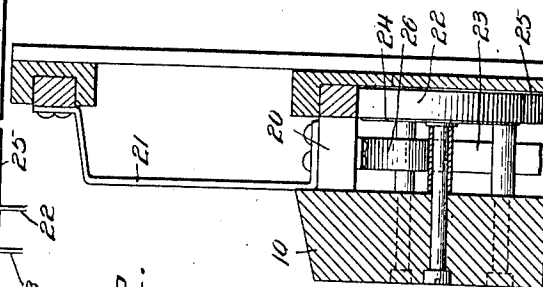


Fig. 2.



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LOOM SHUTTLE-MOTION.

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Specification of Letters Patent.

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Application filed October 30, 1911. Serial No. 657,524.

To all whom it may concern:

Be it known that I, HERMANN BAADER, a citizen of the Swiss Republic, residing at Gelterkinden, Basel, Switzerland, have invented certain new and useful Improvements in Loom Shuttle-Motions, of which the following is a specification.

This invention relates to looms and more particularly to the shuttle-operating mechanism and has for its object the provision of a mechanism which is simpler in construction than those heretofore used, which provides wider gaps for the webs and greater travel for a given length of shuttle.

Further objects are to provide a mechanism which is capable of being operated at higher speed than those heretofore used without injurious effect, whereby the output of the loom may be largely increased.

The novel features of the invention will be apparent from the following description taken in connection with the drawings, in which,

Figure 1 is an elevation of a portion of a loom embodying my invention; Fig. 2 is a transverse section on the line 2—2 of Fig. 1; Fig. 3 is a transverse section on the line 3—3 of Fig. 1; and Fig. 4 is a detail perspective view of one of the actuating arms for the shuttle.

The invention comprises the usual batten 10, to the back of which are secured the brackets 11 which support the shuttle races 12 for the shuttles 13 and the guide 14 for the shuttle carrier 15. A recess 16 is formed in the rear side of the batten 10 and receives the guide 17 for the shuttle carrier 18, and also the plate 19. One end of the shuttle carrier 18 is provided with an outward projection 20 to which is connected one end of the bridge member 21, the opposite end of this bridge member being secured to the shuttle carrier 15. Any suitable mechanism for reciprocating the shuttle carriers, such as the straps 22 and 23 which pass over pulleys 24, 25 and 26 and are secured to the shuttle carrier 18, may be provided. It will be seen that the bridge member 21 causes the shuttle carriers to be actuated together.

The shuttle carriers are provided with pairs of arms 27 and 28, these arms being pivoted to the shuttle carrier at the points 29 and provided with laterally projecting pins 30, provided with suitable anti-friction rollers which engage the cam tracks 31 and

32, arranged in pairs. These cam tracks are formed in the side of the plates 19 and 33, which are secured respectively to the guides 17 and 14.

Referring to Fig. 1, it will be seen that the shuttle at the left hand side of the figure is engaged by the arm 27, the arm passing through an eye 34 in the end of the shuttle. The arm 28, it will be observed, is out of engagement with the eye 35 at the opposite end of the shuttle so that as the carriers are moved toward the right the shuttle referred to will pass through the space A and into the shuttle race to the right thereof. The cam track 32 is provided with a curved portion 36 which is adapted to swing the arm 28 into engagement with the eye 35 as soon as the right hand end of the shuttle has passed over the space A. It will also be observed that the cam track 32 to the right of the curve 36 is straight so that the arm 28 will remain in engagement with the eye 35 as the shuttle continues to the end of its movement in the race to the right of the space A. It will also be observed that the cam track 31 has a curved portion 37 which will cause the arm 27 to swing out of engagement with the eye 34 as the shuttle leaves the shuttle race to the left of the space A.

When the shuttle carriers move to the left the operation of the arms 27 and 28 will be the reverse of that just described and it will, therefore, be seen that the shuttles are at all times moved positively by the shuttle carriers, all of the shuttles being moved by mechanisms similar to that just described. This construction is very compact and the arms 27 and 28 on the carrier 15 are readily accessible owing to the fact that the plate 33 may be readily removed. The arms 27 and 28 on the carrier 18 are also readily accessible. It will be seen that each arm is swung into and out of engagement with the shuttle by an independent cam track and that the cam tracks which control the actuating arms for any shuttle are so overlapped as to produce a compact arrangement.

By employing my invention it is possible to weave a larger number of ribbons for a given length of loom, or the same number of wider ribbons, than can be made on looms as heretofore constructed. It is also possible to apply the invention to existing looms without making extensive alterations therein.

Having thus described my invention, what I claim is:

In a loom, the combination of, a frame, a plurality of shuttle races arranged side by side, shuttles adapted to move in said shuttle races, a plurality of connected shuttle carriers arranged in guides along the outer sides of the shuttle races, means for reciprocating the shuttle carriers, a plurality of pairs of bent arms pivoted to the shuttle carriers and each pair adapted to directly engage a shuttle and having laterally projecting pins thereon, a plurality of pairs of

overlapping cam tracks carried by said frame and each pair coöperating with a pair of said arms whereby said arms are alternately moved into and out of engagement with the shuttle as the carriers are reciprocated, for the purpose described. 15

In testimony whereof I affix my signature in presence of two witnesses. 20

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Witnesses:

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