

(No Model.)

A. WEITHAASE.
REED FOR LOOMS.

No. 533,935.

Patented Feb. 12, 1895.

FIG. 1

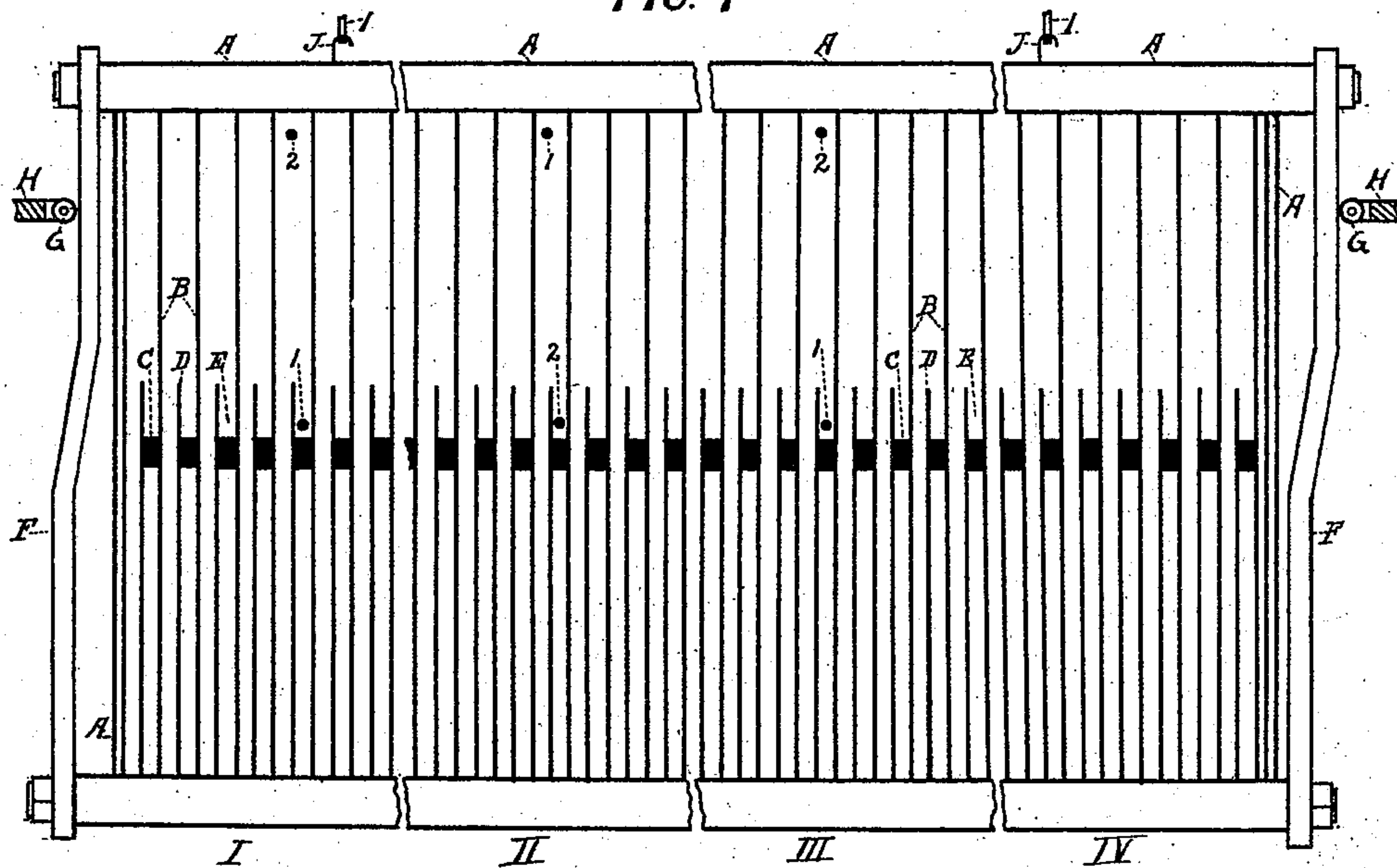
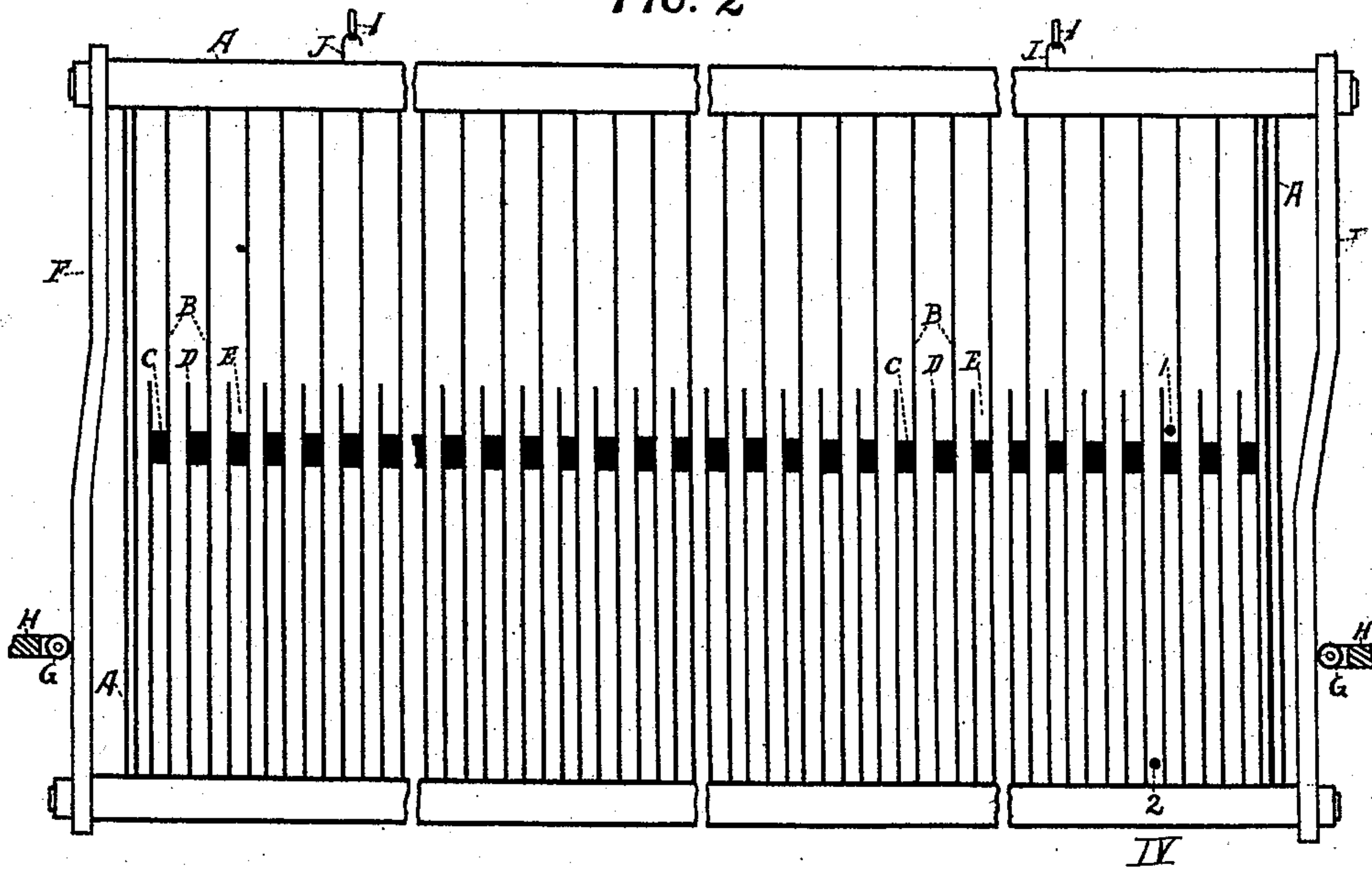


FIG. 2



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REED FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 533,935, dated February 12, 1895.

Application filed August 28, 1894. Serial No. 521,493. (No model.)

To all whom it may concern:

Be it known that I, ALBERT WEITHAASE, a citizen of the United States, residing in the city of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Loom-Reeds, of which the following is a specification.

My invention relates more particularly to reeds for cross-weaving, and it has for its object to provide a simple, accurate, and durable mechanism which will perform the functions of the douping mechanisms now in use without having their complexity of structure, shortness of life, and difficulties of manipulation.

In cross weaving, the two threads of the warp which pass between the same splits of the reed are crossed over each other in forming the shed for the weft, thus producing a fabric having crossed warp. The operation has usually been performed by means of a harness comprising what may be termed principal and subordinate leaves, the heddles of which are interlooped and operated in a manner well known in the art. The work has been done by passing one set of warp threads through eyes in a bar having a transverse motion and then leading them between the splits of a combined comb and reed, while the other set of warp threads pass beneath this bar and through the eyes of teeth in the combined comb and reed.

I have devised a reed which is designed to have a transverse and a vertical motion by means of which and its peculiar construction it both crosses the warp and forms the shed for the weft.

The object is attained by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 illustrates my reed, broken in parts or sections, in the first position occupied in the operation; and Fig. 2 illustrates it in the second position of the operation.

In Fig. 1, the relative positions of the two threads which pass between the same splits, when the shed is open for the first pick of the loom, is indicated in Part I. The relative positions of these threads for the second pick of the loom is indicated in Part II; and their relative positions for the third pick of the loom is indicated in Part III. The relative

positions of these threads for the fourth pick of the loom is indicated in Part IV of Fig. 2.

The reed frame, A, is provided with two sets of metal splits. The primary splits, B, cross the frame and are secured in the usual manner. The secondary splits, D, extend part of the distance only across the frame and divide the spaces formed by the primary splits. The lower ends of these secondary splits are secured to the frame and each is correspondingly secured to the adjacent primary split as at C, a point below the top of the secondary split, thus forming a space, E.

Guide rods, F, bent as shown in the drawings, are secured to the ends of the reeds, and bear against rollers, G, mounted in the stationary parts, H, of the loom frame.

The usual mechanism for lifting heddles may be used for lifting the reed, and the straps, I, and hooks, J, constitute a part of this mechanism. As the reed harness lifts, the rollers, G, bearing against the guide rods, F, at a point just above the bends, impart a transverse motion to the reed.

The numerals, 1, and, 2, designate the two warp threads or splitfuls, and the several parts of the drawings show the several positions they occupy in weaving chenille. The position of these threads in Part I is that of the first pick of the loom, when the shed is open, thread, 2, being at the top of the reed while thread, 1, lies in space, E, between the primary and secondary splits. The position of the threads in Part II is that of the second pick of the loom, thread, 1, being now at the top of the reed, while thread, 2, lies in the secondary space between the primary and secondary split. The position in Part III is that of the third pick of the loom, it being the same as that shown in Part I. The position shown in Part IV Fig. 2 is that of the fourth pick of the loom, effected by the lifting of the reed harness which lifts with it the thread, 1, lying in the space, E, the reed also being moved sideways or transversely by the guide and rollers thus crossing the threads, the thread, 2, now lying at the bottom of the reed. The crossing of the warp-threads, or the douping, is thus accomplished, and the shed formed without the use of the usual douping harness.

It will be understood by those skilled in the

art, that the reed is here required to form every fourth shed only and coincidently to cross the whip thread, the first three sheds being formed by the usual mechanism.

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

1. A reed having a set of primary splits and a set of secondary splits, with free ends, each of the set of secondary splits being correspondingly connected at a point removed from the free end to one of the adjacent splits of the primary set, substantially as shown and described for the purpose set forth.

10 2. A reed having a set of primary splits and 15 a set of secondary splits, correspondingly con-

nected to the primary splits and having free ends, in combination with means for lifting the reed, and guides for imparting transverse motion to the reed, substantially as shown and described.

20 3. In a reed, in combination, the primary split, B, the secondary split, D, connected at a point removed from its end to the primary split, the guide rods, F, the rollers, G, and means for lifting the reed, substantially as 25 shown and described.

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Witnesses:

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