P. MOLLON, PÈRE & B. THIMONIER.

HEDDLE MECHANISM.

APPLICATION FILED DEC. 19, 1911.

1,067,538. Patented July 15, 1913.

Fig 1.

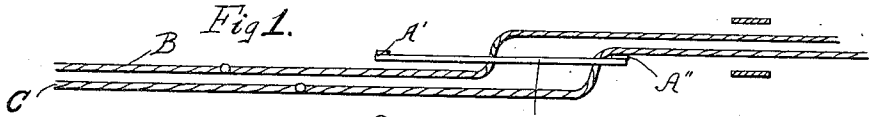


Fig. 2.

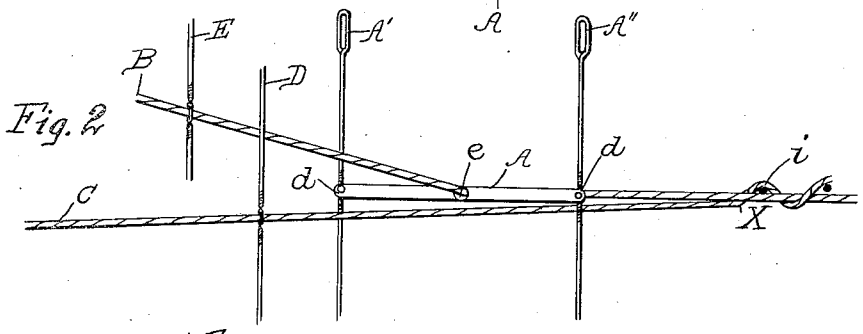


Fig 3.

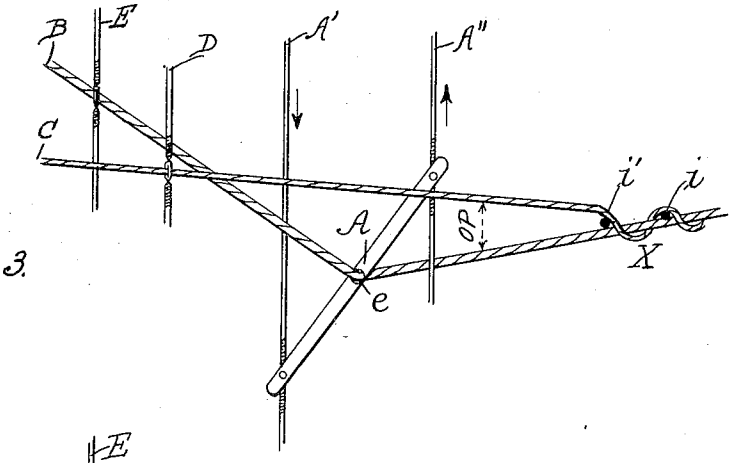
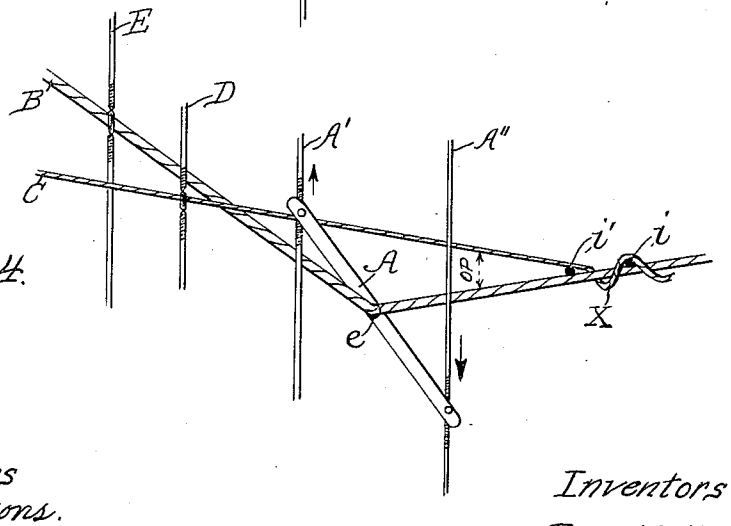


Fig 4.



Witnesses
C E Parsons.
H. L. Alden

Inventors:
Pierre Mollon, père
Benoit Thimonier,
By Munn Wallace Hicks Atty.

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

PIERRE MOLLON, PÈRE, OF BUSSIÈRE, LOIRE, AND BENOIT THIMONIER, OF ST. SIMEON DE BRESSIEUX, ISÈRE, FRANCE.

HEDDLE MECHANISM.

1,067,538. Specification of Letters Patent. **Patented July 15, 1913.**

Application filed December 19, 1911. Serial No. 666,795.

To all whom it may concern:

Be it known that we, PIERRE MOLLON, Père, and BENOIT THIMONIER, citizens of the French Republic, residing, respectively, at Bussière, Loire, and St. Simeon de Bressieux, Isère, both in France, have invented certain new and useful Improvements in Heddle Mechanism, of which the following is a specification.

The present invention relates to improvements in heddle mechanism for cross weaving looms such as are commonly used in making gauze.

The mechanism which forms the object of this invention is intended for weaving gauze of any kind, and is constructed entirely of metal. It is consequently much more durable than heddles of textile material, but comprises like the latter interchangeable links, the distance apart of which can be adjusted according to the closeness of the texture to be obtained.

In order that the invention may be more clearly understood reference is made to the accompanying diagrammatic drawing in which—

Figure 1 is a horizontal plan view of the heddle mechanism illustrated in Fig. 2. Figs. 2, 3 and 4 are views showing the arrangement of the heddle mechanism and threads through successive phases of the operation.

Each heddle consists of similar metal members A′ and A″ provided at their ends with loops for suspending them in two carrier frames actuated in reverse directions by the usual loom mechanism. Near the center *d* of the two members a light bar A of thin steel is pivoted, having at its center an eye *e* for passage of the warp thread. The heddles thus formed are mounted on two independent carrying frames arranged immediately behind the loom battery, (not shown).

In all cross weaving looms each warp group comprises two threads of which one is usually known as the "fixed thread," while the other is known as the "movable thread" and rises alternately for each weft thread to the right and left of the fixed thread. This combination is carried into effect very simply, as illustrated in the drawing, in all figures of which C represents the fixed warp thread and B the movable one.

Referring to the drawing, Fig. 2 shows the fixed thread C passing through the heddle D in front of the heddle A′ and behind the heddle A″, to the woven fabric indicated at X. The alternately directed weft-threads are designated throughout as *i* and *i′* respectively. The batten operates between the heddle A″ and the point X. In this figure the movable warp thread B passes through the heddle E, behind the heddle D, in front of A′ and is threaded through the eye *e* of the rod A, thence passing behind the heddle A″ to join the fixed thread C and form the fabric. In this figure the heddles A′ and A″ are in substantially the same horizontal plane and the rod A is horizontal. In the next position shown in Fig. 3 the heddle A′ has moved downwardly in the direction indicated by the arrow, while the heddle A″ has moved upwardly in the opposite direction. By this operation the heddle A″ is moved behind the fixed thread C and at the same time an opening or shed OP is formed through which the weft thread *i′* is shot. Fig. 4 shows the rod A moving in reverse direction prior to returning to the position of Fig. 2 and by this movement the weft thread *i′* is gripped between the two warp threads before being beaten up.

It will be understood that the mechanical devices for raising the heddles A′, A″ can be varied according to the kind of loom used and that the threads can be manipulated so as to obtain any kind of gauze.

What we claim as our invention and desire to secure by Letters Patent of the United States is:—

1. A heddle for looms comprising two members, a link separating said members and pivoted to each of same, and means on said link for guiding a warp thread.

2. A heddle for looms comprising two metallic members, and a link separating said members and pivoted to each of same and having an aperture adapted to guide a warp thread.

3. A heddle for looms comprising two

similar metallic members looped at each end, a metallic link separating said members and pivoted at opposite ends to one of said members, said link being provided centrally between said ends with an aperture for passage of a warp thread.

In witness whereof, we have signed this specification in the presence of two witnesses.

PIERRE MOLLON, PÈRE.
BENOIT THIMONIER.

Witnesses:
GASTON JEANNIAUX,
MARIN VACHOU.

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