

(No Model.)

C. COUPLAND.

LOOM FOR WEAVING DOUBLE PILE FABRICS.

No. 311,961.

Patented Feb. 10, 1885.

Fig 1

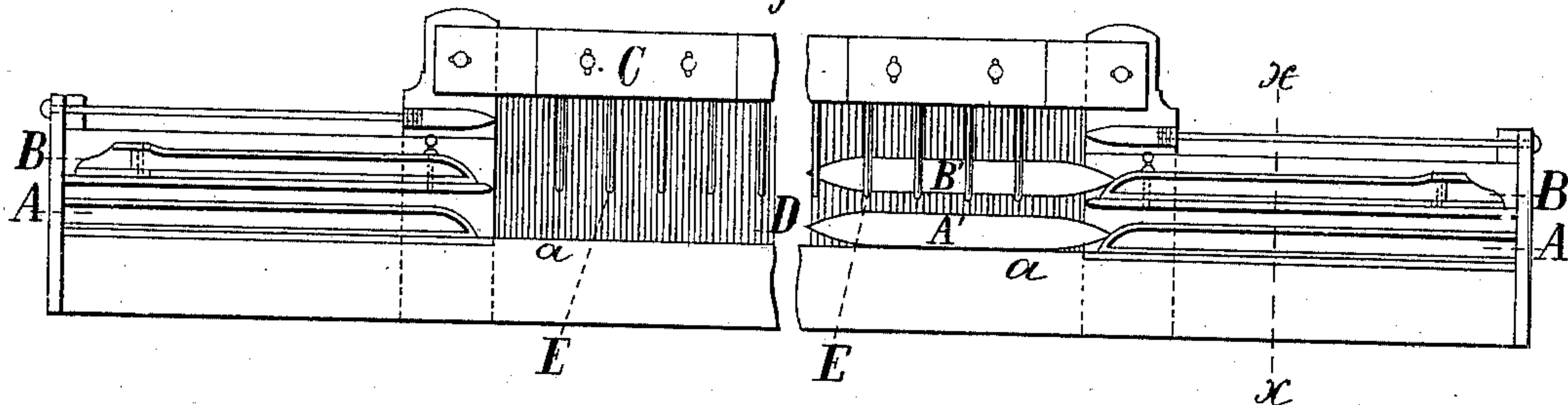


Fig 2

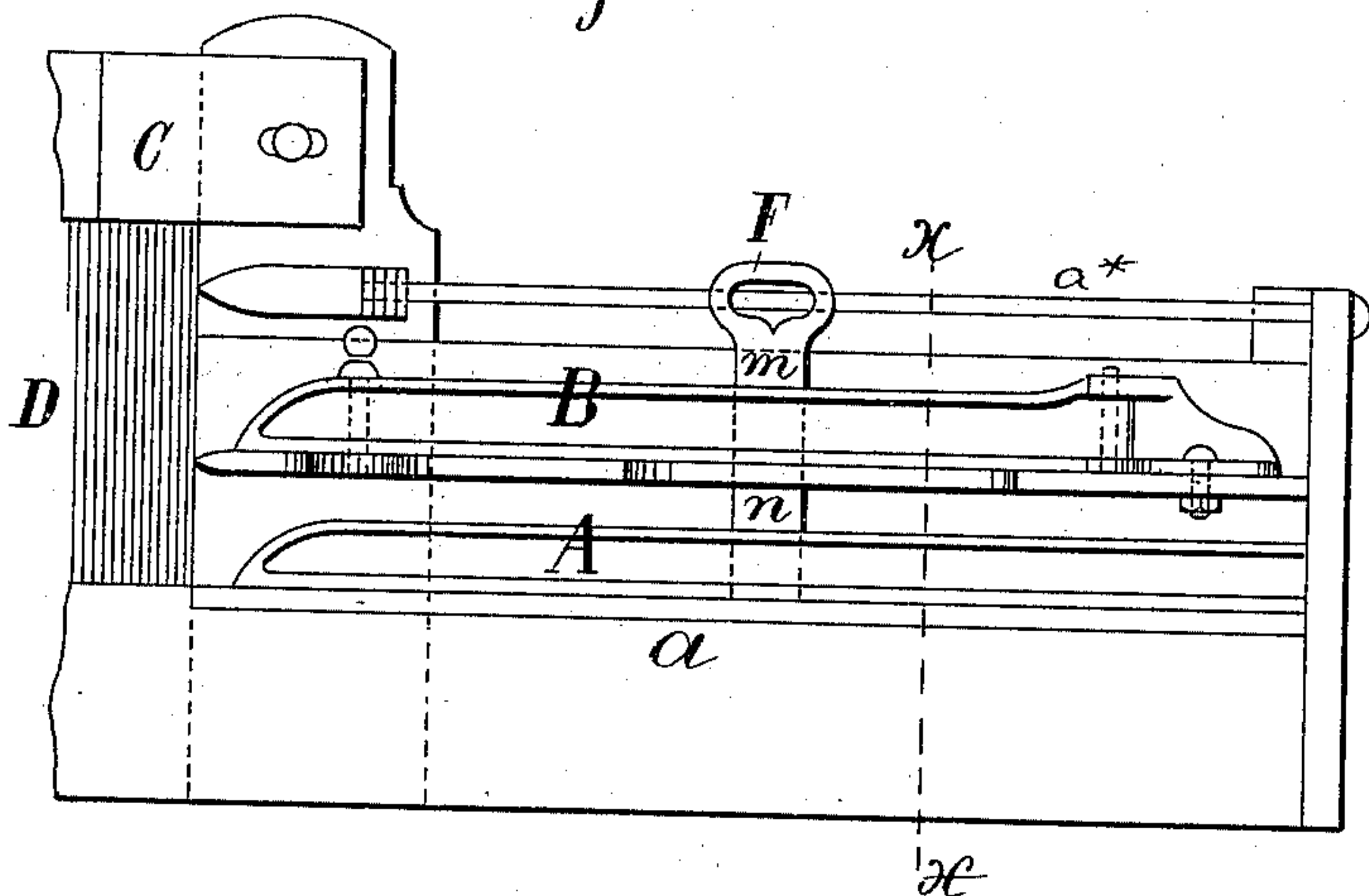


Fig 3

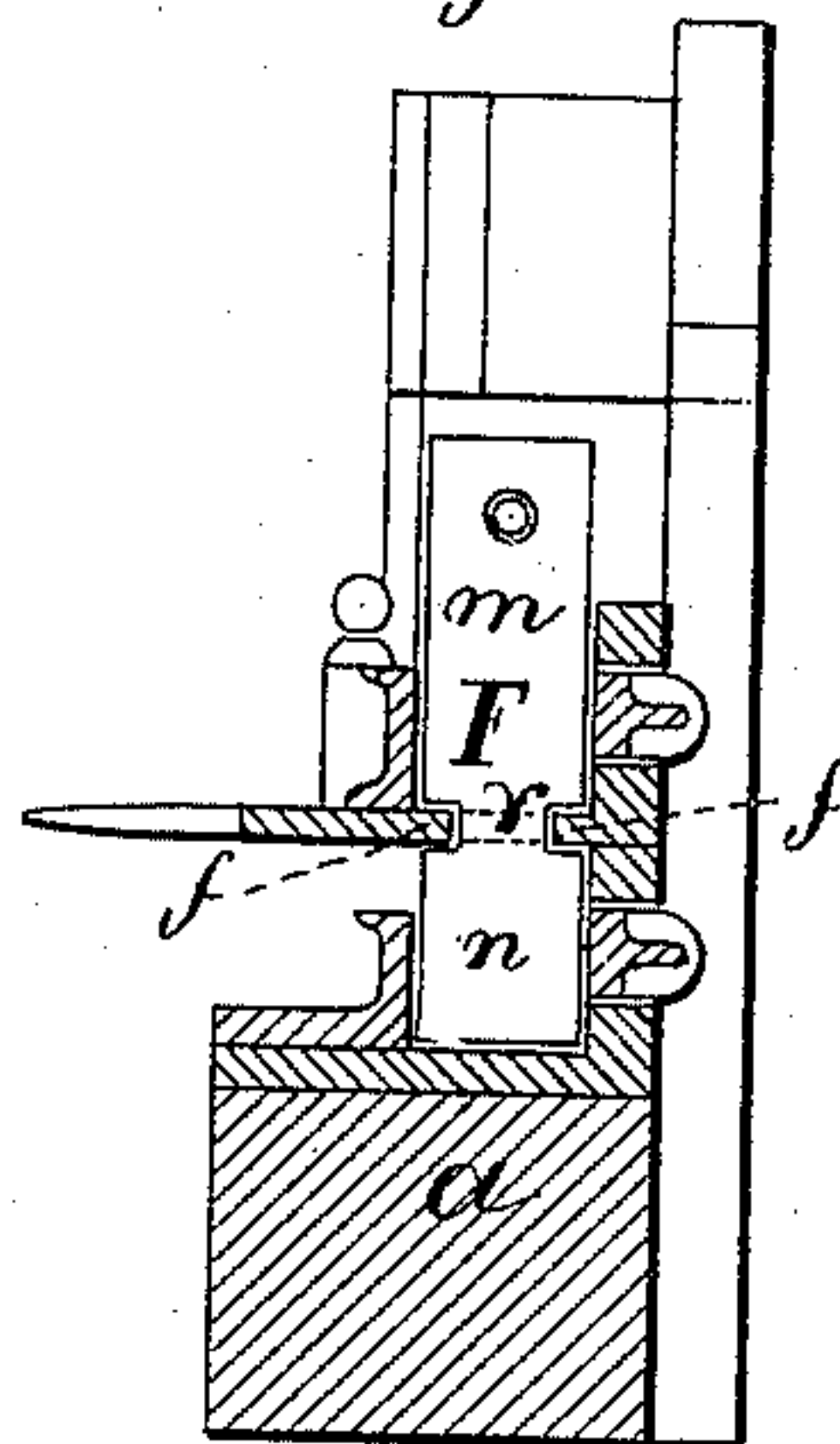


Fig 4

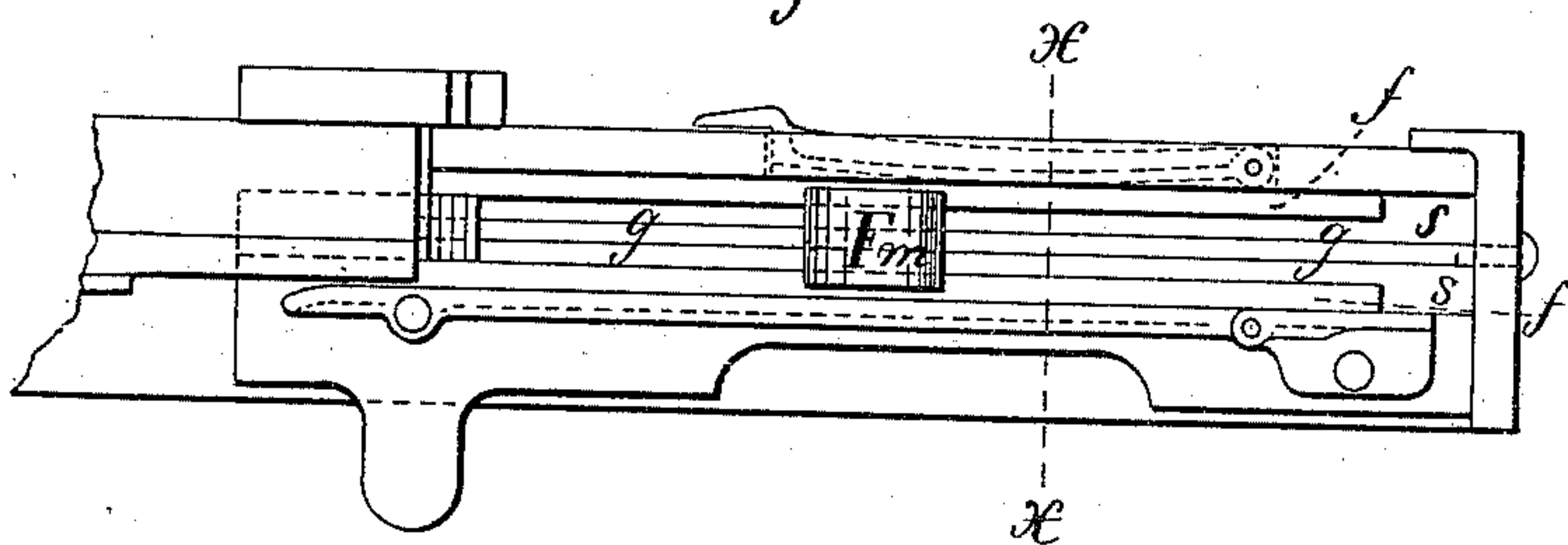
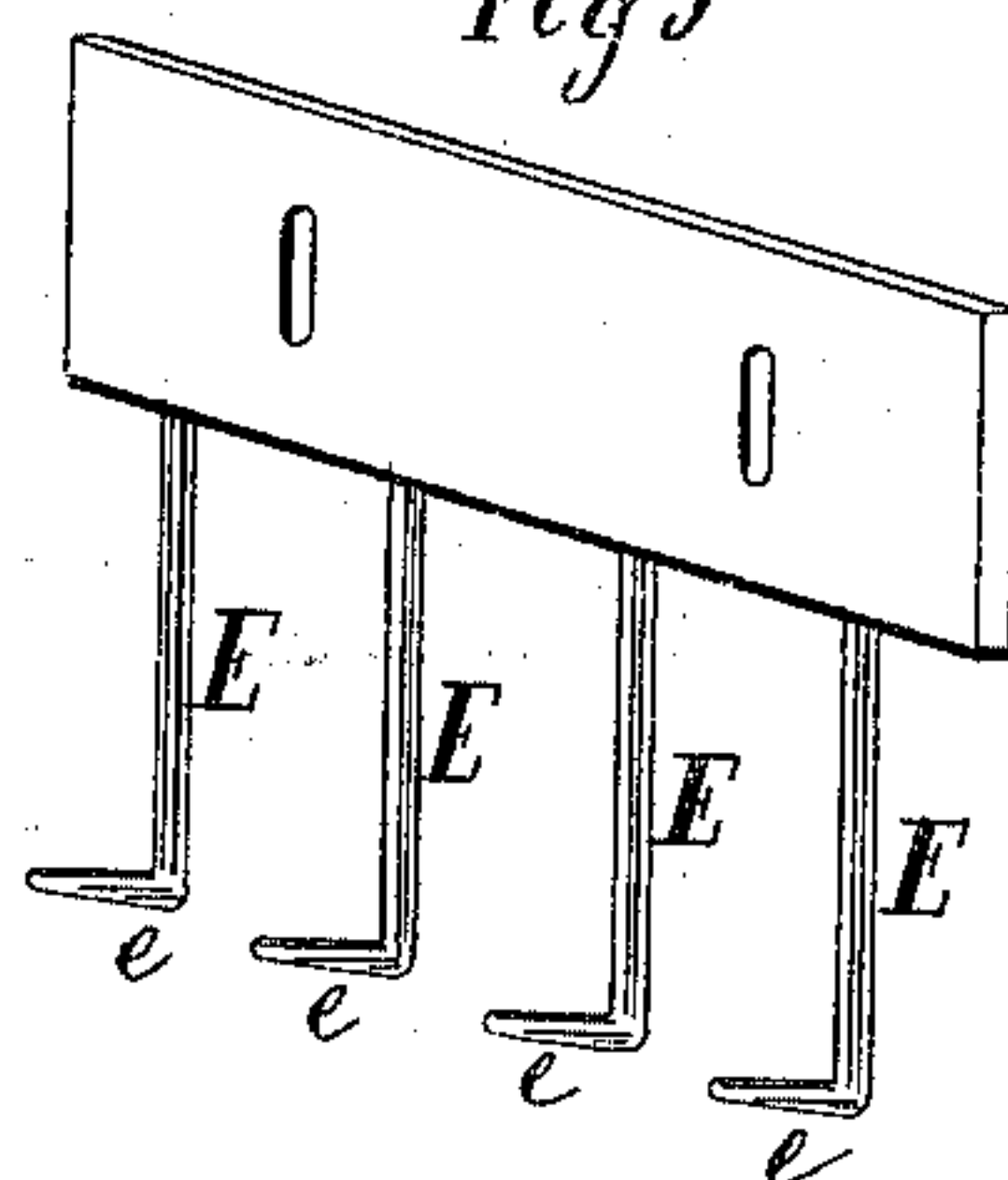


Fig 5



Witnesses

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CHARLES COUPLAND, OF SEYMOUR, CONNECTICUT.

LOOM FOR WEAVING DOUBLE-PILE FABRICS.

SPECIFICATION forming part of Letters Patent No. 311,961, dated February 10, 1885.

Application filed November 7, 1882. (No model.)

To all whom it may concern:

Be it known that I, CHARLES COUPLAND, of Seymour, in the county of New Haven and State of Connecticut, have invented certain
5 Improvements in Looms for Weaving Double-Pile Fabrics, of which the following is a specification.

This invention relates to looms that are more particularly designed for weaving double-pile
10 fabrics, but which, by omitting the pile-warp and the mechanism for actuating the warp, may be employed for simultaneously weaving two separate fabrics.

In the variety of looms to which my invention more particularly refers, there are employed an upper and lower race and fixed upper and lower shuttle-boxes placed in substantially the same horizontal planes as the
20 races aforesaid, and provided with means for simultaneously projecting the shuttles upon said races from the shuttle-boxes. Such looms as heretofore constructed, however, have been incapable of weaving double-pile fabrics with their intermediate threads, and their shuttle-
25 projecting mechanism has been comparatively unstable and liable to get out of order.

The object of my invention is to provide a loom of the class indicated which will be suitable for weaving double-pile fabrics that,
30 when separated by cutting their intermediate pile-threads, will afford fabrics having a pile or velvet surface, and which will also be certain in its operation and not liable to get out of order during the vicissitudes of use.

My invention comprises certain novel combinations of parts, hereinafter fully particularized in the claims, whereby said objects are
35 secured.

Figure 1 is a front view of the upper portion of the lay of the loom, with the invention applied thereto. Fig. 2 is a view of one end
40 of the said lay. Fig. 3 is a transverse sectional view taken in the line *xx* of Figs. 1, 2, and 4. Fig. 4 is a plan view of the end shown in Fig. 2, and Fig. 5 is a perspective detailed
45 view.

At each end of the lay is a pair of shuttle-boxes, A and B, each being designed for the reception of a separate shuttle, and the one,
50 B, being placed over the other, A. The shut-

tle from the lower boxes, A, is designed to traverse upon the race formed by the upper surface of the lay-beam *a*, which is arranged in the same relation with the lower boxes, A, as in the ordinary single shuttle-box looms. 55

C is the top rail of the lay, and D is the reed.

Extending down from the top rail, C, are a series of prongs or fingers E, the lower ends of which are bent inward or backward, as represented in Fig. 5, thereby forming a skeleton
60 race in substantially the same horizontal plane as the bottoms of the boxes B. The prongs or fingers E are placed at such distance apart that their lower parts, *e*, will support the shuttle in passing over the same. The object of this skeleton race is to provide a means for supporting the upper shuttle during the movements which are imparted to it in forming the
65 upper web of the fabric without permitting the upper shuttle itself to run in contact with the warp. The lower parts, *e*, of the skeleton race, constituted by the prongs or fingers E, are so arranged that the lower warp may rise between them in the operation of weaving,
70 and are tapered in such manner that the warps may readily pass between them without catching, and a space should be afforded between their rear extremities and the reed in order to allow the filling to draw down for the purpose of being beat up, all as will be readily
75 understood by those familiar with the practical construction and operation of looms.

In order that the two shuttles A' and B' may be simultaneously projected over the races
80 respectively formed by lay-beam *a* and fingers E, as indicated in Fig. 1, the horizontal partition *f*, which constitutes the bottom of the upper shuttle-box, and also the top of the lower shuttle-box on each end of the lay, is
85 longitudinally slotted, as represented in Fig. 3, and at *g* in Fig. 4, and a peculiarly-constructed double picker, F, is arranged to move through both of the said boxes. The upper
90 part, *m*, of said picker traverses the upper shuttle-box, while the lower part, *n*, of said picker traverses the lower shuttle-box, the said upper and lower parts, *m* and *n*, of said picker F being connected by a neck, *r*, as represented in
95 said Fig. 3. Provision is made for the insertion
100

of this double picker in place by means of an opening, *s*, at the rear end of the partition *f*, the said opening extending the entire width of the interior of the shuttle-boxes, and being
 5 of a length, measured in a direction longitudinally of the shuttle-boxes, slightly exceeding the thickness of the picker *F*, so that the latter may be readily dropped into place and into position for longitudinal movement with-
 10 in the shuttle-boxes.

A single picker-staff of the ordinary or any usual construction is arranged in substantially the same relation with the picker *F* as the common picker-staff is arranged with regard
 15 to a single picker of an ordinary single shuttle-box, so that the single picker-staff, acting through the double picker *F*, give simultaneous motion to the two shuttles as the same are projected from the two shuttle-boxes *B*
 20 and *A*, the two shuttles being thrown together and in unison alternately from the one pair of shuttle-boxes to the other.

In order to properly guide, steady, and support the picker during its movement, there is
 25 provided a fixed horizontal guiding-rod, *a**, which passes through a slot or opening of corresponding size and shape formed in the upper end of the picker, as more clearly indicated in Fig. 3.

30 Except for the purposes of the combinations hereinafter set forth in the claims, I do not in the Letters Patent to be issued on this application claim the herein-described skeleton race, inasmuch as the said skeleton race
 35 constitutes an element in combinations claimed in certain other applications for Letters Patent filed by me—as, for example, in my application filed November 7, A. D. 1882, and designated by the Serial No. 76,152. Fur-
 40 ther, I do not in the Letters Patent to be issued on this, my present application, claim

the shuttle-box having a hinged side, (shown herein,) inasmuch as such shuttle-box is set forth in the specification and claims of Letters Patent No. 307,747, issued to me Novem- 45
 ber 11, 1884.

I claim—

1. The combination of a lay having fixed double shuttle-boxes placed substantially parallel with each other, and a skeleton race 50
 placed above and parallel with the lay-beam, with a double picker constructed and arranged to simultaneously actuate the shuttles of both boxes, the one shuttle upon and over the lay-beam, the other upon and over the 55
 skeleton race, all substantially as and for the purpose herein set forth.

2. The combination of a lay having fixed double shuttle-boxes placed parallel and one 60
 above the other, the slotted partition *f* between said boxes, and the skeleton race placed above and parallel with the lay, with the double picker composed of the parts *m n* and neck *r*, and arranged to be operated by a single picker-staff, the whole constructed and ar- 65
 ranged substantially as and for the purpose herein set forth.

3. The combination of a lay having fixed double shuttle-boxes placed parallel and one 70
 above the other, the slotted partition *f* between said boxes, and the skeleton race placed above and parallel with the lay, with the double picker composed of the parts *m n* and neck *r*, and the guide or rod *a**, provided to steady said double picker, the whole con- 75
 structed and arranged substantially as and for the purpose herein set forth.

CHARLES COUPLAND.

Witnesses:

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 THOMAS E. CROSSMAN.