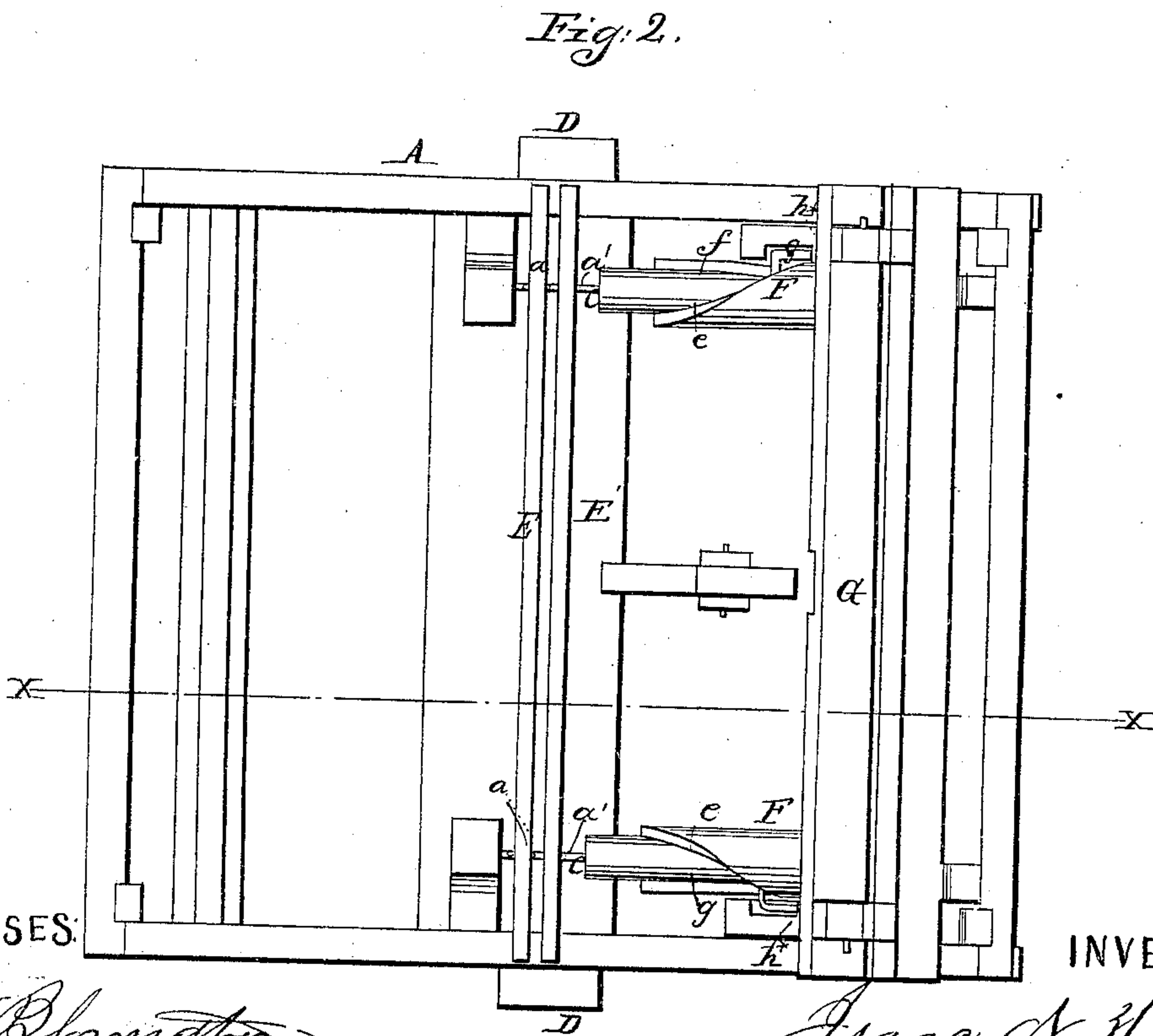
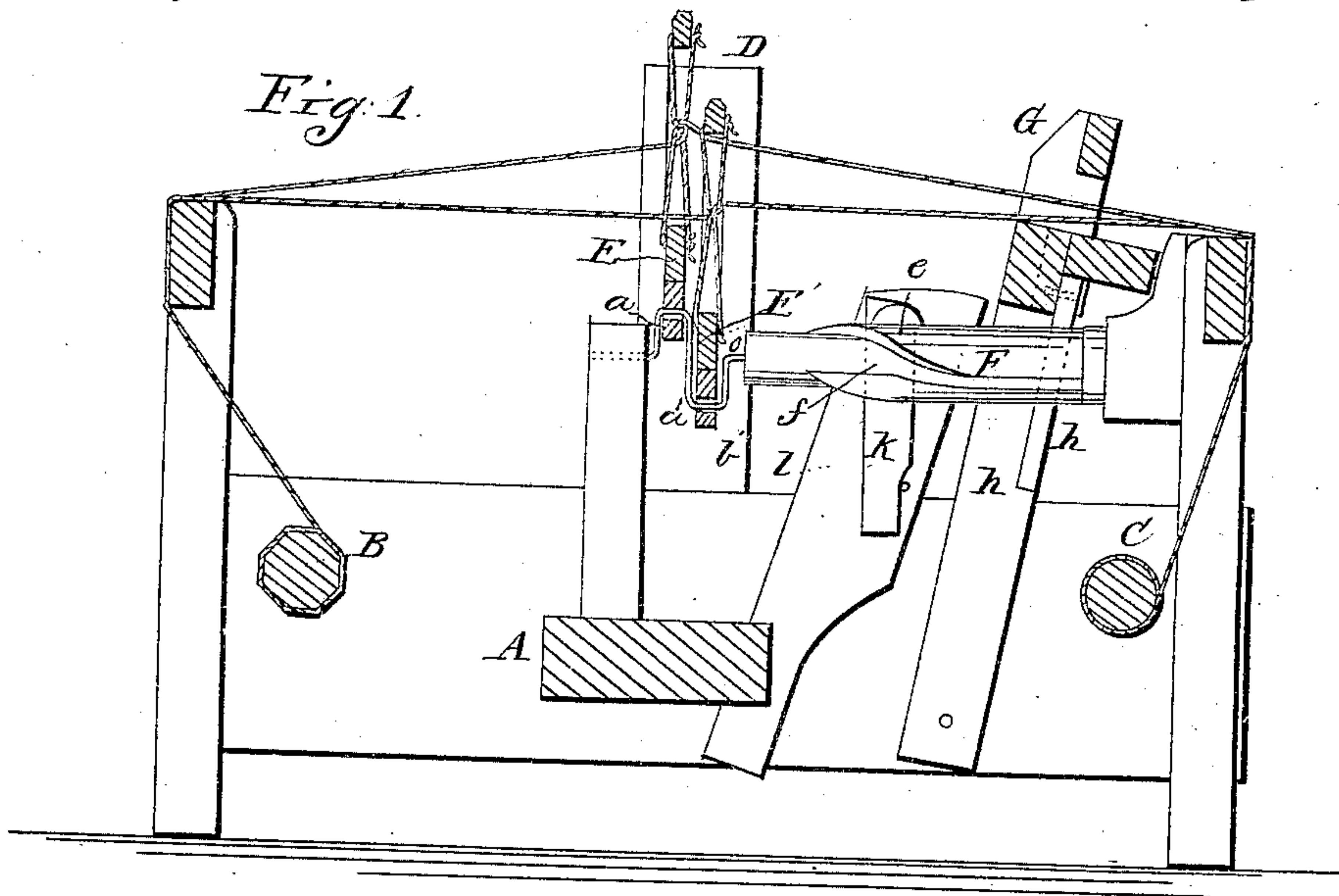


# I. N. Hodson Hand Loom.

Sheet 1, 2 Sheets.

No 57,717

Patented Sept. 4, 1860.



WITNESSES:

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INVENTOR:

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*Attorney*

Sheet 1, of 2 Sheets.

# I. N. Hodson. Hand Loom.

No 57,717.

Patented Sept. 4, 1866.

Fig. 3.

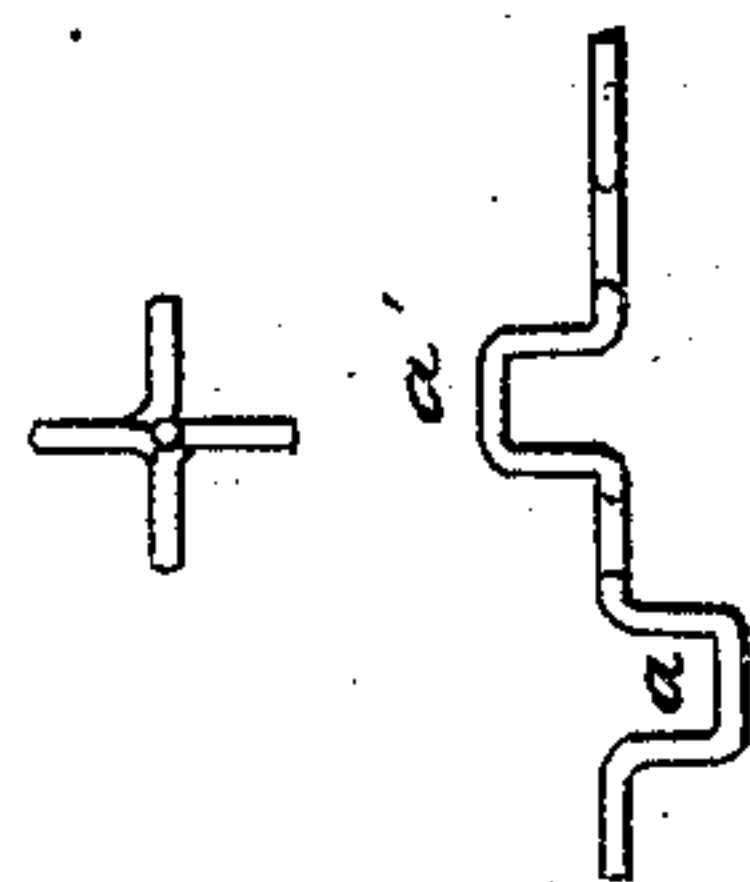


Fig. 4.

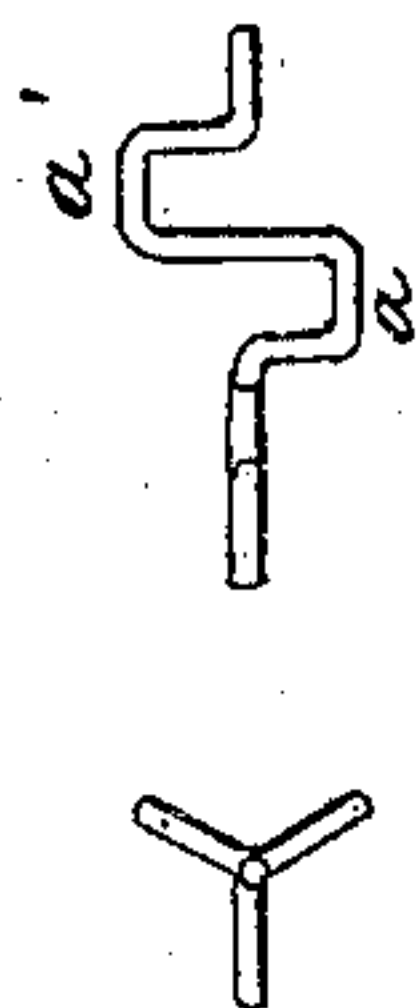


Fig. 6.

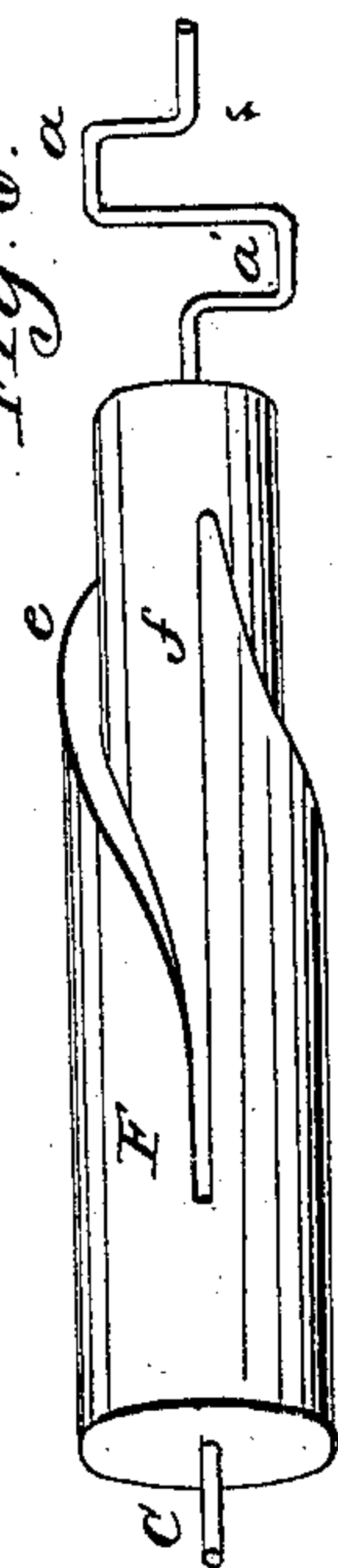


Fig. 7.

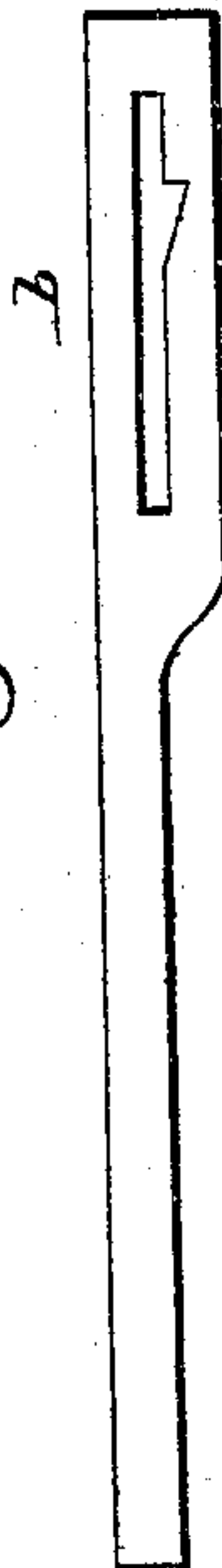


Fig. 8.

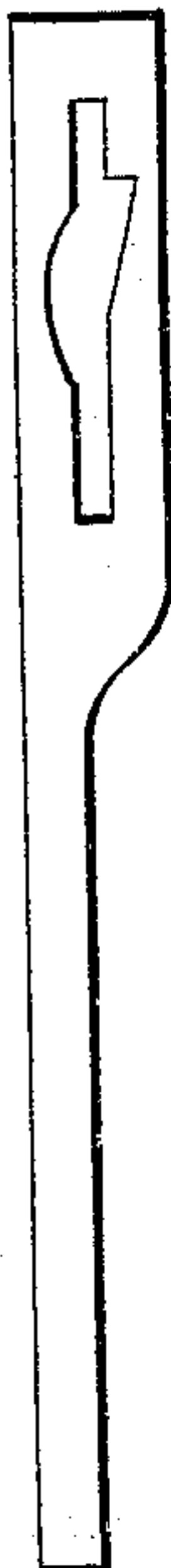


Fig. 11.



Fig. 9.

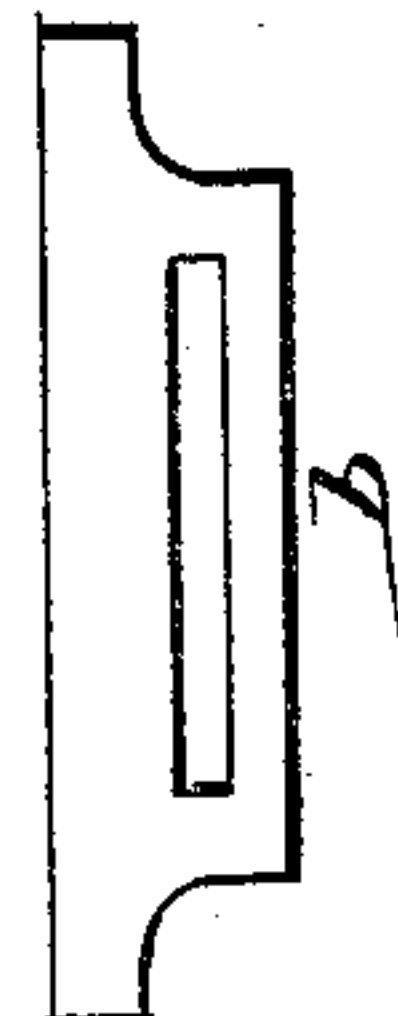


Fig. 10.

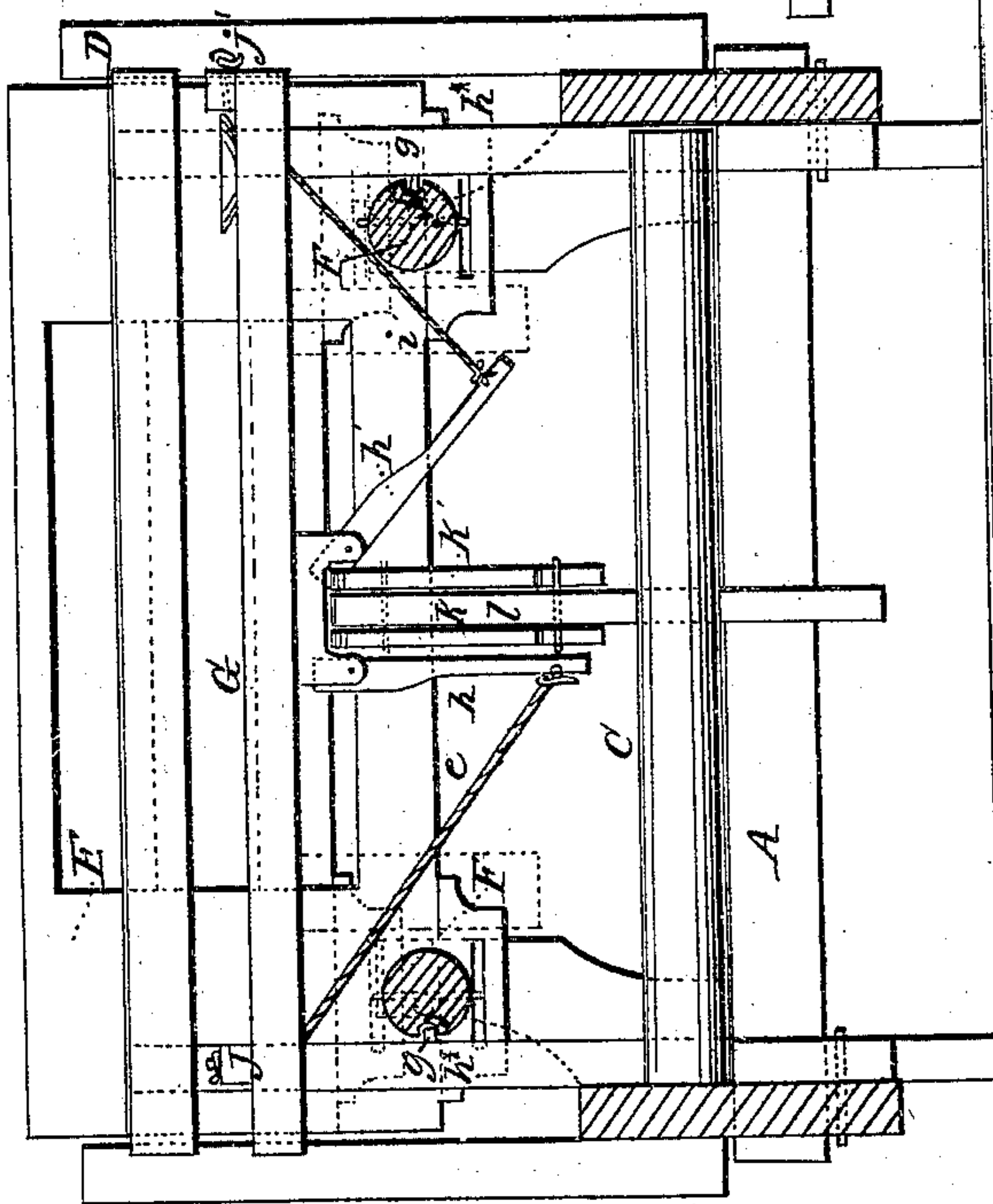
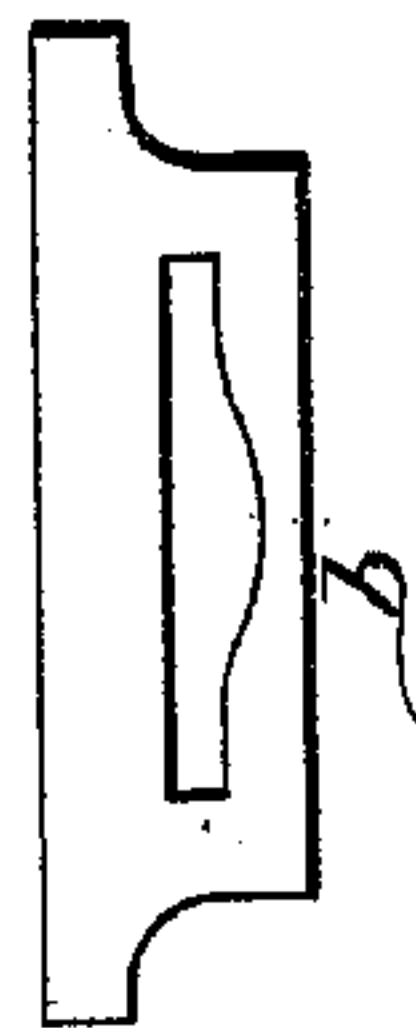


Fig. 5.

WITNESSES:

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INVENTOR:

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*Attorneys*



# UNITED STATES PATENT OFFICE.

ISAAC N. HODSON, OF MOUNT PLEASANT, IOWA.

## IMPROVEMENT IN LOOMS.

Specification forming part of Letters Patent No. 57,717, dated September 4, 1866.

*To all whom it may concern:*

Be it known that I, ISAAC N. HODSON, of Mount Pleasant, in the county of Henry and State of Iowa, have invented a new and useful Improvement in Looms; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a longitudinal vertical section of this invention, the line *x x*, Fig. 2, indicating the plane of section. Fig. 2 is a plan or top view of the same. Fig. 3 is a transverse vertical section of the same. Figs. 4–11 are details, which will be referred to as the description progresses.

Similar letters of reference indicate like parts.

This invention consists in the arrangement of a grooved roller, to which an oscillating motion is imparted by the action of a suitable toe or tappet attached to the lay or batten, and which is provided with double, triple, or multifarious cranks intended to impart the required rising-and-falling motion to the heddle-frames in such a manner that two or more heddle-frames can be operated by the motion of the batten, and the construction of the loom is materially simplified.

It consists, further, in the arrangement of hinged dogs secured to a stationary standard, in combination with picker-staves or swords pivoted to the under side of the batten in such a manner that when the batten moves forward the swords readily pass the hinged dogs; but as the batten recedes that one of the swords which happens to be raised is turned down suddenly on coming in contact with one of the dogs, and the required motion is imparted to the shuttle at the proper intervals, the whole motion being dependent upon the motion of the batten.

A represents the frame of my loom, which may be built of wood or any other suitable material. One end of this frame forms the bearings for the yarn-beam B, and the other end for the cloth-beam C, and between these two beams rise two uprights, D, which form the guides for the heddle-frames E E'.

In the drawings, two heddle-frames only are shown; but it is obvious that the number of said heddle-frames may be increased to three, four, or more. Said heddle-frames are raised and depressed at the proper intervals by the action of cranks *a a'*, which are formed by the axles *c* of cam-rollers F, and which catch in slots *b b'* (see Fig. 1) in the lower part of the heddle-frames. The axles *c* of the cam-rollers extend in a direction transversely to the heddle-frames, and they have their bearings in suitable brackets or standards, which are rigidly attached to the frame A.

The cam-rollers F are provided each with two oblique or spiral shoulders, *e*, and with two straight shoulders, *f*, extending in a direction parallel to their axis, as shown in Fig. 6 in detail, and also in other figures, and an oscillating motion is imparted to them by the action of hooks or projections *g*, inserted loosely in the arms *h*, which support the batten G. As the batten recedes the projections *g* slide on the straight shoulders *f*, and on arriving at the ends of these shoulders next to the heddle-frames said hooks drop down sufficiently within a rabbet cut in the inner side of the sword to catch under the oblique shoulders, so that when the batten moves forward an oscillating motion is imparted to the cam-rollers, causing the cranks *a a'* to change their position and to impart the required motion to the heddle-frames. During the backward motion of the batten the cam-rollers remain stationary, and the heddle-frames retain their position, keeping the shed open for the passage of the shuttle.

The motion of the shuttle is effected by means of swords *h h*, which are hinged to the under surface of the batten G. These swords connect by cords *i i'* with the shuttle-blocks *j j'*, and if the shuttle strikes against one of the shuttle-blocks the sword to which it is attached is raised from a vertical to an inclined or horizontal position, as shown in Fig. 3 of the drawings, where the shuttle is represented as bearing against the block *j'*. If the batten G is moved back the inner end of the sword *h'* strikes a dog, *k'*, which is hinged to the side of a standard, *l*, under the batten, and by the action of said dog on the short end of the sword the sword is turned down suddenly in

a perpendicular position, and the shuttle is driven to the opposite end of the shuttle-race, where it strikes the block *j*. By this action the sword *h* is raised, and as the batten is moved out the inner end of said sword strikes the hinged dog *k*, which, being yielding in this direction, allows said sword to pass. When the batten is moved in again the shuttle returns to the block *j'*, the sword *h* turns down, and the sword *h'* is raised. By this arrangement the motion of the shuttle, as well as that of the heddle-frames, is made dependent entirely upon the motion of the batten, and the construction of the loom is materially simplified.

What I claim as new, and desire to secure by Letters Patent, is—

1. The cranks *a a'*, two or more, and cam-rollers *F*, in combination with the batten *G* and heddle-frames *E*, constructed and operating substantially as and for the purpose set forth.

2. The hinged swords *h h'* and dogs *k k'*, in combination with the batten *G* and shuttle-blocks *j j'*, constructed and operating substantially as and for the purpose described.

ISAAC N. HODSON.

Witnesses:

GEORGE C. VAN ALLEN,  
ZACHARIAH L. HODSON.