

J. W. COOK.  
WEFT REPLENISHING LOOM FOR WEAVING.  
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993,349.

Patented May 30, 1911.

Fig. 1.

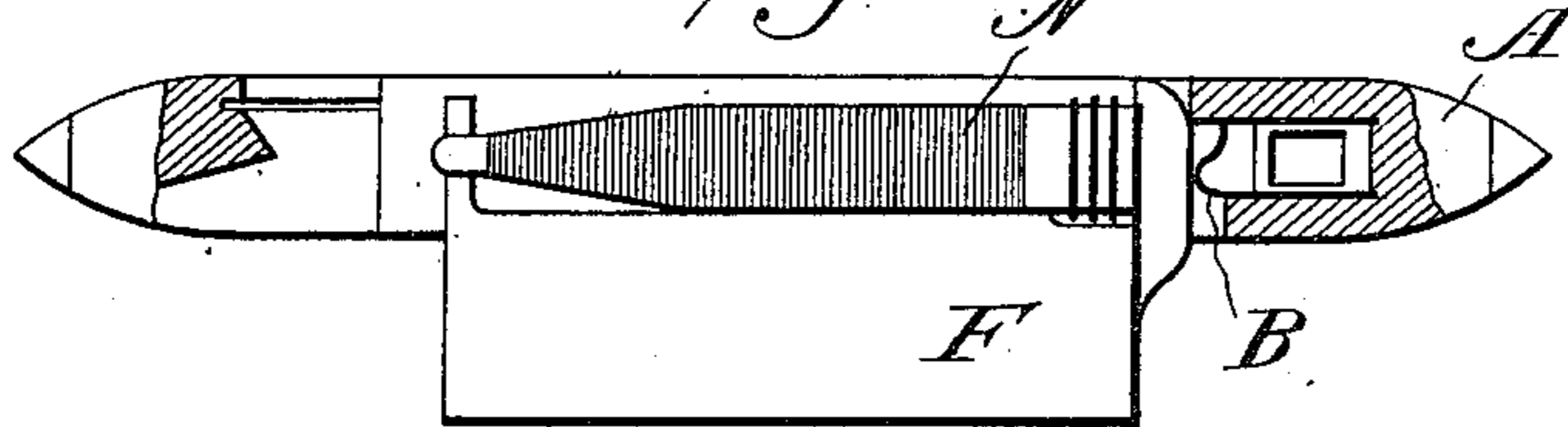


Fig. 2.

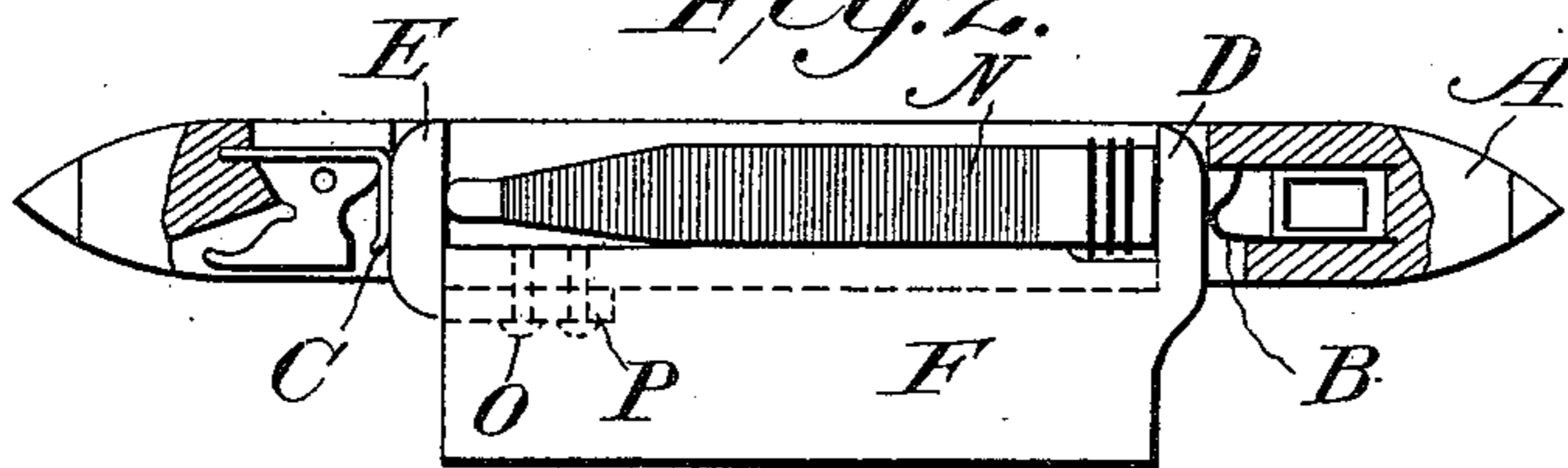


Fig. 3.

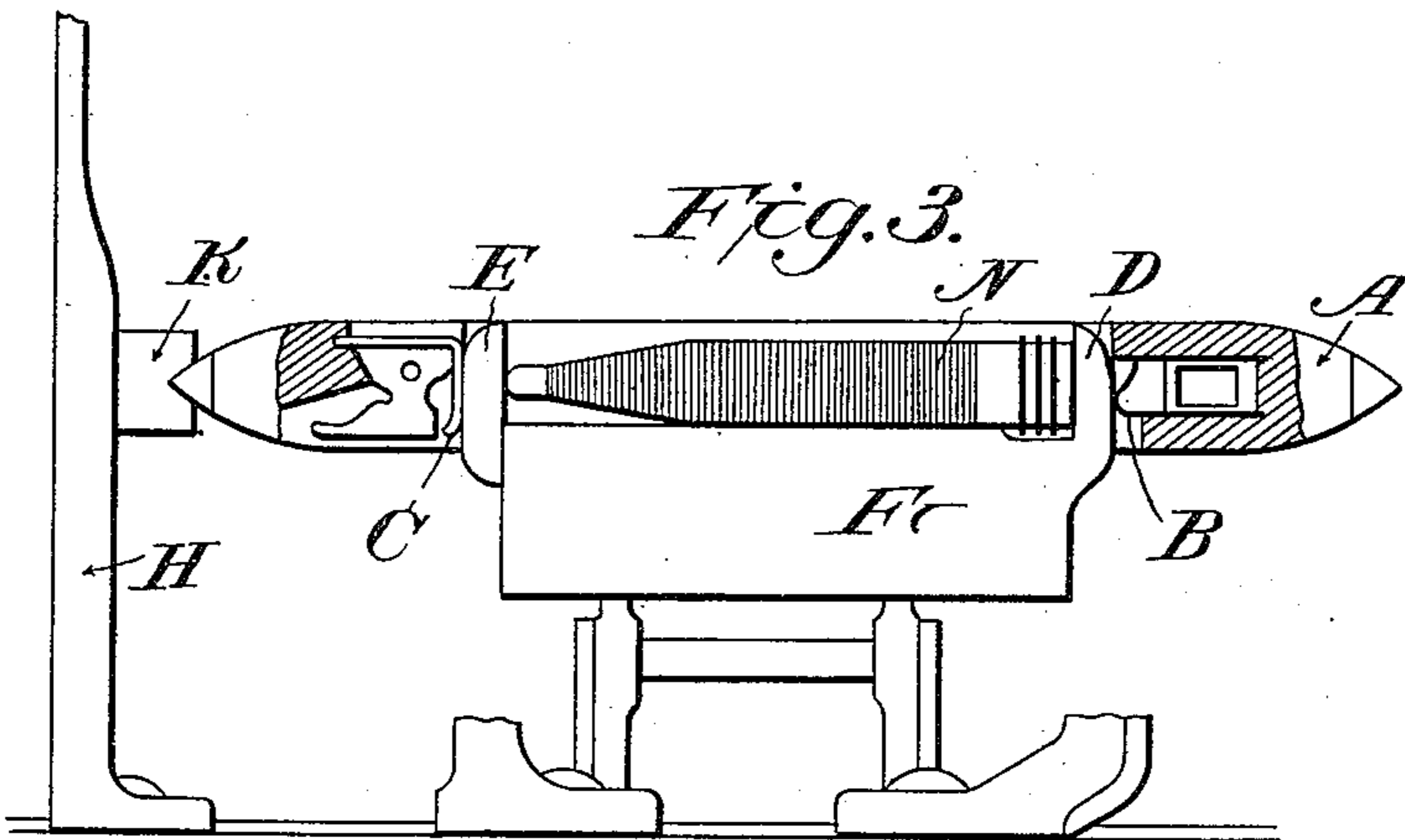


Fig. 4.



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# UNITED STATES PATENT OFFICE.

JOHN WILLIAM COOK, OF MANCHESTER, ENGLAND.

WEFT-REPLENISHING LOOM FOR WEAVING.

993,349.

Specification of Letters Patent.

Patented May 30, 1911.

Application filed November 3, 1910. Serial No. 590,589.

*To all whom it may concern:*

Be it known that I, JOHN WILLIAM COOK, of 18 Exchange street, Manchester, in the county of Lancaster, England, have invented certain new and useful Improvements in and Connected with Weft-Replenishing Looms for Weaving, of which the following is a specification.

My invention relates to weaving looms of the kind in which the shuttles are automatically replenished by the insertion of cops, bobbins, pirns or the like, of weft, and more particularly to means for inserting the said cops, bobbins, pirns or the like (hereinafter termed bobbins) in the shuttle in a correct working position.

The object of the present invention is to provide, in connection with apparatus in which the bobbin is inserted horizontally, improved means for either positioning the shuttle relatively to the bobbin carried by the pusher head, or positioning the bobbin upon the pusher head relatively to the shuttle and without moving the latter.

According to this invention the pusher head is provided with one or two inclined projections or faces against one or between both of which the bobbin is carried, the said projections being adapted, as the head is moved into the shuttle to engage with the latter and to move it into its correct position relatively to the bobbin; or the two inclined projections may be movable and, on coming into contact with the shuttle, may be moved by the latter until the bobbin carried by said projections is in its correct position in the shuttle, springs or the like being provided for returning the projections to their former position. Means may also be provided whereby varying sizes of bobbins may be accommodated and inserted within the shuttle in a correct working position.

I have appended a sheet of drawings whereon,

Figure 1 is a plan of a shuttle and as much of a pusher head as is necessary to show my invention applied, Fig. 2 is a similar view showing a modification of my invention, Fig. 3 is a plan of a shuttle and of a pusher head in combination with a form of exterior picker and Fig. 4 is a plan of a further modification of my invention.

I mount in any suitable position within the shuttle A (Fig. 1) but preferably toward one end thereof a plate or the like B which acts as a positioning device within

the shuttle. I cast, form or suitably attach to the pusher head F a projection D having a suitably inclined cam face. As the pusher head moves forward to insert the bobbin in the shuttle the projection D comes in contact with the plate or the like B. The pusher head F always moves in the same plane and consequently when the projection D comes in contact with the plate B within the shuttle A the said shuttle A is caused to move and to take up its correct position within the shuttle box to receive the bobbin N. I may employ a pusher head F having two projections such as D and E (Fig. 2). I mount within the shuttle A two positioning plates or the like B, C which engage with the projections D and E as the pusher head F moves inward. The left hand projection E is suitably attached to the pusher head by means of bolts or the like O P. By loosening such bolts the projection E can be adjusted relatively to the projection D in order to suit varying sizes of bobbins.

In Fig. 3 an arrangement of my device as shown in Fig. 2 is shown in combination with a known form of picker. The pusher head F carries two projections D and E adjustable relatively one to the other and the shuttle A carries two positioning faces or the like B and C, as illustrated in Fig. 2. In conjunction with these elements I employ a device H which operates upon the picker K to approximately position the shuttle A. I rely upon my invention to accurately position the shuttle after the picker K has ceased to act. It is obvious that the plate B may be provided with a suitable anti-friction roll if it is desired to reduce the friction due to the engagement of the projection D. The devices as previously described act to position the shuttle.

In Fig. 4, I show a modification of my invention by means of which the bobbin N can be positioned relatively to the shuttle without altering the position of the said shuttle. I employ the usual pusher head F and positioning devices such as B and C carried within the shuttle. I suitably attach the projecting portions D and E to a slide rod or the like G G'. Upon the said rod G G' I coil two springs M M'. The projecting portions D and E in conjunction with the slide rod G G' can move laterally in either direction the springs M M' always tending to bring such rod and projections back to their normal position. Should the shuttle A not

be in the correct position to receive the bobbin, upon the projections D and E coming in contact with the positioning plates or the like B' carried within the shuttle the said  
 5 projections D E and the slide rod G G' move laterally and accommodate themselves to the position of the shuttle in order to insert the bobbin accurately within the said shuttle.

Claims.

10 1. In an automatic weft replenishing mechanism, the combination with a shuttle having side openings, of a horizontally movable pusher head provided with projections adapted to support a bobbin between them,  
 15 the outer face of one of said projections being inclined and adapted to engage the shuttle to relatively position the latter and said bobbin.

2. In automatic weft replenishing mechanism for weaving looms, the combination  
 20 with a shuttle, of a pusher head provided with relatively movable projections for supporting a bobbin, said projections being provided with inclined surfaces adapted to engage said shuttle, to relatively position the

same and said bobbin, and means for normally maintaining said projections in a predetermined relative position.

3. In automatic weft-replenishing mechanism for weaving looms, the combination 30 with a shuttle, of a pusher head adapted to enter the shuttle, bearings on the said head, a rod mounted to slide longitudinally in the said bearings, collars upon the rod and on opposite sides of one of the bearings, springs 35 arranged between the collars and on opposite sides of the said intermediate bearing, and projections mounted upon the longitudinal movable rod the said projections being adapted to engage by means of their in- 40 ner faces with the ends of a bobbin and being formed on their outer faces with inclines that come in contact with the shuttle.

In testimony whereof I have affixed my signature in presence of two witnesses.

JOHN WILLIAM COOK.

Witnesses:

JOHN JOWETT,  
 FRANK NASMITH.

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

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