

W. HOLMES.
Loom Shuttle.

No. 231,042.

Patented Aug. 10, 1880.

Fig 1.

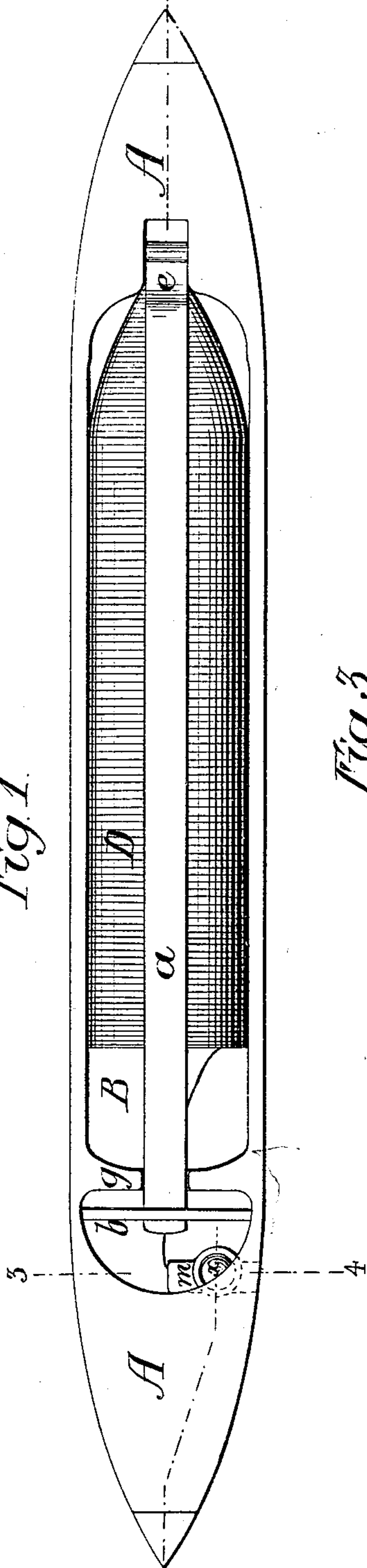


Fig 3.

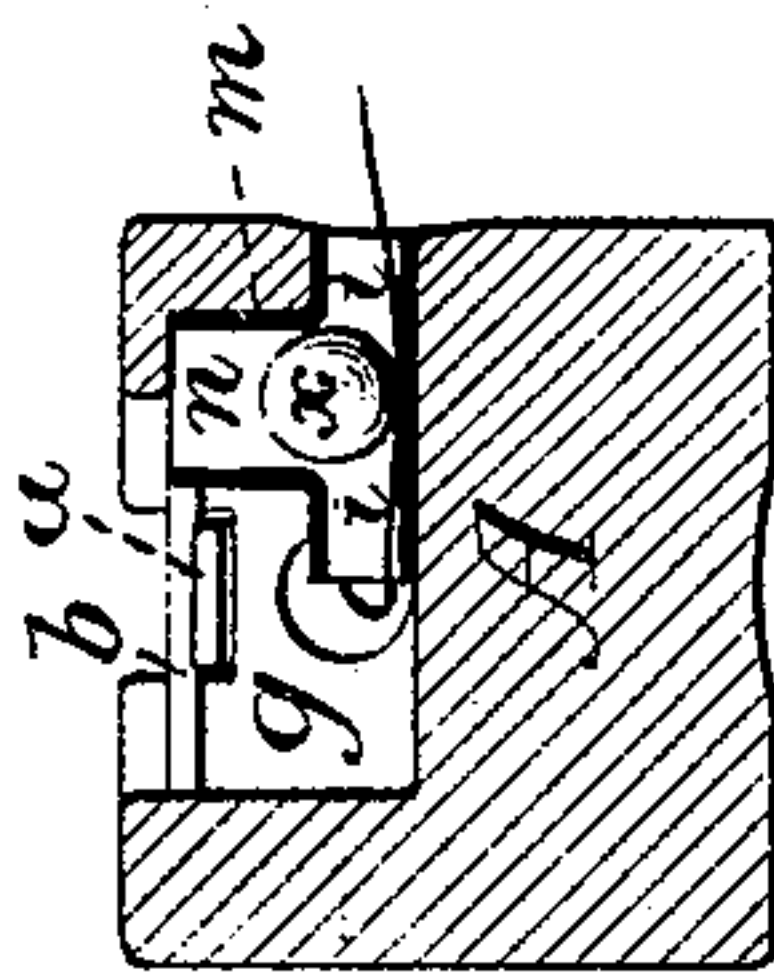
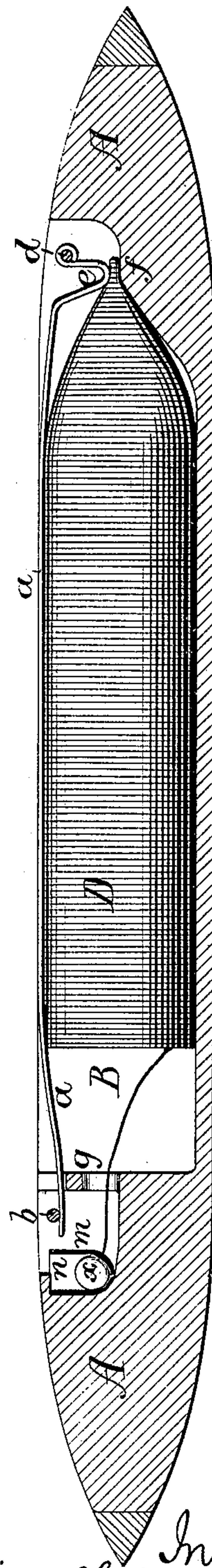


Fig 2.



Witnesses } Henry Howson Jr.
Harry Smith

Inventor
William Holmes
by his Attorneys
Howson & Son

UNITED STATES PATENT OFFICE.

WILLIAM HOLMES, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO HIMSELF, THOMAS HOLMES, AND JOSEPH H. HOLMES, OF SAME PLACE.

LOOM-SHUTTLE.

SPECIFICATION forming part of Letters Patent No. 231,042, dated August 10, 1880.

Application filed November 21, 1879.

To all whom it may concern:

Be it known that I, WILLIAM HOLMES, of Philadelphia, Pennsylvania, have invented a new and useful Improvement in Loom-Shuttles, of which the following is a specification.

The objects of my invention are to insure the proper retention of a cop in the shuttle until said cop is almost entirely unwound, and to provide a friction device for the yarn which will effect a proper retardation of the same, but permit the passage of knots or enlargements. These objects I attain in the manner which I will now proceed to describe, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of my improved shuttle; Fig. 2, a longitudinal section of the same on the line 1 2, Fig. 1; and Fig. 3 a transverse section on the line 3 4, Fig. 1.

A is the shuttle-body, which has the usual central recess, B; but is without the ordinary spindle, the cop D being merely inserted into the recess B, and held therein by a spring-plate, *a*, which is pivoted near the front end of the shuttle, the rear end of said plate being passed beneath a transverse pin, *b*, and thereby retained in position.

Immediately adjacent to the pivot-pin *d* of the plate *a* the latter is bent in such a manner as to form a projection, *e*, so that when the plate is in the position shown in Fig. 2 the end of the nose of the cop is confined between said projection and the portion *f* of the shuttle. By this means the cop is held in position until all of the yarn has been unwound except that directly confined by the projection *e*.

The yarn is drawn from the inside of the cop and passes first through an opening in a partition, *g*, and thence through a horizontal yarn-passage, *i*, formed in a T-shaped block, *m*, the vertical portion of which incloses a chamber, *n*, communicating with said passage *i*.

A ball, *x*, is arranged partly in the passage *i* and partly in the lower portion of the chamber *n*, so that the yarn must pass beneath the ball in being drawn out.

The ball *x*, which may be made of glass,

metal, hard wood, or like material, serves to properly retard the movement of the yarn, but permits the passage of knots or enlargements therein, the ball in such case rolling over the enlargement and rising in the chamber *n*.

The block *m* is confined in an opening of suitable size and shape in the shuttle-body, the ball *x* being prevented from escaping from the chamber *n* by a suitable overhanging portion of said body, or by a transverse pin or wire applied to the upper end of the said block, one end of the horizontal portion of which is flush with one of the sides of the shuttle-body.

If the shuttle is held on one side or turned upside down, the ball *x* will drop into the chamber *n* and cease to obstruct the passage *i*, and the end of the yarn may be sucked through said passage or drawn through with a suitable implement, the ball falling into its place as soon as the shuttle is restored to its proper position.

My improved tension device is cheap and simple in construction, and is not so liable to get out of order as that class of tension devices in which a spring is relied upon to impart the pressure to the yarn.

I claim as my invention—

1. The combination of a shuttle-body with a retaining-plate having a projection for holding the nose of the cop, all substantially as set forth.

2. The combination of a shuttle-body having a yarn-passage, *i*, and a chamber, *n*, communicating therewith, with the ball *x* resting in the said yarn-passage, but capable of moving into the chamber *n*, all substantially as set forth.

3. The combination of the shuttle-body and the ball *x* with the T-shaped block *m*, having the horizontal yarn-passage *i* and vertical chamber *n*, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM HOLMES.

Witnesses:

ALEXANDER PATTERSON,
HARRY SMITH.