

F. BLANDING & A. J. BLANDING.
Loom-Shuttles.

No. 134,971.

Patented Jan. 21, 1873.

Fig. 1

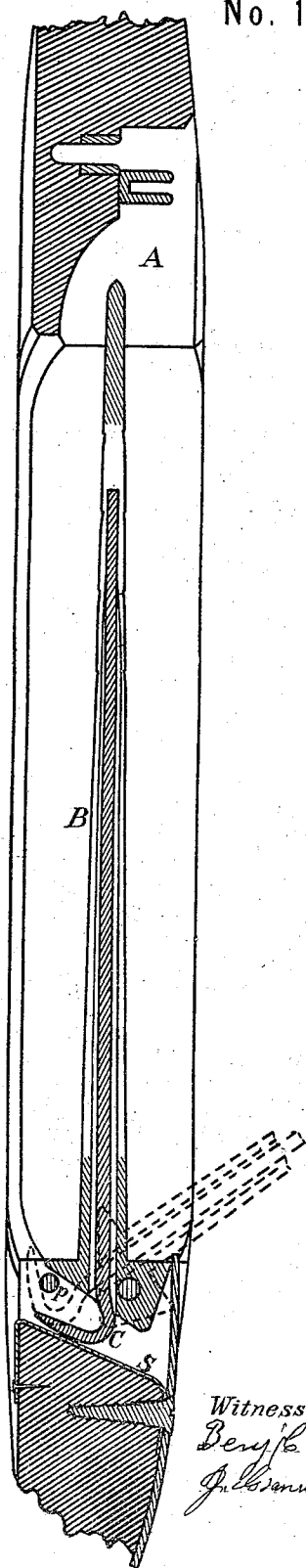


Fig. 2

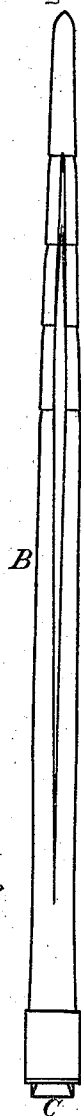
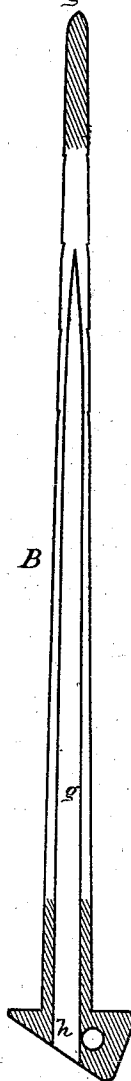


Fig. 3



Witnesses,
Benj^r Baldwin
J^r Greenville Hunter

Inventors,
Francis Blanding
Andrew J. Blanding

UNITED STATES PATENT OFFICE.

FRANCIS BLANDING AND ANDREW J. BLANDING, OF LOWELL, MASS.

IMPROVEMENT IN LOOM-SHUTTLES.

Specification forming part of Letters Patent No. **134,971**, dated January 21, 1873.

To all whom it may concern:

Be it known that we, FRANCIS BLANDING and ANDREW J. BLANDING, both of Lowell, in the county of Middlesex and Commonwealth of Massachusetts, have invented certain Improvements in Loom-Shuttles, of which the following is a specification:

Nature and Objects of the Invention.

The object of our invention is to reduce the amount of filling or weft waste made in weaving, which we accomplish by an improved method of expanding the shuttle-spindle after the cop has been placed thereon, thereby holding the cop very firmly, and preventing it from being knocked off during the process of weaving.

In the accompanying drawing, Figure 1 is a longitudinal section through the middle of the shuttle, in which the spindle is shown by full lines when in the position which it occupies when weaving, and the position of its lower end when turned outward for the purpose of putting on the cop is shown by the dotted lines. Fig. 2 is a plan of the spindle. Fig. 3 is a section of the same.

A is the body of the shuttle, which, in its general construction, may be in any desired form. B is the spindle, split for a part of its length, as has been heretofore customary for cop-shuttles, and having the hole *h* and the groove *g*, through which the wedge C is inserted and slides. The sliding wedge C is ar-

ranged so as to be drawn back and forth within the spindle by means of its curved end coming in contact with the pin *p* and the body of the shuttle or the plate S which is fixed thereon.

The operation is as follows: When a cop is to be put in the shuttle the spindle is turned outward in the usual manner. In doing this the wedge C is drawn backward from the point of the spindle by means of the pin *p*, thus leaving the sides of the spindle so that they may be pressed together by the cop as it is put on the spindle, so that the cop slides easily to its place. On turning the spindle back to its place within the body of the shuttle the bent end of the wedge C strikes against the plate S, and the wedge is thereby forced toward the point of the spindle, thus crowding apart the sides of the spindle and holding the cop very firmly in its place.

Claim.

We claim as our invention—

The combination, with the shuttle-spindle, of the sliding wedge or pin C, so arranged as to be drawn back and forth within the spindle, substantially as and for the purpose specified.

FRANCIS BLANDING.
ANDREW J. BLANDING.

Witnesses:

JAMES G. ELLIOTT,
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