No. 775,676. PATENTED NOV. 22, 1904.

W. L. HALL.

SELF THREADING SHUTTLE.

APPLICATION FILED MAY 19, 1904.

NO MODEL.

Fig. 1.

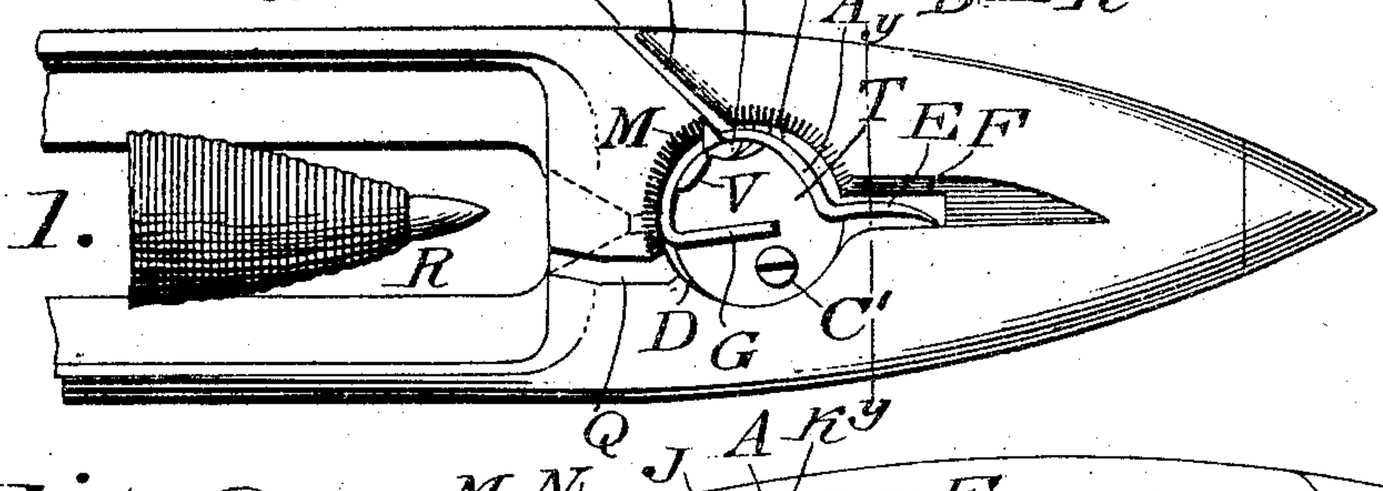


Fig. 2.

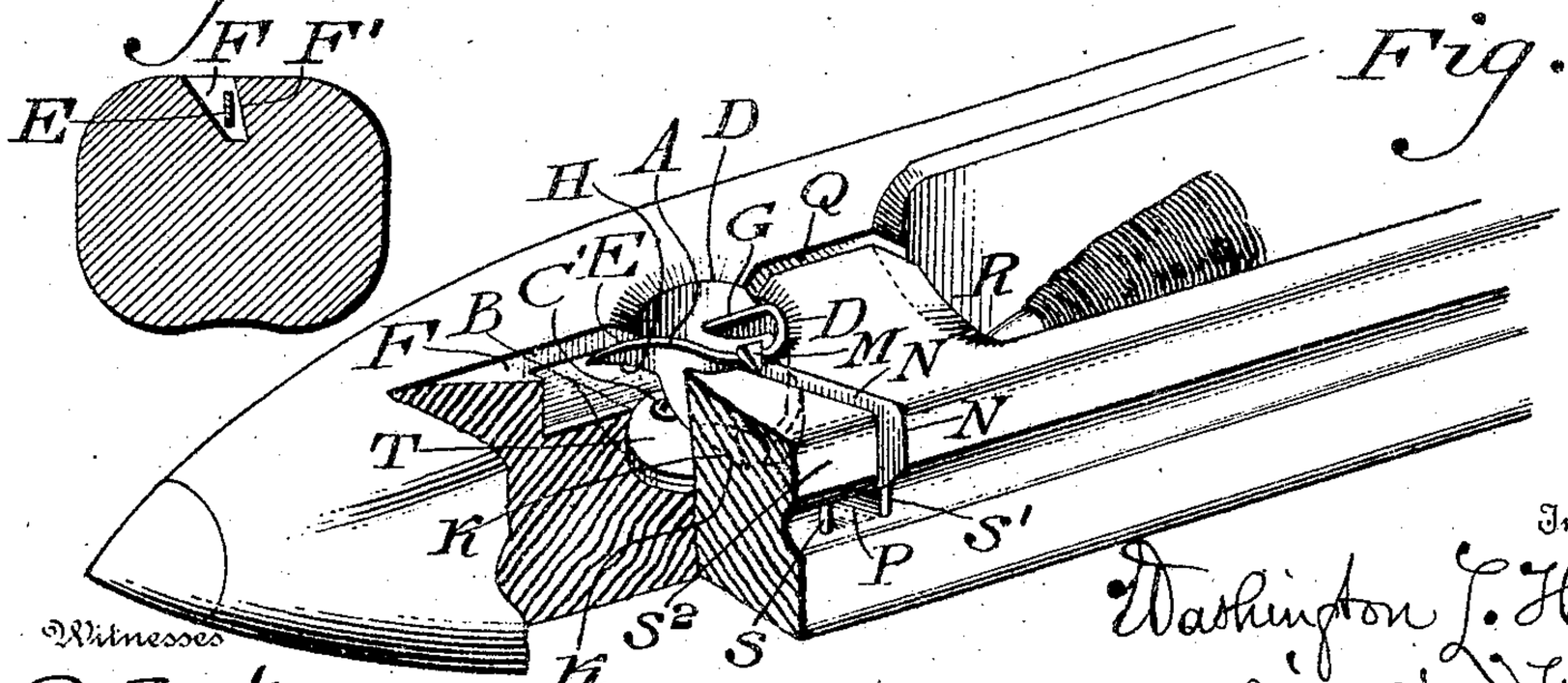


Fig. 3.

Witnesses

P. F. Nagle

L. Dowville.

Fig. 4.

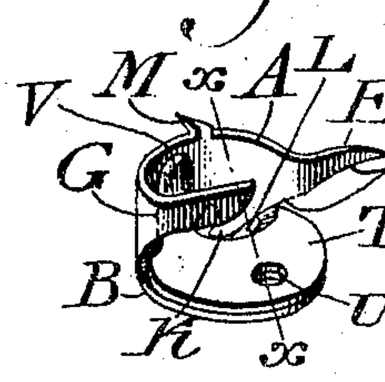


Fig. 6.

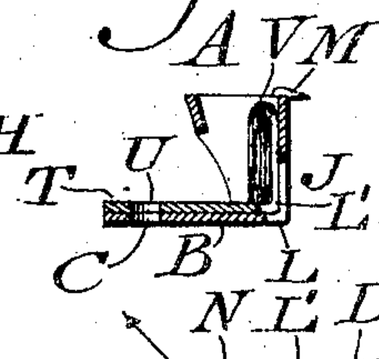
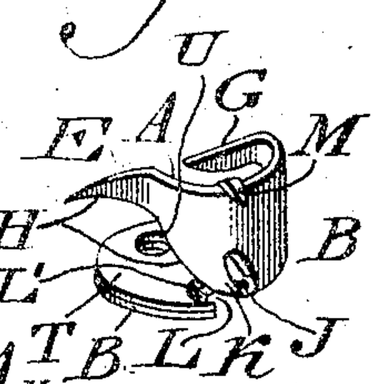


Fig. 5.



Inventor

Washington L. Hall.

By Wilderstein & Fairbanks

Attorneys

No. 775,676. Patented November 22, 1904.

UNITED STATES PATENT OFFICE.

WASHINGTON L. HALL, OF PHILADELPHIA, PENNSYLVANIA.

SELF-THREADING SHUTTLE.

SPECIFICATION forming part of Letters Patent No. 775,676, dated November 22, 1904.

Application filed May 19, 1904. Serial No. 208,702. (No model.)

To all whom it may concern:

Be it known that I, WASHINGTON L. HALL, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Self-Threading Shuttles, of which the following is a specification.

My invention relates to improvements in self-threading loom-shuttles; and it consists of a novel construction of parts, whereby the threading may be readily accomplished, and provision is made for preventing unthreading and guarding the thread at certain places, and other novel features are presented, as will be hereinafter described, and pointed out in the claims.

Figure 1 represents a top or plan view of a portion of a loom-shuttle embodying my invention. Fig. 2 represents a perspective view thereof, a portion of the body of the shuttle being in section. Fig. 3 represents a perspective view, partially in section, taken from the side opposite to Fig. 2. Figs. 4 and 5 represent perspective views taken from opposite sides of the threading device removed from the shuttle. Fig. 6 represents a vertical section on line *x x*, Fig. 4. Fig. 7 represents a vertical section of a portion on line *y y*, Fig. 1.

Similar letters of reference indicate corresponding parts in the figures.

Referring to the drawings, A designates a semicylindrical plate which rises from the base B, the latter being provided with an opening C, whereby said plate and base may be secured by the screws C′ in the cavity D, which said plate and base occupy. Projecting forwardly from one end of the plate A is the tongue E, which occupies the cavity F in the nose of the shuttle, said cavity F being in communication with the cavity D. The wall F′ of one side of the cavity F is inclined so as in a measure to overhang the adjacent side of the tongue. On the opposite end of the plate A is the arm G, which extends inwardly from said end and projects toward the tongue E. The under side of the tongue E and portion of the plate A are inclined downwardly, as at H, and in the under edge of said plate at the lower terminal of said edge H is the recess J, which forms the hook K, it being noticed that the adjacent portion of the base B is cut away, forming the recess L, which receives the hook K, it being noticed that the recess J is in communication with said recess L. At the top of the plate A is the finger M, which occupies a position adjacent to the inner end of the passage N, which extends from the cavity D to the yarn-delivery eye or passage P in the side of the nose of the shuttle.

In the nose of the shuttle is the passage Q, the same being in communication with the cavity D and the bobbin or cop chamber R of the shuttle, the position of parts being shown in Fig. 1.

The operation of the shuttle is as follows: The yarn is drawn from the bobbin or cop through the passage Q and is guided by the arm G into the cavity F along one side of the tongue E and under the inclined wall F′ of said cavity F, whereby the yarn is caused to descend. Then the yarn is bent or turned over the end of said tongue, when as the draft continues said yarn rides down the edge H of said tongue and the plate A and is also directed into the passage N, whereby it reaches the eduction eye or passage P, it being noticed that when the yarn enters the passage N the finger M prevents the yarn from running around the plate A back to the passage Q. Consequently it is properly guided into said passage N, from whence it enters the recess L and the passage P, from which latter it is directed to the place of weaving. Should there be any back draft of the yarn at the passage P, whose inner terminal is adjacent to the recess J, it will rise in the latter, and owing to the hook K it is prevented from returning upwardly along the edge H, and so unthreading of the shuttle is prevented. As soon as the proper draft is reëstablished the yarn leaves said recess J and so is properly discharged through the passage P, and thus the weaving is continued uninterrupted.

At the sides of the outer terminal of the eye or passage P are vertically-extending posts S S′, on which the yarn runs in its eduction from the shuttle, it being noticed that the post S is considerably removed from the terminal

of the passage N, which is in communication with the terminal of said eye or passage P, so that said post S is beneath the wall S^2 of the nose of the shuttle, so that the under side of said wall forms a horizontal shoulder which prevents the yarn from rising above said shoulder and directly reëntering the passage N, thus assisting in preventing the unthreading of the shuttle.

In order to strengthen the plate A and base B, there is superimposed upon said base the plate T, which has an opening U therein coincident with the opening C in said base B, thus strengthening the latter, and a recess L′ coincident with the recess L.

A post V rises from the plate B and is located between the passages Q and N, so that when the yarn is properly threaded it will run out of the shuttle on the inner side of said post from the passage Q to the passage N without being cut by the edge of the plate A below the arm G.

Various changes may be made in the details of construction shown without departing from the general spirit of my invention, and I do not, therefore, desire to be limited in each case to the same.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a self-threading shuttle, a shuttle-body having thread-passages and a thread-well, a plate, a tongue, and an arm, said tongue and arm projecting from opposite ends of said plate in the same direction.

2. In a self-threading shuttle, a plate, and a tongue thereon, and an arm, said tongue and arm projecting from opposite ends of the plate and extending in the same general direction, said tongue projecting laterally from the end of said plate, the under side of said tongue and plate being inclined downwardly.

3. In a self-threading shuttle, a plate, having an arm and a tongue projecting from opposite ends of the plate and extending in the same general direction, a hook on the under side of said plate, and a recess in said plate at the side of said hook.

4. In a self-threading shuttle, a shuttle-body having thread-passages and a thread-well, a plate, a hook on the under side of said plate, a recess in said plate at the side of said hook, a base for said plate, and a recess in said base in communication with the recess in said plate.

5. In a self-threading shuttle, a plate having a recess and a hook formed thereby, and a finger at the top of said plate over said recess, said finger being set back from the discharge-passage in the body of the shuttle.

6. In a shuttle, a delivery-eye in the side of the body of the shuttle, posts at the sides of the terminal of said eye and a shoulder on the body of the shuttle above one of said posts.

7. In a self-threading shuttle, a shuttle-body having thread-passages and a thread-well, a plate, a base from which the same rises and a reinforce on said base, said base and reinforce having recesses in the periphery thereof in communication with each other.

8. In a self-threading shuttle, a shuttle-body having thread-passages and a thread-well, a plate, a base from which the same rises, an arm projecting laterally from said plate and a guard on said base between the lower edge of said plate and the delivery-eye of the shuttle.

WASHINGTON L. HALL.

Witnesses:
JOHN A. WIEDERSHEIM,
WM. CANER WIEDERSHEIM.