

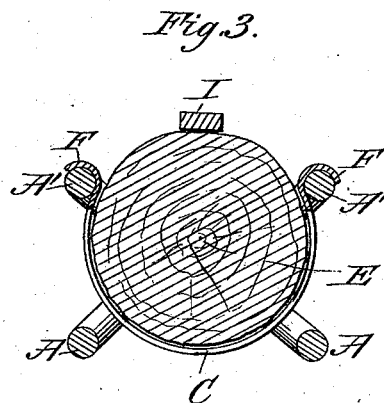
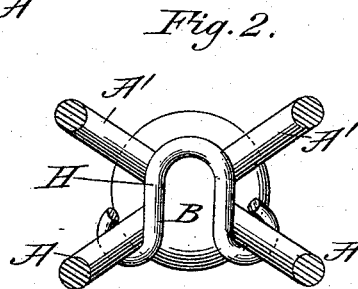
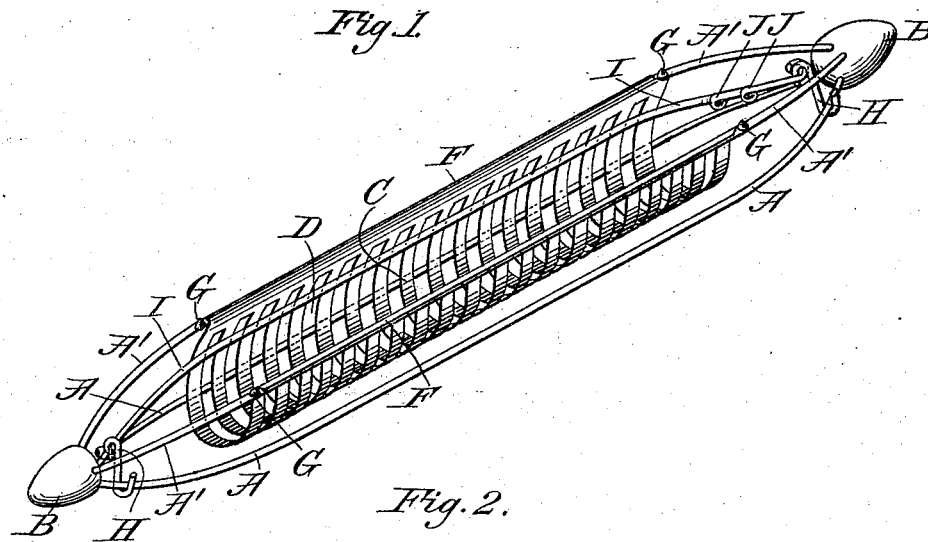
(No Model.)

H. P. GARLAND.

LOOM SHUTTLE.

No. 305,446.

Patented Sept. 23, 1884.



*Attest:*

*H. H. Schott*  
*A. R. Brown.*

*Inventor:*  
*Howard P. Garland,*  
*per J. C. Tasker*  
*Atty.*

# UNITED STATES PATENT OFFICE.

HOWARD P. GARLAND, OF SAN QUENTIN, CALIFORNIA.

## LOOM-SHUTTLE.

SPECIFICATION forming part of Letters Patent No. 305,446, dated September 23, 1884.

Application filed June 21, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, HOWARD P. GARLAND, a citizen of the United States, residing at San Quentin, in the county of Marin and State of California, have invented certain new and useful Improvements in Loom-Shuttles, of which the following is a specification.

My invention consists of a loom-shuttle formed of a skeleton frame-work of metallic rods, whose ends are confined by cast-metal knobs or heads upon which the picker strikes, said frame being provided with a cop-carrying cradle and fastening devices, as hereinafter more fully set forth.

Figure 1 is a perspective view of my improved shuttle, showing the cop removed. Fig. 2 is a section through one end of the shuttle, showing the butt end of one of the heads. Fig. 3 is a central cross-section through the shuttle, showing the cop in position.

Similar letters of reference are used to designate like parts throughout the several figures.

I construct the frame-work of my shuttle of four steel rods, A A', arranged in a rectangular form, as shown in Figs. 2 and 3, and their opposite ends are curved or centered toward each other, and while in that position I cast about or upon the said meeting ends the brass knobs or heads B, which are conical in form, with their apexes placed to the front or to the outer end, while the rods A are centered in their base and thus held firmly and securely in position. A sheet-metal basket, C, having transverse slits D, is provided for the reception of the cop E. The upper edges of this basket are curved over, as shown at F, and rest upon the two upper rods, A' A', and small lugs G G, brazed upon the said rods, prevent end movement of the cop-holder. Near each end of the shuttle I place yokes H, which are hooked around the two lower rods, A A, and

to one of the said yokes is hinged a rod, I, having a couple of turns made at its hinged end, which form tension-holes J J, through which the yarn from the cop is led outward.

It may here be remarked that, if desirable, the space within the shuttle between the base of the heads B B and the ends of the cop may be filled up with blocks of wood or rubber, and an eyelet-hole made in one of them for the passage of the yarn. The opposite end of the bar I is slightly hooked, and in practice I first place the cop within the basket and squeeze it tightly down, and then bend down the hinged confining-bar I, and spring its hooked end under the yoke H, and thus the cop is firmly held to place, and end movement of the same is prevented. By having the confining-bar placed at the top I am enabled to dispense with a central rod passing through the bore of the cop, and permit the yarn to pass out more freely and without binding.

From the above it will be seen that I am enabled to provide a shuttle of great lightness, yet of strong and durable construction, and one that can be operated with but little noise, as it will slide smoothly over the shuttle-race upon the two lower rods, A A.

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

A loom-shuttle composed of metal rods having their outer ends connected by knobs or heads B, and provided with a bobbin-carrying cradle, C, a binding-rod, I, and yokes H, substantially as shown and set forth.

In testimony that I claim the foregoing I have hereunto set my hand and seal.

HOWARD P. GARLAND. [L. S.]

Witnesses:

CHAS. E. KELLY,  
WILMER BRADFORD.