(No Model.)

G. C. VOIGT.

LOOM SHUTTLE.

No. 509,339. Patented Nov. 21, 1893.

Fig. 1.

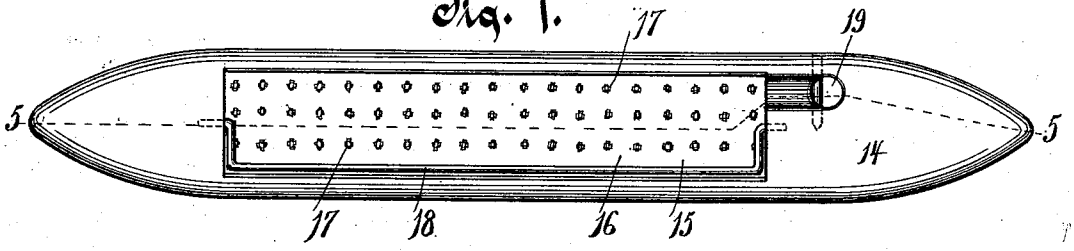


Fig. 2.

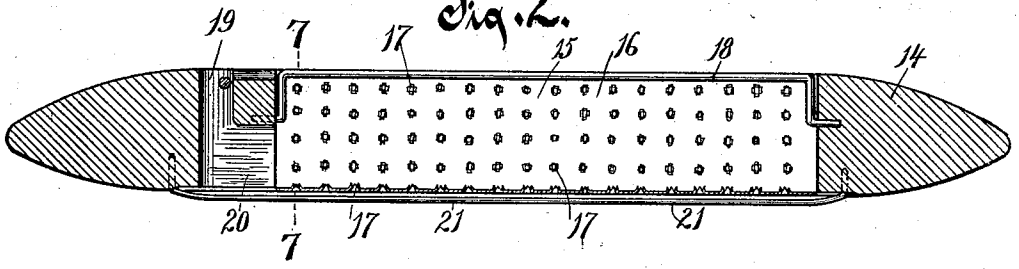


Fig. 3.

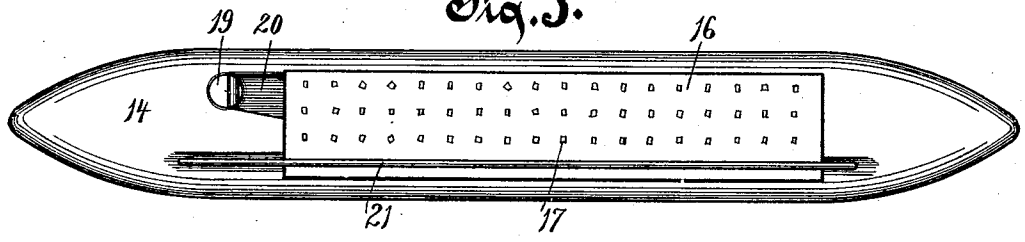
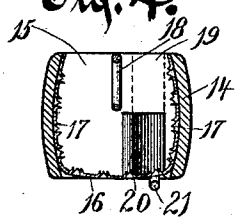


Fig. 4.



Witnesses.

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GUSTAVE C. VOIGT, OF WAUKESHA, WISCONSIN.

LOOM-SHUTTLE.

SPECIFICATION forming part of Letters Patent No. 509,339, dated November 21, 1893.

Application filed July 14, 1892. Serial No. 439,978. (No model.)

To all whom it may concern:

Be it known that I, GUSTAVE C. VOIGT, of Waukesha, in the county of Waukesha and State of Wisconsin, have invented new and useful Improvements in Loom-Shuttles, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

My invention has relation to improvements in shuttles particularly adapted for use in connection with looms for the weaving of rag carpets.

The shuttles usually employed in looms of the above character require considerable labor in order to properly arrange the weft roll therein, many of the forms of which I am aware utilizing the spindle which is left in the shuttle during the progress of the shuttle through the shed. In unwinding from a shuttle of this character considerable difficulty is experienced owing to the resistance offered by the rough material, and in consequence the employment of a heavy shuttle box is required in order to keep the shuttle in its place upon the track. Other makes of shuttles also employ tin boxes which are placed within the shuttle, with the consequence that the weaver is compelled to provide himself with a number of such receptacles, obviously increasing expense and labor.

In order to obviate the difficulties above pointed out, I provide a construction of shuttle as will be hereinafter more fully explained in the specification and shown in the drawings, in which—

Figure 1, is a plan view of the shuttle. Fig. 2, is a longitudinal section on the line 5—5 of Fig. 1. Fig. 3, is an inverted plan view of the shuttle, and Fig. 4, is a transverse section on the line 7—7 of Fig. 2.

Like numerals of reference indicate like parts throughout the several views.

Referring to the drawings, the numeral 14 indicates my improved shuttle body of the usual contour, and provided with a cavity or chamber 15, extending through the bottom of the shuttle body. This cavity is lined with a thin sheathing 16 extending up the sides thereof, and also constituting the bottom of the cavity or chamber. The sheathing is formed with a series of punctures or indentations 17, which, when the rags composing the weft of the carpet are inserted therein, tend to hold the same in place and prevent slipping thereof.

The numeral 18 indicates a pivoted bail, which when the rags are being inserted is thrown to one side, and then subsequently brought to a central position, which not only has the effect of retaining the rags in place, but, also, prevents protruding of the same and consequent rubbing of the rough material upon the warp, during the passage of the shuttle through the shed.

In the usual construction of shuttles, the aperture through which the end of the weft is passed is arranged upon the side thereof. In my form, I prefer to construct an aperture 19, which runs vertically from the top of the shuttle through the bottom, said aperture having a branching aperture 20 running at right angles inward, and communicating with the longitudinal cavity of the shuttle.

Practice has demonstrated that in shuttles provided with a lateral aperture the liability of the shuttle being dragged off its track by the lateral pull exists to a great extent. By arranging the aperture so as to extend through the top of the shuttle, this difficulty is entirely obviated, and the weft may be passed from the longitudinal cavity through the branch aperture 20, into aperture 19, and thence upward in said aperture through the top of the shuttle.

In Figs. 2, 3 and 4, the bottom of the shuttle is shown as provided, upon one side, the outer with relation to the reed, with a wire track 21. This track bears directly on the bed or race, and has a tendency to tilt the shuttle slightly toward the reed, thereby more effectually keeping said shuttle to its proper position on the bed.

The great advantage possessed by a shuttle constructed in accordance with my improved plan, is that the rags are permitted to be readily pulled from the shuttle during its progress through the shed, which is not the case when the rough material composing the weft is compelled to be unwound from a spindle or bobbin arranged within the shuttle.

As is well known, the rags which go to make up the weft of a rag carpet are composed of cloth of any material cut up in narrow strips, differing from one-half inch to one and

one-half inches in width, these pieces being not often longer than a foot and sewed together to form a continuous weft. It will thus be seen, from the nature of the material, that the same possesses a very uneven tension and consequently an uneven pull is exerted on the shuttle, and from the latter to the selvage, a fine piece of the same weft thread of course leaving the shuttle with less resistance than a heavy piece, and as this sometimes gives a sudden jerk on the shuttle, when the latter is on its travel through the warp, it would naturally have a tendency to throw the shuttle off the track if the weft passed out of the shuttle on the side thereof. By arranging the weft aperture in the top, however, the tendency is to lift the shuttle, and the weight of the same is sufficient to pass the heavy pieces out without disturbing the run of the shuttle.

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

1. A loom shuttle body having solid ends and a central longitudinal cavity for the reception of the cop, one of said solid ends provided with a vertical aperture running from the top to the bottom of the shuttle body and with a branch aperture extending at right angles inwardly and communicating with the longitudinal cavity, whereby the weft may be passed from the longitudinal cavity through the branch opening into the vertical aperture, and thence upwardly through the top of the shuttle, substantially as set forth.

2. In combination with a loom shuttle body having solid ends and a central longitudinal cavity for the reception of the cop, of a binder wire or bail extending longitudinally of the cavity, and having its ends bent downwardly and inwardly, the inwardly bent portions engaging recesses in the solid ends of the shuttle body so as to turn freely therein, substantially as set forth.

3. In combination with a loom shuttle body of a track secured to and depending below the bottom thereof, on the side distant from the reed of the loom, whereby the shuttle is tilted inward, substantially as set forth.

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

GUSTAVE C. VOIGT.

Witnesses:
G. O. AUSTIN,
JOHN H. MATTHEWS.