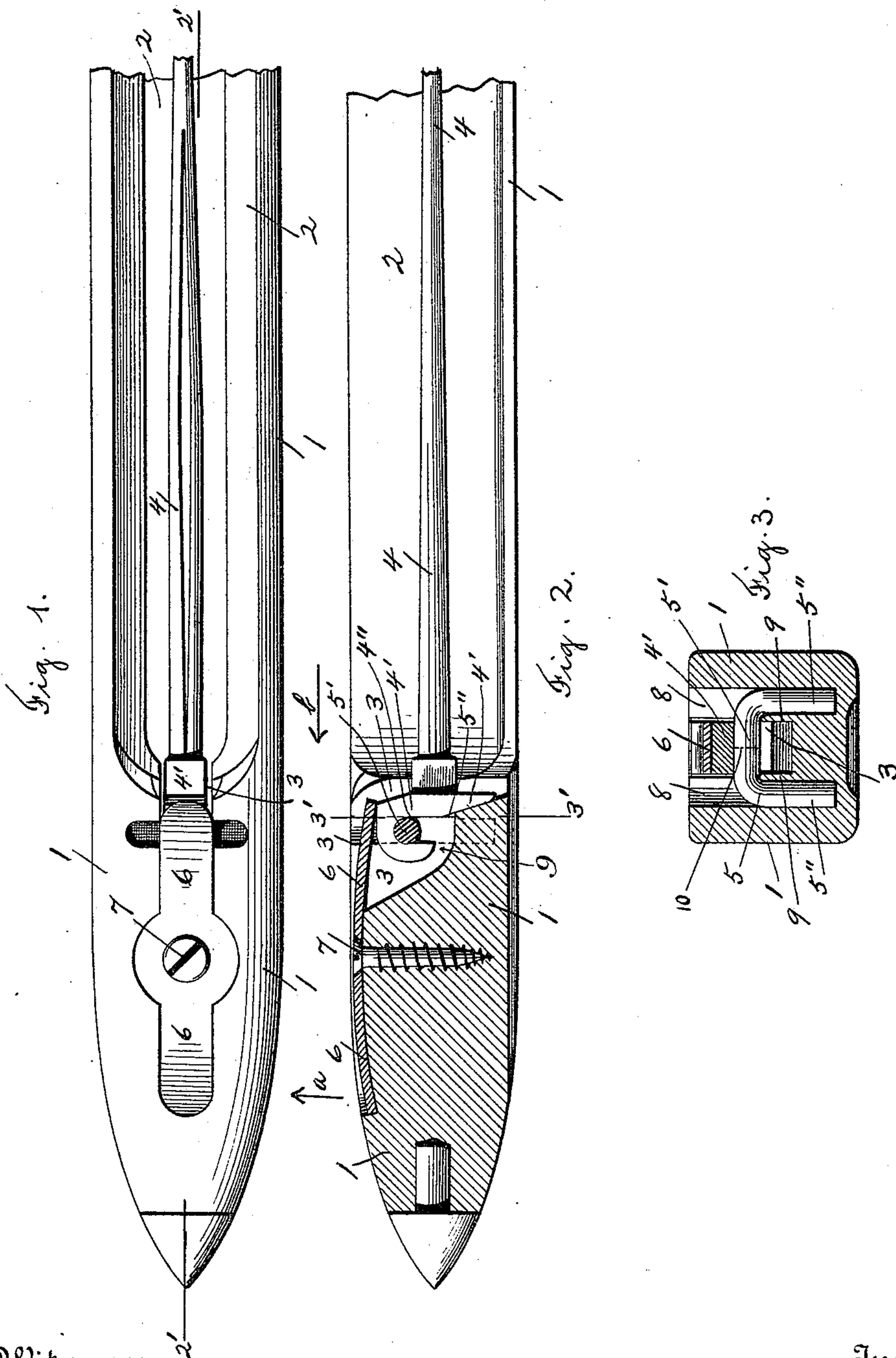


(No Model.)

J. H. MORIN.  
LOOM SHUTTLE.

No. 525,814.

Patented Sept. 11, 1894.



Witnesses  
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# UNITED STATES PATENT OFFICE.

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## LOOM-SHUTTLE.

SPECIFICATION forming part of Letters Patent No. 525,814, dated September 11, 1894.

Application filed April 20, 1894. Serial No. 508,277. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH H. MORIN, a citizen of the United States, residing at Wil-  
kinsonville, in the county of Worcester and  
5 State of Massachusetts, have invented certain  
new and useful Improvements in Loom-Shut-  
tles; and I do hereby declare that the follow-  
ing is a full, clear, and exact description there-  
of, which, in connection with the drawings  
10 making a part of this specification, will enable  
others skilled in the art to which my invention  
belongs to make and use the same.

My invention relates to loom shuttles, and  
more particularly to the manner of attaching  
15 the spindle to the shuttle body.

Heretofore in loom shuttles, the heel or  
base of the spindle has ordinarily been piv-  
otally attached to the shuttle body, within a  
cavity or recess at one end thereof, to be  
20 raised, or moved down in a horizontal posi-  
tion, by a pin extending transversely through  
the shuttle body, and through a hole or open-  
ing in the heel or base of the spindle. This  
pin is liable to work loose, and the headed  
25 end thereof will project beyond the plain sur-  
face of the shuttle, and come in contact with  
and catch the filling, as the shuttle passes  
back and forth on the lay; and further, the  
pin on which the spindle is pivoted may work  
30 loose, and become detached from the shuttle,  
and in substituting another pin and driving  
the same into the shuttle to act as a pivot  
for the spindle, the shuttle is liable to be  
split, or cracked, in case the pin is a little  
35 larger than the pin previously used.

The object of my invention is to overcome  
the objections mentioned above to the ordi-  
nary way of pivoting the spindle in the shut-  
tle body, and to do away with the pivot pin  
40 extending transversely through the shuttle  
body, and to provide in place thereof, an  
attaching device consisting of a staple, the  
two legs of which extend at right angles to  
the top of the staple, and are inserted into  
45 holes or recesses formed in the shuttle body,  
and the top of which forms the pivot pin,  
with which the heel or base of the spindle  
engages; said spindle heel or base being held  
in engagement with said staple, to have a  
50 pivotal motion thereon, by a flat heel spring,  
of ordinary construction.

My invention consists in certain novel fea-

tures of construction of a loom shuttle, as will  
be hereinafter fully described, and the na-  
ture thereof indicated by the claims.

Referring to the drawings:—Figure 1 is a  
top view of a portion of a loom shuttle em-  
bodying my improvements. Fig. 2 is a cen-  
tral longitudinal section, on line 2', 2', Fig. 1,  
looking in the direction of arrow *a*, same fig- 60  
ure, and Fig. 3 is a cross section, on line 3',  
3', Fig. 2, looking in the direction of arrow *b*,  
same figure.

In the accompanying drawings, 1 is the  
shuttle body, of the usual form, provided with 65  
the cop chamber 2, and the recess 3 at one  
end thereof, within which recess is pivoted  
the heel or base 4' of the spindle 4. The  
heel or base 4' of the spindle 4 is provided in  
this instance with an open end slot 4'', which 70  
engages with, and has a pivotal motion on  
the top or cross bar 5' of the staple 5.

One end of the flat heel spring 6, which ex-  
tends in a recess in the top of the shuttle  
body, at one end thereof, and is secured there- 75  
in by a screw 7, projects over the heel or base  
4' of the spindle 4, as shown in Fig. 2, to hold  
the spindle in place when closed down in a  
horizontal position within the cop chamber  
of the shuttle, and also to hold the spindle 80  
in place when raised to remove, or place the  
cop thereon, in the ordinary way.

The device 5 on which the heel or base of  
the spindle is pivoted is preferably made sta-  
ple shape, as shown in Fig. 3 of the drawings, 85  
and consists of the top or connecting bar 5'  
extending transversely in the shuttle body,  
and the two legs or ends 5'', extending at  
right angles to the top or connecting bar 5'.  
The legs 5'' extend in vertical holes or open- 90  
ings 8, bored in the shuttle body, at a point  
where the recess 3 extends therein, and two  
divisions 9 extend between the legs 5'' of the  
staple 5, at each side of the heel or base 4'  
of the spindle 4, and said heel or base ex- 95  
tends between said divisions, as shown in  
Fig. 3.

The open end slot 4'' in the heel or base 4',  
of the shuttle 4, extends over the top or cross  
bar 5' of the staple 5, and is held in engage- 100  
ment therewith, to have a pivotal motion  
thereon, as the spindle is raised out of the  
shuttle body, or lowered therein, by the flat  
heel spring 6, as shown in Fig. 2.



The advantages of my improved construction of loom shuttles will be readily appreciated by those skilled in the art.

I do away with the ordinary pivot pin extending transversely through the shuttle body, with its head extending through one side thereof, and I provide an attachment for the spindle, which is located entirely within the shuttle body, and which is inserted from the top of the shuttle. By my construction of the spindle pivot, making it of staple shape extending into two vertical holes or recesses within the body of the shuttle, I hold together the sides of the shuttle, at the point where the recess extends for the reception of the spindle heel or base, and thus strengthen the shuttle, and prevent its splitting.

It will be understood that the details of construction of my improvements may be varied somewhat, if desired.

I have shown in the drawings the heel or base of the spindle provided with an open end slot, but I do not limit myself to this construction, as the heel or base may have the ordinary transverse hole, extending through the same, in which case my staple may be cut in two, through the bar 5', as indicated by dotted line 10, Fig. 3, and each half of the bar 5', inserted in the hole of the heel or base of the spindle, from each side thereof, and the legs 5'' inserted into the recesses 8, and and the base or heel of the spindle into the cavity 3, and the staple pressed into position,

to hold the spindle in pivotal connection with the shuttle body, in the same manner as though the staple was made in one piece.

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

1. The combination with a shuttle body and a spindle, of means for pivotally attaching the heel or base of the spindle, to the shuttle body, consisting of a staple, the top of which forms a transverse bearing, which is engaged by the heel or base of the spindle, and the legs or ends of which extend at right angles to the top, and enter vertical holes or openings in the shuttle body, at each side of the heel of the spindle, substantially as shown and described.

2. In a loom shuttle, the combination with a shuttle body, and a spindle, having the heel or base thereof provided with an open end slot, of a staple, having the ends thereof extended into holes or recesses in the shuttle body, at right angles to the top of the staple, the top of said staple being engaged by the heel or base of the spindle, and a heel spring, bearing on the heel or base of the spindle to hold the same in engagement with the staple, substantially as shown and described.

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Witnesses:

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