

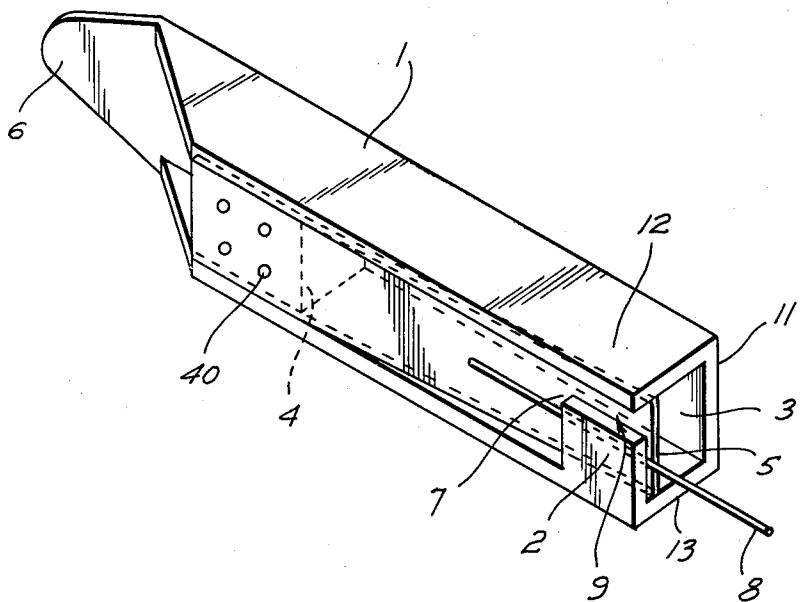
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V. SVATY

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CLAMPING SHUTTLE

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INVENTOR.
Vladimir Svaty
BY
Michael S. Stricker
Attorney

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CLAMPING SHUTTLE

Vladimir Svaty, Liberec, Czechoslovakia, assignor to
Sdruzeni Podniku Textilniho Strojirenstvi, Liberec,
Czechoslovakia

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The present invention relates to a clamping shuttle, and more particularly to a clamping shuttle having a resilient means for clamping a weft.

Clamping shuttles are known which are provided with a pair of clamping members which grip the weft to draw the weft through the shed. The known clamping shuttles have a rather complicated construction, and since the clamping elements have to be arranged in a very limited space on the shuttle, the clamping elements cannot be made very strong and therefore disturbances of the clamping members occur frequently so that the function of the shuttle is not properly performed.

It is one object of the present invention to provide a clamping shuttle of very simple construction, which reliably operates, and which is capable of performing its function even after a prolonged period of use.

Another object of the present invention is to provide a clamping shuttle with a resilient clamping means of so simple construction that very little space is required for the clamping means.

Another object of the present invention is to provide a clamping shuttle which substantially comprises only two elements, namely a body and a resilient means abutting a portion of the body for clamping a thread.

Another object of the present invention is to provide a shuttle with a cavity receiving the end of a thread so that the thread end can be clamped by a resilient means within the cavity.

With these objects in view, one embodiment of the invention comprises a hollow body formed with a cavity, and a resilient means at least partly located in the cavity for clamping a thread against an inner surface bounding the cavity.

In a preferred embodiment of the invention a leaf spring is located in a cavity of the shuttle formed by a U-shaped wall, and permanently abuts an abutment wall portion which partly closes the cavity and forms a gap with a U-shaped wall through which the thread can pass into the cavity.

The novel features which are considered as characteristic for the invention are set forth in particular in the appended claims. The invention itself, however, both as to its construction and its method of operation, together with additional objects and advantages thereof, will be best understood from the following description of a specific embodiment when read in connection with the single figure of the accompanying drawing which is a perspective view illustrating a shuttle according to the present invention.

Referring now to the drawing, the prismatic body 1 of the shuttle is elongated and has a U-shaped wall comprising a yoke wall 11 and two leg walls 12 and 13 and forming a prismatic cavity 3 which is open on one side of the body and elongated. The yoke wall 11 is extended by a pointed wall portion 6 which facilitates the passage of the shuttle through the shed. A block 4 is fitted into cavity 3 formed by the U-shaped wall, and closes one end of the cavity. Rivets 40 secure one end of a leaf spring 7 to block 4. The other end 5 of leaf spring 7 resiliently abuts the inner surface of an abutment wall portion 2 which extends from the leg wall 13 parallel to the yoke wall 11 but terminates short of the

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other leg wall 12 so that a gap 9 is formed between one edge of abutment wall portion 2 and leg wall 12.

Leaf spring 7 tends to assume a flat condition, or even to project out of the cavity 3, so that it is pretensioned when abutting wall portion 2. Consequently, a weft thread 8 entering through gap 9 can be clamped between the free end 5 of the leaf spring 7 and the inner surface of the abutment wall portion 2.

Instead of a leaf spring, it is also possible to provide a coil spring having an abutment at one end engaging the wall portion 2. It is also possible to substitute a rubber body for the leaf spring.

From the above description of a preferred embodiment of the invention it will become apparent that a shuttle according to the invention is of extremely simple construction, has small dimensions and low weight, and can be manufactured and assembled at low cost. Nevertheless, the shuttle of the invention reliably grips the weft thread, and can perform its function for a long period of time without any disturbances.

It will be understood that each of the elements described above, or two or more together, may also find a useful application in other types of shuttles differing from the types described above.

While the invention has been illustrated and described as embodied in a shuttle including a body and a resilient means abutting the body for clamping a thread, it is not intended to be limited to the details shown, since various modifications and structural changes may be made without departing in any way from the spirit of the present invention.

Without further analysis, the foregoing will so fully reveal the gist of the present invention that others can by applying current knowledge readily adapt it for various applications without omitting features that, from the standpoint of prior art, fairly constitute essential characteristics of the generic or specific aspects of this invention and, therefore, such adaptations should and are intended to be comprehended within the meaning and range of equivalence of the following claims.

What is claimed as new and desired to be secured by Letters Patent is:

1. A shuttle comprising a body formed with a cavity open on one side of said body, said body having an abutment portion partly closing said cavity so that a gap is formed adjacent said abutment portion in said body; and a resilient means resiliently abutting said abutment portion, said gap being adapted to permit passage of a thread into said cavity so that the thread is clamped between said abutment portion and said resilient means.

2. A shuttle comprising a body formed with a cavity open on one side of said body, said body having an abutment portion partly closing said cavity so that a gap is formed adjacent said abutment portion in said body; and leaf spring means resiliently abutting said abutment portion, said gap being adapted to permit passage of a thread into said cavity so that the thread is clamped between said abutment portion and said leaf spring means.

3. A shuttle comprising a body formed with a cavity open on one side of said body, said body having an abutment portion partly closing said cavity so that a gap is formed adjacent said abutment portion in said body; and a leaf spring having one end secured to said body spaced from said abutment portion and another end located in said cavity and resiliently abutting said abutment portion, said gap being adapted to permit passage of a thread into said cavity so that the thread is clamped between said abutment portion and said leaf spring.

4. A shuttle comprising a prismatic body formed with a prismatic cavity open on one side of said body, said body having on said open side an abutment wall portion

forming a gap on the open side of said cavity communicating with said cavity so that a thread may pass through said gap into said cavity; and a spring located in said cavity and having a portion abutting said abutment wall portion for clamping a thread located in said cavity.

5. A shuttle comprising an elongated body having a cavity and being formed with a gap on the outside thereof opening into said cavity so that a thread may pass through said gap into said cavity; and resilient means in said cavity for clamping the thread against an inner surface of said body.

6. A shuttle comprising a prismatic body formed with a prismatic cavity open on one side of said body, said body having on said open side a wall portion forming a gap on the open side of said cavity communicating with said cavity so that a thread may pass through said gap into said cavity; and a leaf spring having one end secured to one end of said body and another end located in said cavity and abutting an inner surface of said body in the region of the other end of said body for clamping a thread located in said cavity.

7. A shuttle comprising an elongated body having a U-shaped wall so that an elongated cavity is formed in said body, said body having an abutment wall portion projecting from one leg of the U-shaped wall toward the other leg of the U-shaped wall so that the edge of said abutment wall forms a gap with the other leg of the U-shaped wall permitting passage of a thread into said cavity; and a resilient means located in said cavity and abutting the inner surface of said abutment wall portion for clamping a thread.

8. A shuttle comprising an elongated body having a

10 U-shaped wall so that an elongated cavity is formed in said body, said body having an abutment wall portion projecting from one leg of the U-shaped wall partly closing the cavity in said body so that the edge of said abutment wall forms a gap with the other leg of the U-shaped wall permitting passage of a thread into said cavity; and a leaf spring having one end secured to one end of said body and another end located in said cavity and abutting the inner surface of said abutment wall portion for clamping the thread.

15 9. A shuttle comprising an elongated body including a wall having a U-shaped cross section including a yoke wall and two leg walls forming a cavity open on one side, a pointed wall portion projecting at one end from said yoke wall, a block located in said cavity at said one end, an abutment wall portion projecting parallel to said yoke wall from one of said leg walls and having an edge spaced from the other leg wall to form a gap with the same for the passage of a thread; and a leaf spring having one end secured to said block and another end located in said cavity and pretensioned to resiliently abut the inner surface of said abutment wall portion for clamping a thread.

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