

P. F. MARCANTE.

SHUTTLE CHECK.

APPLICATION FILED NOV. 10, 1910.

Patented Apr. 16, 1912.

2 SHEETS—SHEET 1.

1,023,579.

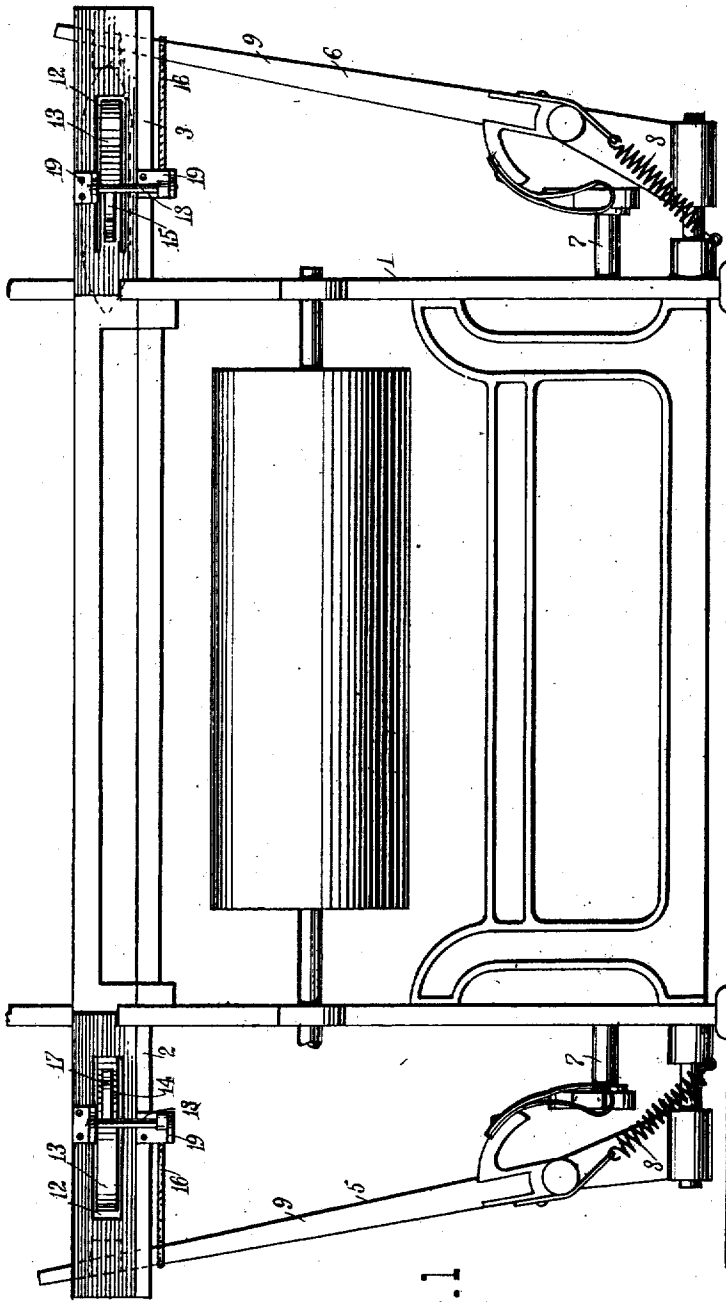


Fig. 1

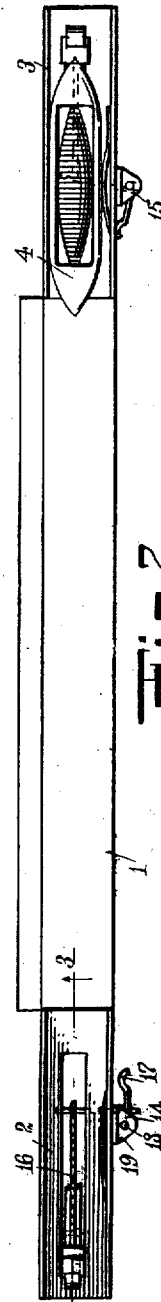


Fig. 2

WITNESSES
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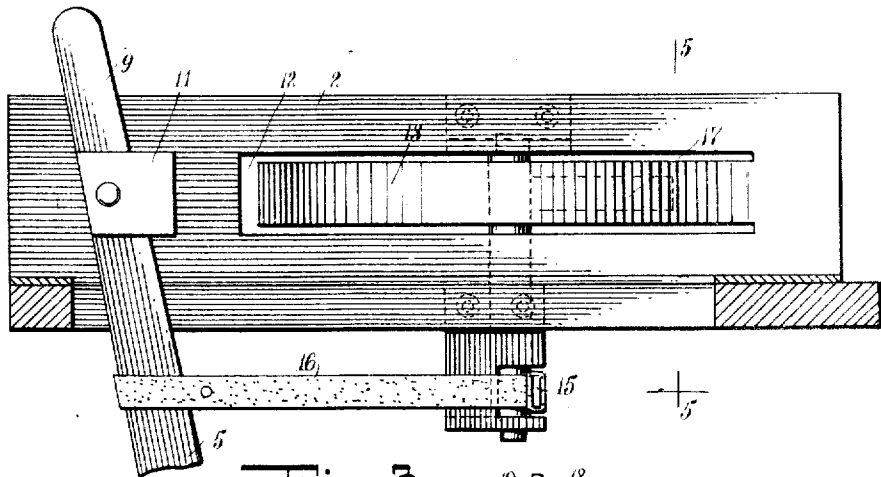


Fig. 3

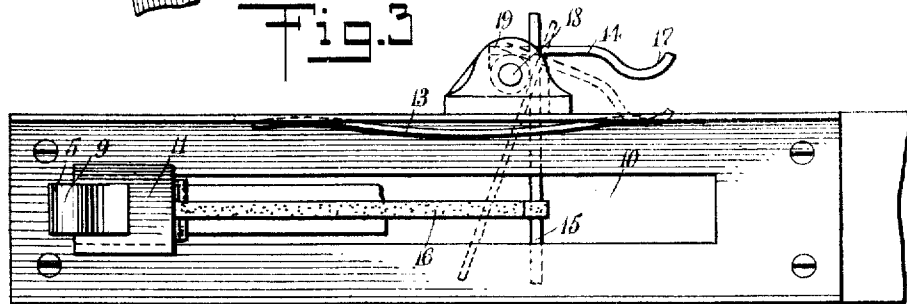


Fig. 4

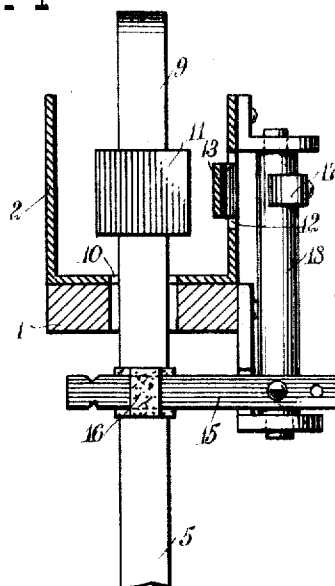


Fig. 5

WITNESSES

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UNITED STATES PATENT OFFICE.

PETER F. MARCANTE, OF ALLENTOWN, PENNSYLVANIA.

SHUTTLE-CHECK.

1,023,579.

Specification of Letters Patent.

Patented Apr. 16, 1912.

Application filed November 10, 1910. Serial No. 591,581.

To all whom it may concern:

Be it known that I, PETER F. MARCANTE, a subject of the King of Italy, and a resident of Allentown, in the county of Lehigh and State of Pennsylvania, have invented a new and Improved Shuttle-Check, of which the following is a full, clear, and exact description.

This invention relates to a new and improved attachment for looms, adapted to bring the shuttle to a positive gradual stop, irrespective of the speed at which it is traveling, or the condition of the weather.

It is a well known fact that with such types of looms as are now generally in use, when the weather becomes damp, the shuttle and box swell so much that the fit between them becomes exceedingly tight, so that the shuttle does not move properly, and sometimes stops up before it reaches the end of its travel. In dry weather, the opposite condition of affairs takes place, the shuttle in this case, having too much play, hits the picker with so much force that it rebounds, permitting the filling to slacken up, and thus making rough cloth.

An object, therefore, of this invention is to provide a gradual brake or check which will positively stop the shuttle at the proper point, irrespective of the weather conditions, so that the loom can be operated at a higher speed, producing more cloth and better cloth in a given time.

A further object of this invention is to provide a device which will be simple in construction, inexpensive to manufacture, simple and positive in its operation, and which will utilize the power heretofore wasted in stopping the shuttle.

A still further object of this invention is to provide a gradual brake for the shuttle which will be applied proportionate to the speed and force of the shuttle, thereby bringing the shuttle to a positive and accurate stop.

These and further objects, together with the construction and combination of parts, will be more fully described hereinafter and particularly set forth in the claim.

Reference is to be had to the accompanying drawings forming a part of this

specification, in which similar characters of reference indicate corresponding parts in all the views, and in which—

Figure 1 is a side view in elevation; Fig. 2 is a top plan view; Fig. 3 is an enlarged section on the line 3—3 of Fig. 2; Fig. 4 is an enlarged fragmentary top plan view of one of the shuttle boxes; and Fig. 5 is an enlarged vertical transverse section on the line 5—5 of Fig. 3.

Referring more particularly to the separate parts of the device, 1 indicates the frame of the loom, which may be of any suitable structure and is provided with shuttle boxes 2 and 3, arranged on opposite sides thereof. The shuttle, which is indicated at 4, is reciprocated back and forth from one box to the other by means of picker sticks 5 and 6, which may be operated in any suitable manner, as by connection with the shaft 7 in one direction, and as by means of the springs 8 in the opposite direction. Each of these picker sticks may be of any suitable structure, as for example consisting of a picker staff 9, extending through a slot 10 in the bottom of each of the shuttle boxes, and provided with a buffer head 11, adapted to engage the shuttle without injuring the same. Each of the boxes 2 and 3 is provided in its side with a slot 12, in which projects a spring tongue 13 of any suitable character, but preferably not of sufficient strength to positively stop the shuttle when the latter comes in engagement therewith. These spring tongues are preferably arcuate in form, and project a slight distance within each of the shuttle boxes. For the purpose of positively forcing these spring tongues in engagement with the shuttle at the proper moment, there are provided actuators 14 and 15, operatively connected to the picker sticks 5 and 6, so that when the shuttle comes in contact with the picker buffer or head 11, it will move the picker staff, and thus manipulate the actuator. These actuators may be of any suitable structure, such as a bell crank lever, comprising an arm 15 secured to the picker staff in any suitable manner, as by means of a flexible strap of leather 16, and an arm 17 connected to the arm 15 by means of a shaft 18, which

is rotatably supported in any well known manner on the side of the shuttle box, as by means of bracket 19. The arm 17 is preferably curved, as more clearly illustrated in Fig. 3, so that it will readily engage the back side of the tongue 13 and force it inwardly into positive engagement with the shuttle, thereby forming a gradual brake, which will positively bring the shuttle to a stop at the proper point.

The operation of the device will be readily understood when taken in connection with the above description. The shuttle or shuttles are reciprocated back and forth in the usual manner, either from a simple shuttle box, as shown in the drawings, or from a multiple shuttle magazine. When the shuttle reaches the end of its travel, it comes in contact with the buffer head 11 of the picker stick, thereby causing the picker stick to move backward slightly, causing the arm 17 of the actuator to be forced inwardly, thus causing the tongue 13 to act as a brake on the side of the shuttle, this braking action being proportionate to the force of the shuttle, and will thus bring the shuttle to a gradual and yet positive stop, so that there will be no sticking of the shuttle in the box in damp weather, and no rebounding of the shuttle in the box in dry weather. This arrangement will permit the loom to be operated faster, thus producing more cloth and better cloth in a given time, and inasmuch as this attachment is not dependent on the weather conditions, it will not require frequent adjustment, as is the case with the devices now on the market, so that there will not be the need for so many loom fixers.

While I have shown one embodiment of my invention, I do not wish to be limited to the specific details thereof, but desire to be protected in various changes, alterations and

modifications which may come within the scope of the appended claim.

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

The combination with a shuttle, of a box for said shuttle, said box being formed of sheet metal and having an opening in the side thereof, an arcuate spring tongue formed integral with said box and being fixed thereto at one end, said tongue projecting through said opening so as to engage said shuttle in a sufficient degree to form a preliminary check for the same; a picker stick projecting into said box, an actuator comprising a vertical shaft, an arm secured adjacent the lower end of said shaft and projecting transversely beneath the box, an arm secured adjacent the upper end of said shaft and having an arched portion adapted to contact with the back side of said spring tongue, and a flexible strap secured at one end to said picker stick and at its opposite end to said first-mentioned arm, whereby the movement of said shuttle, when the end thereof comes against said picker stick, will manipulate said actuator, so as to force said second-mentioned arm into engagement with said spring tongue, and thereby flex said spring tongue so as to project the same a greater distance into said shuttle box and into tighter engagement with said shuttle, so that the pressure of the shuttle is proportionate to the force due to the motion thereof.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

PETER F. MARCANTE.

Witnesses:

E. D. SUOPER,
L. A. BELFI.