

E. GAGNON.
 LOOM.
 APPLICATION FILED NOV. 30, 1909.

982,204.

Patented Jan. 17, 1911.

Fig. 1.

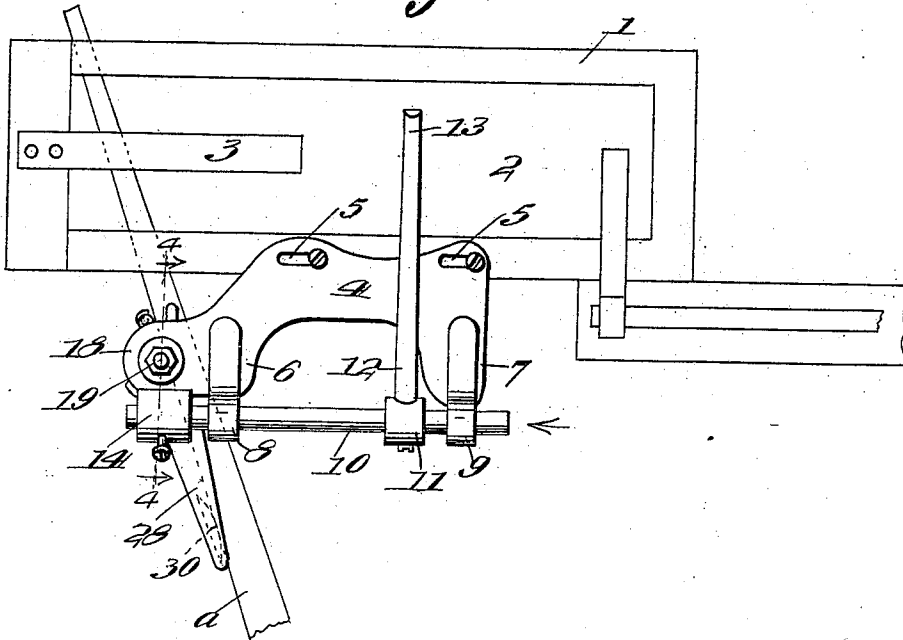
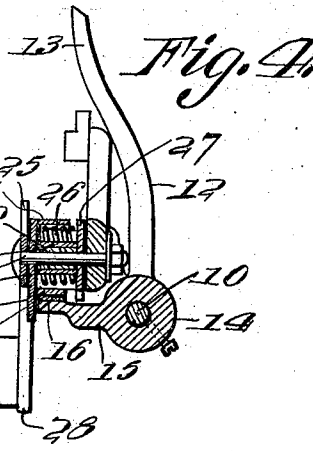
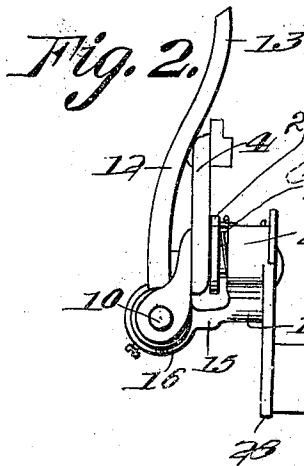


Fig. 3.



Witnesses
Ada C. Hagerty
Era B. Dana

Inventor
Erasmus Gagnon
 by *Joseph A. Miller*
 Attorney

UNITED STATES PATENT OFFICE.

ERASME GAGNON, OF PAWTUCKET, RHODE ISLAND.

LOOM.

982,204.

Specification of Letters Patent.

Patented Jan. 17, 1911.

Application filed November 30, 1909. Serial No. 530,611.

To all whom it may concern:

Be it known that I, ERASME GAGNON, a citizen of the United States, residing at Pawtucket, in the county of Providence and State of Rhode Island, have invented a new and useful Improvement in Looms, of which the following is a specification.

This invention relates to picker stick checks for looms, and pertains particularly to a check which gradually and resiliently brings the picker stick to a stop at the end of its throw, by combining a spring and braking action.

The object of the invention is to provide a resilient stop or check for the picker stick which is adapted to be braked frictionally with increasing pressure by means actuated by the binder.

A further object of the invention is to provide a device whose action, while positive and certain, will nevertheless be easy and adapted to bring the picker stick to a stop without jar or injurious concussion.

Another object is to construct a device of the nature described whose parts are few and simple, and one of such nature as to render the device one which will capably and durably withstand wear and shock.

With these and further objects as will hereinafter appear, in view, the invention will now be fully set forth and described, reference being had to the accompanying drawings, in which,

Figure 1 is an elevation of my improved picker stick check, showing it applied to the shuttle box of a loom, Fig. 2 is an end view of the device, looking in the direction of the arrow in Fig. 1. Fig. 3 is a fragmentary view showing the resilient check arm, and Fig. 4 is a sectional view taken on the line 4 4 of Fig. 1.

Referring more particularly to said drawings, in which like numerals indicate like parts throughout, 1 indicates one of the two shuttle boxes which constitute a part of the equipment of a loom, and is provided with the usual binder 2, maintained under tension by spring 3. These parts, forming part of the ordinary loom and being capable of embodiment in a variety of forms and constructions are merely mentioned and are shown in conventional lines.

Secured to one side of the shuttle box 1, and in the construction shown, at its lower edge, is an irregularly shaped casting 4. Generally speaking, said casting comprises

an elongated plate, provided with longitudinal slots 5 at its upper edge by means of which the device is adjustably secured to the shuttle box, as by screws or bolts, and having downwardly-extending legs 6 and 7. Formed on said legs 6 and 7, either integrally therewith or as separate elements, are bearing members 8 and 9 in which is rotatably mounted a shaft 10. Adjustably carried by said shaft 10, at a point suitably adjacent the bearing 9 is a collar 11, which carries, or upon which is formed, an upwardly projected arm 12. Said collar 11 is provided with a set screw whereby its longitudinal position on the shaft 10, and its radial position with relation to the axis of the shaft 10, may be adjusted. Said arm 12 is upwardly and inwardly curved with relation to a normal radius of the shaft 10, so that its upper end forms a bearing head 13 which normally engages the side of the shuttle binder 2 with a light pressure. The opposite end of the shaft 10 is provided with a second collar 14, also provided with a set screw, to permit of its various adjustment upon the shaft 10. Said collar 14 carries radial projection or arm 15 whose outer end is provided with an upwardly curved brake shoe 16 whose function will hereinafter appear. The inner surface of said brake shoe is provided with suitable backing 17, as leather or other friction resisting medium.

Projected from one side of the leg 6 is an extension 18 which is substantially centrally bored to receive a shaft bolt 19. Said shaft bolt 19 projects from the rear face of the casting 4, and carries a cylindrical element 20, which forms a bearing for a drum 21. Said drum 21 consists of an inner journal element 22, rigidly centered upon or formed integral with a plate or base 23 and an outer shell or casing 24 similarly mounted upon or formed integral with said base 23. Said drum 21 is thereby rendered free to rotate upon the bearing 20, but is subject to the restraint of a stop 25 and a coiled spring 26. Said stop 25 consists of a washer having a radial projection, said washer being carried by said shaft bolt 19, and being seated in a circular recess formed in the base plate 23, and having its radial projection extended through an arcual opening cut into the annular portion of the base plate 23, surrounding said recess, said radial projection thereby being adapted to bear against one side or

the other of said arcual openings to restrain the rotative movement of said drum 21. The coiled spring 26 is contained in the annular recess formed between the journal member 22 and the outer casing 24 of the drum 21 and has one end suitably engaged in the outer casing of the drum, as by being projected through an opening in the latter. The opposite end of the coiled spring is suitably engaged by or secured to a projection formed upon a washer-like plate 27 carried by the shaft bolt 19 and interposed between the drum 21 and the rear face of the casting 4, said washer-like plate being rigidly secured. The outer surface of the casing 24 forms a hub upon which the brake shoe 16, heretofore described, is adapted to bear, thereby restraining the rotative movement of the drum 21, in addition to the torsional restraint offered by the spring 26. As heretofore set forth said brake shoe 16 is carried upon the outer end of an arm 15 by means of which shaft 10 is adapted to throw said brake shoe upwardly or downwardly, and the sleeve 14 is so mounted upon shaft 10, that the shoe 16 may be adjusted in proper relation to the hub formed by the drum 21.

The base member 23 of the drum 21 is provided at one side with a depending arm 28, and the lower end of said arm is provided with a laterally projecting heel 29, said heel consisting of a comparatively broad leaf which extends for a short distance along the length of the arm 28, and has its upper face slightly rounded as at 30 (Fig. 3). Said upper rounded or curved face 30 is adapted to bear against the picker stick, represented by *a* (Fig. 1), against the tension of the spring 26, when the said picker stick *a* is thrown entirely over into its extreme position occupied when a shuttle is thrown into the shuttle box.

When the device is mounted upon the shuttle box of a loom, its arrangement, as shown in Fig. 1, is such that the arm 13 bears slightly against the binder 2, and the brake shoe 16 is suspended below the drum 21, though not engaging the latter. The arm 28 is in such position that the heel 29 is presented in the path of the picker stick *a* under tension of the spring 26 through the drum 21. Imagining the picker stick in the position which it occupies after a shuttle has left the shuttle box, and is returning, its movement into the shuttle box will distend the binder 2, thereby swinging the arm 12 outwardly away from the shuttle. This movement of the arm 12 communicated through the shaft 10 to the brake shoe 16, causes the latter to swing upwardly and bear with an increasing pressure against the drum 21. Simultaneously with the above described operation, the picker stick is swung toward the end of the shuttle box, and in

the course of its movement strikes against the heel 29, thereby rocking the arm 28 and rotating the drum 21 against the tension of the spring 26. The consequent result of these combined operations is to stop the picker stick with a minimum of jar and concussion, in fact, there being no evident concussion discernible, by reason of the fact that the first strength of the throw of the stick *a* is taken up by the spring 26, and by the further fact that immediately upon the first breaking of this force, the brake shoe 16 has come into action upon the drum 21, thereby further restraining, and gradually diminishing the movement of said hub, and consequently the movement of the arm 28, until the picker stick *a* is brought to a positive stop without jar and without concussion and before this movement can result in any destructive blow.

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

1. A picker stick comprising, in combination with a shuttle box mechanism, a spring check located in the path of the picker stick, and a hub brake mechanism adapted to operate upon said spring check said mechanism being actuated by the shuttle binder as the shuttle enters the box.

2. A picker stick comprising, in combination, with a shuttle box mechanism, a resilient check located in the path of the picker stick, and a braking mechanism adapted to be operated by a shuttle binder to brake said resilient check as the shuttle enters the box.

3. A picker stick, comprising, in combination with a shuttle box mechanism, a resilient member suspended in the path of the picker stick, a pivoted brake adapted to bear against said resilient check, and a member in rigid connection with said brake and adapted to be operated on by the shuttle binder to brake said resilient check as the shuttle enters the box.

4. A picker stick, comprising, in combination with a shuttle box mechanism, a spring tensioned drum, a check arm carried by said drum, a brake adapted to bear against said drum, and an arm adapted to be actuated by the shuttle binder, and adapted to actuate said brake as the shuttle enters the box.

5. A picker stick, comprising, in combination with a shuttle box mechanism, a casting mounted on the shuttle box, a spring tensioned drum secured to said casting, a check arm carried by said drum and projected into the path of the picker stick, a brake pivotally mounted adjacent said drum, and an arm mounted for pivotal movement with said brake, and adapted to be actuated by the shuttle binder as the shuttle enters the box and adapted to actuate said brake to restrain the movement of said drum.

6. A picker stick, comprising in combina-

tion with a shuttle box mechanism, a casting
adjustably mounted on the shuttle box, a
drum projected rearwardly from said cast-
ing, a torsional spring restraining the rota-
5 tion of said drum, a check arm suspended
from said drum and adapted to bear against
the picker stick in opposition to said tor-
sional spring, a brake adapted to brake said
10 drum and means for actuating said brake
from the shuttle binder as the shuttle enters
the box.

7. A picker stick, comprising, in combina-
tion with a shuttle box mechanism, a cast-
ing mounted on the shuttle box, a drum
15 mounted upon said casting and rotatable
thereon, a torsional spring inclosed within
said drum and adapted to restrain its rota-
tion, a check arm depending from said drum

and projecting into the path of the picker
stick, a shaft mounted longitudinally of said 20
casting, a brake rigidly mounted on said
shaft and adapted to engage said drum, and
an arm also rigidly mounted on said shaft
and projected against the shuttle binder
whereby the movement of the latter may 25
actuate said brake to check the movement
of said drum and said check arm as the shut-
tle enters the box.

In testimony whereof I have signed my
name to this specification in the presence of 30
two subscribing witnesses.

ERASME GAGNON.

Witnesses:

ADA E. HAGERTY,
J. A. MILLER.