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Improved Independent Shuttle-Motion Loom.

The loom and the millstone supply two positive necessities to the human race. Both are old devices, yet notwithstanding they have been so long in use, and though the best minds have for centuries studied them with a view to, if possible, render them more effective, there yet remain in both defects in their operation which inventive talent is seeking to remove.

So far as the loom is concerned the attempts at improvement seem to be in considerable degree, toward the modification of the shuttle movement. Of the latter class our readers will recollect we gave something more than a year since a notable example in the Lyall "Positive Motion" Loom. We this week present to our readers engravings and a description of still another shuttle movement, which has claims worthy the consideration of manufacturers, and which, so far as we are aware, employs a radically different principle from any of the looms in modern use.

It is claimed for this loom, that as the shuttle is driven by a motion entirely independent of any other movement in the loom, the shuttle moves at a uniform speed, no matter whether the speed of the loom be one pick or two hundred picks per minute. This claim is sustained in practice, as we can testify, having seen the loom in operation at the recent Fair of the American Institute recently held in this city, and at which this loom received the first premium. This peculiarity of the movement obviates the difficulties arising from irregular speeds, such as smashes, etc., and also secures greater uniformity in the texture woven than can be attained on other looms in which the movement of the shuttle is directly communicated through the agency of cams or other devices.

It requires skill and judgment, acquired by experience, to start the ordinary loom at precisely the right time to throw the shuttle through the web and avoid its lodgment therein. Inexperienced help are apt to err on this point, and cause damage from their awkwardness. With the loom under consideration there is not the slightest danger of such an accident, as the shuttle is always automatically thrown precisely at the right time. It follows that untrained hands may be set to attend it without risk of injury to the texture.

The construction, as will be seen on reference to the engravings, is extremely simple, and it is claimed to be at all times reliable and accurate in its action.

This shuttle movement can be applied to all looms now in use for weaving carpets, woolen, cotton, or silk textures, and it is claimed, costs even less than the ordinary pick movement for which it can be substituted in about two hours. It distributes the power more uniformly to the belt, allowing the lay to run with greater steadiness, and causing no zigzag motion in the travel of the shuttle along the race-board, which arises from the track and cam pick. The latter derives its power from the speed of the loom, often causing it to force the filling off from the bobbin when moving at high speed. In this movement, however, the power applied to driving the shuttle being always uniform, the difficulty specified is obviated, as the shuttle always passes through the web at the same speed, regardless of the speed of the loom.

It is claimed that it also takes less power to drive the looms owing to the superior steadiness of the movement. It is further claimed that an operator can run one third more looms with this shuttle movement attached than with the old movement, and that the expense of repairing is very largely reduced by its use.

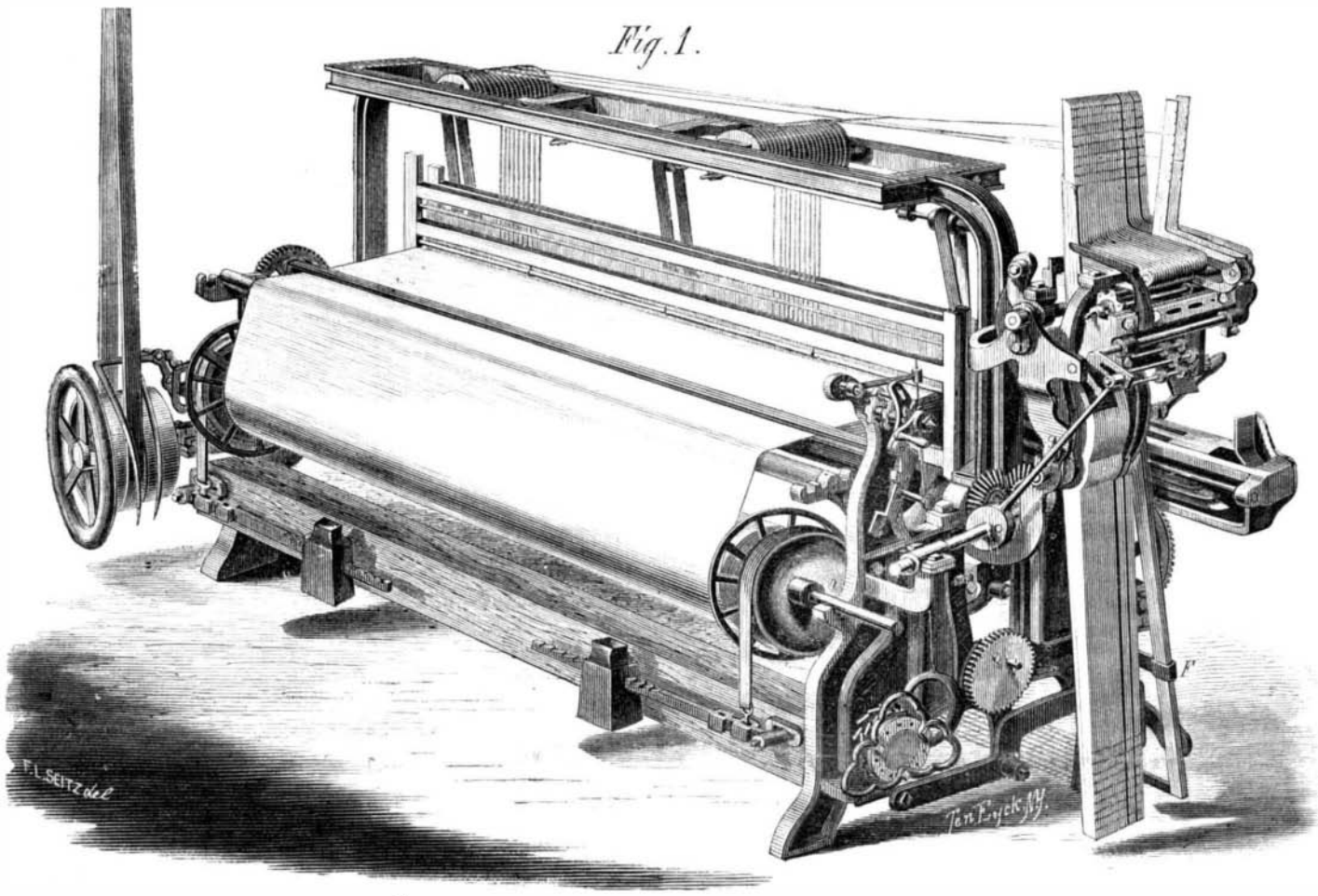
Fig. 1 shows the loom in perspective, as seen from the back side; and Fig. 2 is a detail showing the principle of the shuttle movement.

The drum, A, Fig. 2, contains a strong, coiled, flat spring, which is partially wound up by means of an arm, B, having at its extremity a friction roller. The arm, B, derives its motion from cams, C, attached to the shaft, D. The power thus stored up in the spring is retained by a pawl, J, which engages with a projection on A until such time as it is desired to use it in driving the shuttle, when the pawl, J, is released from its engagement with the projection on A by the lever, I; the latter being actuated by a small cam on the shaft, D. Another arm extending from the top of the drum, A, carries at its extremity an arc, G, to which a strap, F, is attached, which strap is also attached to the picker bar, as shown in Fig. 1 at F. The recoil of the spring gives a partial revolution to the arc, G, winding up the strap, F, thereon, and causing the picker bar to make its movement. This operation is performed for every throw of the shuttle, the proper tension of the spring being regulated by winding it up on the stem, E, where it is held by a ratchet and pawl, as distinctly shown in Fig. 2

This description comprises the general features and operation of this simple movement, and will explain how, at either high or low speed of the loom, the shuttle speed will always be uniform, and its throw always take place at the proper time to pass clear of the web.

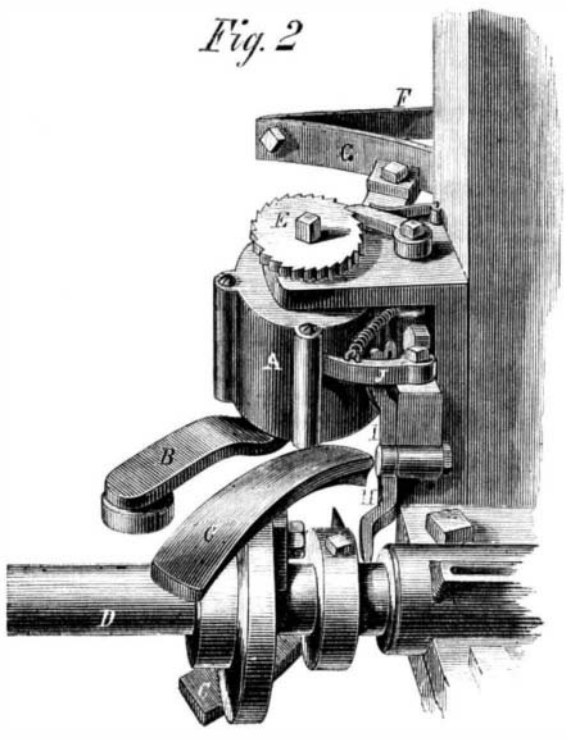
Patented, January 18, 1870, by Jeremiah Stever, whom address for further particulars at Waterbury, Conn.

Fig. 1.



STEVER'S INDEPENDENT SHUTTLE-MOTION LOOM.

Fig. 2



How to Save Peach Trees.

A discovery of no small moment, says the Philadelphia *Ledger*, in the interest of agriculture, has been made by Dr. Geo. B Wood, and communicated by him to the American Philosophical Society, of which he is president.

Peach trees in this vicinity, after producing a few crops, not only cease bearing, but perish in a short time; whereas, the natural life is fifty or sixty years, or more. The cause of this defective power of growth is believed by Dr. Wood to be owing to a deficiency of potash in the soil, and he assures us, that if this alkali be supplied to the tree so that it shall recall the small roots and be absorbed, the fruit-bearing power is restored, and the fruit itself, prematurely perishing, is revived.

Believing, with most persons, that the cause of the decay lay in worms at the root of the peach tree, he put in operation a plan which he had seen his father perform more than fifty years before; viz., of digging around the base of the stem a hole four or five inches deep, scraping away all the worms that could be found burrowing at the junction of the stem and root, and filling the hole thus made with wood ashes from the fire, which, of course, retained all their potash. This was done in the autumn of 1868; and with a result in the following spring at which he himself was astonished. The trees appeared to have been restored to all their early vigor and freshness; they put forth bright green leaves, blossoming copiously, and bore a crop of fruit such as they had never borne before, many of the branches breaking down under the load of peaches.

Dr. Wood, in reflecting on these results, noticed that several of the peach-trees had no worms, and came to the conclusion that we must look for an explanation to some other cause than the destruction of a few worms; and this cause he believed to be the ashes, the potash of which, being dissolved by the rain, had descended along the roots to the rootlets, and presented to them the very food for the want of which they were dying. Decaying apple trees bearing stinted and inedible fruit, have been revived by a similar process, and with like results. Now is the time to adopt the experiment.

SINGER SEWING MACHINE PATENT.—The patent of the Singer sewing machine expires in a few days, and the Commissioner of Patents, after a full hearing of the reasons for renewing the patent, has decided adversely. The refusal to renew the patent does not make it unreservedly available to the public, inasmuch as there are other patents taken out upon improvements connected with the original patent which are still in force. Strong effort was made, however, by the owners of the patent to have it renewed, but the Commissioner inclined to the opinion that all these patents should, as they expire, be thrown open to the public.

ALL the mills in Maine have been started again by the fall rains. Many of them had been stopped a long time for want of water, and the losses to owners and operatives are heavy.