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Advantages of Trees.

We do not know the author of the following beautiful and comprehensive notice of trees, but we think its perusal will cause many of our readers to involuntarily and heartily respond to the familiar and popular language of the song "Woodman spare that tree" :—

How beautiful, most beautiful of earth's ornaments, are trees! Waving out on the hills and down in the valleys, in wild wood or orchard, or singly by the wayside, God's spirit and benizon seem to us ever present in trees. For their shade and shelter to man and brute; for the music the winds make among their leaves, and the birds in their branches; for the fruits and flowers they bear to delight the palate and the eye, and the fragrance that goes out and upward from them forever, we are worshipful of trees.

"Under his own vine and fig tree"—what more expressive of rest, independence and lordship in the earth! Well may the Arab reverence in the date-palm a God-given source of sustenance. Dear to the Spaniard is the olive, and to the Hindoo his banyan, wherein dwell the families of man, and the birds of heaven build their nests. Without trees what a desert place would be our earth—naked, parched, and hateful to the eye! Yet how many are thoughtless of the use and beauty of trees. How many strike the ax idly or wantonly at their roots. Above all other things in the landscape we would deal gently with trees. Most beautiful where and as God plants them, but beautiful even as planted by the poorest art of man, trees should be protected and preserved.

If he is a benefactor who causes two blades of grass to grow where one grew before, how much greater his beneficence who plants a tree in some waste place, to shelter and shade, to draw thither song birds, and to bear fruit for man. Plant trees, O man, that hast waste land, and be careful of those that are planted.

Castor Oil Electuary.

Many processes have been devised for disguising the taste and appearance of castor oil. Valuable as this medicine is, many persons' stomachs revolt at taking it in an undisguised form. To overcome this repugnance, to give a concentrated form, and diminish as much as possible the quantity of the medicine, the following excellent formula has been devised by Mr. Septimus Piesse:—Take castor oil, three ounces; Castile soap, one drachm; simple sirup, one drachm; oil of cinnamon, or ottar of rose, six drops. Rub the soap with the sirup in a mortar; when perfectly blended and smooth add very gradually, and with constant trituration, the above ingredients. By these means a gelatinous electuary will be formed, rather palatable than otherwise, and nearly equal, bulk for bulk, to castor oil in strength.

SCOTT'S IMPROVED LOOM.

Fig. 1

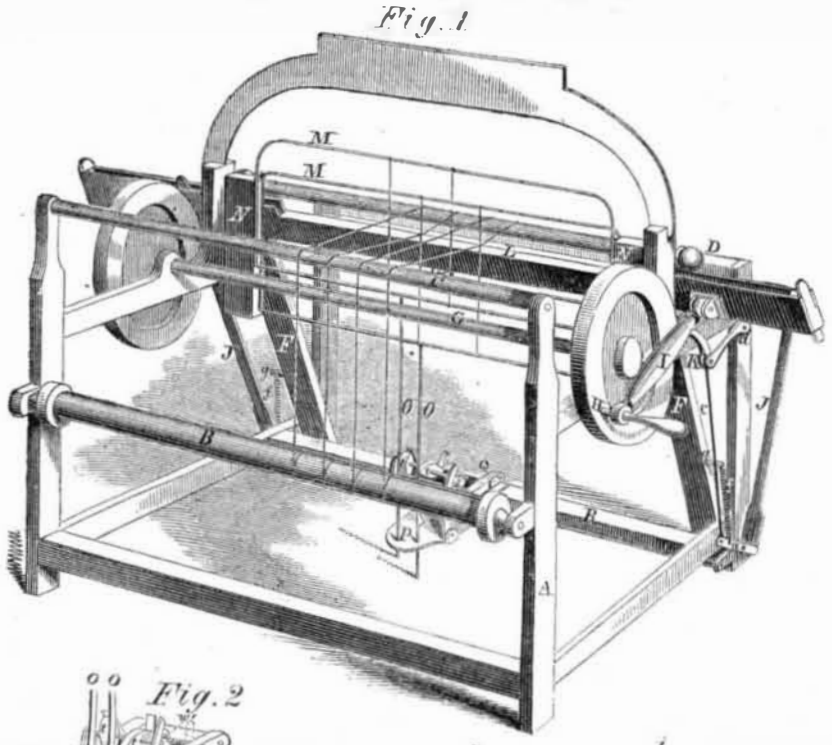
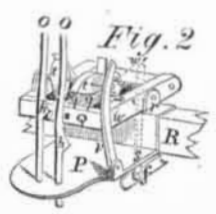


Fig. 2



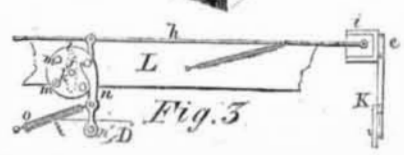


Fig. 3

The loom is about one of the oldest of machines, and to develop the simple framing depicted on Egyptian tombs to the power loom of to-day, has called forth much inventive genius and constructive skill. Still the loom is not perfect, and is yet capable of many improvements, the last, and a valuable one, being the subject of our illustration. It is the invention of E. M. Scott, of Auburn, N. Y., and was patented this week. It provides for the operation of the shuttle motion and harness motion by the movements of the lay, thus dispensing with the cam shaft and treadles, and simplifying the construction of the loom.

Fig. 1 is a perspective view of the improvements, in which A is the frame, B the yarn beam, C the whip roll, D the breast beam, and F L the lay. G is the main shaft, H the cranks for moving the lay, and I the connecting rods, connecting the cranks with the lay, all these parts being exactly the same as in an ordinary power loom. J J are the picker staves, working on pins, *a a*, secured in arms attached to the lower part of D. These staves have arms at their lower ends, connected by rods, *c*, with two levers, K, which work one on each side of the loom on pins, *d d*, secured in the framing, the levers being so situated as to be operated, as the lay swings back, by two rollers, *e e* (seen in Fig. 3), attached to the sole piece. The action of these rollers is to depress the arms of the picker staves, and move the upper ends of the same towards the center of the loom, for the purpose of throwing the shuttles. The picker staves are returned to the outer ends of the shuttle boxes as the lay moves forward, by means of spring, *f* (Fig. 1), connecting their arms with fixed pins, *g*, secured in the framing.

To cause J to be operated only one at a time, the two rollers, *e*, are fitted to a shaft, *h*, which does not rotate, but is fitted to slide horizontally in guides, *i i*, secured to the lay, and these rollers are such a distance apart that when one ranges with its respective lever, K, the other is nearer the center of the loom, and out of the range of its lever; this is effected by the double cam, *j* (Fig. 3), which shows a portion of the lay detached. *j* turns on a pin, *k*, in the sole piece, L, and has fitted to it a plate, *l*, provided with four pins, *m*, one of which, as the lay completes its forward movement, strikes a dog, *n*, and thus causes the cam to be turned one-fourth of a revolution. The dog, *n*, works on a pin, *n'*, in the breast beam, D, and is prevented getting out of an operative position by means of a spring, *o*, also attached to D. M M are the heddle frames working in guides, N N. Each of these heddles has attached to its lower rail a lifting rod, O, which works in guides in a stationary plate, P, attached to a rail, R.

The parts about to be described are separated, and better seen in Fig. 2. Each rod, O, has a notch, *h*, on its front side, and the rods are so bent and formed that the notches are side by side, so that they can be operated by two sliding dogs, *q q*, arranged in a frame, Q, that swings vertically on bearings, *r*, on the rail, R. The swinging motion of the frame, Q, which raises and lowers the heddles is effected by means of a rod, *s*, with an arm, *f*, rigidly secured to the bottom piece of the lay. This connection causes the rear end of the frame which is next the lifting rods, O O, to rise as the lay swings back, and fall as the lay beats up. The dogs, *q q*, are brought into position to operate on the teeth of the rods by the two double cams, *t t*, on a shaft that is fitted to bearings in the rear end of the frame, and which receives a quarter revolution every time that part of the frame descends by the action of a dog, *v*, attached to P, upon one of the pins, *w*, on a plate, *w'*, on the end of the shaft.

The dogs, *q q*, are thrown out to elevate the rods, O, by springs, and are drawn back when it is proper that they should be inoperative by the cams, *t t*. The dogs not only raise the heddles, but also control their lowering, the notch resting on *q* until the heddle arrives at its proper lowest point, where it is retained by stops in N. The dog, *n*, is kept in operation by a spring.

It will be seen from the above description that the invention is also applicable to hand looms, as all the motions are derived from the lay. The invention is valuable, and every weaver will at once appreciate its advantages. The claim will be found on another page.

Any further information can be obtained by addressing A. W. Johnson & Co., of Auburn, N. Y., or W. H. Halladay, their general agent.

The Wonders of Light.

Not only does light fly from the grand "ruler of the day," with a velocity which is a million and a half times greater than the speed of a cannon ball, but it darts from every reflecting surface with a like velocity, and reaches the tender structure of the eye so gently, that, as it falls upon the little curtain of nerves which is there spread to receive it, it imparts the most pleasing sensations, and tells its story of the outer world with a minuteness of detail and a holiness of truth. Philosophers once sought to weigh the sunbeam. They constructed a most delicate balance, and suddenly let in upon it a beam of light: the lever of the balance was so delicately hung that the fluttering of a fly would have disturbed it. Everything prepared, the grave men took their places, and with keen eyes watched the result. The sunbeam that was to decide the experiment had left the sun eight minutes prior, to pass the ordeal. It had flown through ninety-five millions of miles of space in that short measure of time, and it shot upon the balance with unabated velocity. But the lever moved not; and the philosophers were mute.

Arsenic in Cigars.

The *Eclectic Medical Journal*, of Cincinnati, states that Professor Bunsen, of Heidelberg, has had a series of experiments performed in his laboratory by Dr. Reiseg, to demonstrate the possibility of poisoning by introducing arsenic into cigars. It appears from these experiments that about a grain and a half of arsenic may enter the mouth when the cigar has been steeped into a solution of that metal, and the quantity is about one-eighth of a grain when the arsenic is introduced into the cigar in the solid form. That these may be the results of actual experiments, we do not doubt, but as there can be no possible use for introducing arsenic into cigars, either for the purposes of adulteration or improved appearance, we think that the Professor has been dealing with an entirely imaginary evil. Should this be intended as an argument against smoking, it would be better to use only those which are correct, without having recourse to conjuring up fallacious ones wherewith to frighten the innocent smoker.

The Comet.

The long-expected comet of Charles V is beginning to enter an appearance at last. It has been detected in a faint and dim, but this time unmistakable, presence below the horizon, at the Paris Observatory. Professor Donati, of Florence, on the 2d of June last, first discovered it, and prophesied the point from which it will emerge. A deputation of scientific men have been sent by this country, Great Britain and France, to South America; they will meet at the Isthmus, and fix on some point in the Andes from which to make their observations.