

New Inventions.

SEEING IN A FOG.—In a communication to the Paris Academy of Sciences, Sir David Brewster says: "Whilst I was studying the polarization of the atmosphere, I observed this remarkable fact, that where distant objects are rendered indistinct by the interposition of a light fog, a part of their definiteness may be restored by looking at them through a Nicol-prism which stops all the light the fog has polarized in a plane passing through the sun, the object, and the eye of the observer." The objects, thus made more distinct and visible, were seen in that portion of the fog in which the polarization of the reflected light was at maximum."—*Comptes Rendus.*

Kaleidoscope Toy.

Under the above caption the London *Engineer* states that a beautiful philosophical toy has lately been exhibited at the rooms of the Society of Arts in that city. It is a top with a flat disk of wood, and a spindle in its center, by which it is set in motion with a string. On the upper surface of the disk cards of various colors and shapes are placed, and held by pins, and the top is set in motion. This produces pleasing effects, as a blue and yellow card exhibit a green color; a red and blue card a purple, and a red and yellow card an orange color. By taking a black card pierced with holes, and held steady above the rotating colored cards, the eye sees through the openings a most beautiful play of colors. They dance and waver in the outline of the perforated black card in a manner that appears magical. These effects are due to the fact that the eye retains for a certain period the impressions of color which it receives, and one impression has not time to be effaced before another succeeds it. The inventor is J. Gurham, who has thus succeeded in making a toy exhibit all the effects of the prismatic wheel which philosophers once employed to represent the prismatic spectrum.

Improved Car Seat.

While many like the idea of a sleeping car which will form into a series of sleeping berths at night time and into an ordinary car by day, there are others who prefer to have a seat in which they can either sit, lounge or sleep with comfort at their own pleasure and under their own control. Such a one is the subject of our engraving, which shows two seats—one arranged for sitting and the other for sleeping.

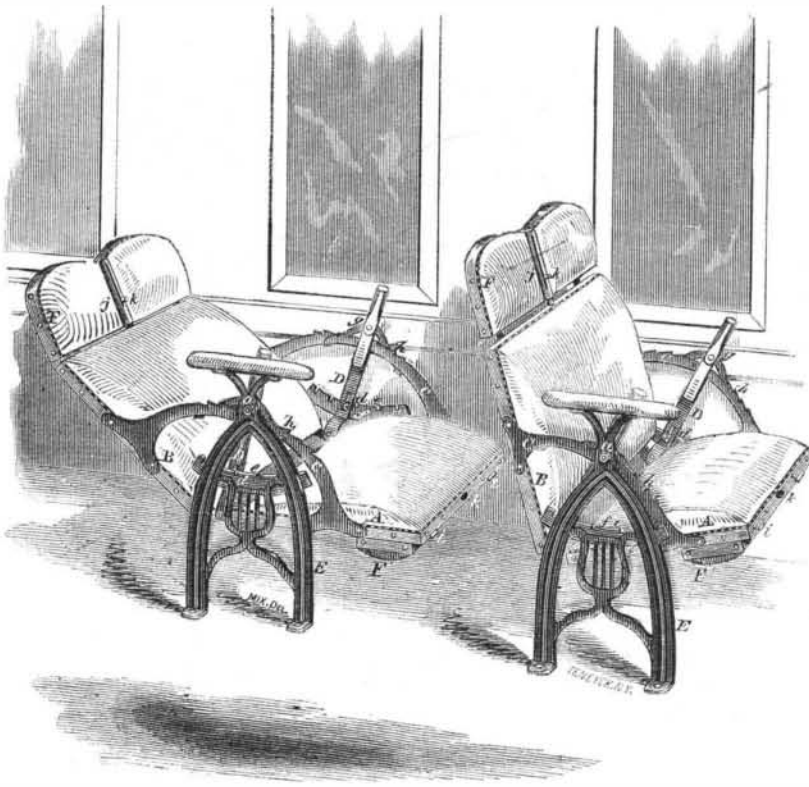
A is the seat and B the back, which are hinged together, and each of them is provided with two serrated arcs, C, which pass through a slot in the piece, D. This piece, D, is attached to the pivot that hinges A and B together, and is suspended by a pin, *a*, from the frames, E. To the top of D a movable handle, *g*, is attached, in which is secured a double pawl, *h*, that catches into the teeth on C, and holds the arcs in any desired position until a pawl or pawls are elevated by *g*, when the angle can be changed. To the side of the car and to the frame, E, are secured arcs, *f*, provided with notches, *e*; and little pawls, *d*, in D, fall into the notches and hold the seat and back in any position; it is by this arrangement that they are reversed, A and B being alternately back and seat, according to the position. To both A and B there is secured a head-rest, F, which, by its hinged attachment, *i*, folds under the seat out of the way and rises flush with the back, where it is held by a bolt, *j*, passing into a slot, *k*, in the back. Let us suppose the seat to be in a sitting position, the occupant need only pull the handles, *g*, toward him, and, by elevating one pawl, *h*, allow the arc, C, to slide through the slot in D until the back had attained the desired angle, when *g* being released, the pawl will fall into a tooth or serration on C and retain the back in its position. The seat can be lowered by pushing the handle, *g*, from the

occupant, and the whole can be swung or reversed by raising the latches, *d*.

This car-seat allows great freedom to the passengers, every two of them being able to

place themselves in any position without reference to the others; and it admits so nearly of a horizontal position as to be a remarkably easy one in which to rest, and any

CHILDS' CAR SEAT.

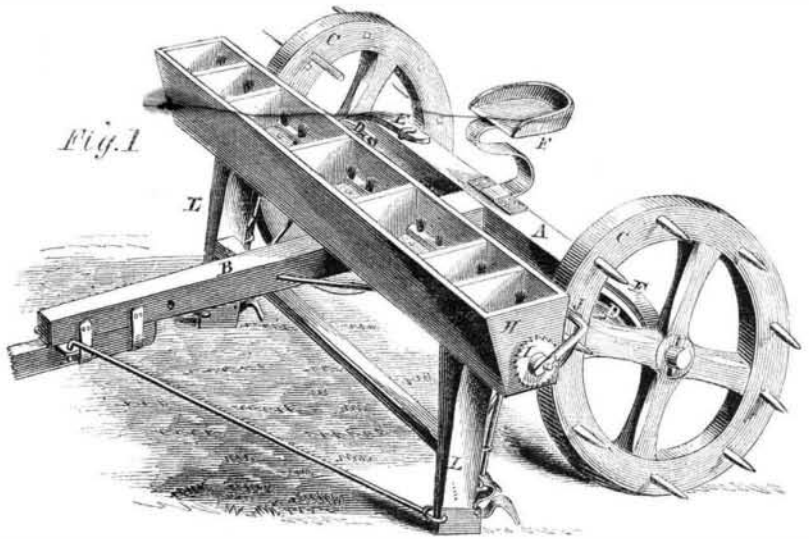


angle between can be obtained for lounging or, familiarly speaking, "taking it easy" during a journey.

The inventor is W. L. Childs, of Piermont,

N. Y., who will be happy to furnish any further information concerning the invention upon application. The patent is dated Feb. 1, 1859.

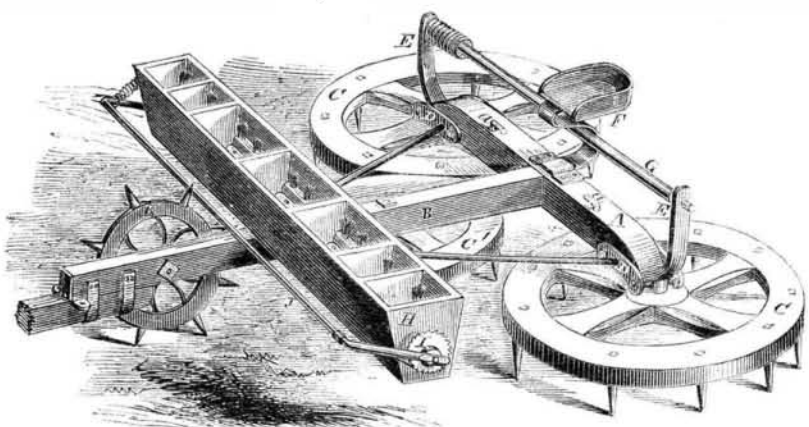
ROOT'S HARROW AND SEED-PLANTER.



The principle of combination, which can do much more than opposition, and which begins in the idea of a nation and organized government, and goes down to the humblest walks of life, is found in machinery as in human

beings; and, indeed, as we have had occasion frequently to remark, combination is a peculiar feature of the inventions of the present age. The illustrations before us are another example of this fact, as they represent one

Fig. 2



and the same machine as a rotary harrow and as a seed-planter. The inventor is M. S. Root, of Medina, Ohio, and he obtained a patent Oct. 19, 1858.

Fig. 1 shows it arranged as a seed-planter.

A is the cross-beam, having braces, D, on each end, between which are hinged the axles of the wheels, C. These axles are provided with levers, E, that lie upon A. When C are used as wheels, they are held rigidly to

keep the smooth periphery on the ground by small catches, *a*. To A is also secured the driver's seat, F. B is the tongue or draft-pole on which is secured the seed-box, H, that can be used for broadcast sowing. An indented cylinder lies in its base, and is rotated against brushes to measure the seed in each indentation, by having a ratchet wheel, I, on each, and a lever, J, provided with a pawl that, when pressed down by a projecting pin on the inside of C, moves the cylinder by the pawl acting on the ratchet wheel, I; J being brought back by a spring. The seed-box, H, can be adapted to corn-planting by the addition of planters, L, and they can have their measuring and discharging devices operated from J. The seed-box, it will be seen, is divided into compartments, so that it may be made to plant two kinds of seed at once, such as clover and grass, or more, or it can be used as a corn-planter alone. The wheels, C, it will be seen, are provided with spikes projecting at right angles from the periphery, so that, to change it to a harrow as in Fig. 2, all that has to be done is the following:—The catches, *a*, are turned and the lever, E, released, the wheels are then turned over so that the spikes dig into the ground, and a rod, G, with a spring on one end, is placed between the levers, E, to force the outside teeth or spikes of the wheels, C, the deepest into the ground. The seed-box, H, is unscrewed from the draft-pole, B, and moved further along it, and a small vertical wheel, K, is added in front of it. The rod, J, is turned over, and the projections on the wheel, K, keep moving it as the harrow is dragged along, so that seed can be planted while the ground is being harrowed. A supplemental harrow, C', is secured to the draft-pole, and, as will be seen on reference to the engraving, an excellent revolving harrow is obtained.

In testimony of the appreciation of this machine and for the encouragement of other inventors, we can state that the inventor is selling territory rapidly in Illinois at the rate of \$200 a county. This machine can also be made a good cultivator, and we think that it is the very machine that every farmer has for a long time been wanting, and we have no doubt that many of our agricultural readers will discover that it exactly suits their requirements.

Any further information can be had by addressing the inventor as above.

New Work on Mining.

We have lately had the pleasure of examining a work in manuscript, by Mr. Job Atkins, a practical mining engineer, in Chesterfield, Va., which, from the experience of its author, should render it very acceptable to persons owning mineral lands, and those who wish to become acquainted with mining engineering. It contains much useful information regarding the Virginia coal fields, and the method of "prospecting" and boring for coal and working mines.

Browning Gun-Barrels.

MESSRS. EDITORS:—You recently published a recipe for browning gun-barrels. I experimented with it and found it too strong; but on reducing it by adding a pint of rain or distilled water, it made a splendid browning mixture. I am a gunsmith by trade, and consider that this recipe alone is worth the price of the SCIENTIFIC AMERICAN for a whole year.

P. S.

Delavan, Wis., June 8, 1859.

LIQUID GOLD.—Some of our cotemporaries state that M. Thiery, a French chemist, has discovered a method of keeping gold in a liquid state without the aid of heat. It is often asserted that the ancients knew a method of effecting this object, and that this is one of the lost arts. We are of opinion that the ancients never were acquainted with this art, and that M. Thiery is not.