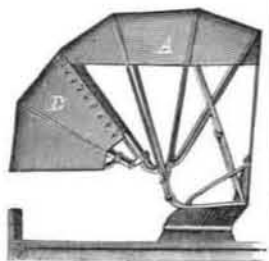


## MISCELLANEOUS INVENTIONS.

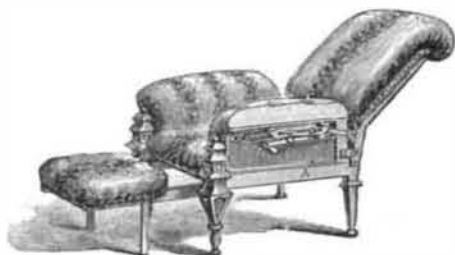
## Extension Carriage Top.

The object of the invention shown in the annexed engraving is to provide vehicles that have folding tops of the ordinary construction, with an auxiliary top, D, to be attached when desired to the front part of the ordinary top, so as to extend its projecting area, and may be removed when not required for use. In the engraving A is an ordinary carriage top, to the front bow of which are attached knobs upon its upper and outer sides. The auxiliary top has two bows, the ends of the forward one being hinged to the rear bow near its ends. The ends of the rear bow are hinged to a hook formed upon a U-shaped clamp. This clamp is lined with rubber, and is of such size and shape as to fit upon the front bow of the top, and is held firmly to it by a thumb bolt that passes through the ends of the clamp. To these bows a cover is attached of material to correspond with the cover of the carriage top, the rear edge of which is secured to the knobs on the front bow; and to the auxiliary bows are attached jointed brace bars, so that the auxiliary top may be folded up or extended, as may be desired. In openings in the middle part of the cover are secured glass plates to enable the driver to see the road in front of his team. When not required for use the top may be detached and folded to place beneath the seat of the carriage. This invention is patented by Mr. Richard J. Parrett, of Portland, Jay county, Ind.



## Reclining Chair.

Improvements relating to the class of chairs having pivoted backs adjustable by ratchet mechanism, secured to stationary arms, have recently been patented by Mr. Morris S. Allen, of Brooklyn, Kings county, N. Y. In the engraving A is the seat frame provided with fixed side arms and a hinged back. The arms are grooved at their under side, and in the grooves are placed longitudinally slotted plates, screwed to the arms, to which rack bars are held by headed pins that pass through the slot, the racks being free to move endwise. Bars are pivoted to one end of the racks, the other

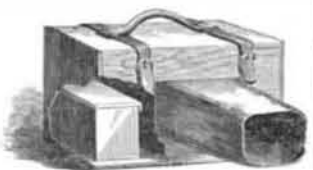


ends being attached by hinges to the back of the chair. Springs are attached to the arms of the chair and to the ends of the rack bars in such a manner that they tend to draw the racks and bars endwise and raise the chair back. Pawl levers are pivoted on the fixed slotted plates, that have their inner ends bent at right angles to engage the rack bars, and at their outer ends are knobs extending to the outside of the arms, for convenient handling by the occupant of the chair, who brings the back to the position required, by raising the handle ends of the levers and leaning backward, and is held against return as soon as the levers are released. To raise the back it is only necessary to raise the levers, when the springs will draw the back up.

## Portable Dark Room for Dry Plate Photographing.

The invention shown in the accompanying engraving is a portable dark room, consisting of a box made of suitable material, and provided with straps and a handle for carrying, and having an aperture from which a flexible sleeve of proper material projects from the box. The opening and sleeve must be of such size as to permit the plate holder of the camera to be passed through them into the box. Two compartments, provided with lids, are located at either end of the box, one containing dry plates that have not yet been exposed, and the other the exposed plates.

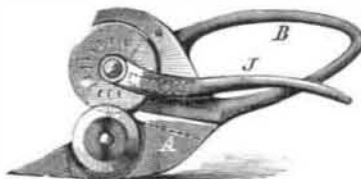
The operator passes the plate holder through the sleeve into the box, opens the frame, and deposits the exposed plate in its proper compartment, and takes a fresh plate from the opposite compartment and places it in the plate holder, which is then withdrawn. In this manner the plates are placed in or removed from the plate holder without being exposed to light or dampness. While manipulating the plates with one hand the flexible sleeve is held against the arm with the other hand, so that no light can pass into the box by accident. The box also serves as a receptacle for transporting plates. This ingenious device is patented by Mr. John Serdinko, of New Braunfels, Comal county, Texas.



## MECHANICAL INVENTIONS.

## Cutting Mechanism.

A new and ingenious mechanism for cutting paper, cloth, leather, sheet metal, etc., rapidly, and with a clean sharp edge, patented by Mr. Sandor Danheim, of New York city, is shown in the accompanying engraving. The metal frame, A, is provided at one end with a handle loop, and at the opposite lower end with a triangular sharp edged knife, from the end of which the frame is gently curved backward and upward. Two sharp edged cutting disks are journaled to the frame in such a manner that the disks must overlap each other slightly, and must also be in contact. The lower disk must not project beyond the lower edge of the frame so as to deface the table upon which it rests. A lever, J, is loosely mounted upon the journal of the upper disk, and is provided with a spring pawl that catches in notches on the side of the disk. When the handle is seized, and pushed forward, the edge of the material that is to be cut slides up the knife, upon the edge of the lower disk, and is cut by the action of the two disks. If the material to be cut affords too much resistance to permit moving the instrument forward, the upper disk may be rotated by means of the lever, J, or the handle and lever may both be seized at the same time, and the instrument pushed forward while operating the lever. If it is desired the handle and lever may be placed at the opposite end, and the instrument be drawn instead of pushed.



## Load Binder.

A novelty in devices for binding loads, which consists of headed lever provided with a chain and hook mechanism for attaching the binding chain, so that loads of lumber, merchandise, or other commodities may be securely and easily bound upon a wagon or other vehicle, and it is simple, easily handled, powerful, and inexpensive. This device is patented by Mr. Stephen S. Conkling, of Middletown, Orange county, N. Y., and is shown in the accompanying engraving. In the engraving, A is the lever, and B the head, and they may be made solid, of malleable cast iron, or of wood and iron combined. The head is circular in form, and grooved on its circumference to receive the chain, and also has extended straps which receive and hold the lever. Upon one of the straps is formed an eye to which one end of the hooked chain is attached. The head is perforated near its center, for the passage of a bolt or pin which secures a clevis to the head, the clevis being provided with a swiveled eye to which is attached a hook to hook into the binding chain. The free end of the lever is provided with a chain by which the lever is secured after being brought to bind the load. In use the swiveled hook and the hook at the end of the chain that passes over the head of the lever are to be hooked in the binding chains, with the lever standing toward the swiveled hook, and then to bind the load the free end of the lever is forced down and secured to the binding chain. The distance from the pivot to the outside of the head is very short, and furnishes a powerful leverage, making it possible to make the device small and compact and still furnish ample power.



## Car Mover.

Mr. James D. Lawrence, of Carroll, Carroll county, Iowa, has patented a new and ingenious device for moving cars short distances in switching and coupling, etc., which is clearly shown in the annexed cut. The lower edge of a lever, A, is rounded at its lower end, and at a short distance from this end a forked pintle is pivoted to it by means of a bolt. On this pintle two opposite jaws are pivoted and are secured to it by a nut at its lower end. On the bolt that connects the pintle and lever a U-shaped clevis is mounted in such a manner that it hangs down from the lower edge of the lever. When the ends of the opposing jaws are placed against opposite sides of a car wheel, and the lower end of the lever, A, is rested on the tread of the wheel, and the outer end of the lever is raised, the jaws will be firmly pressed against the sides of the wheel, and by their grip the wheel will be turned and the car moved. The clevis hanging vertically rests against the outer edges of the jaws, and by its weight presses them together sufficient to enable them to take a firm grip when the lever is lowered without their adjustment by the hand.



## THE PARADOX WHEEL.

So called from its appearance; for, seeing that all the internal parts, *a b c d* and *e f g h*, are pivots which support the whole of the internal parts, and that the cross in the center is also free on the axle after the manner of a pair of scissors, a collapse appears inevitable; whereas the axle continues as firmly in the center as in the ordinary wheel with fixed spokes, and the elastic tire gives way, and flattens on the ground with the same freedom as if the load were merely placed on the top of the elastic tire; and (as I shall show) gives us a base equal to the sleepers which (on a railway) support proportionately a locomotive engine (See Fig. 1). This wheel might also be named the leg wheel, or the walking wheel, from its appearance.

By publishing this invention, I am showing to our readers my "trump card;" for so important is a means of reducing the horse power required for traction on a common road to the same low amount (for the same load) as is required on a railway, that its general adoption would amount to a revolution in locomotion on common roads.

I am aware that others have tried to effect the same ob-

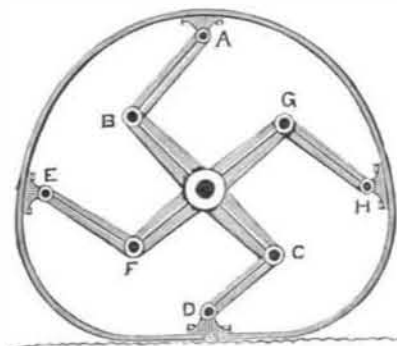


Fig. 1.

ject; but one mistake has been to make the internal part of a wheel elastic; whereby the load only descends nearer to the ground, instead of the tire becoming uniformly flat next the ground, as is the case in this invention. In other designs the two wheels on each side have not been independent of each other, whereby guiding has been prevented.

In order to show that my object has been attained, I will explain why it is that so great a proportionate tractive power is required on the common road.

The common wheel acts somewhat after the manner of a cheese cutter, and grinds to powder annually millions of tons of road metal, and also falls into, and has to be dragged out of every rut, little and big; this amounts to a lot of uphill work, and accounts for the extra power required. By the adoption of my invention these evils are avoided; as there is always a base or foundation sufficient to make the tractive power no more than that of a railway on the same gradients—mind, I say, on the same gradients; which we know are more favorable on a railway.



Fig. 2.

To compare, let us suppose a cart has 5 foot wheels, and the tire to flatten one-eighth, or about 2 feet; width, say, 4 inches; total surface bearing, 1 foot 4 inches; and, say, total weight,  $1\frac{1}{2}$  tons. Now, a locomotive engine will weigh about twenty-four times this, which,  $\times 1$  foot 4 inches = 32 feet super. for sleepers, which, divided by, say, 5 sleepers, gives each 8 feet 7 inches long by 9 inches wide, which is not far from the truth.

The tires should be one piece of spring steel, tempered clock spring, of width and thickness as engineering data may dictate. The ends of the tire may be riveted to the bearing, same as the other three, but the ends must be shut into the dovetail, cast as part of one of the four bearings, which is shown at bottom of Fig. 2. The other parts of the tire should be malleable cast iron.

Other advantages resulting are, that carriage springs are needless, the tires being themselves the springs; and all noise, jolting, and vibrations are done away with, so that the motion will be as easy as can well be imagined.—J. H. Huxley, in *English Mechanic*.

## Eighty Miles of Dead Sea Fish.

The brig Edward Hatton, Thomas Simmons master, arrived at this port, May 28, from Pointe-à-Pitre, Guadeloupe. Captain Simmons reports that on the outward and homeward passages his vessel encountered vast numbers of apparently dead fish. "They were all on their backs," said the captain to a *Herald* reporter, "and were from two to four pounds each in weight. They all had a bloated appearance. At first sight I took them for cod, but further observation convinced me that they were what is called drum fish. Their fins kept moving, which gave to the fish an appearance of life, but the movement was doubtless caused by the waves. The vessel ran across them between latitude 39 and 37½. They were inside the stream in deep soundings. We kept among them for a distance of from sixty to eighty miles."