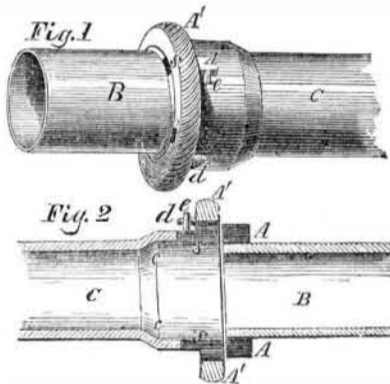


New Inventions.

Waterhouse's Hose Coupling.

The accompanying figures represent the improved coupling for hose, for which a patent was granted to Albert M. Waterhouse, of this city, on the 19th of June last.

B C are two sections or lengths of hose or water pipes. The one, C, has its metal coupling on one end, flaring or expanded from *c c*, to receive one end of the other coupling section of B, which has two projections or catches, A A, cast upon it. There are two slots, S S, cast in the flared end of the section, C, to receive the projections, A A. There is also a nut ring, A', on the outside of the flared end, which is capable of being moved partially round, and has two slots in it to correspond to those S S. When the slots in the ring, A', are brought into line with those S S, the projections, A, on section B, are pushed into them, and the two lengths of hose are then in proper position for coupling, or locking them together. This is done by simply turning the ring, A', partially round, so as to throw its slots out of line with the lugs, A. The two sections of hose cannot then be pulled apart. This method of coupling is simple, and can be truly and rapidly performed, even by night in the dark. There is a small pin, *e*, on the ring, A', and another, *d*, on the flared end of section C. When these two pins are brought into contact, the slots in the ring and pipe are in line, so as to allow the catches or projections, A, to be pushed in to couple the pipe, or drawn out to uncouple, and this can be done without looking at the pipe,



for when these pins are out of contact it is a sign that the sections of pipe are coupled, and vice versa. They are, therefore, coupling gauges, and in this character are very useful. This coupling can be made as strong as any in common use, and it can be more quickly operated than the common screw couplings.

More information may be obtained by letter addressed to the patentee, at No. 150 Bowery this city.

Cutting Cotton Stalks

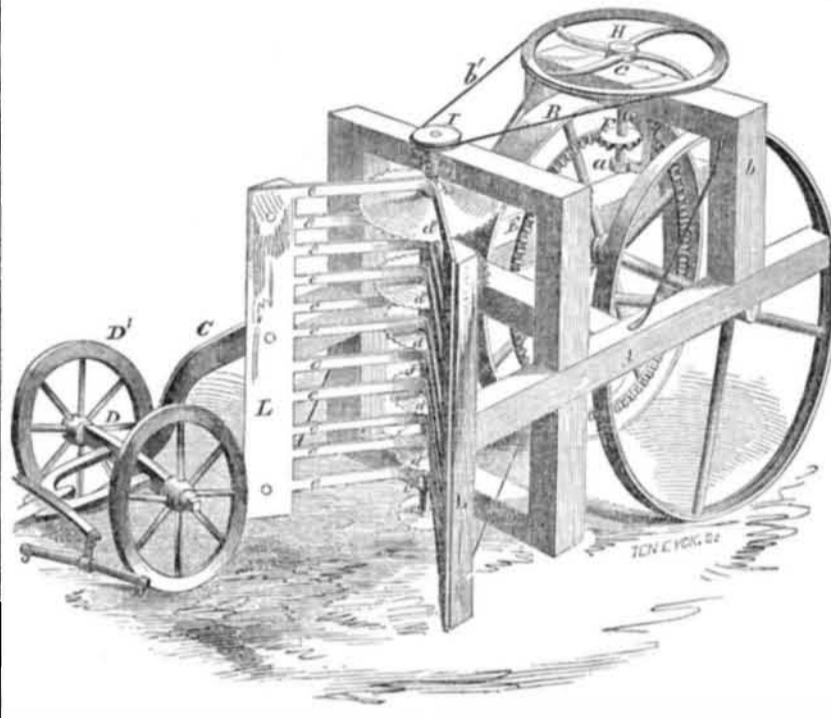
This figure is a perspective view of a machine for cutting standing cotton stalks, invented by J. W. Bocage, of Cypress Mills, near Pine Bluff, Arkansas, whose patent has just been issued, the claim of which will be found in another column.

The nature of the invention consists in the employment of a series of circular saws placed upon a vertical shaft, and rotating between angular bars, which answer the purpose of fingers; the whole being placed and secured in a wheeled carriage, which is drawn through the cotton field with mules or horses, and the saws rotated by gearing from the drawing wheel, so as to act against the standing corn stalks and cut them down.

A is a stout frame for supporting the machinery. It is sustained on the back and front wheels, B D'. The perch, C, is connected to the front axle, D, as in an ordinary wagon. A beveled gear rim, E, is secured to the spokes of one of the hind wheels, B. A small pinion, F, on a vertical spindle, G, gears into it. This spindle is secured in the cross piece, *c'*, and a pendant brace supported by standards, *b*. H is a pulley on the upper end of spindle, G. A belt, *b'*, passes around this pulley, and another small one, I, on the top of the saw spindle, which gives it a rotary motion—and consequently the saws, *d'*—as the machine is drawn forward. The saw spindle is secured in strap bearings, *c c'*, on the top and bottom cross

pieces of the frame. The saws, *d'*, vary in size, the lower one being of the least diameter and the size of them gradually increasing upwards—the top one being the largest. They are placed at suitable and equal distances apart. Six of these are represented in this machine,

MACHINE FOR CUTTING STANDING COTTON STALKS.



them (about one-quarter of their disks project through the spaces.)

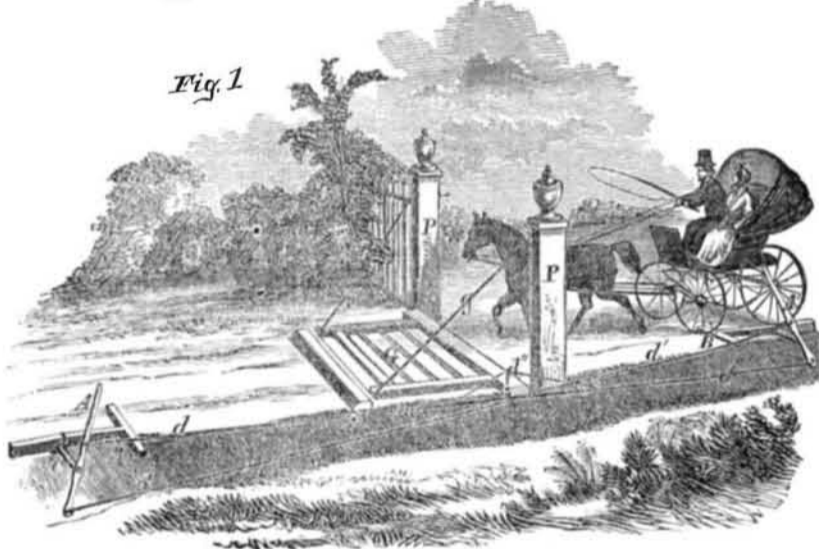
OPERATION.—The team is attached to the pole of the carriage in the common way, and as the machine is drawn along, the cotton stalks are caught by the angular frame, L, and forced towards the corner or angles of the bars or fingers, *e'*, holding them firm for the circular saws to act upon them and saw them down. As the saws decrease in diameter downwards, the upper part of the stalks will be cut down first; in other words, the stalks are cut successively from their upper to their lower ends.

Saws are superior to knives for cutting cotton stalks by machinery in this manner, as they

but more may be employed. L L is a metallic frame, composed of horizontal bars, *e e*, placed at equal distances apart, and bent nearly at right angles. The saw shaft or spindle is set just behind the inner angle formed by these bars, and the saws, *d'*, work through and between

can be operated with less power, are more easily sharpened, and not so liable to get out of repair. Great activity has been displayed in the West and South-western States within the past few years, in all kinds of agricultural machines, especially the larger kinds, for superseding the most severe and expensive kinds of labor. The result of all this has been unbounded success. Machines are still wanting for picking cotton, and for other branches of agriculture, and the above one is intended to supply a place as a useful improvement, for the purpose set forth. More information may be obtained by letter addressed to Mr. Bocage, at Cypress Mills.

LUM'S IMPROVED ADJUSTABLE GATE.



The accompanying engraving is a perspective view of a modification and improvement, by Henry B. Lum, of Sandusky, Ohio, of his very convenient Gate, patented on the 17th of May last, and which was illustrated by a different view from the above, on page 353, Vol. 10, SCIENTIFIC AMERICAN.

G is the gate, the bars of which, when on the ground, sink between planks of a platform, so that the carriage will run smoothly over it. The bottom bar of the gate is hinged to a sill, or swings on side pivots; the top bar is connected by two cords, *g g*, to balance weights in the inside of the hollow posts, P P, these cords run over pulleys. A A', are two vibrating levers, to which cross wires, *d d'*, are connected, as shown—the end of one to the foot of a lever, and its other end connected above the lever's axis. Another wire or rod, *d''*, connects these two wires to the gate by a staple.

B B', are crochets trippers for operating the levers and their wires to open the gate.—The one, B, is connected to lever A by a spin-

dle, C, and the other, B', to lever, A', in the same manner. A small catch is shown on axis C, at B, for catching like a clutch, to make the lever A' or A vibrate and actuate the gate throwing it open. The carriage wheel strikes the cross head of B, and carries it down, operating the levers and throwing open the gate as shown. The horse at this time has commenced to step upon the flat gate, and it is kept down while the carriage is passing through. A small platform is placed upon the ground, and the round portion or axis, C, is laid across it and secured by staples, and in a groove, so as to allow it to partially turn in the same, to accommodate the vibrations of the levers. The lower end of B is heavier than the upper end; it rights itself after the vehicle has passed, and the gate closes. It is thus a self-acting gate, adapted for all kinds of roads, and an excellent one for the crossing of railroads, as it may be made to be operated by the cars. It will be understood, that a person on horseback, by taking hold of the top of any of

the levers, A A', will also open this gate in the same manner as the other gate, illustrated on the page referred to, and close it in the same manner.

These gates are worthy of general attention, and Mr. Lum deserves great credit for the ingenuity he has exhibited, and the perseverance he has displayed in improving and bringing them to their present state of perfection. The same principle of action can be applied to various gates.

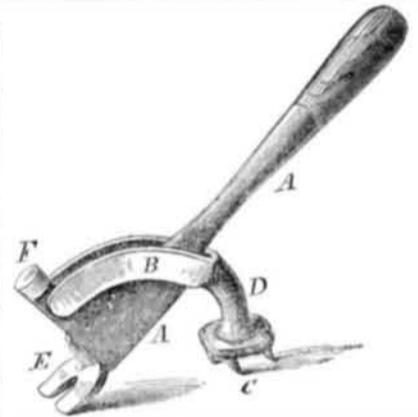
More information may be obtained by letter addressed to him at Sandusky.

Taft's Patent "Box Opener."

The accompanying figure is a perspective view of the spener or tool for opening the lids of boxes for which a patent has been obtained by George C. Taft, of Worcester, Mass.

The nature of the invention consists in a lever with a brace connected to it by a pin passing through both to form a joint, so that when the short end of the lever is forced under the lid of a box, and the foot of the brace brought in contact with the side of the box, the brace will form the fulcrum for the lever to raise the lid.

A is the lever, and E its forked sharp toes, for inserting between the lid and side of a box. D is the brace with claws, C, on its heel. It has two side pieces, B, with an opening between them, in which the lever is allowed to play in exerting a purchase to open the box. F is the head of a hammer forming a part of lever A, above its shoulder. A fulcrum pin is inserted through the jaws of B, under the hammerhead, F, on which both the brace, D, and lever, A, vibrate. The brace is firm and stationary, while the lever operates on a lid. The parts



will thus be easily understood. The more common practice for opening boxes is to drive down a chisel between their lids and sides and then to pry open the lids. By so doing, the lids of the boxes are split, and the edges of their sides injured, so as to render them unfit for as good a purpose afterwards. The object of this tool is to enable persons to open boxes with great ease and rapidity and to save their lids and sides, and render them capable of being used over and over again.

To use the tool, the toes, E, are forced vertically between the lid and side of a box, and the heel, D, of the brace is pressed down upon the side, or on another part of the top, or on the edge of the box, and is most convenient for raising the part of the lid to be lifted. Pressure is then exerted on the end of the lever, A, as on a crow bar, and the lid is forced up. The lids of boxes are generally formed of more than one part; these can be raised one after another by this neat, compact, and powerful spener with great facility, and without splitting the wood. It is a very convenient box wrench and hammer, well adapted for opening the light boxes in groceries, shoe stores, &c.

More information may be obtained by letter addressed to Taft & Gleason, Worcester, Mass.

First Patent on Marble Saws.

By reference to the record of Patent Claims, which we this week publish, it will be observed that one marble saw patent has been granted. Another batch may be soon expected. See our remarks under the claim above mentioned.

Models without the inventors names are very plenty in our office. Those who are careless in this respect will feel disappointed in not hearing from us.

The Genesee Powder Mills, near Rochester, N. Y., blew up with terrific violence on the night of the 12th inst.