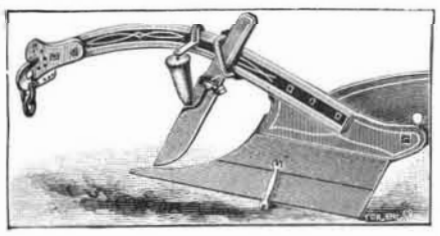
PETCH'S PLOW ATTACHMENT.

The device illustrated in the accompanying cut is intended to prevent injury to such crops as turnips, carrots, beets, etc., when the fields are being plowed. It consists of a clearing roller, designed to be attached to the colter or cutter blade of an ordinary plow and mounted at an angle thereto and in front of the cutter, so that as the plow passes through the surface of the ground the roller will push to one side any bulbous roots that may be met with, and will prevent their being injured by coming in contact with the cutter blade when the field is being plowed up. The roller also serves to turn over the ground as the plow passes over it, and it also serves to prevent foreign material from collecting and clogging the colter.



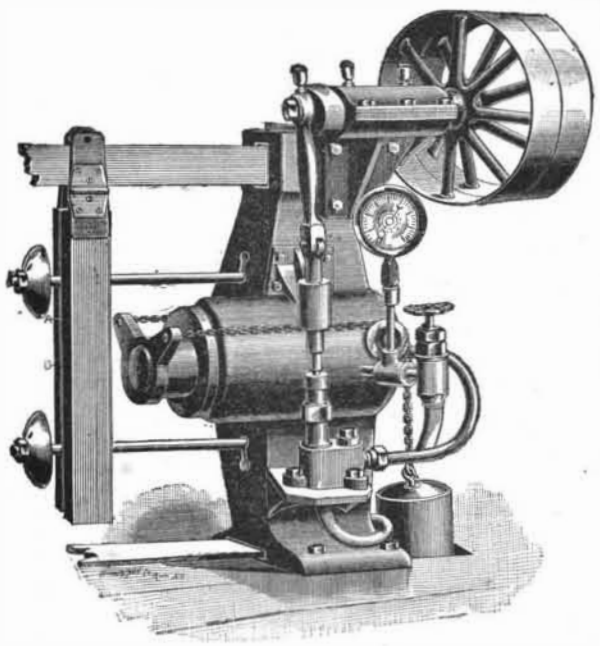
PETCH'S PLOW ATTACHMENT.

Mr. Arthur John Petch, of Aurora, Ontario, Canada, who is the patentee of this attachment, makes the roller preferably conical in shape with the largest part at the top, and it is mounted upon a spindle, upon which it rotates freely. It is attached to the plow by means of two brackets, one of which is bolted to the beam of the plow and the other to the cutter blade. It is freely adjustable thereon, and may be attached to any form of plow.

AN IMPROVED HYDRAULIC WHEEL PRESS.

The illustration represents the head end of a single pump hydraulic car wheel press. The bars, A and B, together with the heavy bolts passing between them and extending through the cylinder arms of the machine, are used only by electric railway companies for pulling pinions and gears. They will resist 30 tons pressure. The parts of the machine not here illustrated consist of a traveling crane or saddle having adjustable hooks for holding shaft or axle, a suitable yoke (abutment beam) which is suspended on rollers so as to be easily moved back and forth, also a foot piece having a side opening at its center so as to admit of placing a long shaft in the machine by allowing it to extend beyond the foot piece. This machine is manufactured by the J. T. Schaffer Manufacturing Co., Rochester, N. Y., and is used for removing and pressing on car wheels and engine drive wheels, also for general use in machine repair shops where great pressure is required.

It can be operated either by hand or belt power, is made in various sizes for swinging wheels from 36 inch to 84 inch in diameter and for generating from 30 to 300 tons pressure. The larger machines are constructed with double pump. The rams of the various sizes of this machine are of standard diameter and length for



HYDRAULIC CAR WHEEL PRESS.

the requirements of each. The valves of the improved Schaffer hydraulic pump, used exclusively by this company, are easily opened. The crank shaft is steel and has a long bearing in Babbitt metal. This shaft is placed at right angle or parallel with the line of the machine to suit the purchaser. This company makes all its own fittings; they are extra heavy, and the workmanship and materials throughout are first class. The packings in pump and cylinder are such as to prevent leakage, are very durable and easily renewed. The lower tension bar being flatwise materially stiffens the line of pressure, also reduces the distance of raising wheels by about 4 inches.

Each machine has a standard gauge, safety coupling, and sealed water tank. As accompanying appliances to this machine (or which may be adjusted to other similar machines) this company has recently put on the market a car axle straightener which it is said can be put in position in less than one minute, and is claimed to be a very satisfactory device. It is also equally desirable for straightening shafts, or to use as a rail bender. The same company is also having a large demand for another device for street car repair shops, to be used on any hydraulic wheel press for removing old car wheels from the axle, on which a large gear is located near the wheel.

An Elevated Railway in Naples.

A remarkable scheme has been laid before the Syndic and Town Council of Naples for the construction of an elevated railway in that town, and a concession for carrying it out has recently been granted. The project is due to Signor Adolfo Avena. The railway will place the handsome and populous center of the town near to the Via Roma—in fact, the center of Neapolitan life and business—in communication with the Corso Vittorio Emmanuele, the San Martino Hill, and the elevated part of the town known as the new Rione del Vomero. The line will be carried on two metallic viaducts, one arranged at a higher level than the other and each having a double way. Each passage will be independent of the other, one forming a course for electric cars and the other being reserved exclusively for foot passengers. The first viaduct, of a length of 1,180 feet, will commence in a masonry tower 325 feet high, in the Via Roma, opposite the Via S. Brigida, and will terminate in the base of a second metallic tower 490 feet high, to be built in the Cariati Gardens in the Corso Vittorio Emmanuele. The second viaduct, starting out of this metallic tower a certain distance below its summit, will pass over the San Martino Hill and terminate on the level at the new Rione del Vomero. Thus the metallic tower will form the connecting link between the two viaducts, which will be carried on eleven pyramidical metal columns or towers having masonry foundations. The electric cars, after running along either viaduct, will be automatically placed upon the lifts for hoisting or lowering passengers, who, having once taken a seat in the car at one of the termini, will be conveyed to the other end of the line in eight minutes without the necessity of changing seats.

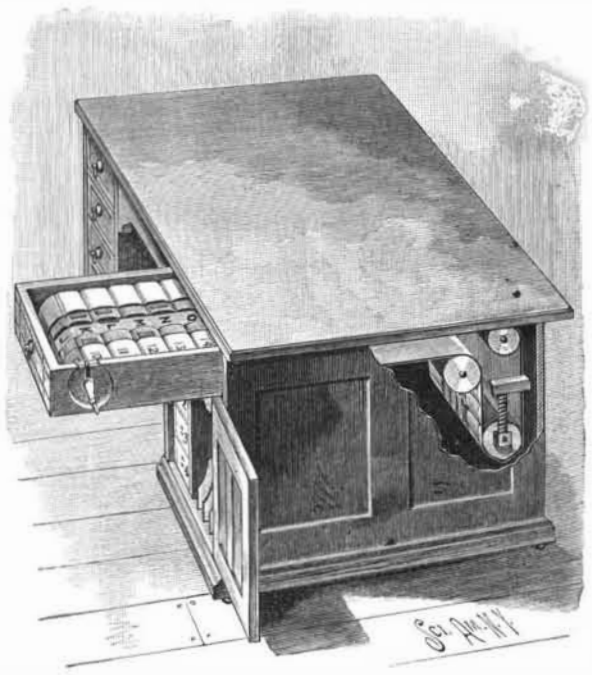
Chicago Enterprise.

Frequent instances, says the *Railway Review*, of what can be done on occasion have been recorded concerning Chicago, many of which entitle the city to pre-eminence, but one of the most remarkable exhibitions of energy was brought to completion early in the present month, when the largest grain elevator in the world, having a storage capacity of 3,680,000 bushels, was commenced on April 1 and finished and commenced business on May 3, a period of thirty-three days; having within one week from that time more than one million bushels of wheat in store. More than eight million feet of lumber were used in the construction of the building, which is of the ordinary crib style. The elevator is equipped throughout with electric lights and is completely furnished with all styles of modern machinery. From six to nine hundred men were continuously employed night and day in its construction. If any one knows of a quicker job, we should like to have it reported.

NEFF'S DESK ATTACHMENT.

Mr. John Wesley Neff, of Buckhannon, West Virginia, is the patentee of an improved form of library or office desk. It will be found of special convenience to those who have large numbers of papers or documents to be filed away, as they may be assorted and laid aside according to any convenient system of classification. A large number of papers may thus be preserved in a remarkably small space, as much of the room occupied is that located at the back of the desk, which is ordinarily wasted.

The desk may be made of any approved form of construction, the attachment being represented in the cut, which was prepared from a photograph, as applied to an ordinary business desk. The paper holder consists of an endless belt or apron which is provided with a double series of pockets opening toward each other and closed at the top and bottom so as to prevent the contents from falling out. The apron is preferably mounted in a sliding compartment or drawer and passes over rollers as shown in the cut. The two end rollers are polygonal in shape, the faces being equal in breadth to the width of the pockets, and they are corrugated so as to take hold of the apron when the actuating roller is rotated. The lower roller at the rear of the desk is spring-actuated, so as to take up the slack in the apron and so as to accommodate itself to the movement of the apron when the drawer is opened and closed. The apron is operated by means of a hinged crank handle which is located in an inset in the side of the drawer, and by means of which the upper polygonal roller is rotated. This crank handle is preferably located at the inner side of the drawer adjacent to the person seated at the desk. The top board of the desk may be hinged at the front side so that the back may be raised in case an inclined plane is preferred to write upon. A small drawer is sometimes located at the rear of the desk and under the lower roller to receive any papers that might accidentally be dislodged and fall from the pockets in the



NEFF'S DESK ATTACHMENT.

apron above. By means of this simple construction it will be seen that all the pockets may successively be brought into view.

AN IMPROVED ROAD GATE.

This is a gate which may be conveniently opened and closed from either side by persons on horseback or in vehicles, without alighting. The improvement has been patented by Mr. John H. Williams, of St. Vincent, Ky. The gate is pivotally connected by a link with a weighted lever fulcrumed on a pivot turning in a plate on the ground, at a little distance from the hinge post. The lever is also pivotally connected by an arm with two diverging chains or ropes connected with the ends of beams extending in opposite directions in line with the roadway, these beams being fulcrumed near the upper ends of posts at the side of the road on each side of the gate. From the outer ends of the beams hang ropes, to be drawn upon by the traveler on horseback, in a vehicle, or afoot, to open the gate, an upward pull on the arm connected with the diverging chains giving an outward swinging motion to the weighted lever, and the latter, as it passes the central vertical position, swinging the gate fully open, so that it rests against one of the posts at the side of the road. The arm connecting the weighted lever with the pull chains is also connected by links with the inner end of a latch bolt whose outer end is adapted to engage or disengage a keeper on the latch post, a spring on the gate assisting to throw the bolt as the gate is closed. The connection is such that the latch bolt is drawn at the commencement of the movement of the weighted lever, permitting the gate to swing freely open, and, after the traveler has passed through the open gate, a pull on the second rope causes an inverse movement of the weighted lever to shut the gate, at the same time moving the bolt outward to engage the keeper on the latch post. The weight on the free end of the weighted lever is adjustably held in desired place by a set screw, and in operation either rope is pulled only sufficiently, in opening or closing the gate, to swing the lever past its vertical position, the weight of the lever then causing the completion of the inward and outward movement of the gate.

WILLIAMS' ROAD GATE.