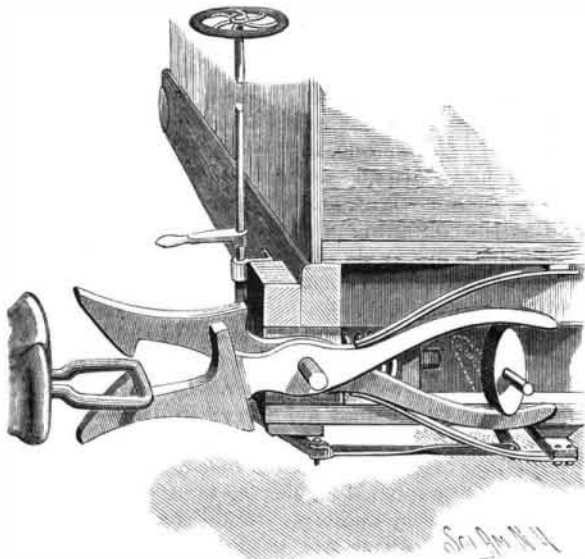
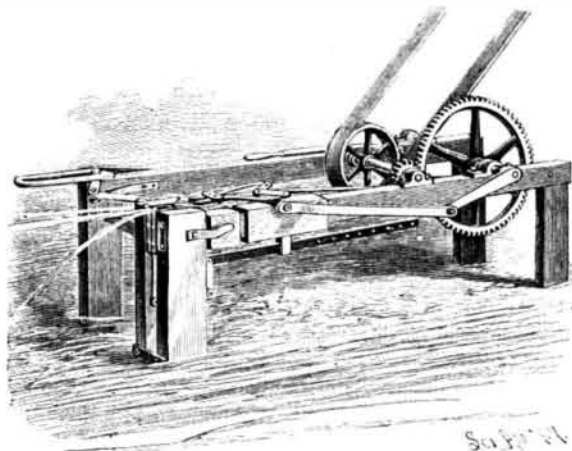


AN IMPROVED CAR COUPLING.

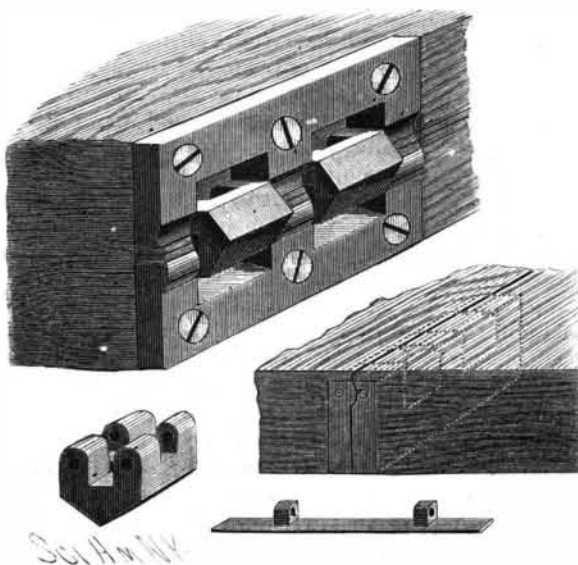
The device shown in the illustration is designed to act automatically in coupling cars, and afford ready means of uncoupling them from the tops or sides of the cars, thereby avoiding danger to the train men.

**ARMSTRONG, BIGELOW & OSBORN'S CAR COUPLING.**

The drawhead proper consists of two similar crossed sections, their outer ends having projecting jaws and latch hooks, and their inner ends having curved limbs, while the sections are pivoted on a transverse bolt in sliding blocks. The latter have slots to accommodate a bolt carrying a spiral spring on each side, and interior coils are preferably employed therewith in connection with the buffer plates. The springs in the sliding blocks are designed to hold the coupling sections normally projected a sufficient distance to permit free action of the latching portion of the drawhead. In order to hold the coupling sections in closed position, two curved plate springs, suitably connected with the car body, are made to bear on the top and

**CURTISS' HOOP SHAVING MACHINE.**

bottom rearwardly extending curved limbs of the coupling sections. To spread the jaws and release the coupling, a cam block is supported between the limbs on a transverse shaft, there being on one side of such block a crank arm, to one end of which a connecting bar is loosely secured. The forward end of the latter bar engages a horizontal crank arm on the lower end of an upright shaft extending above the top of the car, where there is a hand wheel, by operating which the cam block is turned to spread the inner limbs of the coupler sections, and thus uncouple the cars. A lever is placed on the upright shaft, within convenient reach from the ground, whereby the uncoupling may be readily effected from the side of the car. The illustration shows also how this coupling may be employed

**SLANE'S HINGE.**

in connection with a link and pin, a T-shaped link being then employed, which is gripped by the latch jaws, the other end of the link being adapted for attachment to the common drawhead.

For further information relative to this invention address Messrs. Armstrong & Bigelow, No. 110 Whitel-sey Street, Ashland, Wis.

AN IMPROVED HOOP SHAVING MACHINE.

The illustration represents a machine adapted to shave and bevel all kinds of wooden hoops. It has been patented by Mr. William P. Curtiss, of New London, Ohio. The pulley supplying the power is loosely mounted, and has a clutch section adapted to engage a similar section of a clutch splined to the shaft, whereby the machine can be started or stopped as required, the shaft being connected by suitable gearing to the shaft which operates the working parts of the machine. One side bar of the frame has a carriage made in two parts, connected together on the inside by a slotted link, the carriage having tongs attached at the pivot of their jaws to one part, and by their arms to the other part through a toggle joint, the pivot of which is attached to a bar of the carriage connected with the pitman extending to the crank of the operating shaft. To the inside of this leg of the frame is pivoted the lower end of a post which is connected at its upper end with one end of a horizontally extending toggle joint, the other end of which is pivoted to a spring attached to the other side of the frame, and also projects beyond such pivot to a pivot in a slot of a slide on the frame, this slide being connected by a pitman with a crank on the other end of the operating shaft. To the top of the first leg and post are attached the shaving knives, and in proximity therewith are arranged springs to guide the hoop and a strip to prevent it from getting out of place, there being attached to the front of the leg a vertically moving slide carrying a plate to which are attached beveling knives. The end of the hoop strip being inserted between the shaving knives, the revolution of the operating shaft starts the inner end of the two-part carriage to straighten the toggle and close its jaws upon the hoop strip, the continued motion drawing the hoop its entire length between the knives and shaving it throughout. When the hoop is nearly shaved, a clip on the carriage strikes a pin whereby the beveling knives are raised to taper and cut off the hoop, the point at which this is effected being readily regulated.

AN IMPROVED HINGE.

The hinge shown in the illustration, which has been patented by Mr. McGuire Slane, is mainly designed to be used on pianos and fine furniture, including cabinet ware of different kinds, although adapted likewise for a general variety of work. It is a hinge which may readily be used either as an invisible or concealed one from the outside, or as a flush hinge, not requiring to be set deep in the wood. To make the hinge a convertible, invisible, and flush one, each leaf section is provided with an inner longitudinal cover having lugs on its inner surface, as shown in one of the small views, these lugs being arranged to be intermediate of the arms of the leaves, and to receive between them and the arms the links or yokes, shown in another small view, that unite the two joint pins of the hinge. With this arrangement the joint portion of the hinge is fully covered on the outside by the longitudinal covering strips, so that when the hinge is a flush one no joints in transverse arrangement to the joint pins will be seen. When the hinge is used as an invisible or concealed one, the recesses to receive it are not made through ones, but stop short of the outside surfaces, leaving a covering piece of wood over the longitudinal marginal portion of the hinge on which the joint pins are arranged.

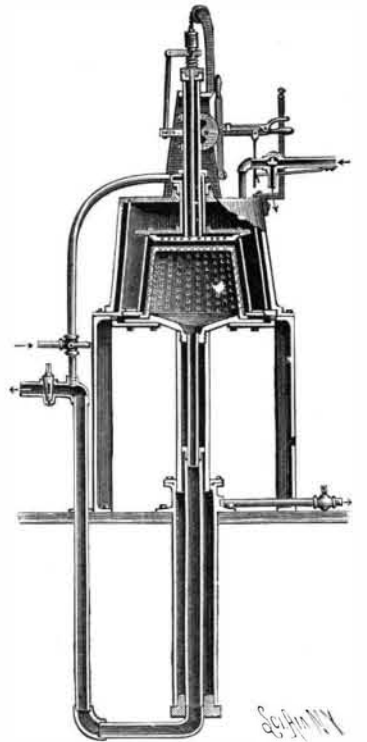
For further information relative to this invention address the Invisible Hinge Co., No. 818 Chapel Street, New Haven, Conn.

A MACHINE FOR MAKING ARTICLES FROM PULP.

The illustration represents a machine for making pails or tubs and like articles from pulp, in which suction is employed to draw the fiber into the mould, and to extract the water from it, while steam, compressed air, or other fluid under pressure is employed to press and form the pulp into its required shape within the mould. It is a patented invention of Mr. Charles M. Starr, of Edwardsburg, Mich. The outer chamber, into which the compressing fluid is introduced to effect the moulding, is in the form of a frusto-conical hood, its lower base flange secured to the top of two or more uprights from the floor, and there being held within it a conical perforated sheet metal distributor for the compressed air or other fluid under pressure. The inner perforated frustum of the mould has a perforated and flexible sheet metal cover or gauze applied to its sides only, and an outer cover of woven cloth, while a rubber bag is arranged at a suitable distance around such inner frustum, such bag being suitably secured below, and at its top secured to the under side of a hollow and perforated cap or die part, which serves to form the bottom of the pail. Centrally be-

neath the frustum is the cylinder of the hydraulic device and its elongated tubular piston for raising the frustum into its moulding position within the outer chamber, communication being established by pipes through the tubular piston with the interior of the frustum at its base.

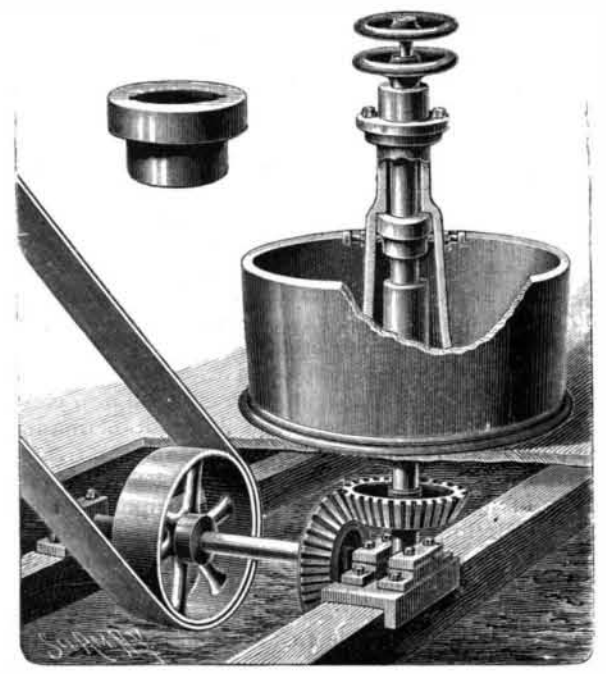
An air pipe leads to a short vertical tube at the top, whereby suction is produced in the mould by means of a pump, and within this tube is an upright sliding tube or hollow shaft through which the pulp is supplied under pressure, being admitted under control of a hand lever to the mould. When the mould is full, and the die cap lifted by the pressure below it, the supply of pulp is automatically shut off. When charging the mould with pulp, the pressure to act upon the pulp in the mould is preferably only admitted gradually, that the pulp may be more regularly and perfectly compacted, and this is effected by means of a clockwork escapement mechanism applied to a cock in the pipe which conducts the compressed air or other pressure medium to the mould.

**STARR'S PULP PRESS.****Water Courses—Rights of Owner of Land on which is a Spring.**

The purchaser of land on which is a spring acquires as to the spring the rights of a riparian owner only. He can use it for any necessary and proper purpose incident to the land itself and essential to its enjoyment, but cannot divert the flow of it on the land of another for any purposes without answering in damages. *Lord vs. Meadville Water Co., S. C. Pa. 20 Pittsb. Leg. Jour., 413.*

AN IMPROVED COLLAR FOR GRINDING PANS.

The illustration represents an improvement in mining machinery of that class in which a muller is rotated in a pan by a driver mounted on a central power shaft, such as pan amalgamators, settlers, crushers, pulverizers, etc., the improvement consisting in the novel collar, shown in the small view, encircling the shaft carried by the driver. It is a patented invention of Mr. Theodore A. Washburn, of Gold Hill, Nevada. Above the power gearing and shafting, after the usual plan, is the pan with muller and cone center, around which is the driver extending up to the driver cap, the central driver shaft being feathered in the driver, and there being adjusting screws at the top. The collar lies within the driver, and has a flange on its periphery. It is featherwayed on the driver shaft, so that it will slide up and down as the shoes and dies wear, and through the driver passes three seven-eighths inch steel set screws, with jam nuts, under the flange of the collar, so that the collar will move up and down with the driver, thereby preventing the driver and muller from swinging out of their proper course. The collar, being a separate piece, can be readily renewed when necessary.

**WASHBURN'S ADJUSTABLE COLLAR FOR PAN DRIVERS.**