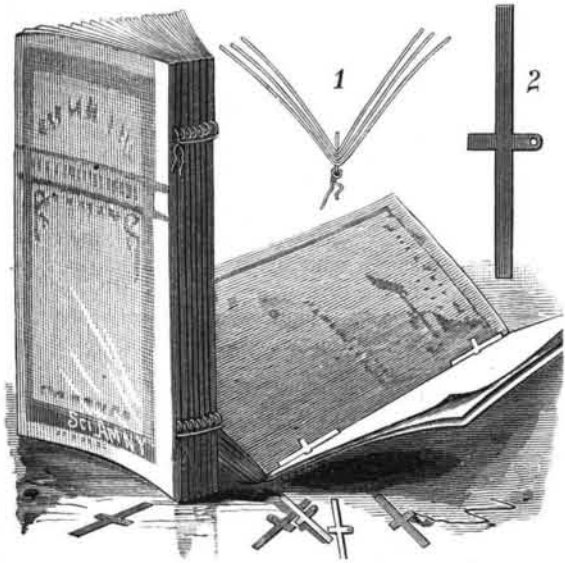


BINDING EYELET FOR PAPERS, MAGAZINES, ETC.

A thin, narrow strip of metal, Fig. 2, is formed at its middle with two projecting ears, one of which is provided with an aperture. The sheets to be bound are placed within each other, and at the fold are perforated to permit the passage of the apertured ear; the

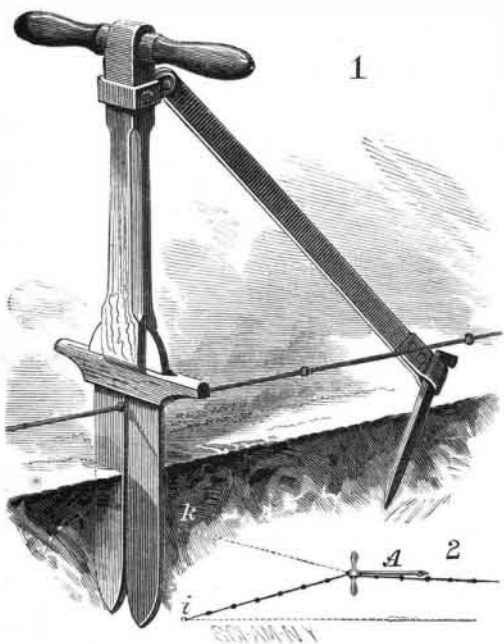
**JOHNSON'S BINDING EYELET FOR PAPERS ETC.**

strip rests within and between the sheets, against which it bears as a brace. A number of magazines or packages of sheets, being provided with the binding eye, are placed together, and a cord or wire passed through the several apertures, and its end tied to prevent it from being withdrawn. If the packages to be bound are large, two eyelets for each may be employed, as shown in Fig. 1. The ears which are not perforated serve as handles by which to insert the strips. The ears of the several signatures or packages of sheets must be in straight lines. Signatures can easily be added as may be necessary, or can be quickly removed. The books thus formed are flexible, and firm. The binding eyes cost but little, and can be used for binding ordinary writing paper, printed matter, etc., to preserve them for rebinding in permanent form.

This invention has been patented by Mr. E. A. Johnson, of 104 Fayette Street, Allegheny City, Pa.

ANCHOR STAKE FOR CHECK ROW WIRES.

In planting corn with a machine provided with a check row, the wire is anchored at the ends of the field,

**CLAY'S ANCHOR STAKE FOR CHECK ROW WIRES.**

and the anchors are shifted as the planter reaches the ends of the rows, so that the machine can be turned and started on a new row. In this shifting of the wire it is almost impossible to reset the anchor so as to give the wire the same tension each time, especially when the field is a long one, and the result is usually that the rows are not planted correctly. To obviate this difficulty is the object of an invention lately patented by Mr. William H. Clay, of Paris, Ky.

The anchor stake consists of a straight shank portion, fitted with a cross handle at its upper end, and carrying at its lower end a blade formed with a lengthwise slot just wide enough to pass freely over the wire. At the top of the blade is a cross piece, forming foot rests for use in pressing the blade into the ground. Jointed to the upper end of the stake is a brace, in whose outer end is a hole to receive a pin by which the end of the brace is fastened to the ground. The use of a stake with a planter is illustrated in Fig. 2. Suppose *i* to represent the fastening of the wire at the end of a row; when the planter reaches that point, the stake, *A*, is to be placed at a point half way between the points *i* and *k*, and a short distance from the end and behind the planter,

Thus located, the stake will hold the main portion of the wire stretched while its end is carried to and anchored at *k*, and the machine turned around. The stake, *A*, being removed, the wire has the same tension as before, and the planting will be done correctly.

A Sanitary Canal for Paris.

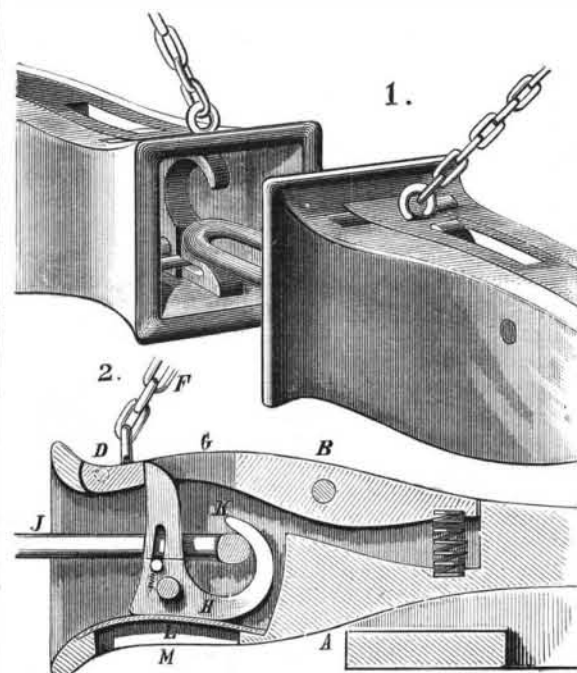
A project for a sanitary canal between Paris and the sea has been brought before the French Academy of Sciences by M. A. Dumont. The author points out that although the experiments of the city of Paris engineers at Gennevilliers appear to show that irrigation is the best means of disposing of the drainage of Paris, it is very doubtful if the space available at the forest of St. Germain is sufficient for the purpose—the drainage waters of Paris amounting to over 100 million cubic meters per annum. Hence his idea of a canal to the sea to carry off the daily accumulation of 300,000 cubic meters of sewage. The starting point of the proposed canal would be a covered reservoir at Herblay on the right bank of the Seine. From Herblay to a point on the coast between Dieppe and Treport the canal would be 152 kilometers long, and covered throughout. The route of this canal would be by Eragny (crossing the Oise by a viaduct 25 meters high), thence to Serfontaine, Neufchatel, St. Martin, and Grege, to the Channel at a point 7 kilometers from Dieppe, and 17 kilometers from Treport, where the current and trend of the coast would prevent any nuisance to these ports. Pumping would be resorted to at some points; but at the outfall motive power could be obtained from the waters.

A more important point in connection with the new scheme is that it would admit of the water being utilized for irrigation purposes *en route*, and during two-thirds of the year probably all the sewage would be thus disposed of. The estimated cost of the canal is 60 millions, and the expense of pumping would be largely covered by the sale of the waters along the track of the canal. The section of the latter would permit the flow of at least 500,000 cubic meters per diem. The scheme is well worthy the consideration of other crowded centers, since it unites the utilization of the sewage at separate districts along a considerable length of country together with the advantages of a covered drain. It is, in fact, virtually a means of distributing sewage waters for irrigation purposes. For Paris the work would be highly beneficial on the score of health.

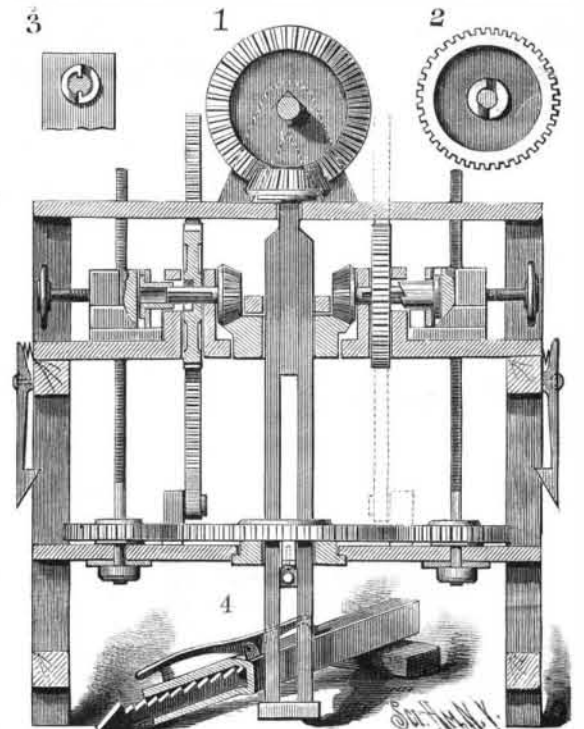
IMPROVED CAR COUPLING.

In the top of the drawhead of a car coupling patented by Mr. Aaron L. Sanders, of Falcon, Tenn., is a longitudinal slot, in which the piece, *B*, is pivoted. The rear end of the piece is pressed upward by a spring, and the front end is provided with a crosspin, *D*, to prevent it from being pressed down too far. On the forward end of the piece is a staple, to which is secured the end of a chain, *F*, leading to a lever on the roof of the car, or it may be connected with levers extending to the sides of the car. In the end of the piece is the longitudinal slot, *G*. Pivoted in the drawhead is the coupling-pin tumbler, *H*, one shank of which forms a hook, *K*, and the other has a slot that carries a bar to form a support and guide for the link, and which is supported by spiral springs. The spring strip, *L*, rests against the bottom edge of the tumbler, and holds it in place.

As the link enters the drawhead, Fig. 1, its end strikes the hook, *K*, and swings the slotted shank upward; the end of the shank strikes and lifts the end of the piece, *B*, and enters the slot, *G*; the cars are now coupled, as shown in Fig. 2. When the cars are to be uncoupled, the end of the piece, *B*, is lifted to release the upper end of the slotted shank, which swings down as the link is drawn out. The spring, *L*, holds the tumbler in either of its two positions.

**SANDERS' IMPROVED CAR COUPLING.****POST HOLE AUGER.**

On a shaft journaled in two uprights on top of the frame of the machine is a beveled cog wheel engaging with a pinion mounted on the upper end of a square shaft held between uprights united at the lower ends by a cross piece; these bars form the holder for the auger bit, and slide vertically on the square shaft. The bars pass through a horizontal cog wheel, mounted to revolve on a platform, and between the bars is a U-shaped piece, secured to the under side of the wheel, which receives the end of the stock holding the bit. Engaging with the center cog wheel at diametrically opposite points are two wheels rigidly mounted on the ends of screw spindles, the upper ends of which pass through an intermediate platform and through the top of the frame. Two rack bars, hinged to jaws projecting upward from the lower platform, engage with cog wheels mounted loosely on shafts journaled in uprights on the intermediate platform. On the inner end of each shaft is a beveled cog wheel engaging with a wheel through which the two bars pass, so that the latter will revolve with the wheel. Each of the cog wheels engaging the rack bars is provided in its outer flat surface with two ratchet teeth (shown in Fig. 2) which engage with corresponding teeth (Fig. 3) on the end of a sleeve formed with

**ROBINSON'S POST HOLE AUGER.**

two longitudinal ribs on its inner surface, which pass into grooves on the shaft, as indicated in Fig. 3. The outer end of each sleeve is flanged, and is held so as to revolve in a block provided with a threaded aperture, and forming one-half of a nut for the corresponding vertical spindle. One of the blocks constituting the nut is rigidly mounted, and the other is movable. A screw having a right and left thread works in the blocks, or half nuts; by turning the screw, the block and the sleeve to which it is attached will be moved toward or from the corresponding rack-bar cog wheel. The lower platform is held at any desired height by means of two hook latches pivoted to the sides of the frame. In each leg of the frame is a toothed bar terminating in a triangular foot, Fig. 4. A prong on one end of a spring latch engages with the teeth of the rack. This construction permits of the leveling of the machine and holding it any suitable distance from the ground.

When the upper shaft is revolved, the square shaft and two parallel bars are also revolved, causing the bit or scoop to form a hole in the ground. It is necessary to press the lower platform downward continually, as the center cog wheel is mounted upon it. This is accomplished by the vertical screw spindles, which are revolved from the center wheel, the nut sections, or blocks, being locked together. When it is desired to withdraw the auger, the nut blocks are separated by turning the hand screw. This will throw the sleeves into engagement with the shaft by means of the tongue and groove, and with the rack-bar cog wheel by means of the teeth formed in the end of the sleeve and side of the wheel. The beveled wheel on the two bars will then turn the two shafts and cog wheels, and the rack bars will be moved upward, thereby raising the lower platform.

This invention has been patented by Mr. Isiah Robinson, and further particulars can be had by addressing Mr. J. W. Sublett, of Mansfield, Tex.

A "SOCIETY of Mechanic Arts" has been started in the brisk manufacturing center of Worcester, Mass., including in its membership members of firms and young mechanics of intelligence. Each member is in turn to present papers on subjects of interest at the monthly meetings. H. W. Wyman is President, H. C. Hastings Vice-President, and E. H. Park, Secretary.