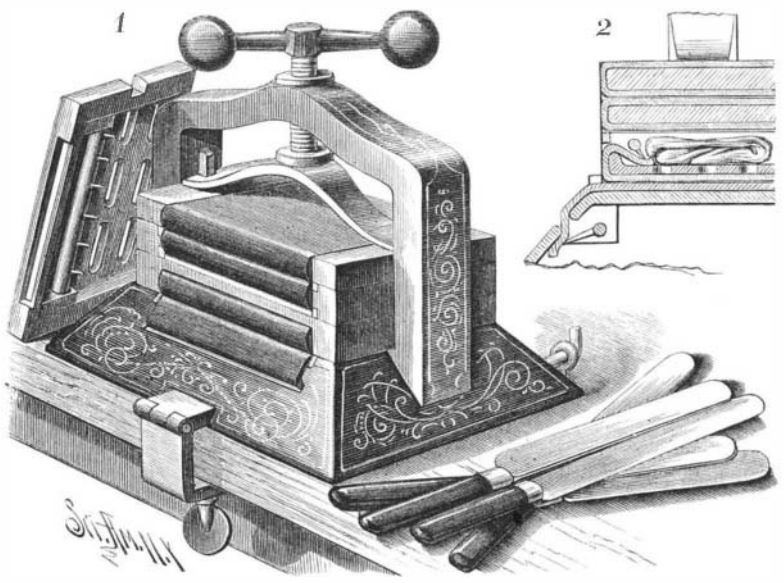
AN IMPROVED KNIFE CLEANER.

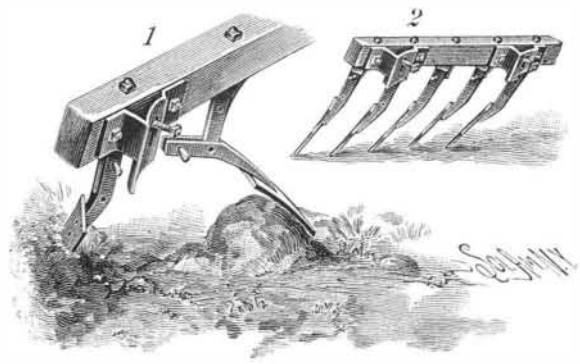
A simple and compact machine for cleaning and polishing the blades of table knives, cleaning them thoroughly on both sides and their back edges, and without strain on their handle fastenings, is illustrated herewith, and has been patented by Mr. Robert W. Jamieson, of Prince Albert, Saskatchewan, N. W. T., Canada. The machine has two pairs of rubbing blocks, a lower pair for cleaning and an upper pair for polishing, these blocks being faced with suitable fabric or leather coverings between which the cleaning and polishing powder is placed. The lower cleaning block is formed by the base of the machine frame, having a facing which extends down at each side, and is passed at opposite edges through slots where it is held by teeth on rods journaled at opposite ends of the base, as shown in Fig. 2. The upper cleaning block has similar toothed rods journaled in it, to hold a facing fabric to its lower face, there being in the floor of the block a series of slots or holes through which moisture held by a sponge may pass to wet or damp the facing fabrics and the knife brick or other cleaning powder placed between them. The upper polishing blocks are preferably made solid, and faced by suitable leathers cemented around them, but so that the blocks may be reversed as desired. Transverse shoulders are provided at opposite ends of the blocks for cleaning and polishing the back edges of the knife blades. All of the loose rubbing blocks are notched at opposite ends to fit ribs on the opposite uprights of the frame, and a spring, also notched to engage these ribs, is swiveled to the lower end of a screw threaded into the head of the frame, and having a handle bar, for regulating the pressure of the opposing pairs of cleaning and polishing blocks on the knife blades passed between them.



JAMIESON'S KNIFE CLEANER.

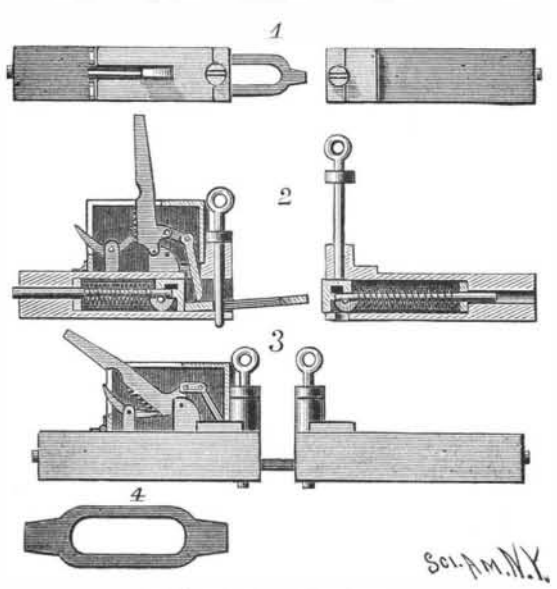
IMPROVED SETTING OF CULTIVATOR PLOW POINTS.

A simple attachment for any cultivator now in use, which is cheap and durable, and can be adjusted to throw dirt to or from corn, etc., and which will thoroughly pulverize the ground without making unnecessary work for the horses, is illustrated herewith, and has been patented by Mr. Thomas G. Tasker, of Onslow, Iowa. A notice of this invention appeared in our issue of Nov. 26, 1887, and the accompanying views



TASKER'S CULTIVATOR ATTACHMENT.

represent particularly the manner of attaching the cultivator head bar, carrying the plow points, to the cultivator beam, and the action of the safety pin, whereby the plow points are uninjured when a solid obstruction is struck. The cultivator head bar is secured to the ends of the beams by bolts passing through the beams and through angle plates secured to the rear surface of the bar, these plates being slotted and bent to form a breast piece and straight shoulders, the construction being such that the bar may be adjusted vertically at the points of connection to the beams, while the plate may be adjusted vertically on the bar. With such attachment the plow points follow each other and are all permanently connected, so that the plowman can do better work.



CLARK'S CAR COUPLING.

An Ironclad Car.

Perhaps the only solid iron box car in the Southern States to-day is now in use regularly on the Nashville, Chattanooga & St. Louis Railroad. It was built by the United States government more than twenty years ago, and, judging from present appearances, it will be used for twenty years more. This relic is constructed of heavy boiler iron, with doors of the same material, and was used to transport powder and ammunition along the line of road between Nashville and the South to the Federal troops and stations. It afforded perfect safety to its contents from those terrors, the Tennessee bushwackers, who lay along the track and fired upon the occupants of every train. Their bullets fell harmlessly from the sides of the ironclad; so for four long years of strife and bloodshed this old traveling magazine would jog along calmly and serenely through the thickest of the fight, indifferent to all attacks that were made upon it. After following the army all over the South and fulfilling its important mission, at the close of the war it was sold to its present owners. It was used by them as a baggage car on the Shelbyville branch for about fifteen years. Since then it has had a checkered career, running as an extra baggage on the main line, as a freight car on the different branches, and at last it was placed on the Lebanon branch about three years ago, where it runs regularly at the present time. Could this old fellow speak, what an experience he could relate! It is, perhaps, the only relic of the kind in the country, and, its veteran friends say, in token of past services should be bought by the government and placed in the National Museum, where, doubtless, it would be a very attractive feature.—*Nashville American.*

AN IMPROVED CORN HUSKER.

A simple device by means of which the husk of corn can be easily and quickly torn from the ear has been patented by Mr. Theodor H. Mehring, of Niobrara, Neb., and is illustrated herewith. The device has jaws which open and close like shear blades, each of the jaws having concave sides, which, when closed, form a cup-like cavity, the meeting edges being cut away at the middle to form an aperture when the jaws are closed, as shown in Fig. 2. Each jaw has a row of short inwardly projecting teeth around the edge, as shown in Fig. 3, with a pointed prong on the outer end to guide the ears of corn into the space between the jaws. The jaws are not in the same plane with the handles, but at a considerable angle thereto, and the large side of the handle has a sharp-edged tooth to be used to cut the silky threads on the ears. The operator holds the husker with his right hand, with his left taking an ear of corn by the outer end, when he opens the jaws and passes the pointed ends over the stem of the ear until the inner end of the husk is inclosed by the jaws, so that the stem of the ear projects through the aperture. The jaws are then closed so that the teeth penetrate the husk, when, with a slight twist, the ear is freed from the husk by breaking the stem.

AN IMPROVED CAR COUPLING.

A coupling in which the pin and link are held in position to be coupled, and the pin automatically dropped into engagement with the link, has been patented by Mr. John M. Clark, of Hebron, N. Y., and is illustrated herewith, Figs. 2 and 3 being sectional views, Fig. 1 a plan view, and Fig. 4 showing the link. The hollow drawbars each contain a slide having a guide rod on which is mounted a coiled spring, the slide moving freely on a friction roller. The forward ends of the drawbars have each an upward projection, through which is a vertical aperture to receive the coupling pin, the slide being held by the action of the spring beneath this aperture, and supporting the coupling pin in raised position. To a bracket on the drawbar at the left is pivoted a lever held in position by a pawl, and connecting with a bar adapted to move through a slot and bear down upon the end of a link to tilt it into inclined position, as shown in Fig. 2, the bar held by the lever being also adapted to hold the slide to the rear of the vertical coupling pin aperture.

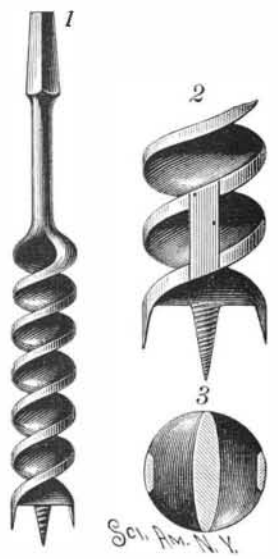
The lower edge of the bar held by the lever is beveled to take hold of the projection on the end of the link, so that, as the slide is pushed back by the link, and the coupling pin drops to position, the lever will be thrown up, and hold the link in position to be coupled automatically.

Purification of Mercury.

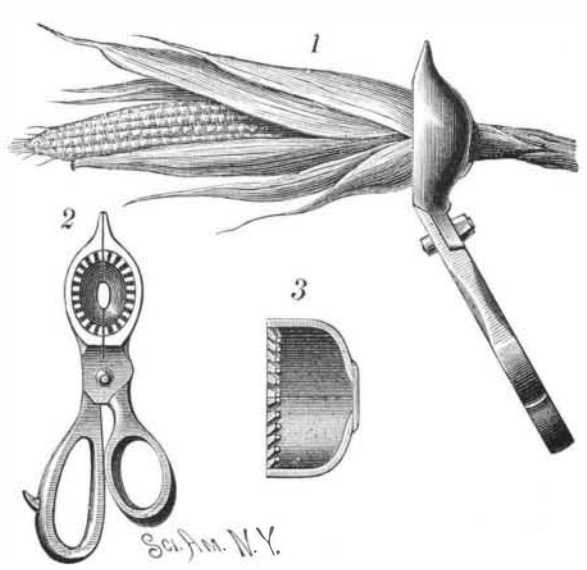
The author effects the purification by passing air through the mercury for forty-eight hours. The impurities, zinc, lead, tin, etc., collect at the top of the tube in the form of a black powder. The removal of traces of silver and gold is not necessary for mercury intended for filling barometers and similar instruments. These impurities do not affect the density of the mercury, nor alter the appearance of the meniscus. The author considers that if pure air has any oxidizing action upon pure mercury it is so slight as to be scarcely appreciable. Platinum in thin foil is not attacked by mercury in the cold, but on prolonged boiling the platinum is attacked, the greater part remaining in suspension as a black powder.—*J. M. Crafts.*

AN IMPROVED AUGER.

An auger which has one or more cutters so located that the boring will not be impeded, and the edges of the hole may be trimmed after the hole is made, has been patented by Mr. Harry W. Richards, of Eden, Florida, and is illustrated herewith, Fig. 1 showing a cutter extending from the shank of the auger, where the spiral terminates, to the edge of the spiral below and integral with the auger, and Fig. 2 showing a cutter extending from one edge of the spiral adjacent to the pod of the auger to the edge next above it. Fig. 3 being a horizontal section on the line thereof. The cutter is formed with vertical cutting edges operating in a horizontal plane, the height of the cutting edge being equal to one-half the diameter of the auger. Instead of being made integral with the auger bit, the cutters may be detachable, to be held to the auger by dovetailed joints and set screws. Only one cutter may be employed, or a number, and they may be located at any position on the auger between the pod and the shank of the auger. In operation, when a hole has been bored, the auger is pressed laterally against the side of the hole and rotated, the cutters trimming the edge and bottom of the hole. The auger is then drawn up and the edge of the top of the hole trimmed by the cutters adjacent to the shank, or the auger may be drawn up in the hole and the cutters adjacent to the pod operated in the same manner.



RICHARDS' AUGER.



MEHRING'S CORN HUSKER.