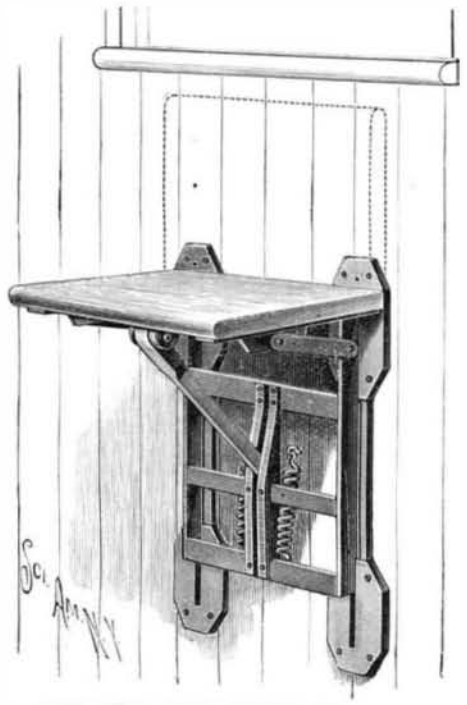
A SIMPLE, COMPACT FOLDING SEAT.

A safe, easy and convenient seat, especially adapted for use in locomotive cabs, is shown in the illustration, and has been patented by Mr. John S. Kilgore, of Salida, Col. The seat is supported on parallel slide-ways, which receive the flat flanges of the side pieces of the seat frame, cross bars making the frame rigid. The frame is supported by spiral springs, whose upper ends are secured to screw eyes in the walls of the cab. In

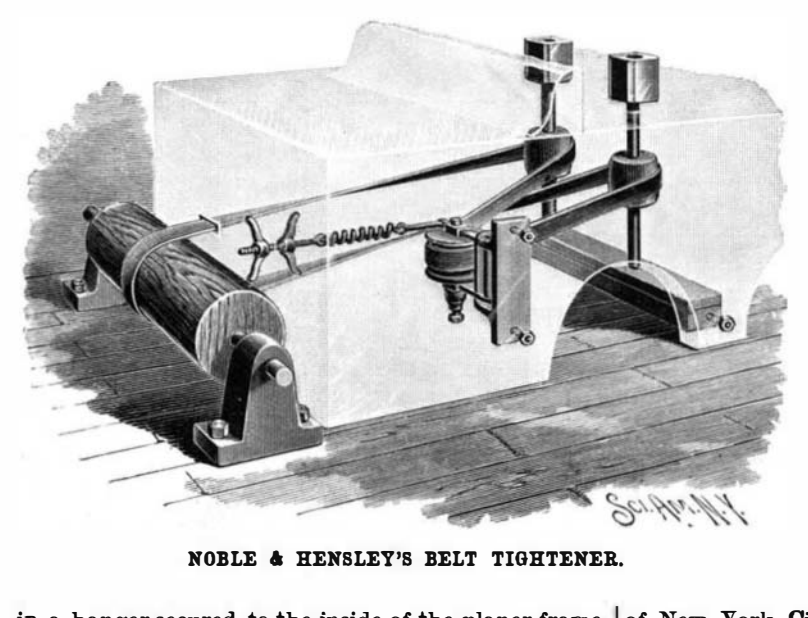


KILGORE'S LOCOMOTIVE CAB SEAT.

parallel guide bars near the center of the frame is pivoted the inner end of a swinging brace whose outer end is pivoted between angle clips on the under side of the seat, and pivoted links connect the ends of the seat bottom with the upper ends of the side pieces of the sliding seat frame. When the seat is used its lower edge is pulled out slightly, and the seat drops to place, its back edge resting on the upper ends of the side pieces of the sliding frame, and the brace swinging out into position, as shown, the seat being folded, as indicated by the dotted lines. by raising its inner sides with the hands, or simply by the inward pressure of the limbs upon its front edge, which causes the seat bottom to swing up into vertical position. The seat may be applied to any cab to occupy the least possible amount of space, while it has no lateral motion, and the spring supports it in a manner to make a very easy and comfortable seat.

AN IMPROVED BELT TIGHTENER.

The device shown in the illustration is especially adapted for use on planing, sizing, matching, moulding and similar machines, admitting of quick application and ready operation to tighten or slacken belts. It is also designed to lessen the cost of belting, as both the right and left hand cutters may be connected with the driving pulley by a single belt, and, as different faces of the belt pass over the tightener and the cutter head shafts, any shavings, chips or foreign material caught by the belts at the cutter heads will be discharged at the tightener. The improvement has been patented by Messrs. John B. Noble, of Tatum, and Joseph B. Hensley, of Baird, Texas. It is shown applied to a planer, the tightening pulley being mounted in boxes in a yoke-like frame pivoted in a hanger secured to the inside of the planer frame. The outer end of the frame is connected by a rod with one end of a spiral spring, from whose opposite extremity a rod passes through an opening in the end of the planer frame, the end of the rod being threaded and carrying two lock nuts engaging the inner and outer faces of the end piece of the planer frame. By the turning of these nuts the yoke carrying the pulley may be moved toward or from the cutter head shafts, to give the proper tension to the belt, the spring having a cushioning effect, although the spring may be omitted if desired. The weight of the tightening pulley is supported by an adjusting screw in the lower box, and the pulley also has end flanges to prevent the belt leaving it. The single belt employed passes from the driving pulley around one cutter head shaft, thence around the tightener and to the other cutter head shaft, and back again to the driving pulley. It will be seen that, by means of this device, the belt tension may be readily increased or diminished while the machine is in motion, without interfering in the least with its regular work. Manufacturers of planing and matching machines and others desiring to use the improvement may address Mr. J. B. Noble, Tatum, Texas.



NOBLE & HENSLEY'S BELT TIGHTENER.

AN IMPROVED COOKING VESSEL.

The improvement shown in the illustration, forming the subject of a patent issued to Mrs. A. R. Isaac, of New York City, consists of a vessel adapted to be held in a pot of water to permit the contents of the vessel to be steamed or boiled without escaping therefrom, an additional receptacle being also provided for the cooking of the sauce. The vessel is preferably made of sheet metal, open at the top and bottom and with many perforations in its sides, and near its bottom is an opening in which slides a perforated plate, having a flange and hinged handle on its outer edge. On sliding the plate inward, it rests upon brackets secured to the inner face of the body, and forms a removable bottom for the body of the vessel. In suitable sockets in the upper edge of the vessel rest the trunnions of an additional receptacle or saucepan. With the perforated plate or false bottom in its innermost position, the material placed in the vessel to be cooked will be either steamed or boiled, according to the quantity of water in the pot, the contents of the saucepan being in either case heated by the steam. After the cooking has been effected, the vessel is placed upon a platter or other dish and the sliding plate is drawn out, when the contents are deposited in a body, unbroken, in the dish provided therefor, obviating the necessity of removing the articles piece by piece. Further information relative to this improvement may be obtained by addressing the patentee, P. O. Box No. 773, New York City.

ISAAC'S COOKING VESSEL.

Chromium by Electrolysis.

In a recent issue of the *Comptes Rendus* of the Paris Academy of Sciences, M. Em. Placet describes a new method of preparing chromium by electrolysis. An aqueous solution of chrome alum is first made, to which is added an alkaline sulphate and a little sulphuric acid, and a current is then passed through the solution. Pure chromium is then deposited at the negative pole. Thus prepared, the metal is of a bluish-white color and very hard. It resists atmospheric influences, and is not attacked by concentrated sulphuric acid, by nitric acid, or by a concentrated solution of caustic potash. It is proposed to carry on chrome plating on an industrial scale, to replace the nickel plating. Good adherent deposits of chromium have been obtained from the same bath on brass, gun metal, copper, and even on iron. The deposit is said to resemble oxidized silver. An ingot of the pure metal, weighing one pound, has been prepared and sent to the academy by the inventor of the process, who is now engaged in investigating various alloys of the metal.

The Hudson River Ice Crop.

The Hudson River ice harvest is now in progress. It begins sixty miles north of New York City. The ice is ten inches thick, and is pure water ice, so clear that one can read a newspaper through the blocks. The indications are that the ice crop this year will be the largest and finest ever gathered on the river, and will reach nearly 4,000,000 tons.

A NOVEL MUSICAL INSTRUMENT.

The musical novelty shown in the engraving, which the inventor has christened the pneumatone (Gr. *pneuma*, breath or air) has been patented by Mr. Clark S. Mudge, of Bettsville, Ohio. A thin disk, preferably of celluloid or similar material, is held on a stud projecting from a plate which has at its lower end an angular offset connected with or integral with the handle, and on the face of the disk is held an adjustable plate having an elongated slot loosely engaging the stud, so that the latter plate can be moved up or

MUDGE'S "PNEUMATONE."

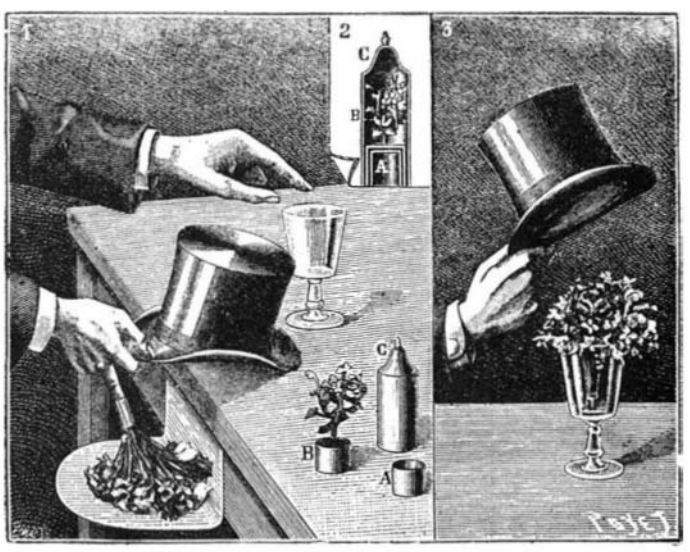
down on the face of the disk, and secured in desired position by a thumb nut. On the lower end of this plate is an angular extension, a rod connected with which extends downward through the offset of the other plate, a spring being coiled around the rod, whose lower end is threaded and fitted with a large nut. This rod forms the one key or slide used, and that only in producing a very high note, in which case it is pressed up, and in making a very low note, when it is allowed to go back to its lowest position by spring pressure. In playing the pneumatone the operator has only to place the exposed part of the circular disk to his lips and force the air against and over the disk, which will cause it to vibrate to produce a musical tone, which can be changed by the tongue and mouth much the same as in whistling. The pneumatone is 6½ x 1½ x ½ inches in size, making it a very convenient instrument to carry in the pocket.

AN INTERESTING FLOWER TRICK.

The trick that we about to describe, although old, is very interesting. The prestidigitator comes forward holding in his hand a small cardboard box which he says contains various kinds of flower seeds.

"Here there is no need of moisture, earth, or time to cause the seed to germinate, the plant to spring up and the flower to bloom. Everything takes place instantaneously. Would not a rose in my buttonhole produce a charming effect? A stroke of the wand upon the seed deposited in the desired place, and see! the rose appears. A few seeds in this little box (Fig. 1 A), that we shall cover for an instant so that it cannot be seen how flowers are born. . . . It is done; let us take off the cover: violets, forget-me-nots, and Easter daisies are here all freshly blown.

"You are suspicious, perhaps, and rightly, of the little tin box, and more so of its cover. Well then! here is a small goblet the transparency of which is perfect, and this borrowed hat with which I cover it can have undergone no preparation. Let us remove it quickly, for the flowers. . . What! no flowers? Ah! it is because I forgot to sow the seeds. Let us begin the operation over again. What flowers do you want?



THE BIRTH OF THE FLOWERS.