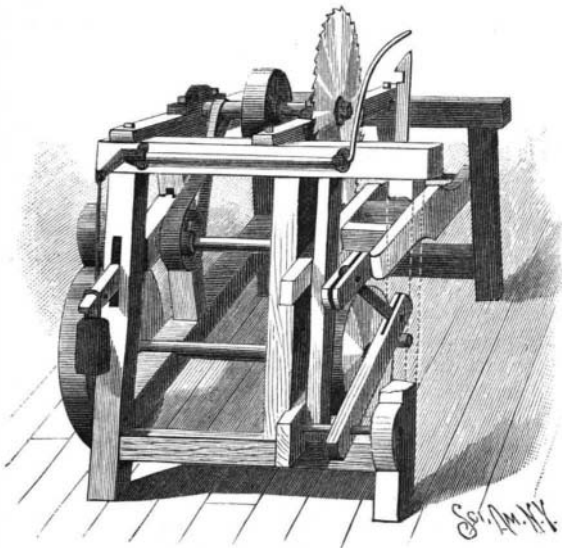


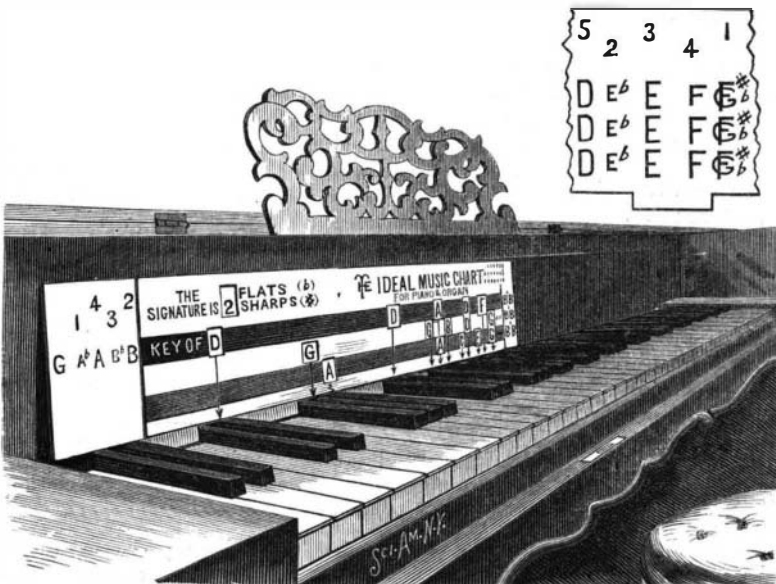
IMPROVED FEED MECHANISM FOR SAWING MACHINES.

A feed mechanism specially adapted for shingle or box sawing machines, and having a pivoted frame supporting the block carriage, with means for imparting a swinging motion to it, has been patented by Mr. Joseph W. Frank, of Emporia, Fla., and is illustrated herewith. The block carriage itself is not shown, and may be of any approved construction, but its pivoted supporting frame may be seen at the right in the illustration, a front extension therefrom passing between guides to prevent wobbling in its up and down movement. On the under side of the pivoted frame is a slotted arm, pivotally connected by a link with an arm fulcrumed on the main frame, the bottom edge of the latter arm being engaged by a friction roller held near the edge of a wheel secured to a transverse shaft in the lower front part of the main frame. There are apertures in the arms forming the pivotal connection through the link with the bottom of the pivoted frame, to increase or diminish the amount of throw given to the frame, by the required adjustment with the pivoted ends of the link. On the other outer end of the transverse shaft in the lower front part of the main frame is a friction wheel, the rim of which engages a friction pinion on a shaft above, operated by a crossed belt passing over the saw arbor, so that when the latter is rotated it also imparts motion to the shaft carrying the friction pinion. The inner end of the latter shaft is held in a bearing on the main frame, but its outer end rotates in a bearing on a pivoted arm, to which a weight is attached on the



FRANK'S CIRCULAR SAWING MACHINE.

free end, the outer end of this pivoted and weighted arm being also connected, through a link and transverse shaft on the top and front of the main frame, with a catch, whereby the arm may be held up so that the friction pinion rotating in a bearing thereon will be held out of contact with the friction wheel. When the saw arbor is operated, and this arm carrying the friction pinion is freed from the catch and held in its lowest position by the weight, the shaft in the lower front part of the main frame will be rotated, communicating an up and down motion to the pivoted frame carrying the block to be sawed, feeding the block upward on the saw. The block is of such length that when the pivoted frame is in its uppermost position, the saw has cut a shingle or board off of the block on the block carriage. When shingles are to be cut, the block is tipped by suitable mechanism, when the frame is in its lowermost position, to give the desired taper. To stop the motion of the feed frame, the operator has only to move the upwardly extending arm at the right into its catch, thus lifting the friction pinion out of contact with the friction wheel.



MASON'S MUSIC CHART.

AN IMPROVED GATE.

A gate that is adapted to swing or slide, and so constructed that it can be swung inwardly or outwardly, and slid back and forth, is illustrated herewith, and has been patented by Mr. Frank William Berning, of Ottawa, Ohio. It is mounted on a frame of iron rods,



BERNING'S GATE.

with a vertical side and inclined sides, and suspended from the hinge post through this frame. The outer pointed end of the frame has pivoted thereto an inclined bar or rod, which has a grooved roller at its lower forward end, upon which one of the lower bars of the gate is adapted to move, the upper end of this bar having perforations, with which the bent end of another bar is adapted to engage, the latter bar being pivoted to the side of the frame near the hinge post. By adjusting this rod in different perforations, the gate may be raised and held up in winter to clear the snow. The frame on which the gate is mounted has a grooved roller upon which one of the upper bars of the gate is adapted to move, and also a hook in which a lower bar is adapted to move, and which serves to steady the gate. To use this construction as a swinging gate, it is only necessary to slide it back sufficiently to have the latch clear the post. For further particulars with reference to this invention address Jos. Unterbrink, Ottawa, Ohio.

AN IMPROVED MUSIC CHART.

In our issue for January 21 last we gave an engraving of this invention, but as the arrangement of some of the letters was not quite as it should have been, we now present it again. It is a simple and efficient device for use in connection with pianos and organs, for transposing music from one key to another. It is illustrated herewith, and has been patented by Mr. Charles S. Mason, of El Modena, Los Angeles County, Cal. A card, which forms the body of the chart, is provided with three rows of letters, representing in three series the notes of the scale, as shown in section in the small figure. The letters represent the notes of the natural scale and sharps larger than the flats, while the flats are printed in red, so that when they are superposed upon black they may be readily distinguished. The card has projections upon its bottom edge adapted to fit into the wider spaces between the black keys of the keyboard to locate the chart with reference to the scale of the instrument, and is provided with appropriate indices and numerals representing the signatures. An apertured card, with three stripes of different colors, is arranged to slide over the other one, the apertures being in the order required for showing the letters of the different chords of the various keys, with an aperture also for exposing to view the figures on the rear card representing the signatures, the top line or color stripe representing the tonic or first chord, the second line the sub-dominant chord, and the third line the dominant chord. The chart, which only costs \$1.25, cannot be wrongly placed upon the instrument, and the rapidity and simplicity with which changes can be made from one key to another are obvious at a glance.

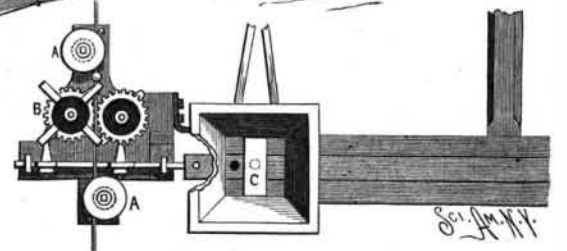
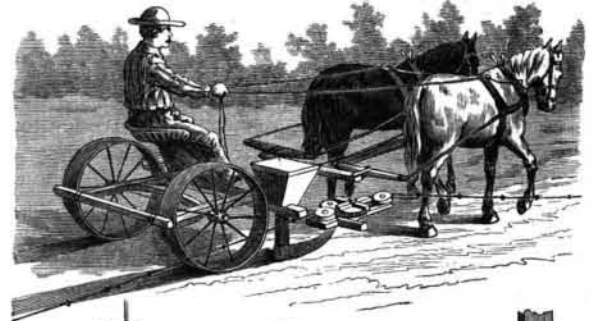
5	2	3	4	1
D [♭]	E	F	G	A
D [♭]	E	F	G	A
D [♭]	E	F	G	A

Porcelain Shot.

Under this name small white globules of porcelain are made in Munich. They are made to take the place of ordinary lead shot used for cleaning wine and medicine bottles, as porcelain is entirely free from the objection of producing lead contamination, which is often the result when ordinary shot is used. Their hardness and rough surface producing, when shaken, greater friction, adapt the porcelain shot well for quickly cleaning dirty and greasy bottles, and as they are not acted upon by acids or alkalis, almost any liquid can be used.—Rundschau; Am. Jour. Pharm.

IMPROVED CHECK-ROW ATTACHMENT FOR PLANTERS.

A check-row attachment for planters, designed for use in connection with a rope or wire secured in the field in the usual manner, has been patented by Mr. Isaac Jackson, of Kingman, Kansas, and is illustrated herewith, the smaller figure showing a plan view of the mechanism at one side of the machine. In the bottom of each seed box is an aperture registering with a downwardly extending tube, reaching into the furrow opener or runner of the planter, while a bar held to slide transversely on the bottom of each seed box is provided with apertures to register or disconnect simultaneously with the apertures in the bottom of the seed boxes. Each outer end of the bar sliding transversely in the bottom of the seed boxes is connected by a rod with a check-row attachment, the mechanism of which is worked to discharge the seed at regular intervals by balls attached to the rope or wire secured in the field, this rope or wire being guided through the attachment by the pulleys, A A. The rod connected with the sliding feed bar has slots in which lugs are held adjustably to be engaged alternately by arms on the under side of the gear wheels, B, rotating on studs secured to the frame of the check-row attachment. On top of one of the gear wheels are secured four radial arms, each arm having a slot in its outer end, through which passes the rope or wire, the knots or balls thereon being of a size sufficient to engage the slotted ends of the arms, thereby moving each arm along as each ball passes through, and moving alternately inward and outward the rod connected with the sliding feed bar, whereby the seed is fed through the tube and into the runner to be deposited in the furrow.

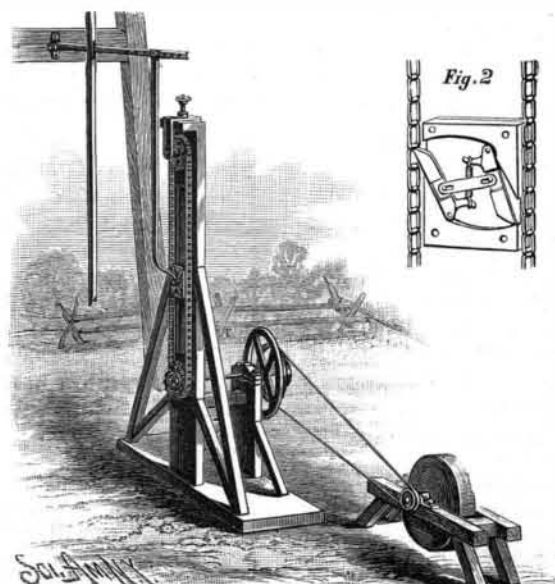


JACKSON'S CHECK-ROW ATTACHMENT FOR PLANTERS.

The stroke of the feed bar and rod can be increased or diminished by adjusting the lugs on the latter, so that it will require a longer or shorter time for the apertures of the feed bar to register with those in the bottom of the seed box.

AN IMPROVED WINDMILL MOTOR.

A motor adapted more particularly for connection to a lever operated by the pump rod of a windmill is illustrated herewith, and has been patented by Mr. George C. Hunter, of Chebanse, Ill. A main post or upright is fixed to a suitable base, and at one side of this post is fixed a shorter one, supporting one bearing of a main driving shaft, carrying on its outer end a fly wheel and a couple of belt pulleys, through which power may be conveyed for use as desired, the other bearing of the shaft being in the main post, and carrying in front of this post a cone of chain wheels or pulleys. There is on top of this post a metal saddle, the pendent arms of which afford bearings for a short



HUNTER'S AUXILIARY MOTOR FOR WINDMILLS.