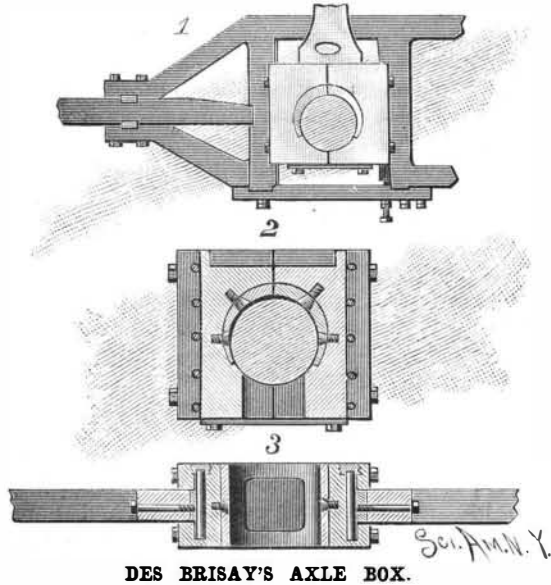


AN IMPROVED AXLE BOX.

An axle box specially designed for locomotives, and with which all wear can be easily taken up at any time, is illustrated herewith and has been patented by Mr. James Des Brisay, of Vancouver, British Columbia, Canada. The locomotive frame has the usual vertical arms in which the axle box is held to slide, the latter

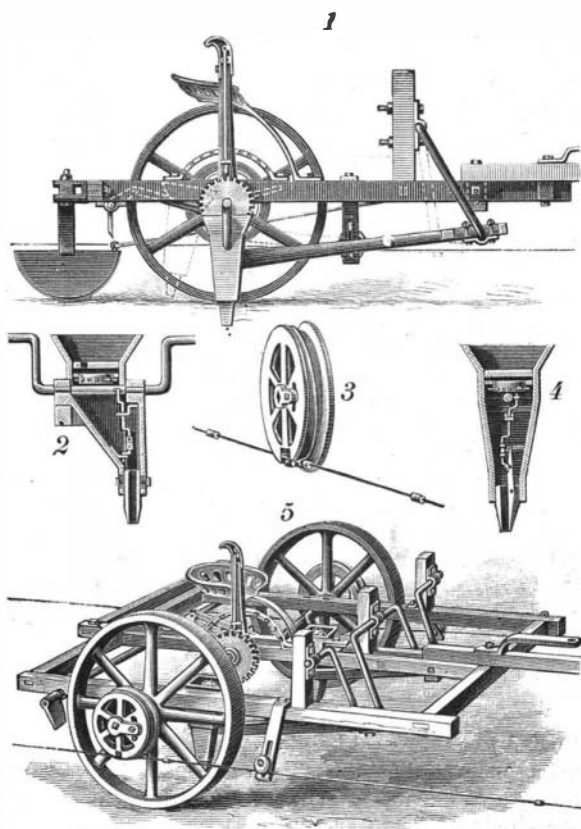


DES BRISAY'S AXLE BOX.

being preferably made in two parts, each carrying one-half of the brass bearing, secured by set screws or other suitable means, and on the inside of one arm is secured a steel plate, while on the inside of the other is held a steel wedge, adapted to be moved up and down by a bolt screwing in the bottom plate against the lower end of the wedge. The wedge and plate are held on the vertical arms by bolts passing through slots, as shown in the sectional plan view, Fig. 3. On each end of the two parts of the axle box are formed flanges fitting on the vertical arms, and in these flanges rollers are mounted to rotate loosely in contact with the steel plate and the wedge, as indicated in Figs. 2 and 3. In the lower part of the box is formed a recess, covered at the bottom by a plate, to be filled with waste or other suitable material which will absorb the oil necessary for lubricating the axle and box. When the axle is in place in the box, the friction of up and down movement caused by the weight of the locomotive is greatly reduced by the rollers traveling on the steel plate and wedge, and the wear is readily taken up by adjusting the wedge by means of the screw in the bottom plate bearing against its lower end.

AN IMPROVED CHECK ROW PLANTER.

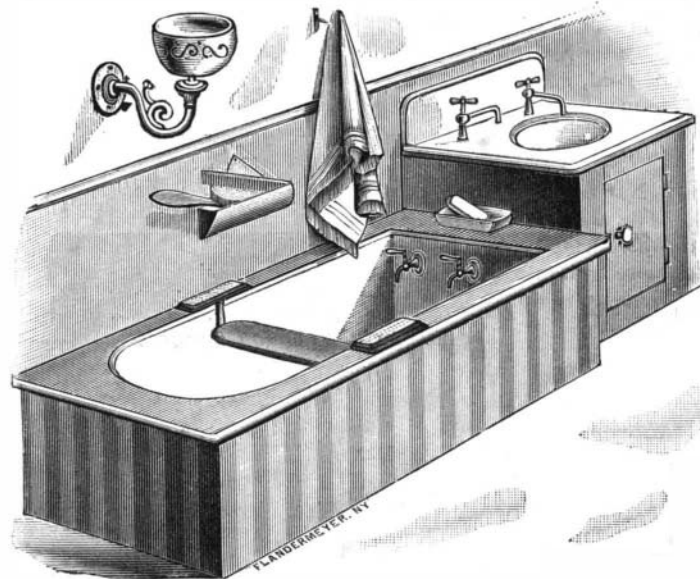
A machine for planting hills of corn or other seed in accurate check row, with economy of time and labor, is illustrated herewith, and has been patented by Mr. John Clark, of Sheffield, Iowa. The frame of the machine is supported by a cranked axle on loose wheels, the tongue being so attached as to allow of vertical adjustment to accommodate the team and keep the main frame level. There are two cranks in the axle, one on



CLARK'S CHECK ROW PLANTER.

each side of the central longitudinal bars of the frame, on which are hung prods having superposed seed-carrying boxes, as shown in the sectional views, Figs. 2 and 4. To each of the prods is fixed the back end of a sway bar, which at its forward end is journaled on the wrist of a crank formed on a transverse shaft, there being two of these cranks in the shaft, both extending in the same plane, and each giving the same throw to one of the sway bars, while the shaft is so journaled that it may be raised or lowered as desired. The prod-carrying cranked axle is rotated to vertically reciprocate the prods by means of either one of two wheels, one at each end of the axle, and outside of the main wheels. These outside wheels are normally locked to the axle, but may be turned either way to adjust the machine and wheels with relation to the buttons on the check row cord or wire stretched along the field, to enter the prods into the earth a little sooner or later, to maintain accurate check row of the planted seeds. One of these outside wheels is shown in Fig. 3, its periphery being beveled downward and inward, and there being journaled in an open transverse slot therein a clutch wheel adapted to engage the buttons on the check row cord, to operate the prods, the check row wire making one complete turn around the wheel, and reeling on to and off from the wheel at its lower edge. To guide the wire to the lateral center of the wheel, grooved guide wheels are adjustably held by arms extending downward and outward from the frame.

The rotation of the wheel by the buttons on the check row wire, as the machine is drawn over the field, rotates the main axle, raising and lowering the prods attached to its crank portions with each revolution, and, as the sway bars of the prods are connected to the cranks of the transverse shaft journaled forward in the frame, the prods are oscillated so that they will extend forward at their bottoms or jaws as they enter the



SLOAT'S SEAT FOR BATH TUBS.

ground, and extend backward as they leave the ground. The prod jaws are adjustable to secure shallower or deeper planting of the seed, which are caused to drop from the seed box into the body of the prod with each revolution, in regulated quantities for planting one hill at a time, the jaws of the prod opening to drop its charge when the prod stands vertically, having entered the ground to the maximum depth for which it had been set, the jaws closing immediately afterward until in position to drop the seed for another hill. During the travel of the machine, and while the prods are swinging between their extreme positions, the prod jaws accommodate themselves to the forward movement in a manner preventing their dragging in or through the earth, whether the planting be deep or shallow. While on the road, or when the machine is not planting, the prod-carrying shaft may be turned by hand and then locked to hold the prods up clear of the ground by means of a hand lever within convenient reach of the driver's seat. A marker is held by a shackle to the rear cross-bar of the frame, being stayed to the front end of the frame by a rod or chain in such way that it may be set to either side of the machine.

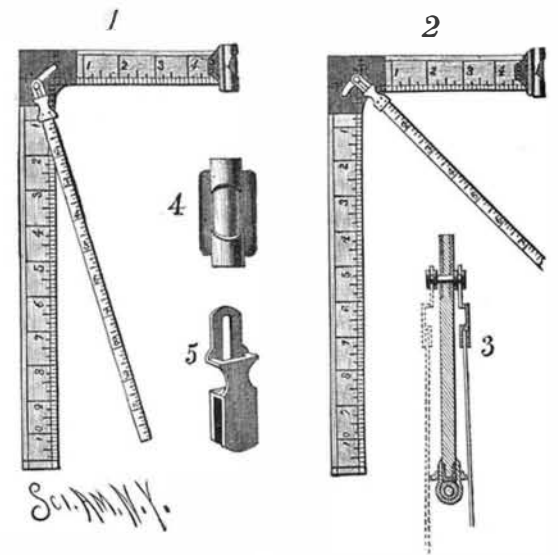
A SEAT FOR USE IN BATH TUBS.

An adjustable and sliding seat for bath tubs is illustrated herewith, and has been patented by Mr. George B. Sloat, of No. 1815 North Twenty-second Street, Philadelphia, Pa. The seat proper is preferably made of hardwood, and somewhat shorter than the ordinary width of a bath tub. It is provided at its opposite ends with bent metal arms forming hangers, by which the seat is supported in the bath tub, the lower ends of the hangers being bent to fit and slide within a longitudinal groove in the under side of the seat, where they are secured by thumb screws, being adjusted relatively to the ends of the seat as desired to adapt the seat to bath tubs of different widths.

FISH may be scaled easier by first dipping them into boiling water for a minute.

AN IMPROVED TAILOR'S SQUARE.

A square specially adapted for use by tailors and mantuamakers has been patented by Mr. Herman A. Sens, and is illustrated herewith. The inner edges of the plates between the arms of the square are preferably concave, that the square may fit snugly under the arm of a person being measured, and at the intersec-



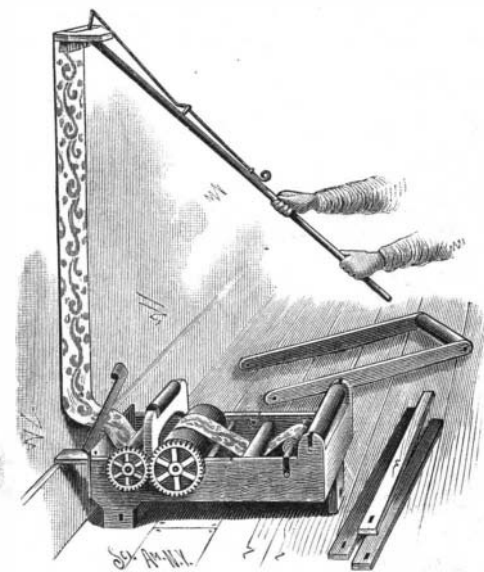
SENS' TAILOR'S SQUARE.

tion of the arms is a segmental slot in which travels a stud or pin having a head and collar upon each side of the center, as shown in the sectional view, Fig. 3. Upon the extremity of the short arm of the square is mounted a spirit level, shown in Fig. 4, enabling the operator to accurately establish the plumb line beneath the arm at the breast, the level being surrounded by an elastic cushion, so that its vial will not break when the square is thrown upon the table. The tape is provided at one end with a metallic ferrule of peculiar form, as shown in Fig. 5, and is attached to the square by the pin traveling in the segmental slot at the intersection of the corners, the pin also sliding in a longitudinal slot in the ferrule, whereby the tape may be carried in the direction of either arm of the square, or within or outside the arms. In other devices of this character the tape measures on the outside of the square, while here it measures on the inside, or directly on the body of the person being measured, thereby avoiding errors likely to occur in making allowance for the thickness of the square.

For further information relative to this invention address Mr. J. L. Hoffman, No. 13 East Fayette Street, Baltimore, Md.

AN IMPROVED PAPER HANGING MACHINE.

A machine for conveniently applying paste to the back of wall paper and cutting the paper from the roll in suitable lengths, preparatory to hanging it on the wall, is illustrated herewith, and has been patented by Mr. John F. McAfee, of Pleasant Hill, Mo. In bearings in one end of a suitably constructed frame is a roller carrying the paper to be hung, in front of which is a guide roller, under which the paper passes from the paper roller and thence over a paste roller, the latter having a fibrous covering, and dipping into a paste pan held under it, there being a scraper to remove superfluous paste from the paste roller. The paper next passes under a friction roller, under which is a drip pan, the



McAFEE'S PAPER HANGING MACHINE.

edge of the latter carrying a strip of cloth to even the paste on the paper, which then passes to the knife at the other end of the machine, which is provided with lugs to rest on the top of the mop board of the wall, the relative position of the lugs and the knife being such that the cut-off end of the paper will reach to the top