

STREET CAR DRIVER'S CHANGE BOX.

A simple, inexpensive, and convenient means for removing the change envelopes from the boxes used on street railway cars has been invented by Mr. J. G. Holden, of Danville, Ill. The cover of the box is hinged along one side, and is held



HOLDEN'S STREET CAR DRIVER'S CHANGE BOX.

shut by a spring catch having a finger bar by which it may be released to open the cover. A strap passing through loops on the box buckles around the driver's waist, the box being in front and slightly toward the left hand. The box is divided into compartments for holding separate piles of money or envelopes. At the bottom of each compartment is hinged a floor to which is rigidly fixed, near its outer end, a wire frame. The side bars of the frame are far enough apart to receive the piles of envelopes between them. The floors incline downward from the hinge to carry the envelopes by gravity toward the outer side of the box, and leave a space behind them to prevent cramping or bending the box when the floor is raised. When the driver wishes to obtain an envelope, he places his thumb under the cross bar of one of the frames, and lifts it and the floor. The envelopes are thus brought end upward, when one or more may be removed from the pile, the remaining ones dropping back into box.

Leather Faced Pulleys.

A competent and experienced millwright gives as the result of his experience of thirty-eight years that iron pulleys should be faced with leather, particularly if the belt is not to be shifted, as from fast to loose pulley. His plan is to cut the leather of the proper width, slightly wider than the pulley face, soak it soft in water, and then apply it to the pulley by stretching, using copper rivets to secure the butt joint and an occasional rivet on the edge. The leather is put on with flesh side outward. Next to the leather face he prefers a built-up wooden pulley, the segments of wood to be secured in an iron frame with the ends of the grain outward. Such pulley faces he claims to be greatly superior to polished iron or to wood with the grain horizontal.

Ingrowing Nail.

In a note to the *Union Medical*, M. Monod states that during the last twenty years he has treated ingrowing nail by a very simple and effectual method, which does not involve the removal of the nail. He makes a free application of nitrate of silver at the commencement of the affection, without isolating the nail. If the cauterization is carried deeply into the diseased furrow, the patient has usually, even by the next day, derived considerable relief, and is able, even thus early, to walk in moderation with an easy shoe. Extirpation of the nail should be reserved for quite exceptional cases.

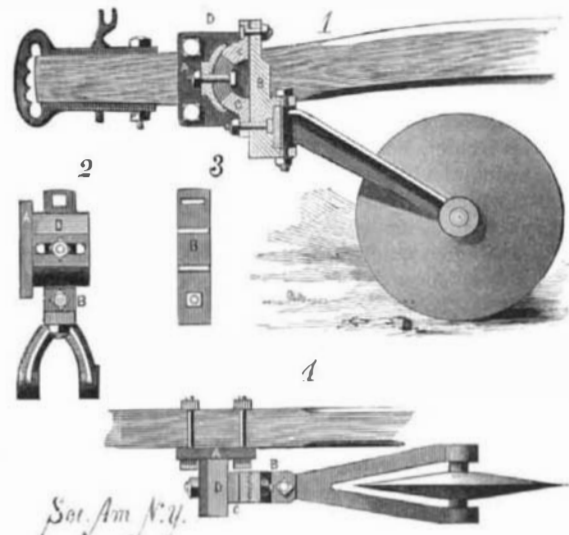
IMPROVED COLTER HANGER.

In the engraving Fig. 1 is a sectional side elevation, Fig. 2 is a front end view with colter removed, Fig. 3 is a rear view of the back plate to which the colter fork is jointed, and Fig. 4 is a plan view of an invention lately patented by Mr. Hanc Shaw, of Campbell Hill, Ill. The hanger is secured to the plow beam by bolts passing through the plate, A, projecting at right angles from which is a curved flange having serrations formed transversely across its rear face to engage with serrations on the front of a curved block, C, which is slotted vertically through the center to permit the passage of a bolt. By this means the block may be held firmly to the plate, and may be shifted on the flange to adjust the colter as to height for regulating its depth of cut in the soil. The colter is hung in a fork pivoted on a bolt passing through lugs projecting from the rear side of the plate, B, which is bolted to flanges on the block, C. The upper bolt hole is slotted, so as to allow the plate, B, to swing on the lower bolt as a center, for adjusting the colter in perfect parallelism sidewise with the landside of the plow, and to cut freely in advance of the plow, so that the latter will run true and may be guided easily. The opposing joint faces of the block and plate, and the ends next the upper bolt, are serrated to prevent slipping when the nut is screwed down. The colter may swing sidewise on the bolt to clear itself of obstructions. By turning the plate, A, up side down the hanger may be adjusted either to right or left hand plows. All parts of the hanger are simple, strong, and durable, and the adjustments for every possible requirement can be easily and quickly made by any one capable of handling a plow.

Sulphur a Remedy for Cholera.

The carrying of a roll of brimstone in the pocket is believed by many persons to be a sovereign remedy for rheumatism, but we believe it has been left to a Doctor Herring to establish the fact that a half drachm of the flowers of sulphur worn in the foot of each stocking is a sure preventive of cholera, and that one clad as it were in this sanitary armor may walk unscathed through the very hotbeds of the disease. Any lingering doubts as to the efficacy of this

Telephony in Australia.
In 1882, under the provisions of an act which had originated with Hon. C. Todd, Postmaster-General and Superintendent of Telegraphs, a telephone system was adopted in South Australia, and there are now 217 members connected with the Adelaide Exchange. At the commencement of the year the subscribers in the other colonies were: Melbourne, 650; Ballarat, 81; Sandhurst, 37; Sydney, 260;



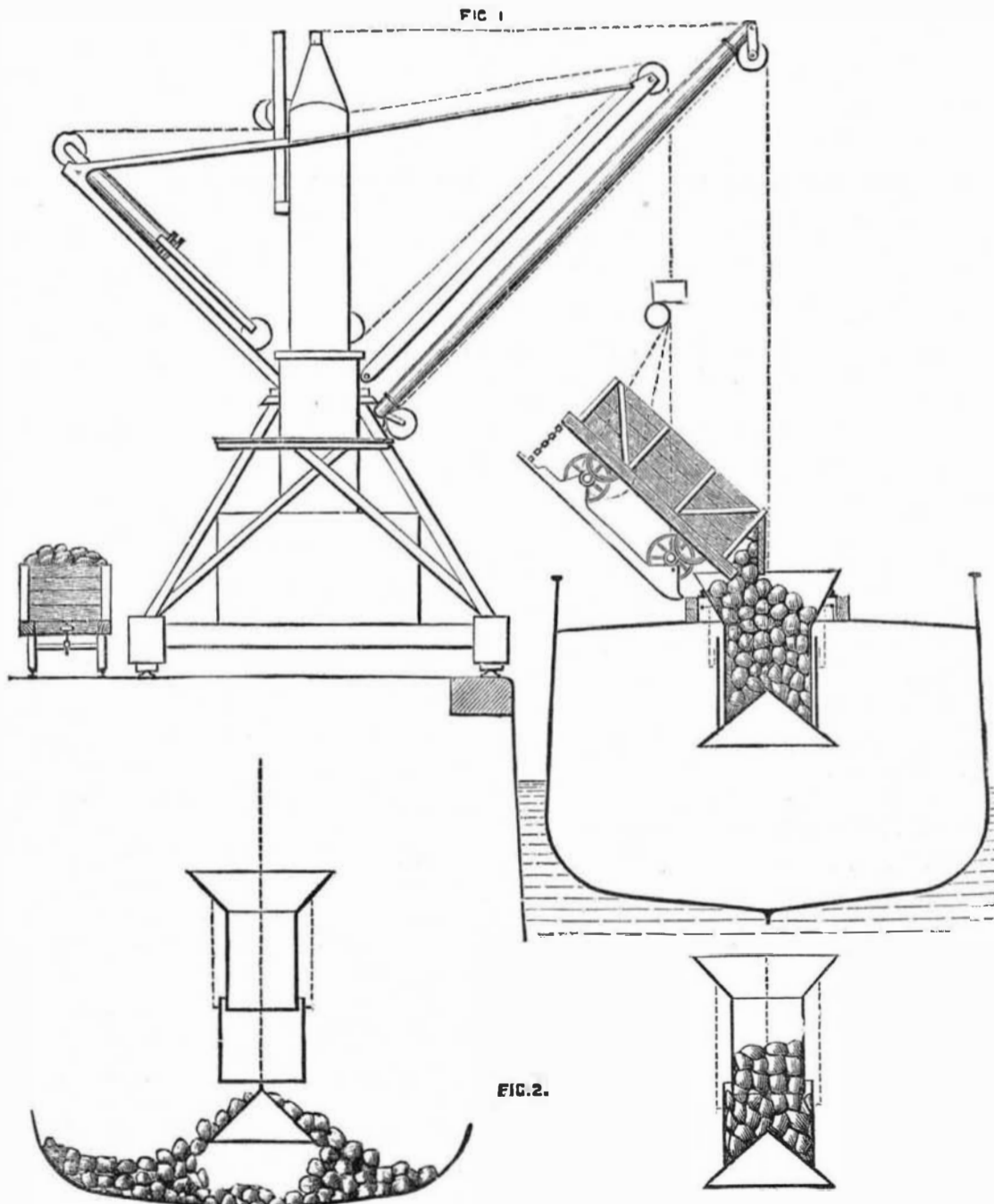
SHAW'S IMPROVED COLTER HANGER.

Dunedin, 237; Auckland, 151; Christchurch, 125; and Wellington, 60. A good proportion of the telephones now used in Australia are of American make.

IMPROVED COAL CRANE.

Mr. Westmacott's coaling cradle must be looked upon as the key to the successful application of movable

coal shipping appliances. It may be described as a light platform suspended by chains, which takes its seat on an ordinary line of rails in any position. It is suspended on what may be called an anti friction swivel, which enables a man to turn the cradle with a loaded wagon on it, thereby dispensing with turntables. There are no tipping chains to hook on and off every time a wagon is shipped, as is the case with coaling cradles of the usual construction; the tipping chains in this case pass through the center of the swivel attachment, and are permanently connected with the cradle. The crane itself, as shown in Figs. 1 and 2, consists of a nearly square wrought iron pedestal or base, tapering upward, which is carried on four wheels, one near each corner, running on rails of 24 feet gauge laid parallel to the quay wall. These wheels, however, are used only for traveling on; the whole of the weight when working is taken by four hydraulic jacks, one at each corner, which effectually prevent any movement of the crane. Rising out of the top of the pedestal, and revolving in bearings at the top and bottom of it, is the pillar, consisting of two flat plate girders, between which is placed the hydraulic cylinder for lifting. The chain from this cylinder passes over the jib head, and both ends are attached to the cradle. The jib is attached at the lower end to the front of the pillar, just above the pedestal; and at the outer end by stays to the top of the pillar. At the back of the pillar is fixed a second hydraulic cylinder, which effects the tipping of the wagon by making a bight in the tipping chain that passes over the jib head to the cradle. The tipping chain is always kept taut by a third hydraulic cylinder placed on an inclined frame, which is fixed to the pillar at the back in the same way as the jib is in front. Thus the tipping cylinder proper needs to have a short range only. The inclined cylinder and its frame act as a counterweight for balancing in some measure the load hanging from the jib head. The turning of the pillar and jib is effected by a pair of hydraulic cylinders, one on each



NEW MOVABLE CRANE CARDIFF DOCKS.

method, the *New England Medical Monthly* facetiously asserts, are dispelled by the fact that while the doctor, who lives somewhere in England, has not had for the last six months a single death from cholera in his practice, a large number of the Egyptians, who unfortunately had no stockings, and were, therefore, unable to apply the remedy, succumbed to the disease.