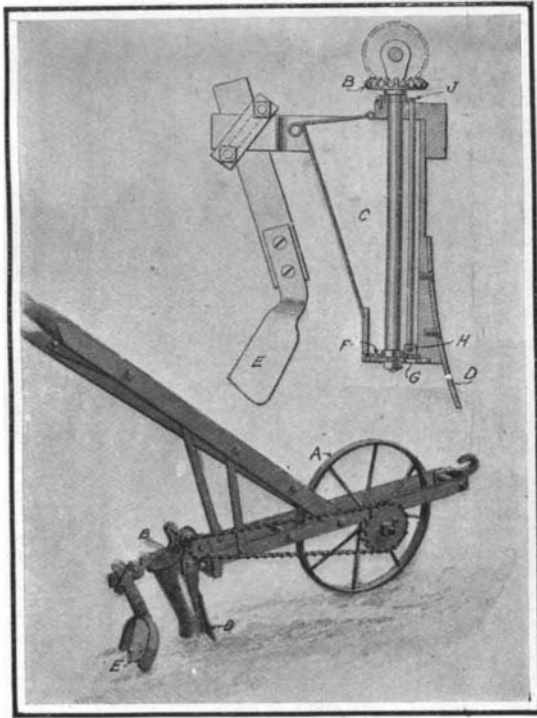




AN IMPROVED PLANTER.

Pictured in the accompanying engraving is a planter provided with a seed box, in which there are no springs to become choked or gummed by seed or dust. The seed-distributing mechanism is adaptable for seeds of different sizes, and may also be adjusted to plant seeds at greater or shorter distances apart. The seeds leave the box so close to the ground that there is no danger of their becoming scattered. The frame of the machine is supported on a traction wheel *A*, which, through the medium of suitable gearing, operates a bevel gear *B*, affixed to a vertical shaft which runs through the seed box *C*. Secured to the forward part of the seed box is a share *D*, which plows a furrow in advance of the seed box, while a pair of hoes *E*, converging rearwardly, serve to cover the seed with the earth plowed up by the share. A disk *F* is secured to the shaft which runs through the seed box and is adapted to rotate in contact with the bottom plate of the seed box. The disk is provided with a series of perforations, adapted to be brought successively into engagement with an aperture *G* in the bottom of the seed box. A cut-off *H* bears against the disk *F*, immediately above the aperture *G*. A rod attached to the cut-off *H* extends through the top of the seed box, and is normally pressed downward, by means of a spring *J*. As the disk *F* revolves, it carries one seed at a time to the opening *G*, through which the seed falls into



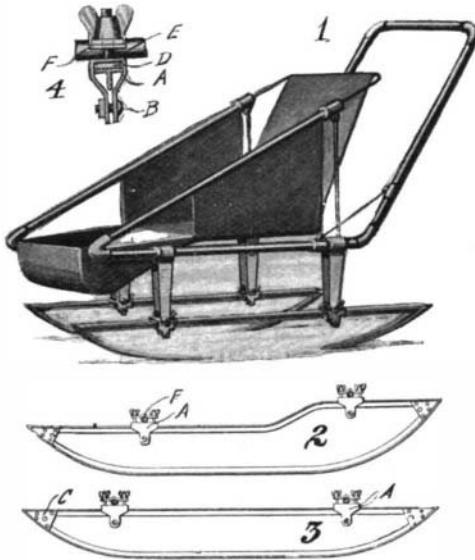
AN IMPROVED PLANTER.

the furrow. The machine is supplied with disks, having perforations of different sizes, suitable for seeds of various sizes, and the intervals between the perforations vary in the different disks to provide the proper spacing of the seeds planted. If desired, two or more seed boxes may be connected to the traction wheel, so that a number of rows may be planted at the same time. The inventor of this planter is Mr. August Brinkoeter, Floresville, Texas.

SLEIGH-RUNNER ATTACHMENT FOR BABY CARRIAGES.

A patent has recently been issued disclosing a new form of sleigh-runner attachment for baby carriages, which may readily be applied to an ordinary go-cart or baby-carriage or a child's wagon, to permit of using it over snow-covered walks. The accompanying engraving indicates the form of this attachment. The runners, which are made of T-iron, consist of a horizontal upper and lower member, with the ends of the lower member curved upward and braced by means of plates *C*. The axles of the carriage are made fast in a pair of saddles mounted on each runner. The form of the saddle is shown to better advantage in the cross-sectional view, Fig. 4. It consists of a yoke *A*, which fits over the horizontal portion of the T-iron, and it is made fast by means of a bolt *B* on the under side. A pair of bolts *D* with flat heads *E* resting on top of the runner project upward through the yoke to receive a strap *F*, which is clamped down on the axle by means of a pair of thumb nuts. When it is desired to attach the runner to a folding go-cart, a sleeve is preferably fitted over the axle, and this sleeve is clamped between the strap and the yoke. Fig. 3 shows a form of runner used on vehicles which have rear wheels of larger diameters than the front ones. It is quite essential to have the rear as well as the forward

end of the runners curved, because this enables one to lift the forward end of the baby carriage when mounting a curb, or when it is desired to make a sharp turn. It also permits of lowering the carriage from a step or the curb. The runners may be quickly applied or removed by merely turning the thumb nuts,

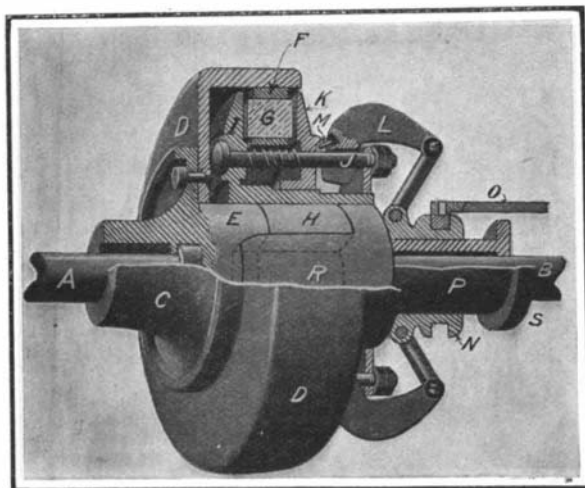


SLEIGH-RUNNER ATTACHMENT FOR BABY CARRIAGES.

and they are applicable to any type of go-cart, owing to the fact that the saddles may be adjusted along the upper member of the runner, and made fast at the desired point by tightening the bolt *B*. The inventor of this attachment for baby carriages is Frederick C. Kengeter, 2656 Pitkin Avenue, Brooklyn, N. Y.

COMBINED FRICTION AND JAW CLUTCH.

The principal advantage of a friction clutch is that it permits the shaft under load to be brought gradually up to the speed of the power shaft, thus eliminating the shock of starting. However, the friction surfaces are liable to wear out, rendering the clutch useless in a short time. Except for starting and stopping, the jaw clutch is better, because it provides a positive engagement of one shaft with the other. The accompanying engraving illustrates a clutch in which it is aimed to combine the advantages of both forms. The power shaft is indicated at *A*, and the load shaft at *B*. Mounted on the shaft *A* is a hub *C*, formed with a flange to which the disk *D* is bolted. Projecting through a central aperture in the disk *D* is an annular jaw *E*. The disk *D* at its periphery is formed with an annular flange, which incases part of the clutch mechanism. A ring *F* is fitted within this flange and keyed to it. The ring has openings at suitable points to receive wooden blocks *G*, which protrude from the opposite faces of the ring. Keyed to the shaft *B* is a member *H*, on which is fitted a sleeve *I* formed with a flange at its inner end. A series of bolts *J* are fitted between this flange and a ring at the opposite end of the sleeve. A ring *K* is mounted to slide on the sleeve *I*, and the bolts *J* pass therethrough, while coil springs on the bolts *J* bear against the ring *K*, tending to press the latter outward. The flange of sleeve *I* and ring *K* have annular bearing surfaces adapted to engage the blocks *G* at opposite sides. They are pressed into engagement by means of levers *L* fulcrumed to the ring at the end of the sleeve *I*, and links *M* are fitted between the levers *L* and the ring *K*. The levers *L* are connected by links to a sliding collar *N*, operated by a lever *O* fitted with



COMBINED FRICTION AND JAW CLUTCH.

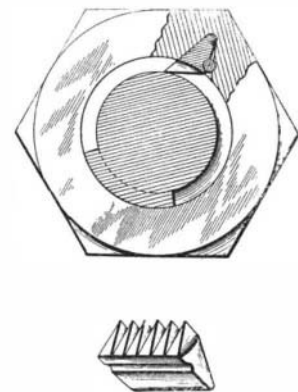
a split collar in the usual manner. The collar *N* slides on a sleeve *P*, which at its inner end is provided with jaws *R*. These jaws are adapted to slide in recesses at opposite sides of the member *H* and the jaw *E*. In operation, when it is desired to separate the jaws, the lever *O* is operated to draw the collar *N* back on the sleeve *P*. This serves to press the flange *I* and ring *K* against the friction blocks *G*, thus

taking the load off the jaws; and when the collar *N* comes into contact with the flange *S* at the end of the sleeve *P*, the jaws *R* are withdrawn from engagement with the clutch member *E*, after which the friction surfaces are released, owing to the toggle action of the links connecting to the collar *N*. When throwing the clutch into engagement, the reverse takes place. The friction surfaces are first thrown into contact before the jaws *R* move into engagement with the recesses in the clutch member *E*. It will be understood that the frictional engagement is only momentary, serving to bring the load shaft approximately up to speed, and thus obviating the shock of starting and the danger of breaking the clutch jaws. The inventor of this combined friction and jaw clutch is Mr. Charles Stewart Hook, 79 Victoria Street, Toronto, Ontario, Canada.

A PERFECTED FORM OF LOCK NUT.

Of the many kinds of lock nuts which have been, or are at present manufactured, few have the simplicity and surety of the one recently patented by Mr. William Jacobus, and soon to be placed on the market. The accompanying engraving shows at a glance the extreme simplicity of this invention, which consists in cutting from an ordinary nut a small wedge-shaped section that, when it is put back in place and the nut is screwed up, jams tightly against the thread as soon as an effort is made to unscrew it. When it is desired to remove the nut, the wedge can be released by a pin or piece of wire and the nut can be unscrewed.

Two capital advantages of this new nut are that it practically is in one piece, resembling in general appearance any ordinary nut, and secondly, the fact that vibration tends to tighten instead of loosen it. An excellent demonstration of this latter fact was given

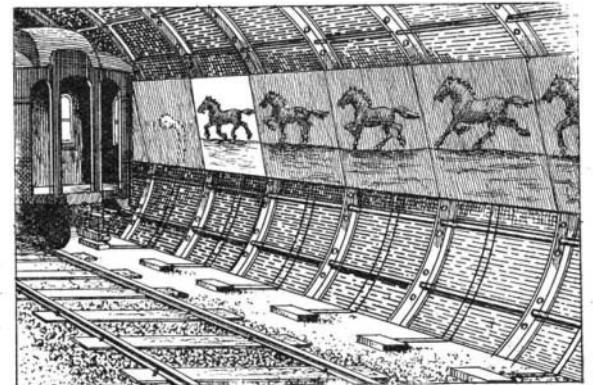


A PERFECTED FORM OF LOCK NUT.

us by the inventor, who placed a nut about half way up the thread of a bolt, and by jerking the bolt up and down on the end of a string, caused the nut to travel to the end of the thread, where it was effectually locked.

ODDITIES IN INVENTION.

MOVING PICTURES FOR SUBWAYS.—Moving pictures are produced, as is well known, by a film traveling with intermittent motion before a projector or lantern which throws successive views on the screen. The same result could be obtained if the pictures were stationary and the audience itself were in motion, so as to view the pictures successively. An ingenious inventor has



ARTIFICIAL LIVE SCENERY FOR SUBWAYS.

hit upon this scheme to relieve the monotony of subway travel. He proposes to mount a continuous band of pictures at each side of the subway, and have these pictures successively illuminated, by means of lamps placed behind them. The circuits of the lamps would be successively closed, by means of a shoe upon the subway car engaging contact plates at each side of the track. The accompanying illustration indicates the method of accomplishing this result.

Fluid Siccative.—60 parts of old linseed oil are boiled with 3 parts of carbonate of manganese until viscid. The temperature required is about 536 deg. F. (280 deg. C.). The mass should then be dissolved in 120 parts or more of oil of turpentine.