

## IMPROVED SHOVEL PLOW.

The engraving shows an improved shovel plow lately patented by Mr. George S. Agee, of Mint Hill, Osage County, Mo.

In this plow a horizontal bar or beam is welded or bolted to the lower part of the shovel, and is bolted to the end of the curved beam. The upper end of the shovel is secured to an arm of the plow beam by a bolt, as shown in the sectional view, Fig. 2.

The handles of the plow are made adjustable to suit purposes of different height. The bar extending backward from the shovel insures great steadiness in the running of the plow. The forward end of the beam is widened and has three or more holes for receiving the clevis bolt. This arrangement permits of adjusting the plow at any required depth, and when so adjusted it will plow at a uniform depth.

All of the parts of this plow, with the exception of the handles, are made of iron or steel, and it is carefully designed with a view to strength, durability, ease of handling; and it is especially adapted to working in trashy ground, as it will not clog under any circumstances.

## A Beautiful Grass.

From Mr. Andrew Curtis, Peabody, Mass., we have recently received specimens of a most beautiful and useful grass growing in Mr. Curtis' locality. It is the *Phalaris canariensis*, and is a native, as its name indicates, of the Canary Islands. It is closely related to the ribbon grass, or striped grass of our gardens, *Phalaris arundinacea*, which is a native of swamps. The specimens received from Mr. Curtis are about two feet high, with short, thick, beautiful heads, somewhat resembling the heads of some varieties of millet. Mr. Gould says of this grass, in the New York State Agricultural Report, 1869, that it produces the best known seed for the canary birds, and that from thirty to forty bushels may be produced per acre. Cattle are also very fond of the grass and hay, but the yield has not been usually so large as to attract much attention to it as a forage grass. It produces flowers, according to Mr. Flint's treatise on grasses, in July and August. It must be quite desirable for winter bouquets, as it is showy, and retains its color well.—*N. E. Farmer.*

## IMPROVED WIRE FENCE.

The engraving shows an improved wire fence lately patented by Mr. Edward Ruane, of Center Rutland, Rutland County, Vt. This fence is made entirely of metal, and is contrived so that it may be rapidly erected and will maintain its shape in all weathers and under all ordinary circumstances.

A general view of a portion of a fence of this kind is shown in Fig. 1. Figs. 2 and 3 show a portion of one of the posts with the locking device in section in Fig. 3. Fig. 4 is a horizontal section of the post. Fig. 5 shows the end of one of the wires or strips of which the fence panels are formed, and Fig. 6 shows the spring expansion joint and the manner of fastening the strips or wires.

The hollow cast iron posts, A, are provided with as many hollow projections, E, as there are strands or wires in the fence. These projections are provided with bolt slots large enough at the upper end to receive the nuts of the small bolts, and small enough at the lower end to receive only the body of the bolt. The fastening of the wire consists of two small plates embracing the wire or strip and clamped against the projection, E, by the small bolt. One of the plates has a small flange formed on its upper edge to protect the joint.

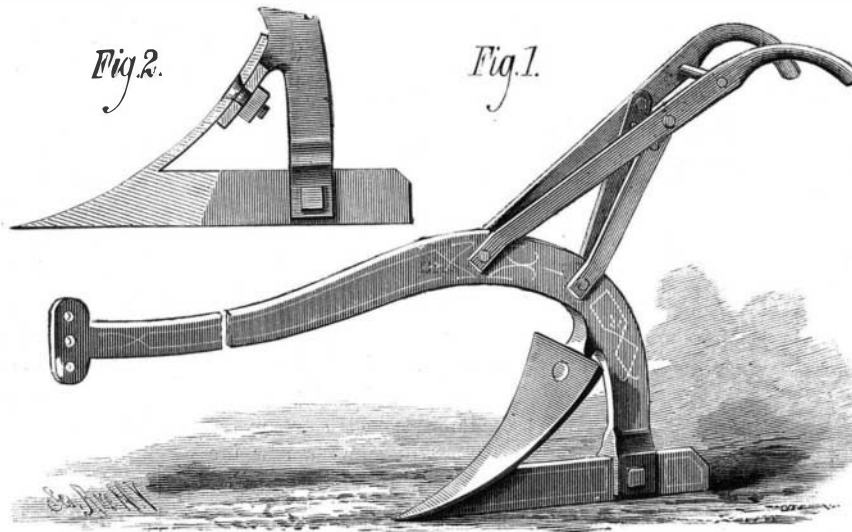
The strips, B, of which the fence panels are formed are of steel, with barbs formed upon the upper and lower edges by cutting diagonally into the edge and bending the pointed piece outward, so as to stand at nearly a right angle with the strip. The ends of the strips, B, are split for a short distance, and may be bent to attach them to a post or to the curved springs, C, as shown in Fig. 6. These springs compensate for the expansion and contraction of the strips, and while they always keep the strips straight and taut they prevent any undue strain from coming on the wires or posts. The bottoms of the posts are of two kinds, one in the form of a cone with wings, as shown in the engraving; the other is provided with a removable socket, into which the lower end of the post is inserted and locked by a species of bayonet joint.

This fence may be cheaply made, is easily erected, and possesses the quality of durability, beside being plainly visible to animals. This, as every farmer knows, is a matter of great importance.

## ENGINEERING INVENTIONS.

An improvement in car couplings, patented by Mr. Reuben Jones, of Mountville, Ga., consists of a draw head pivoted in a draw bar, and adapted to be raised or lowered by a lever operated from the side of the car to couple cars of different heights, the draw head of one car, carrying a coupling link, striking the draw head of the car to be coupled and forcing back a slide supporting a coupling pin until the hole in the slide registers with the hole in the draw head, and the coupling pin falls by gravity through the link, coupling the cars.

An improved snow plow has been patented by Mr. William

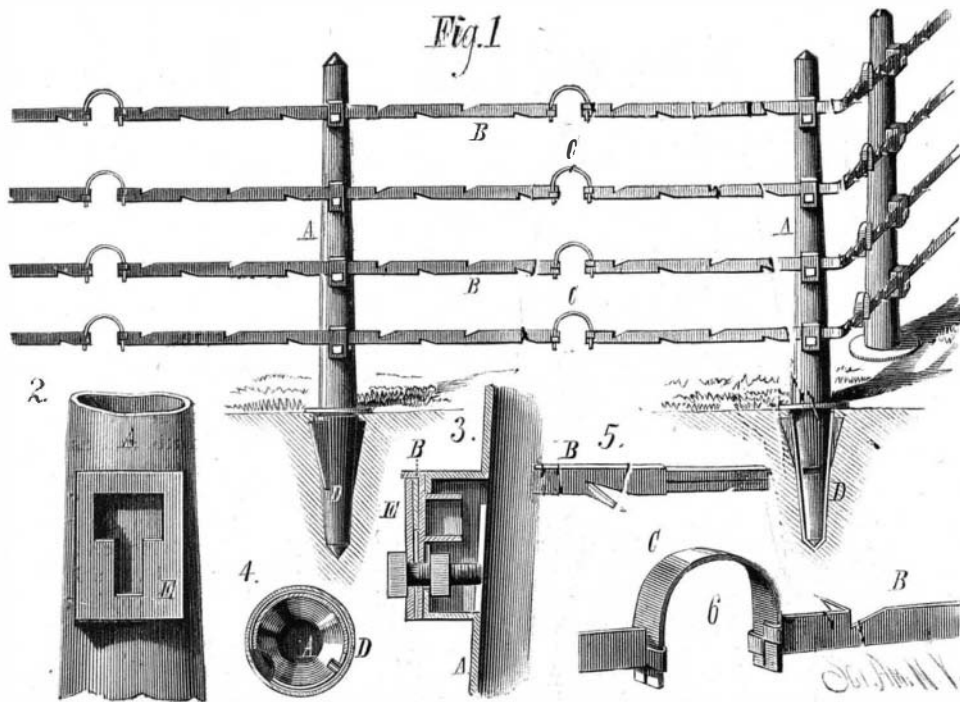


AGEE'S IMPROVED PLOW.

W. Osborne, of Kansas City, Mo. The object of this invention is to effect the removal of deep snow from railroad tracks. The surface of the plow in contact with the snow is kept hot, so that the snow will slide off the surface freely, and will be more or less melted, so as to pack and remain in place when thrown from the track. The plow consists of a frame, inner iron plates, coils of steam pipes, and an outer sheet iron casing.

An improved ditching machine has been patented by Mr. Samuel C. Robinson, of Pemberton, Ohio. This invention relates to improvements in a ditching machine for which Letters Patent were granted to the same inventor June 28, 1881, No. 243,024; and it consists in entirely inclosing both sides of the ditching wheel with suitable plates, to prevent the ingress of dirt into the wheel, and dishing the plates from the rim of the ditching wheel to its center, whereby the thickness of the ditching wheel is greatest at its rim, and the side plates will not interfere with the sides of the ditch in excavating it.

An improved car coupling has been patented by Mr. Moses Robeson, of Galena, Kan. The object of this invention



RUANE'S IMPROVED WIRE FENCE.

is to provide a car coupling by means of which two cars can be coupled together and uncoupled without running them together while the link is being adjusted, whereby danger to life and limb in coupling cars shall be obviated.

Messrs. Ephraim Phillips and William H. Cox, of New Castle, Pa., have invented improved car coupling and detaching devices which may be operated without going between the cars, and which may be used upon cars whose drawheads do not meet in the same horizontal plane, and which may also be coupled with any common link and pin couple,

## Cow Stables.

To construct gutters in cow stables so as to insure cleanliness the *Ohio Farmer* says:

First drive in your largest or longest cow, and chain her up in the back stall; next, drive in your smallest or shortest cow in the front stall. Then give them meal or other feed in their mangers, and while they are quietly and comfortably eating, seeing that they are standing squarely on their feet, carefully mark the position of the hind feet upon the ground, and draw a line between these points across the entire stable. This line will mark the position for the front edge of the manure gutter or trough. Back of this line dig out a square ditch, 16 inches wide and 8 or 10 deep. Into this drop your plank gutter, which should be made of two-inch plank. The bottom plank should be 12 or 16 inches wide, and the sides from 6 to 8 inches wide, according to the method adopted of spiking them together, so as to leave your manure gutter full 12 inches wide in the clear, and not less than 6 or 8 inches deep. The top of this trough must be well braced at intervals of 8 feet to prevent the pressure of the earth from forcing in the side planks and thus making the gutter too narrow at the top. These gutters must be well cleaned every day while the cows are out for water and exercise, and a slight sprinkling of chaff or short straw shaken over the bottom for an absorbent, and to keep the cows' tails out of the liquid manure when lying down. The gutter must have an inclination from the back part of the stable to the front, and a free discharge through the wall of the barn into the barnyard, where other absorbent matter should be ready to receive it. No littering of these gutters would be necessary, were it not for the fact that the passage of the liquid manure

will be more or less obstructed or clogged by the solid manure after the stables have been occupied several hours. The platform on which the cows are to stand and lie should also have a slight inclination to the manure gutter. The proper length of this platform I have found to range from six feet in length for the longest cow down to five feet long for the shortest cow. Back of the manure gutter should be a passage way or walk of suitable width for the wheelbarrow and the milkers. These distances will determine the proper dimensions for a cow stable, which is not less than twelve feet in depth, and of any length desired, according to the size of the barn or the number of cows. The width of the stalls should be from three to four feet. The next best method which I have seen practiced of keeping cows clean in winter is to leave them unchained in box stalls six by eight or ten feet, keeping them well cleaned and littered every day.

## Straw in the Manger.

It is not at all difficult to rot down a straw pile, and by so doing to germinate and kill most of the weed seeds contained therein; by making the stack very flat, so as to catch much water, it rots rapidly, and so soon as it gets once thoroughly wetted, by repiling, it soon heats and decays. But the stack or pile of straw at best only contains carbon and silica in quantities, and these are the most common and least valuable of all the elements of plant food. The quantity of potash, nitrogen, and phosphoric acid is very small indeed, and there is no method by which this pile of straw can in any way be changed into manure containing any more of these valuable elements than were in the stack originally. If we tread this pile down it will only be a pile of wet straw, and if we rot it ever so thoroughly it will only be a smaller pile of thoroughly rotted straw, and at best little better than so much swamp muck. It is only by the use of straw as an absorbent, and as a coarse food for fattening animals, and by using with it much rich food, such as corn, bran, oil, or cotton seed meal, etc., that we can change it into a manure that shall really be very valuable to use, and that will largely increase the crops where used. We must not expect that we can raise large crops of grain year after year, and sell the most valuable part, and by any method turn the straw into

a manure that shall keep up the fertility of the soil, if we manure only with straw we must expect to grow only straw upon the land. It is unfortunate for any man to be so situated that he cannot afford to raise stock to eat up and tread down the straw, and to be fed richer foods, so as to make a full supply of rich manure. With any system of farming we now have, the land must, sooner or later, become exhausted and cease to yield profitable crops if we fail to return to the soil the essential elements of plant food removed in such crops.—*J. S. Woodward, in N. Y. Tribune.*