

## RECENT IMPROVEMENTS IN PLOWS.

The improved American plow holds a high rank among the implements of modern husbandry, not only at home, but in the foreign market. In form, materials and construction it appears to be all that it is capable of being, and yet there are constant developments of new points of excellence. The most obvious improvement within the last few years consists in the use of hard metal, first for the edge, and later for the entire wearing surface. Chilling the edges and point of the share and the bottom of the land-side were the first steps in the line of progress, made about 30 years ago, but within the last 10 years attention has been directed to the importance of reducing the friction of the mold-board. Hardened steel was introduced for this purpose, and is still recognized as the best material where soil is wholly free from grit, but it was found that a chilled surface of cast-iron, in combination with the chilled share and land-side, was more easily kept in repair in all soils containing grit. The well-known process of chilling first resorted to, consisted in running the molten metal against the surface of cold iron. This method, while rendering the metal harder, made it correspondingly brittle, and required great care in the mixture of the iron to make the chill penetrate uniformly. This plan also required a method of annealing, sometimes with hot water, or by building fires on the back of the mold-board, and sometimes by covering with heated sand.

Later improvements in mixing metal have been successfully made, so as to secure entire hardness throughout, without the chilling process. Plows made in this way are usually known by appropriate names, such as "Carbon," "Diamond," "Adamant," etc. Long experience has taught that steel in certain combinations will mix with melted pig iron, and with the addition of certain chemicals will make a homogeneous metal by pouring it into molds at the right time, which time is ascertained by means of its color. In this way the result is "hardness, uniformity and strength."

In former years, plows made of cast iron were so rough that farmers were severely tried in keeping them bright. As plows have grown harder the polish is more difficult to produce, as well as more durable, and on the metal here referred to, is said to suffer little from corrosion. As the friction of the plow is equal to about 35% of the whole force of the draft, every expedient to reduce it is important to the plowman, while every increase of labor is at the cost of some useless expenditure.

A still better improvement in this direction was recently achieved by the introduction of a reversible point in the share, which thus becomes self-sharpening, and enables the farmer to keep the bottom of the plow level, thereby avoiding the friction that arises from a projection of the point of the share below the general level. It has been found that the effect of a sharp point is to sharpen the wing also. Among other improvements by various manufacturers, is the setting of the beam in the center instead of one side of the line of resistance, which is adjustable at the standard so as to produce a balance, avoiding side drafts.

**UNIFORMITY IN WIRE GAUGE.**—At a meeting of the Glasgow Chamber of Commerce, held recently, a report was submitted with reference to the desirability of establishing a uniform wire gauge. In the report it was suggested that the Chamber should concur with the Birmingham Chamber, in asking Parliament to supplement the Weights and Measure Act, 1878, by a clause instituting a legal standard to be recognized as a wire gauge.

**A MAN WHO BURST.**—A German medical journal gives an account of a man who literally burst from taking four plates of potato soup, and many (how many is not stated) cups of tea and milk, followed by a large dose of bicarbonate of soda to aid digestion. His stomach swelled enormously, and tore the diaphragm, causing immediate death.

## THE GREAT GRAY OWL.

This is the largest kind of owl found in America, and perhaps equals any known elsewhere, measuring two feet in length, wing 16 to 18 inches (from the bend), tail 11 to 12½. The eyes, rather small for the size of the owl, are yellow, the short, strong bill and claws paler. The plumage is grayish-brown and grayish-white in alternate bars, the pale ones widest beneath. The back and breast have more irregular wide stripes of same color, and on the face they form rings.

From its ashy colors, this species was named nearly a century ago *Strix cinerea*, and has retained this specific name among naturalists ever since. It inhabits the northern portions of America, rarely wandering south of latitude 42°, though no doubt to be found on the lofty mountain ranges of Western America much farther south, and has been reported to occur in the Sacramento valley. Another kind, however, of similar plumage, but a fourth smaller

in a nest 3 or 4 only. This owl is apparently a very quiet species, no record being given of any cries uttered by them, except that one, kept in confinement, made a tremulous note like that of the common little cat-owl, or screech-owl smaller than a pigeon. This silence, combined with a perfectly noiseless flight, assists them in surprising their prey, which might otherwise escape their daylight attacks. Though not known to prey on domestic fowls, they would no doubt do so in the southern part of their range where fowls are kept. In Alaska, the Indians often steal up to them when they are asleep and catch them by hand. Even the savages, however, do not often eat owls, perhaps more from superstitious reasons than want of appetite.

**HOW TO UTILIZE OLD FRUIT CANS.**—Perhaps one of the most appropriate uses of an old fruit can that can be devised is to make it contribute to the growth of new fruit to fill new cans. This is done in the following manner: The can is pierced with one or more pin holes, and then sunk in the earth near the roots of the strawberry or tomato or other plants. The pin holes

GREAT GRAY OWL.—*Strix Cinerea*.

(the Western Barred owl), may have been mistaken for this. A paler variety, known as the Lapland owl, is found in the most northern parts of Europe and Asia. Like the American birds they live in the thinly wooded regions surrounding the Arctic circle, within which, the Snowy owl, nearly equal in size, take their place, and as it wanders much farther south in winter, is a better known kind.

The figure we give is the same published in that standard work, "The History of North American Birds," by Baird, Brewer & Ridgway, Boston, 1874.

The Great Gray owl is found throughout the year along the lower Columbia river, and often seen hunting birds, rabbits, etc., towards sunset or early in the morning, being able to see in a stronger light than those kinds with larger eyes, such as the Great Horned owl. Nests have been found only in tall trees, constructed like those of a hawk, and perhaps were old hawks' nests, as other kinds of owls are known to use such nests when they cannot find a suitable hollow tree. The eggs are described in the "History of North American Birds," by Dr. Brewer, as being about 2½ by 1½ inches in size, oblong, oval, and dull white, the number

are to be of such size that when the can is filled with water the fluid can only escape into the ground very slowly. Thus a quart can, properly arranged, will extend its irrigation to the plant through a period of several days; the can is then refilled. Practical trials of this method of irrigation leave no doubt of its success. Plants thus watered flourish and yield the most bounteous returns throughout the longest drouths. In all warm localities, where water is scarce, the planting of old fruit cans, as here indicated, will be found profitable as a regular gardening operation.

**EFFECT OF THE IMAGINATION.**—Sir Humphrey Davy, in his young days, assisted Dr. Beddoes, who at that time was bent on curing all diseases by the inhalation of gases. It so happened that Davy was accustomed, before applying the inhaler, to ascertain the temperature by placing a thermometer under the tongue. While thus employed on a countryman, who fancied this was the wonderful process he had heard of, the man exclaimed that he already felt better. Davy took the hint, left the thermometer in its place some time, and reapplied it every morning. His patient improved in health, and ultimately got quite well, without any other treatment.