

AN IMPROVED MANGLE.

The principal hindrance to the general introduction and use of mangles in this country has been their cost and their complicated nature. In Europe, notwithstanding the objections, these machines are quite generally used and their utility is acknowledged.

The novel mangle shown in the accompanying engraving is the invention of Mr. Charles Reese, of 345 Madison avenue, Baltimore, Md. It seems to be a marked improvement in this class of machines, as it is without gearing and its parts are few and simple. The iron end pieces or standards support a concave bed, above which a convex presser block is suspended from a shaft at the top of the frame. This shaft may be raised or lowered by means of the lever that projects over the front of the machine. A suitable handle is attached to the front of the presser block, and between the presser block and the bed is placed a roller, around which the cloth to be mangled is wrapped.

The bed and presser may be made either of wood or iron, or a combination of both. If the presser is made of wood it must be weighted to give the required pressure.

The cloth to be pressed is wrapped around the roller, and the presser is raised by means of the lever at the top of the machine. The roller is inserted between the bed and the presser, the latter is let down upon the roller, and the cloth is pressed by swinging the presser back and forth by means of the handle.

This mangle occupies less space than other forms, and is cheaper, and it is claimed that it will do better work with less labor.

The inventor says that the arms which support the presser block may be extended even to the ceiling of the kitchen or laundry, and that the machine may be made a permanent fixture in the house.

This machine has been patented in this country, also in Canada, England, France, Germany, and Belgium. Any further information in regard to it may be obtained by addressing the inventor as above.

AN IMPROVED EMERY WHEEL STAND.

The saving of files and tools by the use of solid emery wheels, amounting as it does to thousands of dollars annually, is an item to be considered by manufacturers of iron and steel articles. There are few manufacturers of this class who could not in one way or another make use of solid emery wheels, and whatever tends to augment their usefulness will be readily appreciated. In the ordinary emery wheel stand considerable difficulty is experienced from the escape to the periphery of the wheel of the oil used in lubricating the mandrel. To avoid this, Messrs. Shoener & Allen, of 328 Walnut street, Philadelphia, Pa., have devised a concave grooved clamp—the construction of which will be readily understood from the engraving—which flings off the waste oil escaping from the journals and prevents it from creeping upon the stone. The machine has a broad and solid base, and the parts are arranged with a view to the greatest convenience. We are informed that the utmost care is taken in their manufacture; the arbors being of steel well fitted, and the boxes being hand reamed after being placed, to secure perfect alignment, and all of the pulleys are carefully balanced. Any further information in regard to this machine may be obtained from the manufacturers as above.

A Dakota Wheat Farm.

The largest cultivated wheat farm on the globe is said to be the Grandin farm, not far from the town of Fargo, Da-

kota. It embraces some 40,000 acres, both government and railway land, and lies close to the Red River. Divided into four parts, it has dwellings, granaries, machine shops, elevators, stables for 200 horses, and room for storing 1,000,000 bushels of grain. Besides the wheat farm, there is a stock farm of 20,000 acres. In seeding time 70 to 80 men are employed, and during harvest 250 to 300 men. Seeding begins about April 9 and continues through the month, and is done

**THE RHYSTON MANGLE.**

very systematically, the machines following one another around the field, some 4 rods apart. Cutting begins about August 8, and ends the fore part of September, succeeded by the thrashing, with eight steam thrashers. After thrashing, the stubble ground is plowed with great plows, drawn by three horses, and cutting two furrows; and this goes on until the weather is cold enough to freeze, usually about November 1. There are many other large farms in the Territory and in the same neighborhood, and they are tilled in

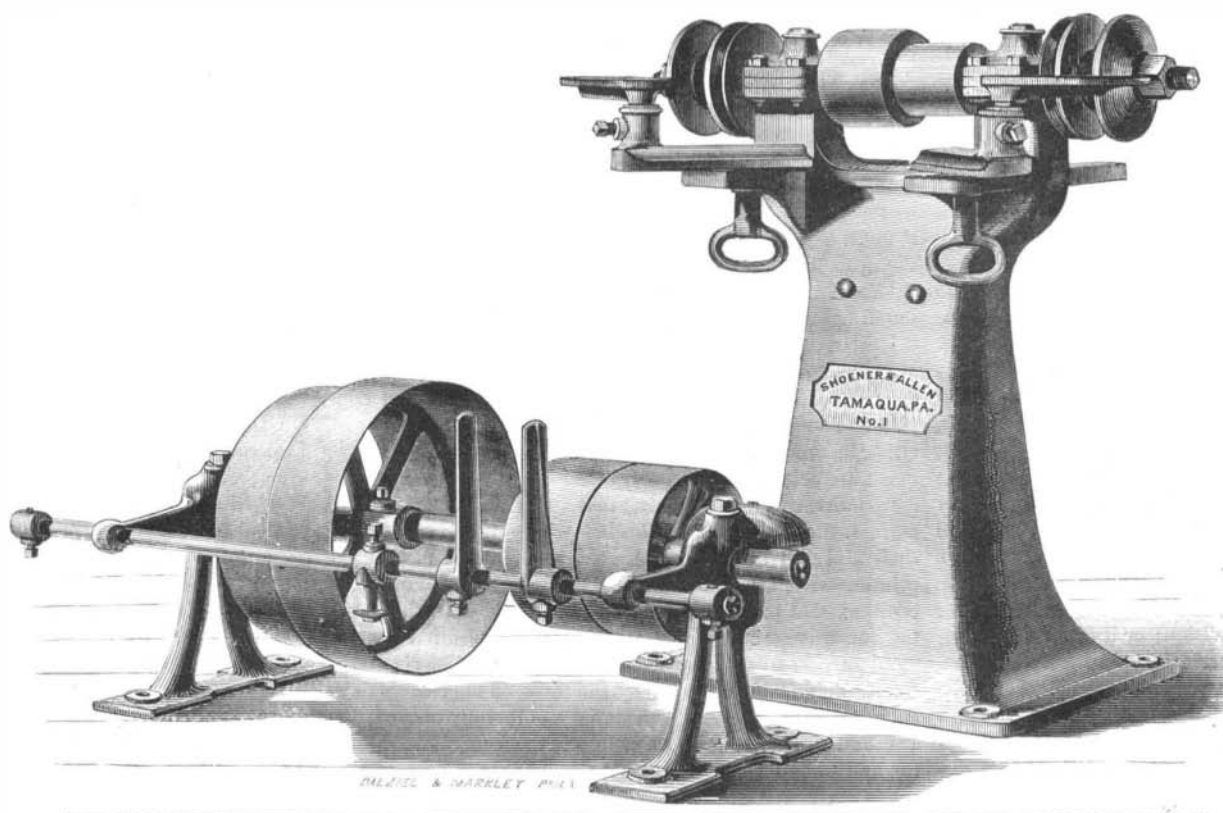
maintained its form and brilliancy. I must say here, that before sending a dispatch to the Naval Observatory, I thought that the object might be a reflection, but this thought was rapidly removed by placing a pasteboard tube of eighteen inches in length over the objective, but onward it moved with independent motion. Even the two-inch finder showed it faintly. At 10:45 I noticed its declination to be 37° 6'; at 11:30 it neared the double star Alpha Gemini, and rapidly passing before a star of the sixth or seventh magnitude, seemed not to obscure the latter, but showed the star almost as brilliant as immediately after its passage. The declination now was 37° 28'.

At 12 o'clock I retired for a short time, after a wearisome chase of nearly three and a half hours. At 2:10 o'clock this morning I found it, after a search of about twenty minutes, in the zenith. It now seemed to be more brilliant than at any previous observation, its declination being now 37° 40', and I fancied I could see it with the unaided eye, but cannot be positive of this. I must confess, although absurd, the thought entered my mind that one of the planetary nebulae, tired of its position, was seeking another and a better home."

The Mirror Telegraph.

Mr. H. Baden Pritchard contributes to *Nature* an interesting account of the use made of the heliostat by the English in their campaigns in Afghanistan and Zululand. It is

claimed that this is the first application of the mirror as an implement of warfare. Heliostat stations, says Mr. Pritchard, are now established throughout the Khyber Pass, and General Sir Samuel Browne, at Jellalabad, has his orders passed up to him by flashes of light from Peshawur and Ali Musjid. Lord Chelmsford has of late also been furnished

**SHOENER & ALLEN'S EMERY WHEEL STAND.**

much the same manner as the Grandin. The surface of the land generally is almost level, and the soil rich and black. The product of one field of 2,315 acres is 57,285 bushels—elevator weight—some 25 bushels to the acre. The average yield of the Dakota wheat farm is 20 to 25 bushels per acre.

with heliostats, in order to provide him with better means of communication along the Tugela. The plan of working is very simple. The mirror of the heliostat is placed so as to reflect the sun's image to a distant station, and when the instrument has once been set, the clockwork arrangement suffices to maintain the mirror in its proper position. In this way the distant station in question always sees the dazzling ray reflected from the mirror, except when the latter is purposely obscured. The appearance and disappearance of the bright spot or flash constitute the signals. There is no need for any superintendence when once the apparatus has been put in working order, and a trained signalman suffices for the duty. The ordinary Morse alphabet supplies an intelligible code, and no one out of the line of signals can read or understand the message. As a substitute for the dot and dash, which go to make up the ordinary written Morse code, the light is shown for short and long intervals; thus the light shown for a short period followed by a long period signifies A, while B is represented by a long period followed by three short ones; in the case of C, long, short, long, short signals are made in turn, and to form E (the letter most frequently used), the light is permitted to shine for one single short period only. The intensity of these sunshine signals can scarcely be imagined by any one who has not seen the heliostat in working order, and the distance to which they might be made to travel, could suitable stations be provided, is practically unlimited. The appearance or non-appearance of the light can be noticed at ten or twenty miles distance without the aid of telescope or field glass.

Postal Zoological Garden.

German post offices are zoological gardens on a small scale. According to the *Tribune*, in the course of a year as many as 40,000 live animals are sent by post, and if crabs, frogs, bees, and small insects are counted, the total will be among the millions. The post office authorities have the privilege of excluding such animals as may be deemed either dangerous or disagreeable; but within the last six months, only 39 packages of living animals were refused, among which were an alligator, done up in a box considered as too fragile; a lot of dogs, whose persistent barking could not be quieted; and a number of pigeons loosely tied up in a sack. On the other hand, during the same period, a crocodile, scores of birds of prey, monkeys, serpents, a leopard, and four living bear cubs were transmitted by post.

PROFESSOR PANCOAST has been exhibiting and explaining the Carolina twins to the students of the Jefferson Medical College, Philadelphia. They are the pair who have been widely shown as a two-headed girl. The professor considers them far more wonderful than the Siamese twins, who were two distinct persons, while these negro sisters have a single back bone below the shoulder blades, at which point the spinal column branches like the arms of a letter Y. They were back to back at birth, but in learning to walk they twisted themselves to facilitate locomotion, and now stand nearly side by side. Experiments showed that when either was touched below the point of union both felt it, but above that point there was a separate sensitiveness. Dr. Pancoast thinks they will die simultaneously.

THE WINDOW GARDEN.

Nothing adds more to the cheerful appearance of the interior of a house than an array of choice plants, but too frequently it happens that the hideous red pots containing them are permitted to stand out in bold relief, entirely neutraliz-



THE WINDOW GARDEN.

ing the pleasurable effect of the plants. Our engraving shows a beautiful plant stand, or window garden, which may receive the earth in which the plants are rooted, or the pots may be placed in it and hidden by it. The fish in the globe at the top give it life, and the whole forms a beautiful ornament for the window.

THE YAK.

The yak, or grunting ox, derives its name from its very peculiar voice, which sounds much like the grunt of a pig. It is a native of the mountains of Thibet, and according to Hodson, it inhabits all the loftiest plateaus of High Asia, between the Altai and the Hamalayas.

It is capable of domestication, and is liable to extensive permanent varieties, which have probably been occasioned by the climate in which it lives and the work to which it has been put. The noble yak, for example, is a large, handsome animal, holding its head proudly erect, having a large hump, extremely long hair, and a very bushy tail. It is a shy and withal capricious animal, too much disposed to kick with the hind feet and to make threatening demonstrations with the horns, as if it intended to impale the rider. The heavy fringes of hair that decorate the sides of the yak do not make their appearance until the animal has attained three months of age, the calves being covered with rough curling hair, not unlike that of a black Newfoundland dog. The beautiful white bushy tail of the yak is in great request for various ornamental purposes, and forms quite an important article of commerce. Dyed red, it is formed into those curious tufts that decorate the caps of the Chinese, and when properly mounted in a silver handle, it is used as a fly flapper in India under the name of a chowrie. These tails are carried before certain officers of state, their number indicating his rank.

The plow yak is altogether a more plebeian-looking animal, humble of deportment, carrying its head low, and almost devoid of the magnificent tufts of long silken hairs that fringe the sides of its more aristocratic relation. Their legs are very short in proportion to their bodies, and they are generally tailless, that member having been cut off and sold by their avaricious owner. There is also another variety which is termed the Ghainorik. The color of this animal is black, the back and tail being often white. The natives of the country where the yak lives are in the habit of crossing it with the common domestic cattle and obtaining a mixed breed. When overloaded, the yak is accustomed to vent its displeasure by its loud, monotonous, melancholy grunting, which has been known to affect the nerves of unpracticed riders to such an extent that they dismounted, after suffering half an hour's infliction of this most lugubrious chant, and performed the remainder of their journey on foot.

William Kingdon Clifford.

The scientific world has recently sustained another heavy loss in the death of Prof. William K. Clifford, which occurred at Madeira on the 4th of March. Prof. Clifford, one of the deepest thinkers and most brilliant writers of the present century, was the eldest son of the late Mr. William Clifford, an Alderman of Exeter, England, and was born on the 4th of May, 1845.

He received his earlier education at the school of Mr. Templeton in his native city, and from thence proceeded to King's College, London. Here he gave evidence of his great intellectual powers by shortly obtaining high honors, taking in his first year, 1861, the Junior Mathematical and Junior Classical Scholarships and the Divinity Prize. In the two succeeding years he gained the Classical and Mathematical



THE YAK.