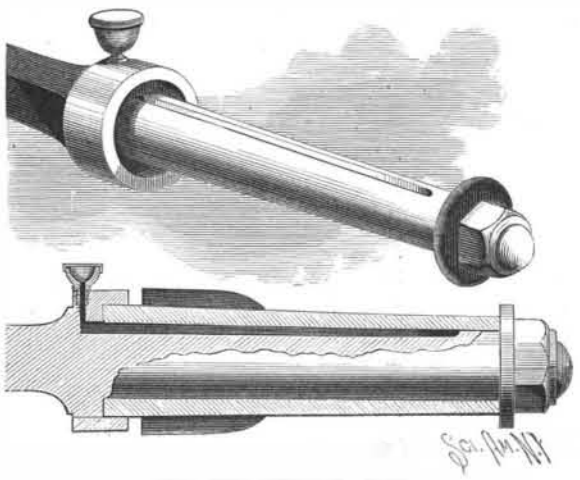
AN IMPROVED LUBRICATING WAGON AXLE.

A wagon axle that may be easily and perfectly lubricated has been patented by Mr. Cornelius M. Regan, of Brooklyn, N. Y., and is represented in the accompanying illustration. A flange encircles the axle and overlaps the inner end of the box, which is thus protected from the sand and dust, and in the upper portion of the axle is formed an oil groove, about three sixteenths of an inch deep at the point to five sixteenths of an inch deep at the shank, to facilitate the distribution, but prevent the too rapid flow of oil. The oil is admitted to this groove through a vertical hole made in the axle back of the flange, an oil cup closed with a



REGAN'S WAGON AXLE.

cap being fitted to the vertical opening, so that the axle may be conveniently lubricated without removing the wheel.

For further information concerning this invention, address Mr. A. M. Levy, of No. 760 Myrtle Avenue, Brooklyn, N. Y.

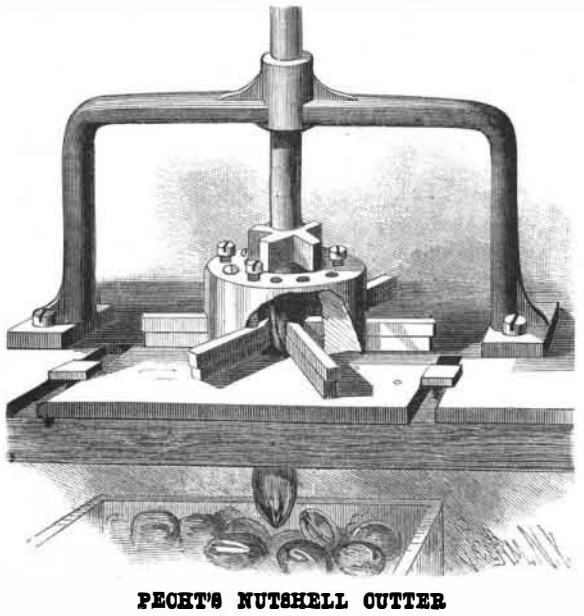
AN IMPROVED PAD FOR HORSE COLLARS.

The collar shown herewith has a pad so attached that it supports the whole weight of the collar, and leaves a small air space between the pad and the top of the collar. The pad forms the subject of a patent recently issued to Mr. John S. Pope, of Madison, Lake County, Dakota Territory, and is made of a single piece of leather or other suitable material, perforated with small holes, stiffened at the back by narrow strips of sheet metal. The collar is suspended from the pad by straps and buckles on either side, the collar being free to turn with the movement of the horse's shoulders without moving the pad, thus preventing the chafing and galling of the horse's neck so frequently caused by the ordinary form of collars.

POPE'S PAD FOR HORSE COLLARS.

A NUTSHELL CUTTER FOR CONFECTIONERS, BAKERS, ETC.

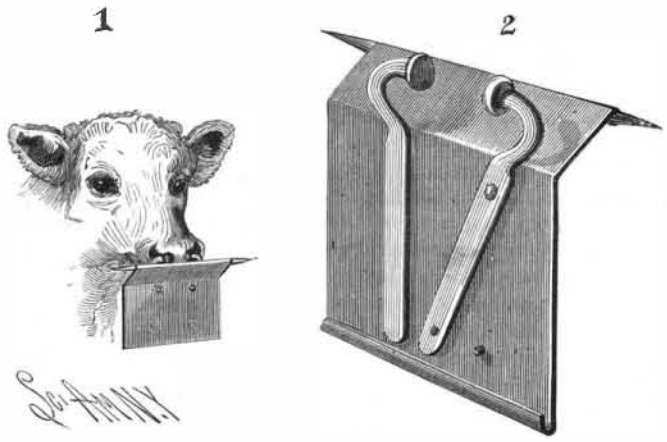
The accompanying illustration represents an effective device for cutting the shells of nuts, to release their kernels without bruising the meat, which has recently been patented by Mr. Charles Pecht, of No. 804 Red River Street, Austin, Texas. The nuts are placed successively in the metallic ring, which has a series of cutters extending inward radially, the cutters of one series being set farther in the ring than the cutters of the other series, the nuts being pushed through between the cutters by a follower, which may be driven by hand or power. The cutters are set at the required distance apart for different sized nuts by a plug gauge, and clamped in their places by set screws. A number of these machines may be clamped side by side on a table, and fed through a system of perforated cylinders, so that a boy or girl can feed two or three machines without danger of crushing or maiming the fingers. By actual experiment it is stated that the shells have been cut on forty pounds of nuts by the machine in an hour, steam power being used, and by running it with a treadle, thirty pounds have thus had their shells cut in an hour.



PECHT'S NUTSHELL CUTTER

AN IMPROVED CALF WEANER.

A simple, easily applied, and effective device to prevent a calf from drawing milk from its mother when the period for weaning arrives is shown in the accompanying illustration, and forms the subject of a patent recently issued to Mr. Robert L. Rickman, of Graham, Texas. The pendent plate is formed of galvanized iron or other light, yet strong and stiff, material, and is bent at an angle near the top to form an inclined portion, at the top edge of which is longitudinally attached a rod with projecting sharpened ends. Upon the plate are two arms, one rigidly attached and the other pivoted, the arms carrying buttons, adapted to fit on the sides of the cartilage of a calf's nostril, the buttons being lightly clamped thereon and the plate thus held in suspension over the mouth. The inclined portion of the plate does not permit the weaner to be thrown up over the nose, and the pointed rod pricks the mother when the calf comes in contact with her, thus effectually preventing the animal from drawing milk from the mother.



RICKMAN'S CALF WEANER.

Fast Steaming by Clyde-built Vessels.

Much of the ship building and engineering work which has recently been turned out exhibits the high qualities for which Clyde workmanship has long been famous. In support of this we might instance several cases of huge steamships notable for strength of structure and power of engines, *e. g.*, the magnificent P. & O. liner the Victoria, of 6,600 tons, built by Messrs. Caird & Co., and the belted cruiser for H. M. government, the Australia, built by Messrs. Napier & Sons; but there is more call to point to the number of "fastest passages on record" which different types of vessels of recent Clyde build have been achieving. Notable among these are the performances of the Queen Victoria and the Prince of Wales, the new paddle steamers on the Liverpool and Isle of Man service. On the trial trip of the latter vessel the speed attained was 24¼ knots, or 28 miles per hour, and on a steaming distance of 32 knots between Ailsa Craig and Cambric Light, which was accomplished in 1 hour 25 minutes, the average speed was 22·6 knots, or 26 miles an hour. The Prince of Wales is, therefore, entitled to be considered the fastest steamer in the world (exclusive of some recent torpedo boats), and only slightly better than her sister ship, Queen Victoria, which covered the distance between Tail-of-the-bank, Greenock, and Liverpool in 9 hours 23 minutes, steaming time, the mean speed being 22¼ knots per hour.

The race for supremacy in this important service has seemingly not yet been completed with the placing of these two craft on the route, as it is stated that the Isle of Man Steam Packet Company have asked the Barrow Shipbuilding Company if they can guarantee to produce a steamer to go at least 25 knots or the matter of 30 miles per hour. The reply to this, it is understood, has been made in the affirmative, and it will probably lead to an order. This, of course, means additional and still faster vessels of Clyde build in the future. The new steamer Meteor, built by Messrs. J. & G. Thomson for the London and Edinburgh Shipping Company, has accomplished the voyage between London and Leith—wharf to wharf—in 27 hours and 45 minutes, and from Gravesend in 25 hours 40 minutes, this being the fastest passage on record between the two places, a distance of 475 nautical miles. Of this steamer it is interesting to note that although exactly of the same form and dimensions as the Iona, the last crack vessel built for the company, she is about 5 per cent lighter in structure, owing to improvements in systems of construction. She is fitted with the now universal triple-compound engines, and the substitution of these for the ordinary double-compound type results in the engines developing 50 per cent more power with an addition in the weight of engines of only 16 per cent over the old system. The Iona, it may be added, which left London 1 hour and 50 minutes before the Meteor on the passage above alluded to, only reached Leith 5 minutes sooner than the latter vessel.

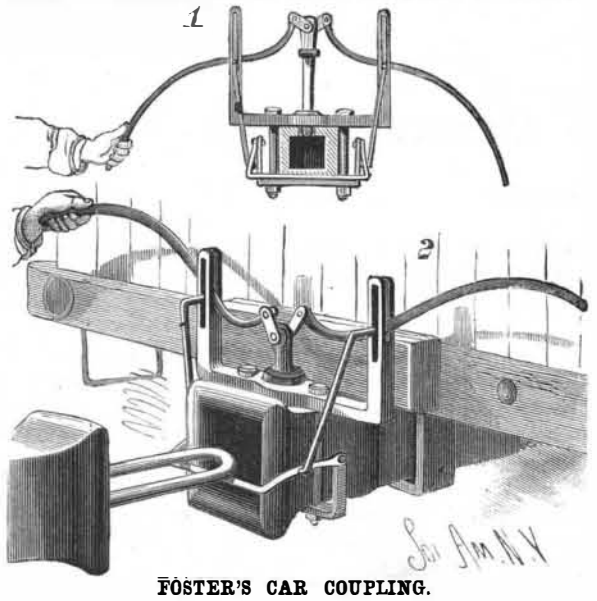
Another circumstance in which Clyde people justly take pride is the recent "breaking of the Atlantic record" by the Cunarder Umbria. This noble vessel recently made the run from Queenstown to Fire Island, New York, in 6 days 2 hours 37 minutes, the shortest time on record. The best passage previously made was accomplished by her sister ship, the Etruria, in 6 days 5 hours 31 minutes to Sandy Hook, the latter being 35 miles, or equivalent to 1¾ hours further steaming than Fire Island.—*Marine Engineer.*

Removing Iodine Stains.

The *Repertoire de Pharmacie* describes a method of removing the disagreeable yellow stain produced upon the skin by the application of tincture of iodine, and which in ordinary cases remains for a considerable time. In the case of the hands, we are told, where the skin has become hardened, dilute ammonia, soda, charcoal, or common soap may be employed; but in treating women, whose skin is tender, and for those parts of the body, such as the face and neck, where the epidermis is not hardened by friction and exposure, it is preferable to employ the sulphite or bisulphite of soda, which are not irritating, and at once absorb the superfluous iodine to which the stain is due. The sulphite of soda has been used for this purpose in solution varying in strength from $\frac{1}{100}$ to $\frac{1}{10}$ in water. The liquid is penciled on to the place where the tincture of iodine has been applied, or used in compresses. In a few moments it will be found that the pain and irritation caused by the free iodine, as well as the disagreeable yellow stain, will have all totally disappeared, to the great satisfaction of the patient. As tincture of iodine is in daily use, and many persons are prevented from visiting or receiving visits for many days after an application of it, the little recipe above mentioned will prove frequently of great service.

AN IMPROVED CAR COUPLING.

The invention herewith illustrated, which forms the subject of a patent issued to Mr. Abraham G. W. Foster, of Newnan, Ga., provides a coupling which may be operated from the sides of the car, and in which the link may, from the same point and with the same lever, be adjusted to enter an opposing drawhead of different height. Bolted to the top of the drawhead is a bar having upright arms, and with a central aperture registering with the pin aperture in the drawhead, the upright arms having vertical slots at right angles to each other, through which extend, sidewise, curved levers, pivoted through short connecting plates to the coupling pin. The curved levers are pivotally held in the side slots by connecting rods which pass through the front slots, extending thence forward and downward, where their ends are attached to a U-shaped guide bar for raising the coupler link, as shown in Fig. 2, the coupling pin being shown in raised position in Fig. 1. For use on passenger cars, a single arm will be all that is necessary, having its free end bent upward to extend above the car platform, instead of the two curved levers reaching to each side. For further particulars about this invention, address J. H. Shelnutt, Newnan, Ga.



FOSTER'S CAR COUPLING.