A TOOL FOR DEHORNING CALVES.

The illustration shows a tool specially designed for conveniently and rapidly cutting out the horns of calves in such a way as to destroy all future growth of the horns. It has been patented by Mr. Charles T.

INGRAHAM'S DEHORNING TOOL.

Ingraham, of Dwight, Ill. The tool has two knife arms connected with each other by a pivot pin, and bearing segmental knives with V-shaped edges, as shown in Fig. 1, the edge of one knife being adapted to fit over the edge of the other knife. On one arm is a handle, by means of which the operator holds the tool in the desired position when a horn is to be cut out, which is effected by striking on the outer side of the other arm with a mallet, as shown in Fig. 2, a stop on the inner side of each arm limiting the inward movement of the knives. The knife on the arm which is struck by the mallet is designed to enter the skin and cut out the horn beneath it, coming out on the opposite side, and leaving a concave opening, on account of the dished form of the knives.

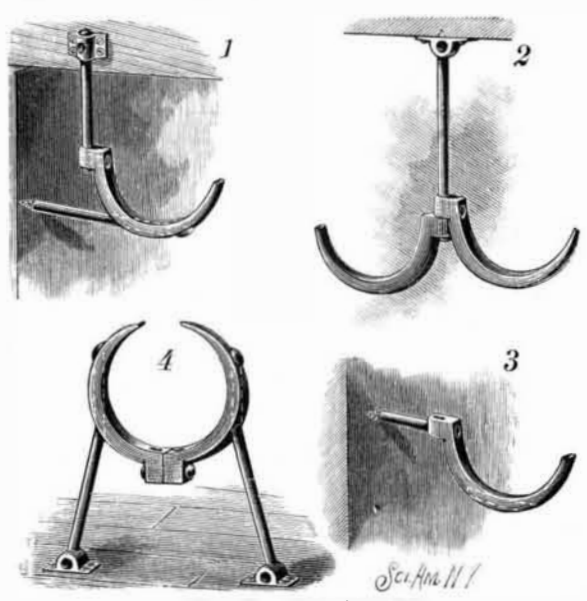
Fast Launches.

Included in the work turned out this winter by the Herreschoffs, Bristol, R. I., is the Mississqui, a steam launch 48 feet long and 7½ feet wide, built for W. Seward Webb for use on Lake Champlain. Her hull is mahogany. Her speed on trial was 19¼ miles an hour.

A steam yacht, 112 feet long, is now building for Wm. R. Hearst, a son of the late Senator Hearst, of California. She is to have a required speed of 25 miles per hour. A steam yacht, 98 feet long, is building for E. D. Morgan, of New York, the speed required being 23 miles an hour. A small steam launch, to be used as a yacht tender, is building for a New York gentleman. —*Boston Globe.*

AN IMPROVED PIPE HANGER.

The illustration represents a simple and inexpensive hanger whereby pipes of any size may be conveniently put up without the aid of a blacksmith, so as to be substantially supported and present a neatly finished appearance. It consists of a hook whose shank has holes at an angle with each other, the hook being supported by a rod adapted interchangeably to either of the holes, while the wall plate also has holes at angles with each other to receive and sustain the hanger rod. Figs. 1 and 2 show the hanger as used to support a pipe from the ceiling or from a side wall, and in the employment of extra hooks. The wall plate, also, has backwardly projecting spurs or teeth, to be driven into the wall to temporarily sustain the hanger prior to effecting a permanent fastening, and the central part of the hook



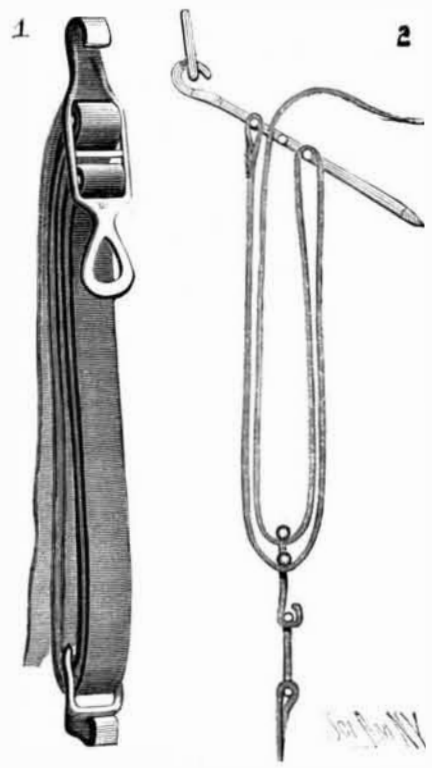
SCOTT'S PIPE HANGER.

body is perforated parallel with one of the shank holes to receive an additional sustaining spike, which may be used simultaneously with the hanger rods to support a heavy pipe, as shown in Fig. 1, the spike support alone being employed in Fig. 3. A heavy line of pipe may be supported from either the floor or the ceiling in the manner shown in Fig. 4, the hooks being bolted together to nearly encircle the pipe.

Further information relative to this improvement may be obtained of the patentees, Messrs. Frank G. and George L. Scott, No. 24 Spring St., Newport, R. I.

A SELF-ADJUSTING GIRTH FASTENER.

The illustration represents a simple and durable girth fastener adapted for general purposes, which is self-adjusting and self-locking, and readily tightened or loosened without the use of buckles. It has been patented by Mr. William T. McFarlane, of Stockton, Utah. Fig. 1 is a front view of the improvement, with a strap held thereby, in closed position, and Fig. 2 is an open side view. The fastener has an arm with one end formed into a hook adapted to be hooked on to a ring secured to the saddle tree, while the lower end of the arm has a handle, the arm being opened between the handle and hook and provided with three transverse bars. The end of a strap is secured on the uppermost bar, and the strap is passed downward under a cross-bar of an open frame connected by suitable links with one end of the belly-band. The strap is afterward passed upward over the lower cross-bar of the arm, thence downward under a second cross-bar of the frame, the free end of the strap being then extended upward loosely over the middle cross-bar of the arm. The strap is locked in place by the middle cross-bar, on account of the several layers of the strap lying close to each other, the pull being

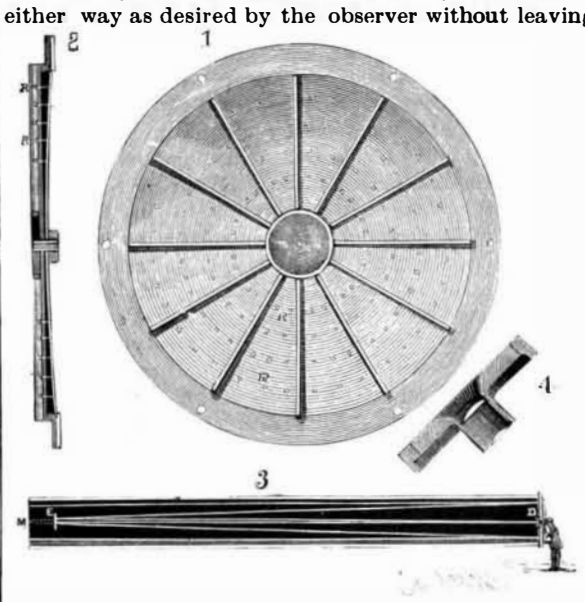


McFARLANE'S GIRTH FASTENER.

exerted in line with the strap, and, as no buckles are used, chafing or otherwise injuring the animal is entirely prevented. The two lower cross-bars, and the lower one of the upper bars, are preferably provided with friction rollers to ease the movement of the band.

AN IMPROVED ASTRONOMICAL MIRROR.

The accompanying illustration represents details of construction whereby concave mirrors of long focus may be readily produced from plane-faced mirrors, according to a patent issued to Mr. Dennis O'Brien, of Oswayo, Pa. Fig. 3 is a small view of a six foot telescope tube of seventy-two feet focus, of which M is the primary focus and also the inside focus of the convex hyperbolic mirror, E, whose outside focus, D, receives the enlarged and perfected image of the object, the image at D being as large as that formed by a single objective whose focal distance is 1,650 feet. To make such a reflecting mirror, a pan is employed for securing to the end of the tube and properly bending the plane mirrors, Fig. 1 being a rear view and Fig. 2 a sectional view of such a pan, which is three-eighths of an inch deep and half an inch thick, of a flanged construction, to give rigidity and lightness, and with marginal holes for bolting it to the tube and to facilitate handling it with tackle. The pan and mirror are designed to weigh only about 1,000 pounds. Fig. 4 shows the central disk, with a threaded tube to engage the threaded central aperture in the pan, against whose plane bottom it jams the mirror, unequal curvature being corrected by interchangeable set screws, R R, of which there are a number all over the rear of the pan, as indicated in the sectional view, Fig. 2. Convection is designed to be aided by means of curtains over the primary, and man holes are formed in the lower end of the tube for dusting, etc. The convex mirror, E, is designed to be adjustably arranged in such way that its focal distance may be changed either way as desired by the observer without leaving

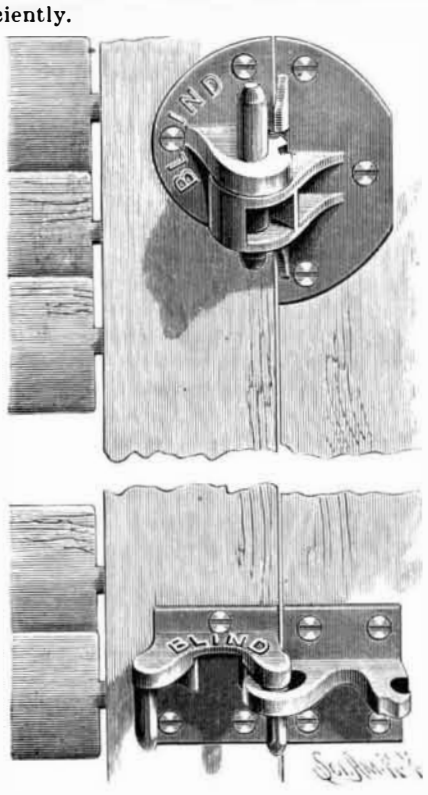


O'BRIEN'S ASTRONOMICAL MIRROR.

his position. Those desiring further information in regard to this invention are referred to the Business and Personal column of this issue.

REVERSIBLE BLIND HINGES.

The illustration represents some blind hinges patented by Rev. Lansing Porter, of Auburn, N. Y. The blind is suspended on the upper hinge, which leaves the lower hinge free from horizontal bearings, and, consequently, free from friction. On account of this structure and combination, the lateral movements of the lower end of the blind, in locking and unlocking, are made with great ease. This combination likewise results in strictly horizontal movements, thereby doing away with the necessity of lifting the blind. The act of locking the blind in open position is also free from friction, and is effected by the gravity of the revolving blind causing the shoulder in the rear of its pintle to travel the eccentric edge of the ear-shaped knuckle, thereby permitting the angle on the pintle to swing around the projection in the center of the slot, enabling that pintle to hold its twin pintle for the moment beyond the catch, thus avoiding contact and click and wear. Those hinges are also reversible, and can be used on one blind the same as on the other. The twin pintles in the lower hinge are invested with double functions, and are so constructed and located as to serve their different purposes interchangeably. While one of these serves as a pintle and the other as a lock on one blind, on the other blind they exchange functions. The same holds true in regard to the two shoulders in rear of the pintles, which also act interchangeably, either as a guide around the eccentric knuckle of the other leaf or as a bearing for the blind as a lever against the head of the stationary latch as a fulcrum, for the purpose of disengaging the pintle in the slot and of throwing the two leaves into parallel lines, allowing gravitation to lock the blind in open position. The reversible structure of these hinges is designed to diminish the first cost of manufacture and the subsequent assorting and handling of them. They are simple, cheap, strong, and durable, and work easily and efficiently.



PORTER'S HINGE FOR BLINDS.