

High Ballooning.

The aeronauts Mallet and Jovis made an ascent, August 13, in the balloon *Horla*, starting from the Lavilette gas works, Paris. Their object was to penetrate to the greatest height at which it is possible to live. After a few hours' voyage in the air the balloon descended, landing in the village of Marche, Belgium. They reached an altitude of a little over four miles. This telegram has been received from M. Jovis:

"Victory! We attained an altitude of over 7,000 meters. We were obliged to descend for want of ballast. The conditions were excellent, except that M. Mallet fainted twice. The apparatus is intact."

COMBINED MEASURING JACKETS AND PATTERNS.

A measuring jacket made up of separable portions, with its side and shoulder seams overlapped and united by flexible cords, and portions of tape lines attached under the overlapping parts, is illustrated herewith, and has been patented by Mr. John Weir, of 122 South Jefferson Street, Dayton, Ohio. The jacket has two back pieces united down the center by a permanent seam, and two combined side and front pieces, with sleeves carrying sliding cuffs, permanently set into their armholes. The back and side pieces are overlapped and united by double rows of elastic cords, as are also the shoulder seams of the back and front pieces, convenient straps with buckles or hooks uniting the front pieces across the breast, in fitting the jacket to a person. In this manner an elastic jacket is formed which can be made to fit persons of different sizes and shapes. In connection with the jacket, patterns are provided corresponding in shape and size with the pieces forming the jacket, the patterns having marks to correspond with

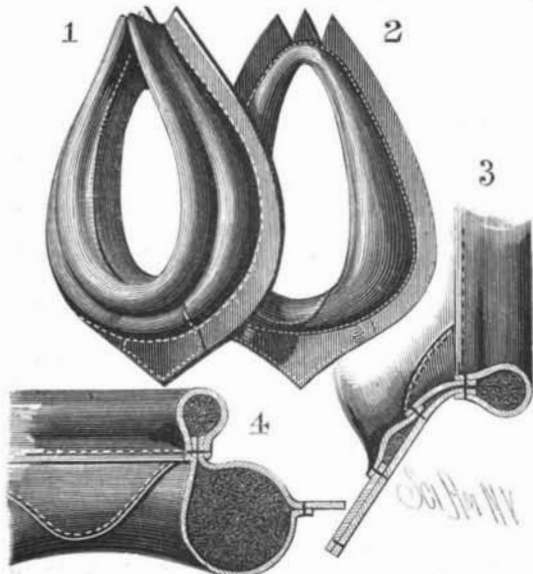


WEIR'S MEASURING JACKET.

the positions of the tapes, from which the exact measures afforded by the jacket can be readily transferred to the cloth, thus avoiding mistakes and reducing to a minimum the labor of measuring and cutting.

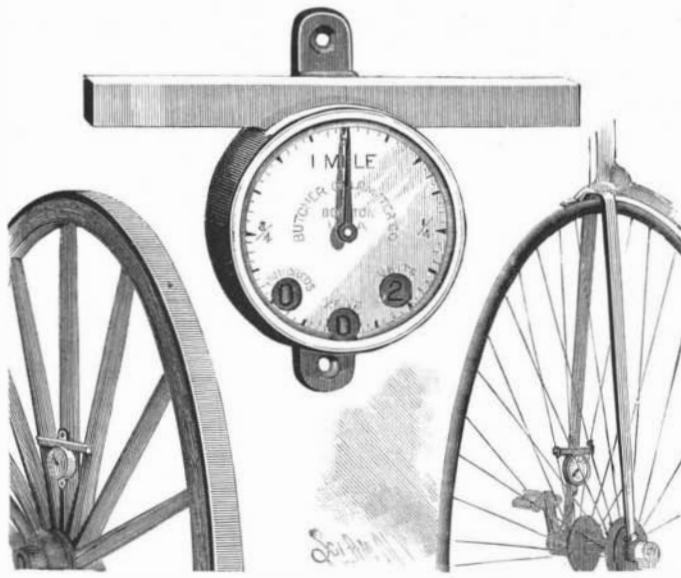
AN IMPROVED HORSE COLLAR.

A horse collar which can be made very strong, and at the same time be flexible at the bottom, so that it can



BOLESKA'S HORSE COLLAR.

be easily passed over the horse's head, is represented in the accompanying illustration, and has been patented by Mr. Joseph Boleska, of No. 1802 South Thirteenth Street, St. Louis, Mo. Figs. 1 and 2 are front and rear



AN IMPROVED ODOMETER OR SPOKE CYCLOMETER.

views, and Figs. 3 and 4 are views in section. The front roll and the pads are both stuffed in the usual manner, but at the bottom of the front roll a diamond shaped piece of leather is stitched in with the leather composing the pads, above this being secured a flap, stitched at its edge to the pads. The leather forming the pads is bulged outward near the bottom to form a cushion, which serves to protect the horse's throat and prevent him from being choked.

AN IMPROVED ODOMETER.

The illustration herewith shows an improved device, recently patented, for measuring the distance traveled, either by an ordinary carriage or by bicycles or tricycles. The action of this odometer, or spoke cyclometer, is caused by a sliding rod or weight inclosed in the cross bar at the top. The instrument is screwed to one of the spokes of a wagon or carriage wheel, as near the hub as possible; and with every revolution of the wheel the sliding rod, traveling across the direct line of centrifugal force, operates a worm and gear within the small case, the front dial showing a change in the unit place for each mile traveled, and correspondingly in the places of tens and hundreds of tens and hundreds of miles, all returning to zero on the completion of the one thousandth mile. The sliding rod or weight within the bar strikes at either end against a buffer, and its motion is so great in length that all possibility of jar affecting it is obviated, while its action is positive and certain up to much greater speeds than have ever yet been made, either by bicyclists or the best trotters. These instruments are now being made and used for all sizes of wheels by the Butcher Cyclometer Company, of Nos. 6 and 8 Berkeley Street, Boston, Mass.

A MACHINE FOR FORMING SQUARE TIN CANS.

The special construction of tin can machine herewith shown has been patented by Messrs. James W. Hazen and Charles F. Merrill, of Woodstock, Vt. The former is secured upon a crank shaft journaled in boxes on the main frame, the outer end of the crank shaft being also journaled in a hinged arm. The former, at one edge, has a holder or shallow space to receive the edge of the tin to be bent; and for firmly grasping its edge there are fitted, in shallow recesses on the face of the former, sliding plates, with inclined ends, in contact with cams of a central sliding plate on the same face. This plate is moved longitudinally by a pivoted lever at one side, shown in Fig. 2, the lever and plate being moved back by the action of a spring. A presser-foot or follower is held in contact with the former by springs so arranged that the follower may be adjusted both vertically and horizontally to suit formers of different sizes. As the former is revolved by the crank, the follower folds the tin at the corners and wraps it entirely around the form, the follower being held away from the form as required by a cord or wire running over a pulley at the top, and thence down to a treadle. The meeting ends of the sheet tin being soldered together, the hinged arm at the left is swung outward and the can body slid endwise off from the former. This arm is held in closed position by a catch, and the crank shaft is prevented from being turned in the wrong direction by a catch attached to the main frame, and adapted to engage with a small stud in the shaft.

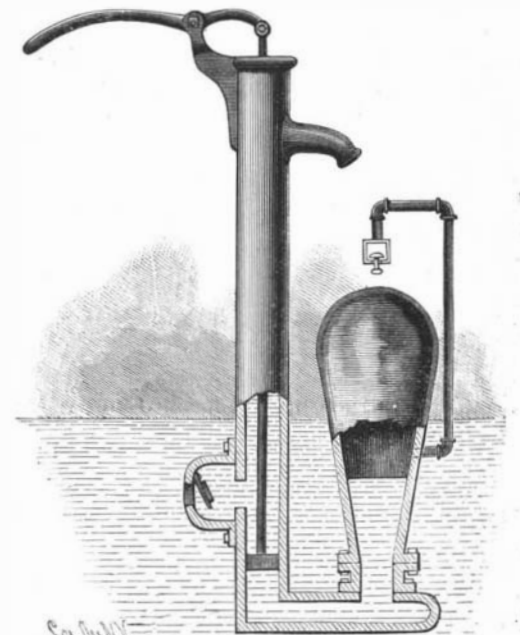
TURNER'S "Antwerp," which was sold in 1883 for \$1,000, was lately sold in London for \$34,000.

Artesian Well at Galveston.

An artesian well is being bored at Galveston. The city stands on a narrow sand spit, which fences off Galveston Bay from the Gulf of Mexico, and is surrounded by water, being at different places from two to forty miles from the mainland. It is therefore a peculiar place for an artesian well. So far a depth of 658 ft. has been reached. The following is the stratification passed through: Quicksand, 32 ft.; blue clay, 17 ft.; coarse sand, 26 ft.; white clay, 107 ft.; sea mud, 57 ft.; olive clay, 116 ft.; sea mud, 130 ft.; blue clay, 26 ft.; sea mud, 11 ft.; blue clay, 147 ft.; total, 658 ft. At a depth of 500 ft. several palmetto logs were passed through. At present a 9 in. tube is being sunk.

AN IMPROVED PUMP.

The illustration herewith shows a form of pump that has recently been patented by Mr. Robert F. Dobson, of Darlington, Wis. In operation, the liquid is first placed in the vertical tube, after which the piston is introduced and forced to its position below the valve chamber, thus compressing the air in the air chamber, the pressure upon each side of the piston equalizing itself. When the piston is at the end of the down stroke, there is space enough above the upper face of the piston and in the horizontal tube connecting the air chamber with the vertical tube to allow the passage of the water from the vertical tube to the air chamber and from the air chamber to the vertical tube. When the air in the air chamber becomes rarefied, or a partial vacuum is formed, the valve is lifted by external atmospheric pressure, to supply the waste of air from the chamber.

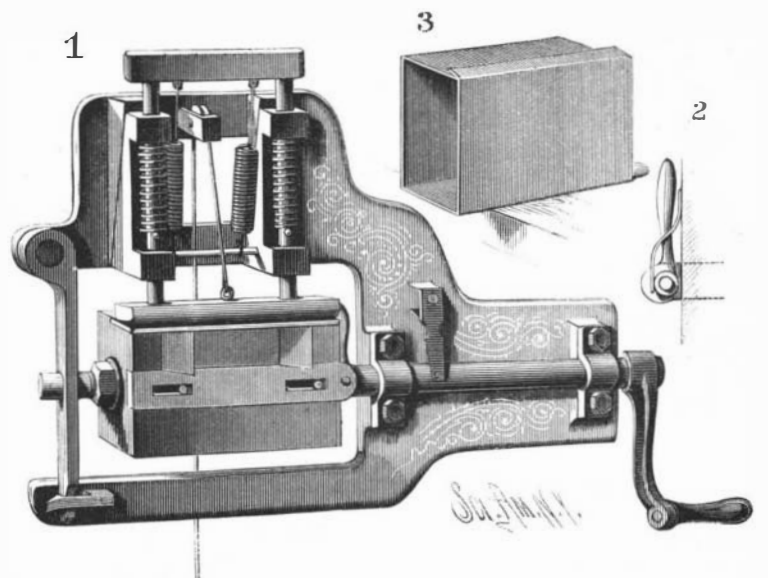


DOBSON'S PUMP.

For further particulars concerning this invention, application should be made to Messrs. Dobson & Bray, P. O. box No. 7, Darlington, Wis.

The Names Microphone and Telephone.

According to the *Electrician*, the word *microphone* was applied for the first time, in 1827, to an instrument invented by Wheatstone, and designed to render the slightest sounds audible.



HAZEN & MERRILL'S TIN CAN MACHINE.

The word *telephone* was used in 1845 to designate an apparatus invented by Captain John Taylor, for the transmission of signals during a fog by means of the sounds produced by the passage of compressed air through trumpets.