

of iron; and in this country, the proportion of iron to wooden steamers, now in process of construction, is as 21 to 4.

Table comparing Iron vessel and Wooden vessel across various metrics: Hull, Deck, Machinery and wheels, Water in boilers, Joiner work, Fuel, fittings, etc., Mean draft, Cost complete, Durability, Value at the end of this time, Annual depreciation during service, Freight carried on mean draft, Net profit finally.

A New Use for Chicken Feathers.

Chicken feathers are among those waste products of the farm of which no regular means of utilization has heretofore been suggested. Myriads of them are strewn over the barn yard, packed into the floor of the chicken house, or are converted into positive nuisances by the wind which bestrews them over lawns and flower beds, or drives them into open doors and windows.

Bergen Hill Tunnel.

Work on the Bergen Hill tunnel, for the Delaware, Lackawanna and Western Railroad, has been lately commenced in earnest. Seven shafts are to be sunk, and 500 men kept at work day and night.

IMPORTANCE OF ADVERTISING.

The value of advertising is so well understood by old established business firms that a hint to them is unnecessary; but to persons establishing a new business, or having for sale a new article, or wishing to sell a patent, or find a manufacturer to work it: upon such a class, we would impress the importance of advertising.

the class of persons most likely to be interested in the article for sale, will be the cheapest, and bring the quickest returns.

We do not make these suggestions merely to increase our advertising patronage, but to direct persons how to increase their own business.

Inventions Patented in England by Americans.

ENGINE, PUMP, ETC.—W. D. Hooker, San Francisco, Cal. FILTERING LIQUIDS, GASES, ETC.—T. R. Sinclair, New York City. GRINDING MACHINE.—C. Heaton, New York City.

DECISIONS OF THE COURTS.

United States Circuit Court—Northern District of Illinois.

SHINGLE MACHINE PATENT.—HARRY H. EVARTS et al. vs. DAVID M. FORD. In equity.—Before Blodgett, District Judge.—Decided November 26, 1873. This suit was brought to recover damages for an alleged infringement of a patent for an improvement in shingle machines, issued to H. H. Everts, dated October 1, 1854, and extended for a term of seven years from October 1, 1865.

United States Circuit Court—District of Massachusetts.

PRINTING PRESS PATENT.—CYRIL C. CHILD vs. BOSTON AND FAIRHAVEN IRON WORKS. [In Equity.—Before Shepley, Judge.—Decided January 1, 1873.] Letters patent No. 98,087 were granted December 21, 1869, to Charles Montague, assignee to Cyril C. Child, the plaintiff, for improvement in printing presses. This invention consisted— 1. In the use of a vibrating lever for moving the type bed, constructed in two parts, one of which is made to slide out and into the other somewhat like the joints of a telescope, so that the upper end of the lever may be attached directly to the under side of the bed.

NEW BOOKS AND PUBLICATIONS.

HUSSEY'S NATIONAL COTTAGE ARCHITECTURE, or Homes for Every One. By E. C. Hussey, Architect. Price \$6. Published by George E. Woodward, and sold by Orange Judd & Co., New York.

AN ELEMENTARY COURSE OF PERMANENT FORTIFICATION. By D. H. Mahan, LL.D. Revised and Edited by Brevet Colonel J. B. Wheeler. Professor of Military and Civil Engineering, United States Military Academy. Price \$6.50. New York: John Wiley & Son, 15 Astor Place.

Professor Mahan's text books on civil engineering and field and permanent fortifications are so widely and generally known that it is unnecessary to allude to the volume before us, other than as a standard work of its

class. The reviser, in the new edition, has supplied several alterations and omissions in the original text, and made various necessary improvements.

A TREATISE ON ASTRONOMY, SPHERICAL AND PHYSICAL, with Astronomical Problems and Tables. By William A. Norton. M. A. New York: John Wiley & Son, 15 Astor Place.

The fourth edition of this standard work appears in an entirely remodeled form, with many of its most important chapters wholly rewritten, and is, in brief, a complete exposition of the present condition of the science of astronomy from both a theoretical and practical point of view.

ART CULTURE, a Handbook of Art Technicalities and Criticisms, selected from the works of John Ruskin. Arranged and supplemented by Rev. W. H. Platt. New York: John Wiley & Son, 15 Astor Place.

As indicated by its title, this work is a compilation from the original and exhaustive writings on art criticism which have been given to the world by perhaps the greatest living art critic.

Recent American and Foreign Patents.

Improved Mole Trap.

Robert I. Huggins, Bethel, O.—To locate the trap, the earth is pressed gently down, so as to fill the burrow, and the trap is set directly above, with sill pieces parallel with the burrow, and with a cross piece on such depression.

Improved Windlass and Crank for Brakes.

Henry M. Howard, Brooklyn, assignor to John Stephenson, New York City.—The windlass, around the lower end of which the brake chain is wound, is made polygonal, with the upper end reduced in size with a loose collar placed thereon, which is kept in position by a screw nut.

Improved Sash Fastener.

John G. Spatheif, Sandusky, O.—This invention consists of a casing with bolt and lever arrangement, which catches into recesses of the window frame, and is withdrawn by pressure of the finger upon it, returning into the original position by a suitable spring.

Improved Road Scraper.

Thomas M. Tate, Longview, Texas.—This invention relates to means whereby road scrapers may be loaded with more facility, drawn with less expenditure of muscular power, and made to perform an increased amount of work in a given time.

Improved Lantern.

Joseph Kintz, West Meriden, Conn., assignor to himself and P. J. Clark of same place.—The object of the construction is to facilitate insertion and removal of globes and clamping or securing them between the base and top of the lantern.

Improved Car Coupling.

Frank A. Markley, Waynesborough, Va.—This invention relates to car coupling generally, but more particularly to that class of them in which is employed a link with spring grapple at each end.

Improvement in Boots and Shoes.

James McMillin, Ripley, O.—This invention contemplates the use of a wedge as a remedy for the tendency which so generally exists to wear the heel of a shoe or boot on one side.