The Petroleum Industry.

The production of crude petroleum in the Pennsylvania oil fields has been a very progressive business from a very insignificant beginning. In 1859, when Colonel Drake sank the first oil well and obtained a few barrels of oil per day, he probably had no idea, says *Stowell's Petroleum Reporter*, of the growth and magnitude of the business as it is to be seen to-day with its 12,000 producing wells; with its daily production of 60,000 barrels of crude oil; with its 500 iron tanks with storage capacity for 10,000,000 barrels; with 8,000,000 barrels of stock in the tanks; with its refining capacity of 60,000 barrels per day; with its 3,000 miles of pipe lines for carrying the product to the iron tanks and refineries; with its 3,000 tank cars with capacity to transport 250,000 barrels of oil; with its 2,000 miles of iron tubing and casing used in and around the wells; with its 12,000 engines and 10,000 boilers used at the wells; with its 200 miles of rope cable, and its 500 tons of iron and steel used in drilling the wells; with its export trade with all the countries of the world of 40,000 barrels per day, and its home consumption of 10,000 barrels per day.

The outlook for better prices for the future are somewhat encouraging, as the great prolific Northern oil field apparently has its limits well defined, and its producing area circumscribed. The haste now manifested in drilling the best territory is so apparent that we may look for a speedy exhaustion of the field.

In Pennsylvania the number of producing wells at the close of October was 11,860, and the oil production for the same month was 1,863,378 barrels of 41 gallons each.

American Turbines in Peru.

An eighty-stamp mill has been recently erected for reducing the silver ores of the Cerro de Pasco Mines, Peru. It is driven by water power coming from a lake near the mines, the supply being sufficient to work more than 1,000 stamps and the accessory machinery. The power is utilized by means of six double turbines made by Messrs. Leffel & Co., of Springfield, Ohio. Four of these turbines are 30 inches in diameter, and develop each 200 horse power; the other two are 23 inches in diameter, and are of 100 horse power each. They are placed vertically, and the main driving pulleys are fixed on the turbine shafts. The capacity of this mill is five tons per stamp per day, or a total of 400 tons, and the value of the ore treated is about $30 per ton.

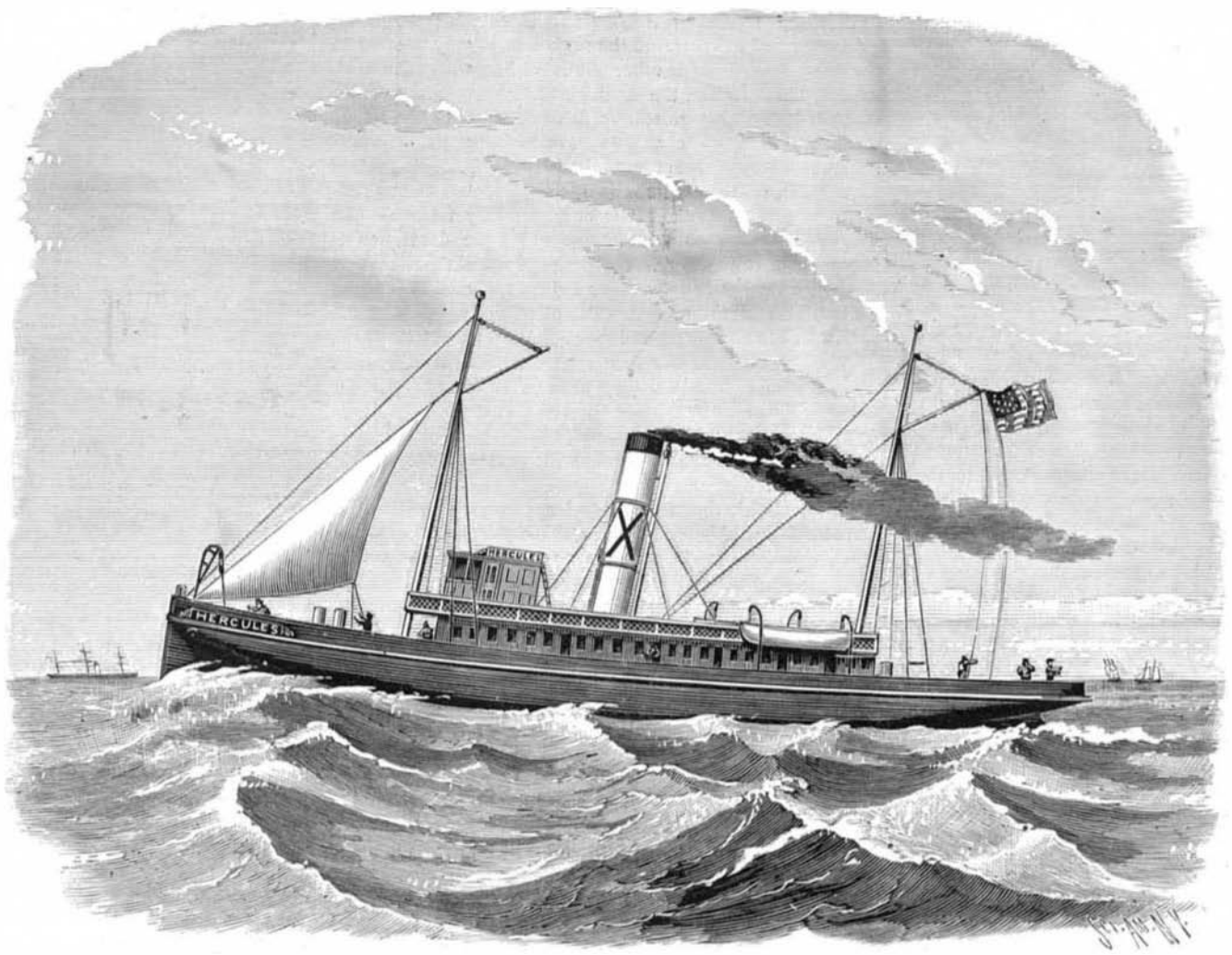
THE STEAM PILOT BOAT HERCULES.

Notice was taken, last week, of the latest phase of the ancient controversy between vested interests and new improvements, as shown in the contest over the steam pilot boat Hercules. This week we are able to place before our readers an engraved illustration of this much abused pioneer in a field in which such an innovation has long been needed.

The Hercules was built two years ago for a tug boat, and was constructed on the usual model for tugs of her size. She is 130 feet long with 25 feet beam. Since being adapted for the new service the Hercules has been completely overhauled and refitted, and berths have been provided for twenty-five persons.

The five pilots who have undertaken the task of introducing the new system, in defiance of their old associates, are W. H. Anderson, P. R. Bailler, G. Cisco, G. Mapes, and R. Noble. The new boat takes the place of the Widgeon, now retired, and receives the same number (10), as shown on the smoke stack.

The Hercules is intended for inshore service, and is expected to be of special value in times of light or contrary winds, when the channel is obstructed by ice, and on other occasions when steam has the advantage of wind.



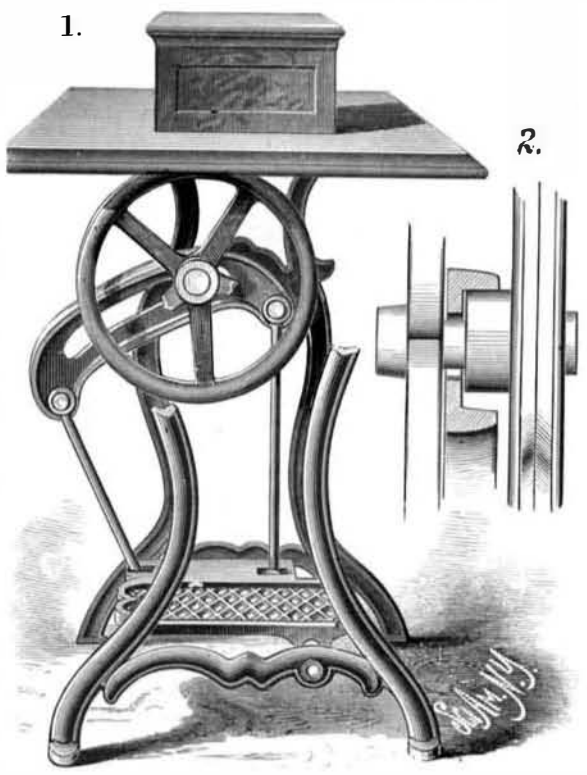
THE STEAM PILOT BOAT HERCULES.

A Moving Village.

A moving village is causing great alarm to the inhabitants of the department of the Hautes Alpes, in Southern France. Gradually within the last few years the village of Villard-d'Arenne has been slipping down hill. The church, built on solid foundations, has copied the example of the houses, the cemetery has followed suit, and so has a large neighboring hill. Heavy rains are believed to have undermined the ground, and dikes are being raised to prevent further damage, but they have not yet proved of much use.

NOVEL TREADLE MOTION.

A new and practical mechanical movement for propelling sewing machines is shown in the accompanying engraving.



ROMIG'S TREADLE MOTION.

It replaces the ordinary crank and connecting rod, and admits of either a rapid or slow movement. It also admits of a regular or irregular movement of the feet, and is practically noiseless.

The sewing machine balance wheel has a rubber covered boss which is revolved by contact with the reciprocating yoke. This yoke is connected with the treadle by two rods, one of which is pivoted to the toe of the treadle, while the other is pivoted near the fulcrum of the treadle. By pressing down upon the toe of the treadle the yoke is first brought into contact with the upper side of the wheel boss; it is then moved forward, causing the wheel to revolve. On pressing down the heel of the treadle the yoke is brought into contact with the under side of the wheel boss and is then returned to its original position, revolving the wheel as it goes.

By referring to the sectional view, Fig. 2, the relation of the yoke to the boss will be readily understood.

This novel device is the invention of Mr. John Romig, of Mifflinburg, Pa.

MISCELLANEOUS INVENTIONS.

Mr. Charles A. Righter, of New York city, has invented an improved card for use in putting up buttons for market. It is so made that several different styles of buttons may be attached to the same card in such a way that all or any desired part of either style may be detached without interfering with either of the others.

An improvement in apparatus for filling capsules, patented by Mr. Franklin E. Davenport, of Auburn, Ind., consists in a funnel, tube, and plunger. The funnel is flattened at one side to assist in taking up the material. The tube is adapted to receive the capsule, and is beveled at its end to aid in placing the same; and the plunger is fitted with an elastic collar, which prevents it from being forced too far into the tube.

Mr. James Kerr, of Church, County of Lancaster, England, has patented an improvement in apparatus for guiding and delivering woven fabrics to cloth finishing machines. It consists in a peculiar arrangement of two conical rollers, by means of which every deviation of the fabric to the right hand or the left causes a deflection of a frame and brings into operation devices which arrest or retard one of the rollers, thus bringing the fabric back automatically to its central position.

Mr. Thomas G. Brown, of New York city, has patented improvements in the construction of combination lock bracelets, the object being to enable the lock-bar or staple to be entered into the socket of the lock when the two parts of the bracelet are pivoted together, and it consists in connecting the lock-bar or staple with the end of the bracelet opposite to that on which the lock is placed by a concealed pivot, so that when the two ends are brought together the bar will turn sufficiently to enable it to enter with ease the straight socket in the lock.

Mr. James W. Smith, of South Schroon, N. Y., has patented an improved washing machine, which is so constructed as to wash the clothes quickly and thoroughly, and to allow any desired part of the clothes to be rubbed more or less as may be required.

Mr. Albert Clunan, of Brooklyn, N. Y., has invented an improved device for connecting the ends of leather, rubber, canvas, and other belt traces for harness and other bands and straps. It consists in combining a plate with a bar bent, threaded, and provided with an end nut.

Mr. Charles Bried, of Newark, N. J., has patented a mail bag fastening formed of four metallic strips of equal length, hinged together at the ends, having axes, with perforated arms on two of the strips and slots in the two opposite ones, having the axes adapted to be revolved so as to make the perforations in the arms coincide to receive the lock.

An improvement in sleeping car berths has been patented by Mr. Moritz Leiner, of New York city, N. Y. The object of this invention is to furnish an attachment for car and steamboat berths to facilitate entering and leaving the berths, and to prevent occupants of berths from falling or being thrown out. It consists in providing car and steamboat berths with ladders so constructed as to promote the convenience of passengers in entering and leaving the berths, and as guards to prevent the occupants of the berths from falling or being thrown out.

An improved implement, which will hold a rope or chain attached to the hook firmly and securely, has been patented by Mr. James Robertson, of East Cambridge, Mass. It consists in a hook formed of the screw shank and provided with a cylindrical nut made with an enlarged lower end, the hook arm having a grooved cavity or slot in or through the arm longitudinally in its upper or inner side, the eye, and the head.

An improvement in watch regulators, patented by Mr. Aloys Plätt, of New York, N Y, is designed to provide a means for more easily and accurately moving and adjusting the regulator lever of a watch. It consists of a screw set upon the regulator lever and engaging in a screw groove made in the regulator bridge, so that by turning the screw the lever may be easily and delicately adjusted.