

The Effect of Oil on Water.

What is regarded as a complete demonstration of the value of oil in diminishing the violence of heavy seas, was made at Peterhead, near Perth, England, March 1, by Mr. John Shields.

Having chosen Peterhead as the most suitable place for his experiment, Mr. Shields caused iron and lead pipes to be laid from the beach into the sea in front of the entrance to the harbor. A force pump was attached to the land end of the piping, and near it was placed a large barrel containing one hundred gallons of oil. On March 1, Mr. Shields, having been informed by the Meteorological Office that the sea was rough at Peterhead, went thither from Perth, accompanied by several seafaring men from Dundee and Aberdeen. When the white-crested waves were rising to a height of ten to twenty feet at the harbor entrance, the oil pump was put in motion, causing the oil to spread in the bottom of the sea, and on its gradually rising to the surface, the white foam entirely disappeared, and although the swell continued, the surface of the sea was perfectly smooth, so that a ship or a small boat could have entered the dock without the slightest danger—an impossibility before the oil was distributed in the water. The experiments satisfied the shipmasters who witnessed them. Mr. Shields is willing to give any harbor board the benefit of his invention, and render assistance in carrying it out.

RECENT INVENTIONS.

Messrs. Thomas M. Richter, of Sandy Run, and Thomas R. Griffith, of Wilkesbarre, Pa., have patented an improved can for use in oiling machinery. It is designed to prevent accidental or careless waste of oil. The invention consists in the combination with an oil can of a discharge tube or nozzle extended down into the can, nearly to the bottom, and provided with a bell-shaped mouth at its lower end, and a ball valve for closing the lower end when the can is turned from an upright position.

An improved door securer has been patented by Mr. John J. Tierney, of New York city. This is an ingenious arrangement of a screw and guard plate for preventing access to the screw. The guard plate is held in position by the bolt of the door lock.

Mr. George W. Johnson, of Newton, Ill., has patented a tool for removing rollers from the balance wheel posts of watch movements, one of the jaws of the tool being flattened and divided to form fingers or tines adapted to be passed between the balance wheel and the roller, straddle of the post, the other jaw being formed with a recess for the reception of the pivot of the post, so that the end of the jaw will rest upon the shoulder of the post where power is applied to the handles of the tool for forcing off the roller.

An improvement in cultivators has been patented by Mr. Francis O. Williams, of North Cohocton, N. Y. The object of this invention is to prepare ground to receive seed and cultivate the plants.

A novel spring-hinged bracelet has been patented by Mr. Abraham H. Engel, of New York city. The invention consists in the combination, with the two parts of the bracelet connected by a hinge and the spring, of the lug beveled upon its opposite sides, whereby the parts of the bracelet will be held in position, both when opened and when closed, by the tension of the spring.

IMPROVED STALK RAKE.

The annexed engraving represents a stalk rake for gathering corn and cotton stalks, potato vines, and other rubbish in the field into windrows, preparatory to burning them up, and in this way cleaning the field. When it is desired to pull the roots up with the stalks the rake is drawn crossways, as the rake will then take better hold of the stalks by the roots.

To unload the rake the driver raises the handle at his right, when the rake turns over without being raised from the ground.

The rake is made from fine oak timber. The teeth, which are of iron, are 30 inches long by seven-eighths square; the head piece is 10 feet 6 inches long and 4 inches square. From twenty-five to thirty acres of stalks can be raked with one of these rakes in a day.

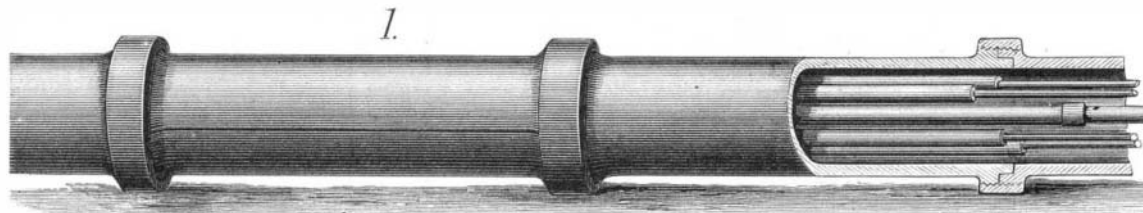
As a reason for burning cornstalks and all other rubbish on the field the inventor calls attention to Bulletin No. 5, published by the Interior Department, from which he quotes the following in regard to the destruction of the chinch bug: "Having made observations in reference to the habits of this insect, and finding that it wintered in the perfect state, I suggested, in 1859, burning over the infested fields in the winter as perhaps the best means of destroying them, and am still inclined to look upon it as the best practical means of counteracting those that are susceptible of general adoption." "If it is possible, therefore, to reach their retreat with fire, this will be the most effectual method of destroying them where irrigation is impracticable."

Great difficulty is experienced in cultivating corn planted on ground where old stalks have been plowed under, as the cultivator will pull up the old stalks, and with them the new corn, and small grain can be harrowed under much better when the old stalks are out of the way. This improved rake affords a ready and inexpensive means of clearing the fields and getting the rubbish out of the way.

This invention was recently patented by Mr. Henry Grebe, of Omaha, Neb., who should be addressed for further information.

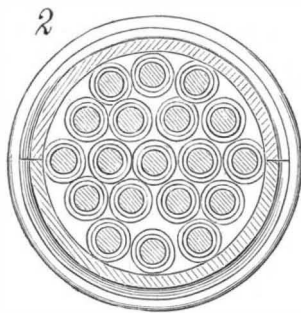
IMPROVED INSULATOR AND PROTECTOR FOR UNDERGROUND LINES.

The great problem in telegraphy and telephony seems to be the disposition of the wires. Looking up from many of our New York streets, one can but wonder that the multitude of wires extending in every direction perform their function with so little interference one with another. Still

**FRENCH'S INSULATOR AND PROTECTOR FOR UNDERGROUND LINES.**

the trouble caused by "crosses," breakages during storms, and by the excursions of line men in building and repairing lines, is very great, and daily increasing, and a remedy is demanded. Clearly some system of underground lines is preferable to any arrangement of overhead wires. We give an engraving of one of the latest, and apparently a very practicable device for insulating and protecting underground telegraph and telephone wires, the invention of Mr. William A. French, of Camden, N. J.

The protector or outer casing consists of a tube of hard rubber made in ten-foot lengths and of a diameter suited to the number of wires to be used. The ends of the tubes are united by a water-tight joint. Short connecting tubes, made

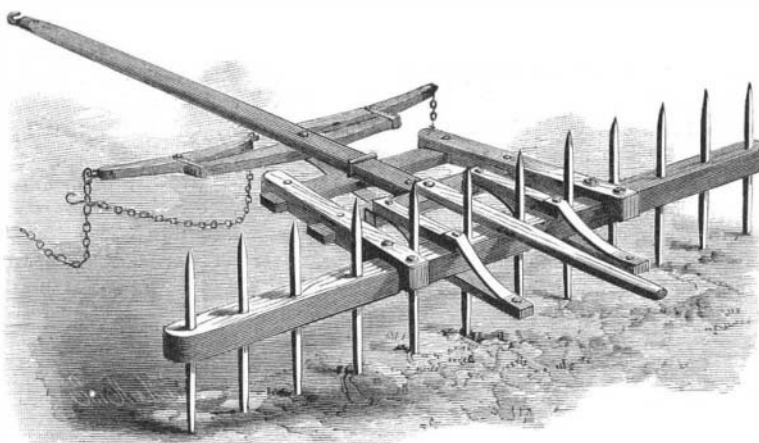
**SECTION OF INSULATOR AND PROTECTOR.**

in halves, join the longer lengths and admit of being removed to insert or remove the conductor.

The lengths of large tubing are filled up with smaller tubes of soft rubber, which project a short distance from the ends of the large tube into the connecting tubes, where they meet the ends of the corresponding tubes of the adjacent section, and are connected by a short coupling of hard rubber.

The small tubes are of such size as to admit of readily inserting and removing the telegraph wire. In some cases the inventor covers the wire with a protective coat of insulating material before placing it in the small tubes.

In applying the invention to practical use the telegraph wires are passed through the small soft rubber tubes of a

**GREBE'S STALK RAKE.**

number of hard rubber tubes, which are placed at such a distance apart that the ends of the soft rubber tubes will meet. The ends of the corresponding tubes are then connected by the small hard rubber couplings. The divided connecting tubes are then applied to the adjacent ends of the hard rubber tubes, and the coupling bands are screwed on the collar, the joints being made tight by cement or packing.

The soft rubber tubes can be made of any desired length,

and can be inserted in the hard rubber tubes before or after the hard rubber tubes have been put in position, and that the half section tubes can be dispensed with in whole or in part.

MECHANICAL INVENTIONS.

An improved peanut picker and cleaner has been patented by Mr. Everitt H. Powell, of Buckhorn, Va. This invention is an improvement in that class of machines for removing peanuts from vines, and also cleaning them, which have fixed and vibrating screens and a vibrating shoe and fan blower arranged beneath the same. This inventor employs in addition to these an endless traveling apron or carrier for delivering the cleaned nuts into a receptacle provided for the purpose; but the particular feature of novelty and superiority of this machine consists in the arrangement whereby the screens, shoe, apron, etc., are operated.

An improvement in stop watches has been patented by Mr. Charles H. Audemars, of Brassus, Switzerland. This invention consists in the use of two pinions placed between the usual pinions, by which the stop-watch hands are driven from the second hand of the watch, such two pinions fitted for being connected and disconnected with each other, and retained in either position by springs acting endwise of the arbor, with the result that the pinion gearing to the second hand arbor is continuously in motion.

A new method of locking nuts upon bolts has been patented by Mr. Albert R. Clark, of Amite City, La. It consists in first flattening one side of the bolt near the face of the nut and then casting a metal ring around the bolt, so that a portion of the ring will rest in the flattened portion of the bolt.

Mr. William S. Wood, of Denver, Col., has patented an improved ore washer, which is an improvement on the ore washer for which Letters Patent No. 209,789, dated November 12, 1878, were heretofore granted to Theophilus T. Allen.

An improvement in sleds, patented by Mr. Charles M. Amsden, of Wooster, Ohio, consists in combining with the ordinary cross bars, side rails, and seat board a metallic frame. The sled is light and strong, and in appearance is much handsomer than the ordinary wooden sled. The parts can be made almost entirely by machinery, and but little handwork is required to complete the sled.

An improved barrel stave jointer has been patented by Mr. Robert O. Dobbin, of Berlin, Ontario, Canada. In this machine the stave is carried over a circular saw by an overhanging carriage, which is swung laterally so as to give the proper curvature to the edge of the stave. The swinging is effected by an arrangement of guides on the saw table.

An improved link for horse powers has been patented by Mr. Barnard L. Olds, of St. Albans, Vt. This invention relates to the means by which the lags are secured to the jointed links of the endless treads in horse powers; and it consists in loops or stirrups forming part of the links and engaging slotted lags, by which arrangement lags of uniform construction may be used and the use of bolts may be avoided.

An improvement in sawmill log-carriages has lately been patented by Mr. Morgan B. Campbell, of Beverly, W. Va. This invention facilitates the setting of logs on sawmill carriages, and renders the handling of logs in the mill a simple and easy operation.

An improved machine for dressing box straps and barrel and tierce hoops split from poles, has been patented by Mr. Samuel R. Garner, of Cassville, Wis. The invention consists in certain novel features in the feeding mechanism and in new mechanism for holding the hoop up to the cutter.

An improved baling press has been patented by Mr. Louis Ensinger, of Little Elm, Texas. This press is operated by racks and pinions, the latter being driven by worm gear. The press has a quick return motion, and has novel devices for filling and discharging.

An improvement in compass saws has been patented by Mr. Charles Bush, of New York city. The invention consists in a blade tapered from the center toward each end, curved transversely, with a curve gradually decreasing in size from the center toward each end, and pivoted at its center by a clamping screw to a handle grooved upon its opposite edges, so that larger and smaller curves can be sawed by the same saw, and a curved kerf can be continued in a curve in the opposite direction.

A novel cloth-measuring machine has been patented by Mr. Albert Winter, of Plainfield, N. J. These improvements relate to machines

of the class in which revolving drums are used for measuring cloth as unwound from rolls. This invention insures accuracy by employing devices for clamping the cloth to the drum as it progresses through the machine.

An improved cultivator has been patented by Mr. Montgomery C. Meigs, of Romney, Ind. In this implement the stalks of the corn being cultivated are made to regulate the width of the cultivator.