

RECENTLY PATENTED INVENTIONS. Electrical Devices.

ELECTRICAL STOP-MOTION.—G. B. COCKER, Frankford, Pa. The invention pertains to cordage machinery; and its object is the provision of an electrical stop-motion for twisters, wipers, winders, spoolers, and similar cordage machines, the stop-motion being arranged to stop the machine, as soon as one of the yarns or threads breaks, without the use of drop-wires or the like—such, for instance, as are shown and described in a patent, No. 512, 013.

Of Interest to Farmers.

FRUIT-PICKER.—F. FISHER, JR., Oconto, Wis. Mr. Fisher's object is the provision of an improved fruit-picker, easily manipulated by the operator standing on the ground, and arranged to permit of picking the fruit and delivering it to a pocket within convenient reach of the operator without danger of bruising or otherwise injuring the fruit or tree. As soon as the fruit reaches the pocket and has come to a rest therein it can be readily removed by the operator and placed in a basket or other suitable receptacle standing on the ground or carried by the operator. Means are provided for shortening the picking device when desired.

Of General Interest.

DETONATING FIRE-ALARM.—M. A. LIBBEY, South Berwick, Me. The principal object of the invention is to provide an alarm device operating by detonation to give notice of the occurrence of fire in an apartment, room, or other place, and also to provide a device of this character which is exceedingly simple, and inexpensive to manufacture. On the melting of a binder or solder a striking member of the device is released, whereupon said member of its own resiliency or tension is carried into forcible contact with the fulminate in the holder, thereby exploding the fulminate. The device may be readily secured to any part of a ceiling or wall of a room or apartment or to any object or support within the room.

LATCHING DEVICE FOR SAFETY EXIT-DOORS.—G. E. REDDEN, New York, N. Y. This device is of peculiar value in theaters and other auditoriums in which it may be necessary—as, for instance, in case of fire or of a panic—for people to readily escape from the building. The first person to run against this improved door or even to touch it gently with the finger causes it to open. In case of a blind rush of people or of the movements of a single individual the door swings open.

UMBRELLA.—G. TURNER, Tacoma, Wash. According to this invention the umbrella is so constructed that upon removing a member from the umbrella-stick the umbrella will be rendered useless to any one excepting the rightful owner, who has a means for restoring the article to its useful condition.

Heating and Lighting.

WATER-HEATER WITH GARBAGE-BURNER.—M. E. HERBERT, Chicago, Ill. Mr. Herbert's invention is in the nature of a form of furnace designed more particularly for a water-heater, and so constructed as to permit of economical disposition and utilization of garbage in connection with other fuel. By combination and arrangement of parts either garbage or soft coal may be burned on this supplementary grate with a complete combustion and without production of bad odors, securing at the same time an economical and efficient water-heater.

Machines and Mechanical Devices.

SAFETY DEVICE FOR ELEVATORS.—F. B. AUSTIN, Tombstone, Arizona. The aim of this improvement is the provision of a safety device for elevators, more especially designed for use on mining-shafts, to prevent the cage from being drawn up too far on overwinding the hoisting-cable on the winding-up drum, to prevent the hoisting-table from breaking, and the cage and its occupants from dropping down the mine-shaft.

TALKING-MACHINE.—J. E. BEATTY, Huntingdon, Pa. This improvement is in the nature of an attachment for use on talking-machines, especially relating to the employment of a violin as a sound-box or reproducer by turning such instrument upside down and employing a special form of bridge carrying the needle or stylus which operates in the record.

Pertaining to Vehicles.

YIELDING SPRING-WHEEL.—L. MARCHAND, 28 Rue du Fresnoy, Roubaix, department du Nord, France. Mr. Marchand's invention pertains to a wheel having yielding curved spokes. In this wheel each of the yielding spokes is joined at one of its ends on the hub, while its opposite end is movable and guided with respect to the tire in a radial direction. This arrangement prevents the spoke from giving way alternately in two contrary directions, which often causes the breaking up of the wheels having yielding spokes as constructed heretofore.

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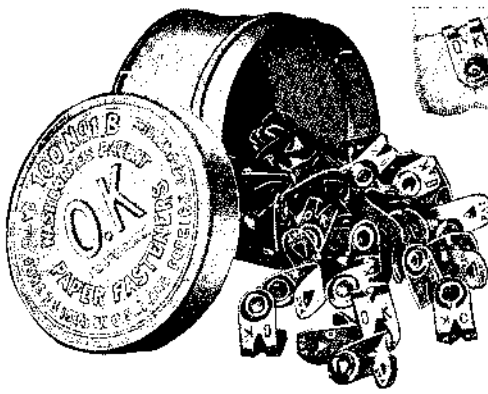
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Notes and Queries.

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(9623) J. E. E. asks: Please answer in the question columns which is the more economical light, gas or electricity (incandescent) where the consumption is limited to a city of 10,000 inhabitants. I believe that for a city to own either a gas plant or a system of electric lighting, gas is cheaper, and will give a great deal more light for a given quantity than electricity. In fact, that electricity is a luxury. A. Whether gas or electricity is better for any given city is to be decided wholly by local conditions. If the proper gas coal can be had for a low cost at the place, gas may be cheaper. If water power can be had for generating electricity, or if steam coal is cheap in the place and gas coal is not cheap, then electricity would be better. The lighting by electricity is better than any other form of illumination.

(9624) W. J. McC. asks: What kind of an instrument can I make or buy to test that "a current of heat flows through a rod of metal, if the ends are kept at different temperatures, the flow being always from the high temperature to the lower," as is stated on page 122 of "Lessons in Electricity and Magnetism," by Silvanus Thompson, 1882. I require an instrument to show the above condition. A. A simple way to prove that a current of heat flows from a place of higher to a place of lower temperature along a bar of metal is by placing the fingers on the colder end and moving them along as far as it can be done without burning them. An ordinary thermometer may be used unless the bar gets too hot for it. Sometimes the bar is coated with paraffine when cold, and the melting of the paraffine is observed as it proceeds from the hot end toward the colder end. No special instrument is necessary to show that a bar is heated by the flow of heat along the bar. This flow is a current of heat.

(9625) W. J. W. says: Referring to No. 9584 under notes and queries in your issue of April 1, 1905, you state that no rivers on the earth flow up hill, on account of centrifugal force. If the mouth of the Mississippi River is farther from the center of the earth than the source, which it undoubtedly is on account of the shorter polar diameter, does not the river flow up hill? If not, please state your authority. A. Rivers unquestionably flow from one point to another point which is further from the center of the earth, but that does not mean that they flow "up hill." The definition of a level surface is one parallel at all points to the surface that a liquid, such as the sea, or the surface of any body of water not in motion, would take. This surface is not a part of that of a perfect sphere, but an oblate spheroid. Having thus defined a level surface, "up hill" would be defined as a direction deviating from it, going away from center of the earth faster than the level sur-

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