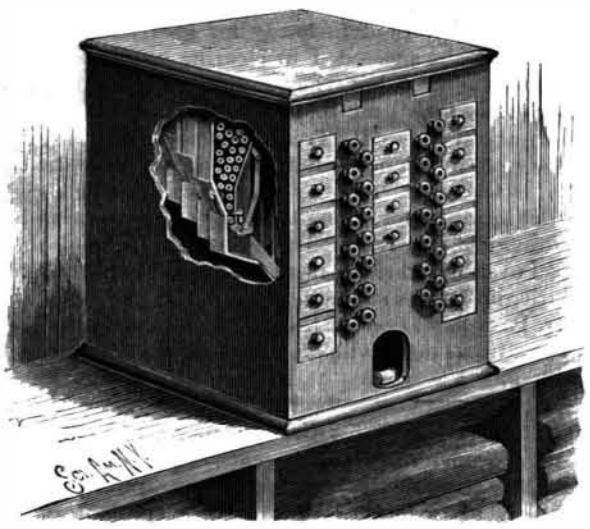
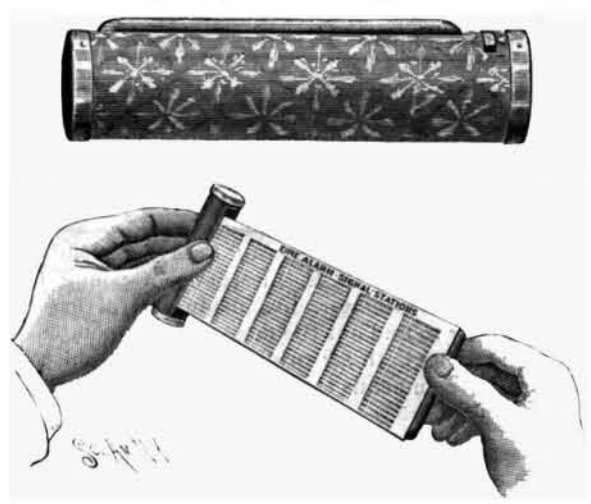
AN IMPROVED CABINET FOR HOLDING SPOOL THREAD.

The accompanying illustration represents a cabinet designed to hold a full stock of thread, delivering a spool of any number on the pulling of a correspondingly numbered button, without the possibility of the



HAYDEN'S SPOOL THREAD CABINET.

jamming of any of the spools, while provision is made for the stowage of surplus spools, and readily returning spools that have been withdrawn. It forms the subject of a patent issued to Mr. James W. Hayden, of Lewisport, Ky. The cabinet has three main series of central and side compartments, from which lead two inclined troughs or ways, one on each side of the series of central compartments, to a receiving tray reached through an opening formed centrally in the front wall of the cabinet near its base. The compartments for the larger spools are nearest the front of the cabinet, and those for the smaller spools behind them, each compartment being proportioned to receive about the same number of spools, thus leaving behind the inclined chutes a space for the stowage of spools, which space is reached through a door hinged to the base at the rear of the cabinet. The spool-receiving compartments are of such width that a number of spools may be placed side by side therein, and, that the spools may be properly upheld until wanted for delivery, a slide is arranged in connection with each compartment, the slides being adapted for withdrawal by being connected through links with bell-crank levers, the latter being also connected to pull rods terminating in buttons on the front side of the cabinet, such buttons preferably being each numbered to correspond with the compartment holding spools of a certain number. To prevent the passage of more than one spool at a time to the receiving tray, a lever is arranged to operate automatically in connection with the slide, one arm of the lever passing between the two lower spools in the compartment before the slide is withdrawn, provision being also made to prevent the arching or jamming of the spools within their respective compartments. For conveniently returning the spools to a place of safety when they have been withdrawn from the cabinet and not used, two receiving trays are provided in the upper part of the case, with swinging flap doors opening inward. In the space between the main interior compartments and the front wall of the cabinet, on each side and in the middle, are also arranged narrow storage drawers. The preferred dimensions of this cabinet are: Length, 24 inches; width, 20 inches; height, 27 inches.



WILLIAMSON'S TAPE ADVERTISING DEVICE.

Insuring Employes.

The Detroit Electric Light and Power Company has adopted a plan of insuring its employes, every one of whom carries a $5,000 policy, the premiums upon which are paid by the company so long as he is in its employ. The arrangement insures the employe's family in case of accidents, and protects the company from damage suits. Why may not other manufacturing establishments adopt the same plan, to the advantage of themselves and their most prized helpers, the annual premium to be paid only as long as the party remains in the employ of the concern?

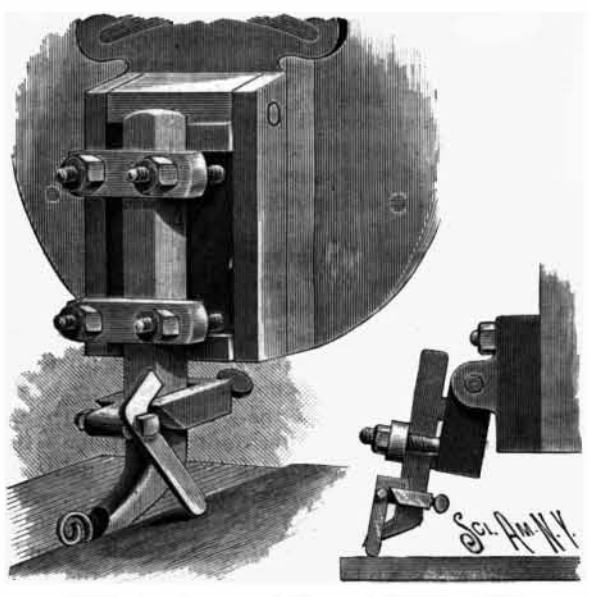
Special arrangements could undoubtedly be made with insurance companies to refund a large portion of the premiums paid, on the surrender of the policies when the insured is leaving his employer.

A NOVEL ADVERTISING DEVICE.

The device represented in the accompanying illustration, designed to be conveniently carried in the pocket, suggests at once a ready means for efficient advertising, by incorporating with the advertisement information which it may be desirable for many people to keep for ready reference. It is a patented invention of Mr. John B. Williamson, of Louisville, Ky., the cut showing as its principal feature the representation of a conveniently unwinding and rewinding tape bearing the record of the fire alarm signal station numbers, to be made according to the requirements of any given locality. The device embraces but few parts, and can be manufactured in quantities at a small cost, any desired information or advertising matter being printed on the scroll or tape.

A CUTTING TOOL ATTACHMENT FOR PLANERS.

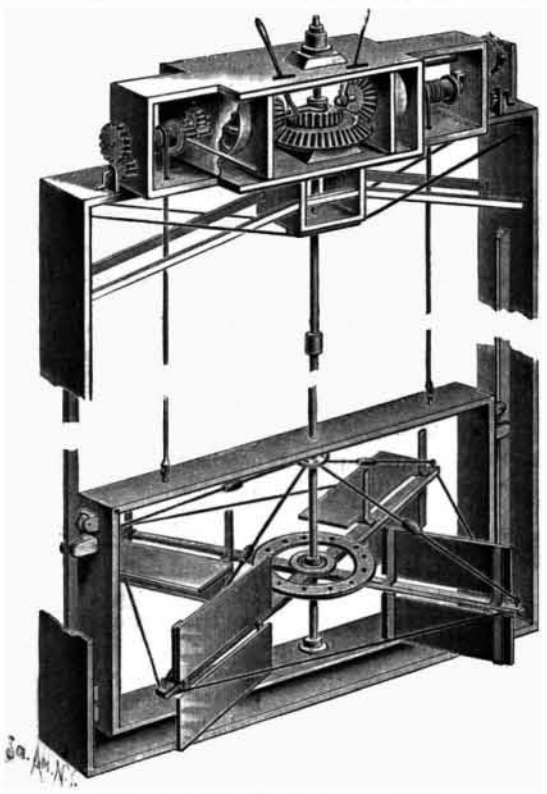
The illustration represents the application of an attachment which serves to hold the cutting tool off the bed of the work on the return stroke of the traveling bed on which the work is held, such return stroke being shown in the small figure, while the larger view represents the cutting stroke. It is a patented invention of Mr. James Wilkinson, of No. 2544 Leithgow Street, Philadelphia, Pa. A bracket or frame, having an opening for the passage of the cutting tool, is attached thereto by means of a set screw, the cutting tool being held in the usual holder, pivoted to the head of the planing machine. On the front end of the bracket is a projection, in which is held a transverse bolt on which is loosely fulcrumed a lever, hanging downward, and adapted to swing rearward on the forward stroke of the planer, such motion being limited by a beveled edge on the side of the bracket. On the upper end of the hanging lever is a right-angled extension adapted to engage and rest upon the top of one side of the bracket on the return stroke of the tool, as shown in the small view, thus raising the cutting edge of the tool entirely off the work. The hanging lever may be placed on the transverse bolt at either side of the lug or projection from the forward end of the bracket, to always engage the lower end of the lever with that part of the work not yet planed.



WILKINSON'S TOOL ATTACHMENT FOR PLANERS.

AN IMPROVED WATER WHEEL.

A water wheel designed to be operated for driving any kind of machinery by means of belts or through a chain wheel, or for directly operating a pump or air compressor, is shown in the accompanying illustration, and has been patented by Mr. Lee Middleton, of Clarksville, Mo. On the upper part of the main vertical shaft is a collar riding upon an anti-friction bearing carried by the main frame, the lower end of the shaft being stepped in the base of a wheel frame, and there being on the sides of the latter frame grooved wheels and guides riding upon vertical ways of the main frame, whereby the wheel frame and wheel may be raised out of the current when desired. The upper portion of the main shaft has a feather which rides in a groove in the hub of a gear, this gear engaging gears carried by horizontal shafts, the latter gears being splined to position to be shifted into or out of engagement with the gear carried by the vertical shaft. The horizontal shafts carry pulleys and pinions, and the shifting of the gears is effected by means of levers fulcrumed in standards carried by the flooring. Just beyond the horizontal shafts are drum shafts, chains or ropes from which are connected to the wheel frame, the drum shafts being movable into engagement, by means of pinions on their ends, with the horizontal shaft, to facilitate raising the wheel frame out of the current, other means being provided for completing or entirely effecting such task by hand cranks. Above the gear with which the horizontal shafts are connected is a gear adapted to be thrown into engagement with a crank gear connected with a pitman, whereby either a pump or an air compressor may be operated. The wheel proper consists of a number of radially extending arms carrying vertical braces serving as stops for



MIDDLETON'S WATER WHEEL.

hinged leaves, other bracing rods, connecting the ends of the radial arms, being in such position that the leaves when folded down rest upon them. As the wheel revolves, the leaves are adapted to automatically open out against the current as they come into position for the current to strike them, resting then against the vertical stops; but when the radial arms to which the leaves are hinged, in the further portion of their revolution, move against the current, the leaves then assume a horizontal position, resting upon the horizontal bracing rods.

AN IMPROVED OIL OR GAS STOVE.

The illustration shows a simple form of stove designed to burn oil or gas, and to give out a large amount of heat in proportion to the quantity of fuel consumed. It has been patented by Mr. John A. Field, of No. 822 College Avenue, Racine, Wis. Within the body of the stove, and cast with or attached to the upper section, is a hollow air cylinder, nearly filling the interior, there being an annular flue between the cylinder and the walls of the stove, through which the smoke and noxious gases pass up the chimney. There is an opening from the outer air to the lower end of the interior cylinder, and a similar opening from its upper end, controlled by a damper, and on the top of the cylinder is an evaporating pan. Attached to the under side of the cylinder is a D-shaped generator, the lower oval side of which is perforated, and into this generator projects a pipe from an oil tank, there being at the inner end of the pipe a roll of asbestos or similiar material, on which the oil flows and is burned. In the oil supply pipe is a coil to act as a trap to prevent gas from the stove passing back through the pipe. Gas may also be readily burned instead of oil, by the use of a screen burner in the generator, below which is a dish-shaped receptacle having its central portion formed into a hollow cone, through which air passes to feed the flame. A damper at the bottom admits the necessary supply of air.

FIELD'S OIL OR GAS STOVE.