New Inventions.

An improvement in Microscopes has been patented by Mr. Ernst Gundlach, of Rochester, N. Y. This invention relatcs to improvements in microscopes, by which the tube is not only adjusted parallel to the supporting post, but always retained during the adjustment at equal distance therefrom, so that the position of the optical axis is not changed, but kept in line with the axis of the illuminating apparatus. The stage and object carrier are so arranged that an improved oblique illumination is permissible. The mirror and sub-stage are suspended in a novel manner.

Mr. Joseph Vacaro, of Bayou Sara, La, has patented an improved iron fence post, which is so constructed that any or all of the fence panels may be repaired or renewed without disturbing the posts.

An improved Portable Fence has been patented by Mr. C. D. A. Curry, of Stonewall, Va. This is a cheap, light, and easily arranged fence that can be readily transported from one place to another, and set up and accommodated to the inequalities of the ground.

Mr. Robert Dillon, Jr., of New York city, has patented a simple and effective Device for Attachment to the rear part of the lower ends of Pantaloons Legs in wet weather, to prevent the mud from being rubbed upon the pantaloons legs and upon the rear parts of the boots in walking.

Mr. Solomon Zemansky, of Brooklyn, N. Y., has patented an ornamental and convenient Box adapted for holding or displaying small articles of sale, and forming a convenient package for sale, and of itself an article of ornament.

Mr. Richard E. Rye, of Mount Pleasant, Mich., has devised an improvement in the class of Clothes Driers having a revolving part, which is vertically adjustable on the pivot post, and to which a cord is applied for suspending the clothes.

Mr. Napoleon W. Williames, of Philadelphia, Pa has patented an improved Process for Bronzing Metals, which consists in first coating the object with paraffine varnish to close up the holes, make a smooth surface, and stop oxidation, then covering the varnished surface with plumbago, to render it conductive, and finally depositing pon said surface of plumbago a coating of the required metal by galvanic action.

Mr. Thomas F. Longaker, of West Philadelphia, Pa., has patented an improved device for Attachment to Faucets for measuring liquids as they are drawn from a can or cask. It is simple, convenient, and accurate, and will prevent the liquid from being spilled and will not allow its odor to escape into the room.

Mr. George H. Hayden, of Boston, Mass., has patented an improved Cigarette Machine, in which the paper tube is formed, the tobacco packed therein, the ends of the tube turned down, and the cigarette completely finished by one passage through the machine.

Mr. William J. Doyle, of Chicago, Ill., has patented an improved Spool Holder, in which an ornamental base supports a vertical rod fitted to revolve upon the base, and the rod carries three leaves, that are each formed with a series of horizontally projecting points, which sustain the spools by means of nipples formed on the points. At the upper end of the rod is an urn formed with barbs for retaining a pincushion. The parts are made of sheet metal.

Messrs. Francis W. Allen & Daniel Crane, of Saginaw, Mich., have patented an improved tool which they call "The Inspector's Pencil," It is especially designed for inspectors' use for marking rough lumber.

An improvement in Lamp Burners has been patented by Mr. Joseph A. Talpey, of Somerville, Mass. This invention consists in providing the flat wick tube of an oil lamp with a taper or small wick tube, which is so placed in the flat tube as to divide it into two equal parts. When the lamp is to be used for the night, the larger wicks are turned down, the taper wick continuing then to burn and to keep up a small flame for the night.

Mr. William Haas, of Lyndon, Kansas, has patented an improved Washing Machine which is an improvement on the machine for which letters patent No. 203,031 were granted to the same inventor April 30, 1878.

A NOVEL RAILWAY TRACK.

The problem of reducing the noise and vibration of the elevated railroads, which has engaged the attention of scientific experts for many months past, seems to be finally solved by an ingenious and very simple invention, just patented, and is being brought to the attention of capitalists as well as the general public.

The inventor introduces beneath each rail a series of longitudinal springs, each composed of six layers of Georgia pine or white ash, 9 inches wide and 1 inch in thickness. There is a central support, or safety check, from which the lower layers of the spring diverge at an upward angle until their ends rest upon the ties at the end of the rail. A curved spring, composed of four or more layers of pine or ash, passes over the top of the central safety check, with its ends resting midway upon the lower spring. The rail, 30 feet long, is laid over all, its center only touching the surface of the upper curved spring. By this combination the spring is constantly yielding and recovering, or readjusting itself, as the cars pass over it. The great length of the arc described by the curve of the central spring, it is claimed, makes the vibration of the cars so slight as to be quite imperceptible.

The safety check or support, immediately under the center of the curved spring, allows a certain amount of pressure upon the spring and no more, thus preventing too great a strain on the spring should the road be used for the conveyance of heavy freight. As there are but two ties and the safety check in every section of 30 feet, light and ventilation are secured to the ground floors of stores and dwellings on the line of the road; and in winter less snow and ice accumulate upon the track. The inclination of the spring also gives opportunity for the construction of gutters or troughs to conduct the oil-drippings, rain, and melted snow into the pillars supporting the structure, and thence to the ground, thus preventing another nuisance of which pedestrians complain.

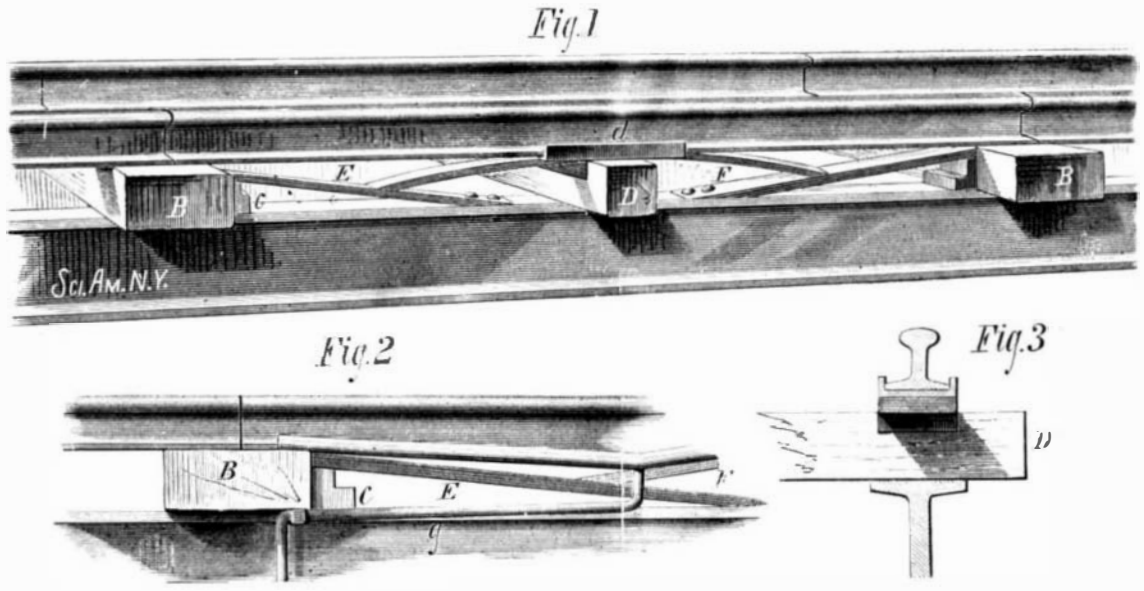
The absence of the immense number of ties now in use on the present elevated railroads, and which act as a sounding board, will in itself be a large saving of expense and will reduce the noise and vibration to a minimum.

The material used in the combination is not affected by temperature or moisture. It has been discovered by careful experiment that wood is greatly superior to iron, steel, or rubber for this purpose. Georgia pine is regarded as the best, when well covered with raw linseed oil; and the next best is white mountain ash.

This invention is applicable not only to the elevated roads, but also to the construction of suspension bridges, all kinds of railroad bridges, trestlework over marshes, low ground, and elevations, and other works requiring a combination of solidity and smoothness.

The two rails forming the track are secured at the ends to the crossties, B, which rest on the girders, C, and which in turn are supported by posts. The semi-elliptic wooden spring, F, has attached to it a chair for supporting the middle of the rail, and its ends are sustained by wooden springs, E, that rest upon blocks, *c*, and are riveted to the girders. A beam, D, is laid across the girders under the middle of the rails, and is rabbeted to receive a rubber cushion, which supports the center of the spring, F, when it is subjected to undue pressure.

To prevent oil or water dripping from the rail to the ground a gutter, shown in Fig. 3, is provided. For further information address Wm. H. Hall, 111 Nassau street, New York city.



HALL'S IMPROVEMENT IN RAILWAY TRACKS.

THE Thames Embankment, London, is now lighted by electric lamps.

AN IMPROVED TYPE WRITER.

In this machine the type, D, are carried by the table, A, which is rotated by a bevel pinion meshing into the wheel, B, attached to its periphery. The pinion is turned by the wheel shown at the rear of the machine, and when the required letter comes under the follower, *d*, the latter is depressed, forcing the type downward until it strikes the paper on the platform over which the machine travels, being moved forward by the pinions, G, which mesh into racks in the base.

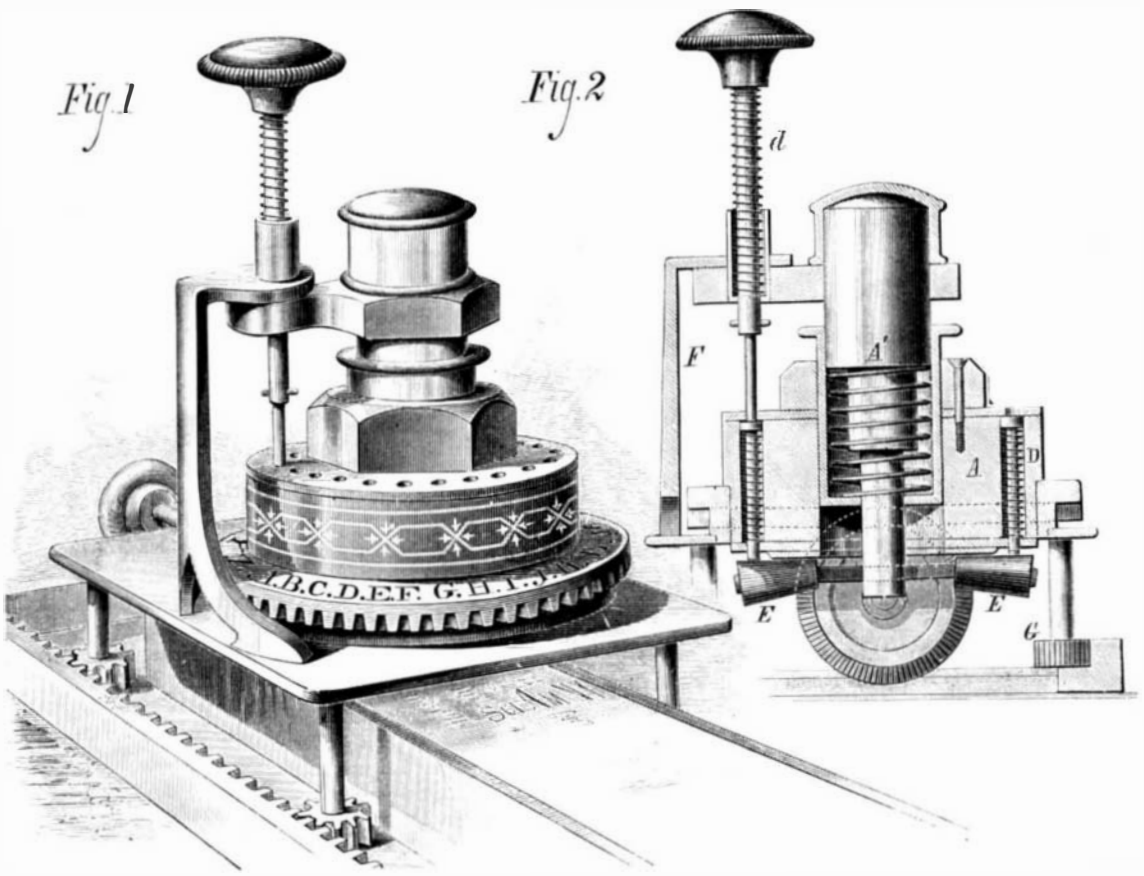
When the follower is relieved of pressure, arc tractile spring returns the type to its place in the table, and the follower regains its normal position.

The type are inked by the rollers, E, which are supported by a crosspiece attached to the standard, A′. These rollers receive their ink from the under surface of the table, A, and apply it to the faces of the type as the table is revolved. When it is desirable to move the table without inking the type the standard, A′, is pressed downward so as to remove the ink rollers from the under face of the table, A.

The upper surface of the wheel, B, is lettered to correspond with the type carried by the table.

This machine is so compact that it may be carried in the pocket, and it possesses the advantage of great simplicity.

This invention was recently patented by Mr. Jean A. Hitter, Jr., of St. Martinsville, La., from whom further information may be obtained.



HITTER'S TYPE WRITER.

THE cabinet work of the new Cunard steamer Gallia is to be in the Japanese style, and is now being manufactured in Japan. It is claimed that she will be the model steamer of the Atlantic ocean. Her estimated cost is $850,000. It is expected that her first trip will be made in July.