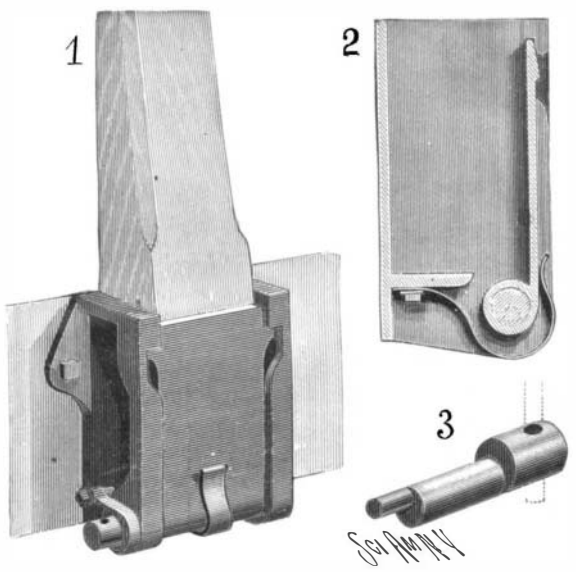
A HOLDER FOR CAR-PLATFORM STAKES.

An invention has been patented by Mr. James Cowan, of Holualoa, North Kona, Hawaii, which provides an improved stake-holder for railway-car platforms. Fig. 1 is a perspective view of the device; Fig. 2 is a sectional elevation; and Fig. 3 is a detail view of a peculiar operating shaft employed.

The holder comprises a casing having a back wall, side walls, a stop which serves to support the lower end



COWAN'S STAKE-HOLDER.

of a stake, and a swinging front plate. At its lower end this front plate is mounted on an eccentric shaft (shown in detail in Fig. 3) having bearings in the side walls. The shaft has an outward projection formed with an opening into which an operating lever may be thrust, as shown in dotted lines. Lateral projections on the upper end of the front plate are designed to pass through outwardly-opening slots in the front edges of the side plates and to engage in recesses at the upper portion of the slots. A spring is attached to the stop at one end, so that its free end is engaged against the outer surface of the swinging front plate (Figs. 1 and 2). By means of this spring the front plate is automatically swung into position. One of the side plates, as shown in Fig. 1, is provided with a stud to which is attached a spring coiled around and secured to the projected end of the eccentric shaft.

When it is desired to remove a stake, the eccentric shaft is rocked by means of the operating-lever previously referred to, causing the front plate to move downward and outward. The stake may then be removed. When the lever is released, the spring secured to the stop (Fig. 2) will force the front plate against the side walls, and the coiled spring will rotate the eccentric shaft and raise the plate into the recesses of the side walls.

Self-Registering Rain-Gage.

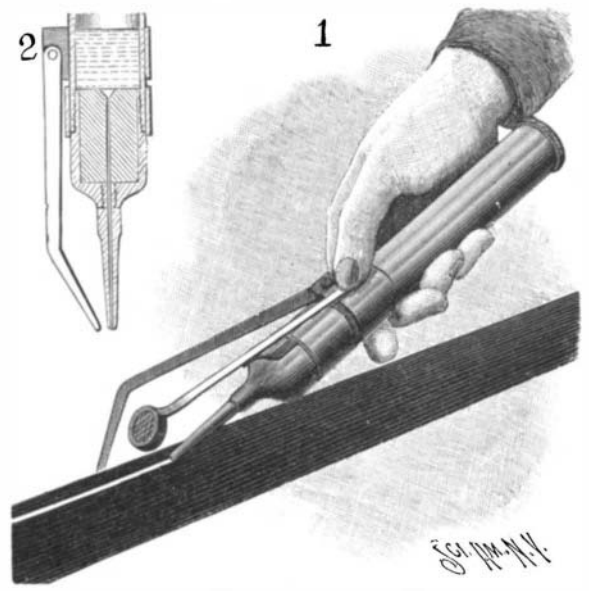
At the recent meeting of the British Association was described a new self-registering rain-gage, the invention of Mr. W. T. E. Binnie. The contrivance resembles the conventional type of rain-gage with the funnel for collecting the rain, but the neck of the funnel is smaller in diameter at the top than at the bottom. By this means the inventor contends he is able to let the rain pass from the receiving funnel into the receptacle below in drops of water of approximate size, owing to the laws of surface tension by which the formation of drops is governed. As each drop falls from the funnel into the vessel beneath, the impact of it makes and breaks the contact of a small electrical machine, which records each drop upon an automatic record, made to revolve upon a drum at a regular set speed.

A PAINT-STRIPER OF IMPROVED FORM.

Our illustration represents a simple device, by means of which painters can readily stripe flat or rounded surfaces. The device is the invention of Mr. George H. Allen, North Creek, N. Y.

The striper consists of a paint reservoir closed at one end by a screw-cap provided with a vent-hole controlled by an adjustable gate. At the other end of the reservoir a nozzle is located. Embracing the reservoir are two clips, the upper of which is made of spring metal and receives between its ends a guide arm bent near its lower end. The second clip serves the purpose of holding a flat spring, upon which a rocking arm is mounted, carrying at its lower end a sealing cup. The flat spring normally presses the sealing cup tightly against the nozzle to prevent the escape of paint from the reservoir.

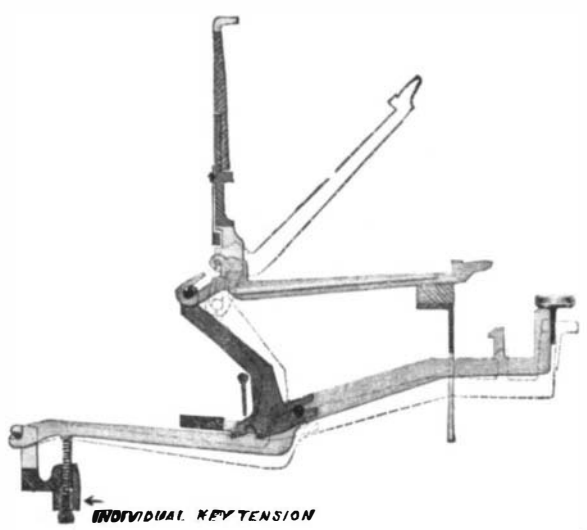
In order to stripe a surface with one or more straight lines, the guide arm carried by the upper clip is adjusted so that its bent end engages the edge of the surface. As the device is drawn along, the nozzle is opened by pressing the end of the rocking arm carried by the lower clip, so as to bring the sealing cup upward. The merits of the device are obvious.



AN IMPROVED PAINT-STRIPER.

THE UNDERWOOD TYPEWRITER.

It is rarely indeed that an American manufacturer contentedly folds his hands and admires his product with that smug complacency which implies that improvement is impossible. On the contrary, there are a thousand and one details to which he devotes the very closest attention and painstaking effort in order that his machine may issue from his factory, if not absolutely perfect, at least as perfect as he can make it. Ruthless competition and the demands of his customers will never permit him to rest. Nowhere in the field of modern industry is this constant improvement



TYPE-BAR MOVEMENT.

in detail more marked than in the manufacture of the typewriter, a machine so distinctly American that foreign makers have not as yet been able successfully to compete with the manufacturers of the United States. As an example of the infinite care and labor which has been lavished upon the writing-machine, we have selected a typewriter called the Underwood made by the Wagner Typewriter Company of 218 and 220 Broadway, Manhattan, New York city.

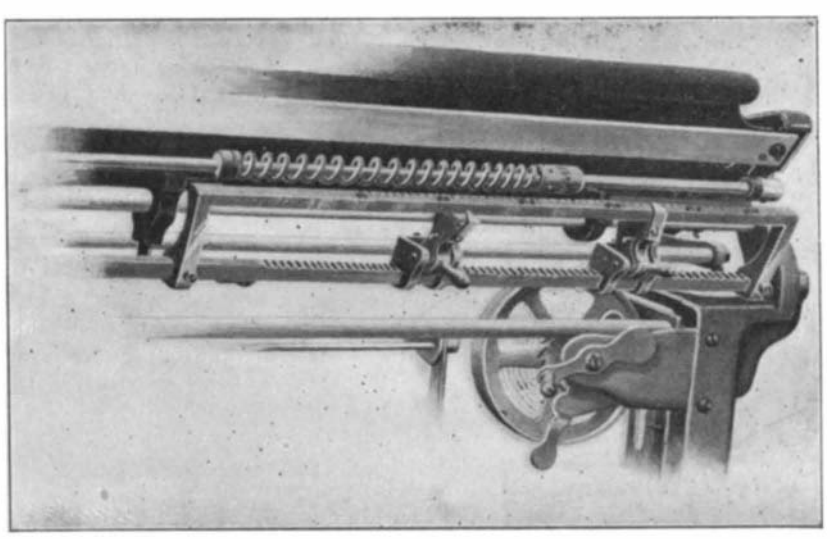
In general design and mode of operation the Underwood machine presents no radical difference from other typewriters. The features of novelty are to be found in an ingenious type-bar mechanism, which is one of the most successful attempts yet made to secure a perfectly even "touch;" in a simple tabulating device which adds much to the convenience of the machine; in a new system of line-spacing; and in an arrangement of platen and type-bars, which at all times enables the operator to see what has been written without lifting the carriage, and which, therefore, materially increases the speed.

In the type-bar mechanism, as may be seen by reference to our illustrations, the key-levers are fulcrumed at the rear of the machine, and are returned to their initial positions by coiled springs. Pins on the key-levers enter the slotted lower ends of bell-crank levers; while pins on the upper ends of the bell-crank levers engage the hooked inner ends of the type-bars. Upon depressing a key the corresponding type-bar is thrown with a constantly accelerating speed against the ribbon. The movement is somewhat similar to that of the hammers of an upright pianoforte, with the difference that the type-bar does not leap back after it has struck the ribbon. The merit of the invention is obvious. The type-bars act directly under the influence of the depressed keys, whereby a rapidity of movement is obtained which will satisfy even the most exacting operator. As in the ordinary form of machine, each key moves the universal bar. In the typewriter under consideration, however, the universal bar is moved only when the type-bar has nearly reached the printing point. Little resistance is, therefore, encountered. Instead of acting against the combined weight and resistance of the type-bar and universal bar, the operator here opposes the resistance and weight of the type-bar alone. Each key has its individual tension. The keys are, therefore, all depressed to the same extent and the same force. The small effort required to overcome the resistance and weight of the type-bar, the uniform key depression, and the individual key tension give to the "touch" a lightness, an evenness, and an elasticity which leave nothing to be desired.

The platen is not fixedly journaled in the carriage, but is independently shiftable by means of two shifting-keys. The one shifting-key is employed for making single capitals; the other for the continuous production of capitals. The two shifting-keys are connected by a rock-shaft. The key for the continuous production of capitals is provided with a pin which can be locked in place by a latch carried on the rock-shaft. The shifting-key is held in depressed position until the other shifting-key is tapped to throw the latch away from the pin.

The ribbon is carried on two horizontally-arranged spools and is made to pass about a guide, which, as a key is depressed, moves vertically on a fork, the forwardly-projecting divergent tines of which receive the type-bars. Perfect alignment is thereby secured. When the platen is shifted up or down, the ribbon-guide, together with the ribbon, is similarly shifted to

THE UNDERWOOD TYPEWRITER.



REAR VIEW OF MACHINE, SHOWING TABULATING SCALE.