

**THE REM-SHO TYPEWRITER.**

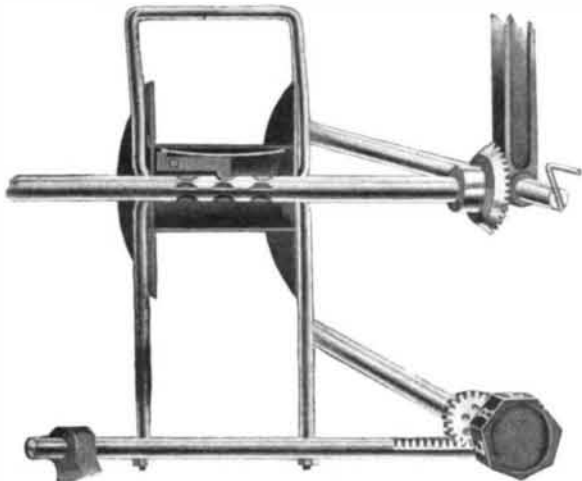
Our illustrations represent a typewriter which, besides its standard carriage, taking paper nine inches wide, is provided with a readily interchangeable carriage which will take paper fourteen and five-eighths inches wide, and which may be set to print on any ruled line. Other specially distinctive features of this machine are its shifting basket, the method of hanging



THE "REM-SHO" TYPEWRITER, AND SEPARATE LONG CARRIAGE.

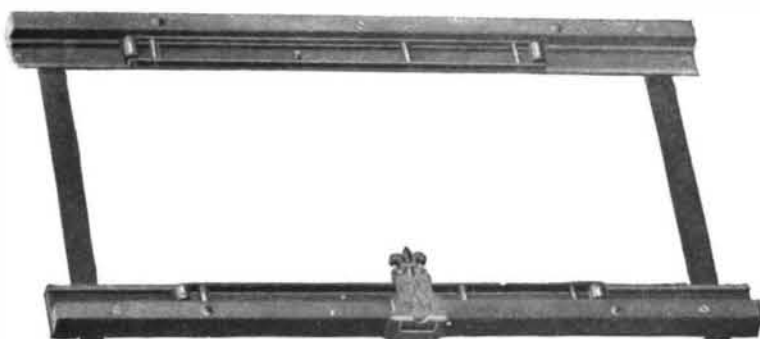
and taking the shake out of the typebar, and the roller bearing carriage. The machine is manufactured by the Remington-Sholes Company, of 125 Rees Street, Chicago, of which C. N. Fay is president and F. Remington general manager. This firm has no connection with another well known typewriter manufacturing company, but its machine is the invention of Mr. Zalmon G. Sholes, who, as well as Mr. Remington, are sons of the original producers of the machine bearing the name of the latter.

The machine has the universal keyboard with a non-shifting carriage, the type basket only being shifted,



THE RIBBON MOVEMENT.

and, being firmly locked at each end of the shift when printing small letters or capitals, leaves both the paper carriage and keyboard undisturbed. The long carriage enables the machine to be used for work for which a second machine is ordinarily employed. The typebar is made of one piece of cold rolled steel, and the hanger, of the same material, has two independent sides, the bearing sockets being drilled, reamed, burnished and case-hardened, and the sides fitting accurately into slots in the basket frame, where they are held by lock screws. This prevents all possibility of the hangers turning and throwing their bars out of



THE CARRIAGE BEARINGS.

alignment, as when dependent for position entirely upon screws. To overcome the effect of wear, a taper-headed screw is located between the bearings, as shown in one of the views, a slight turn of the screw spreading the bar and taking up all looseness or shake. This spreader screw is not liable to work loose, owing to the long grip of the sleeve into which it fits.

The basket disk, carrying the typebars, connecting wires and ribs, is hung upon three ball bearings, allowing it to move freely backward and forward, without friction and without noise. It stands back normally to print lower case, and is shifted forward  $\frac{1}{16}$  of an inch to print single capitals by pressing down on the "cap" button, returning automatically, while for a line of capitals a "cap" lock piece is pressed down. The platen or cylinder, with paper feed complete, can instantly be removed from the carriage frame, allowing the substitution of another without disturbing work in process of execution in the first. This permits the employment of extra platens specially ground to reduced diameter for heavy manifolding, which is of great importance in securing uniform alignment for such work. There is also a right hand rack release lever which permits the separation of the movement of line spacing and rack releasing, so that either movement can be made separately or both at once with the right hand alone.

The ribbon movement is exceedingly simple, being of the older form, feeding with the grain and signaling for reverse, the ribbon being one and one-quarter inches wide and nine yards long. It feeds directly from one spool to the other, the ribbon being reversed by a slight touch to the octagon wheel shown in the cut, which both starts the ribbon winding in the opposite direction and moves it crosswise one-eighth of an inch, exposing a fresh printing path to the type until the entire face of the ribbon has been used. The octagon wheel, on whose sides the letters L and R are cut alternately, shows at a glance which way the ribbon is feeding. The spools are readily removable, and a winding crank winds the ribbon rapidly onto either spool.

In the carriage bearings, as will be seen from one of the views, rollers are used instead of wheels or balls, the rollers being three-eighths of an inch long and over one-quarter of an inch in diameter. It is said that no amount of wear seems to flatten or change the shape of these rollers, of which there are two on each rail, held at a fixed distance apart by a light truck frame. The carriage rests lightly upon them, and accidental tilting is prevented by an overhanging lip running the length of each rail, but not touching the carriage.

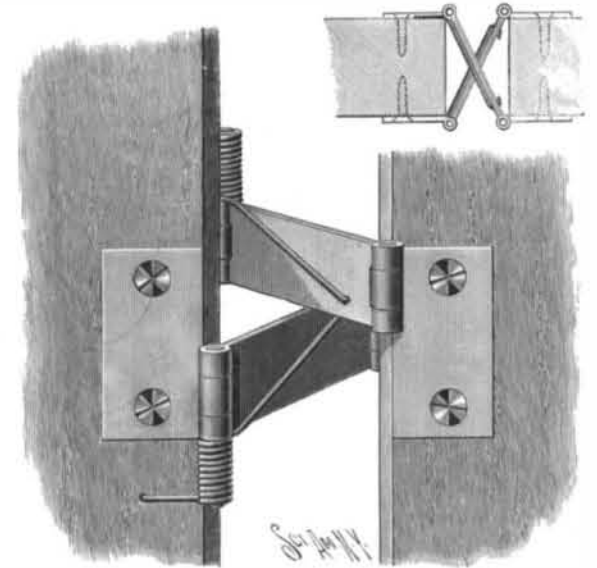
The paper feed is quite original, the pressure of the feed rolls when the platen is up being so light that the paper may be pulled as desired. There are three separate sets of feed rolls, upon none of which the pressure is unduly great, the front feed roll and paper fingers sliding with a mere touch easily to right or left, remaining where set, and feeding with equal ease and certainty wide or narrow sheets, envelopes, postal cards and carbons. The keyboard of the No. 2 "Rem-Sho" is the universal or standard, and contains 76 characters, while that of the No. 3 has 86 characters, and is particularly adapted to foreign use, or where special characters are required. One, two and three line spacing is provided for, and a reversible detent facilitates printing above or below the line.

The company make a machine with a special fine bronze finish, in which the frame casting is heavily plated with oxidized copper, the key levers, ribs, and connecting wires with red copper, the carriage rails and escapements also with copper, the small working parts nickel plated, and the scale black, with white graduation lines. The machine is designed to be one of the first in the market in beauty of design and richness of finish. The frame was designed by the late lamented Charles B. Atwood, designer of the Art building and Peristyle at the World's Fair at Chicago.

ACCORDING to the most recent measurements, one kilogramme of water occupies 1000.101 cubic centimeters at 4° Centigrade.—Monatschrift für den Oeffentlichen Baudienst.

**AN IMPROVED GATE HINGE.**

The illustration represents a hinge of simple construction, designed to permit a gate to swing freely in either direction, but which will automatically return the gate to a normal central or closed position when the gate is released. The improvement has been patented by George H. Choate, of Hailey, Idaho. The large view represents, in perspective, the application of the hinge, the gate being in central position, the small figure being a plan view. On each side of the fence post is secured a plate to which is hinged an arm, the arms being one above the other, and coiled



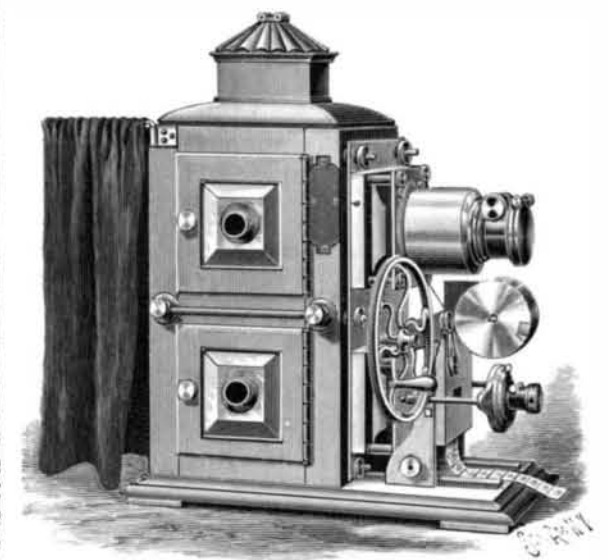
CHOATE'S GATE HINGE.

around each pintle of the hinges is a spring, one end of each spring engaging the fence post and the other end being provided with a hook which engages openings in the arms. The plates are crossed and hinged at their other ends to plates secured to side faces of the inner gate post, the disposition of the springs being such that they tend always to keep the parts in the normal central position shown.

**AN APPARATUS FOR PROJECTING MOVING PICTURES.**

The illustration represents an improved apparatus for projecting living and moving pictures, with which every movement of actual life may be depicted on the screen. It is being placed on the market by Messrs. Riley Brothers, optical lantern outfitters, of No. 16 Beekman Street, New York City. The apparatus is shown with a biunial lantern, which enables the operator to project the title of the picture from the upper lantern or show ordinary slides while another film is being introduced. He may also illustrate his lecture by ordinary lantern slides, and at suitable intervals project animated pictures from the lower slide, or he may use the lantern in an ordinary way, and in a few moments remove the bottom tubes and fix the kineoptoscope in position, and so close an entertainment with a demonstration of animated photos. The construction is such that vibration is reduced to a minimum, and the machine takes any standard films, which will pass through without tearing and quite uninjured. The machine may be fitted into the stage of any ordinary lantern which is open at the bottom, with a slight lengthening of the bolts. The lantern is furnished in a variety of styles, and the kineoptoscope accessories include the apparatus fixed on brackets and rails, with special short focus lens of high quality, fitted in an adjustable diaphragm, etc. The mechanism is so simple that the machine is not liable to get out of order.

MAYENCE has a special museum of Roman antiquities found on German soil. It embraces 14,760 objects, many of them of great value.



WRAY'S KINEOPTOSCOPE AND THE "MONARCH" BIUNIAL LANTERN.