the wheel out of wind when the current is too strong, and also for adjusting the sails to accommodate the wheel to the force of the wind.

MANY-COLOR PRINTING PRESS.

We present herewith a figure of a new press, which, with a single form and at a single impression, prints in several colors. This result is obtained by a special arrangement of the inking table, a full view of which is seen in the figure. This table, instead of being in a single piece, is composed of a certain number of narrow cast iron plates held in a frame. These plates are formed of four distinct parts, and are wide in the center and taper conically toward the extremity. This mode of construction allows them to move easily on each side at every revolution of the table, and has nearly the effect of an articulated joint. The end piece near the ink trough is stationary. The various colored inks are placed in the ink trough, which is divided into cells by metallic partitions. Directly over the trough is an iron frame carrying a set of screws and nuts. By tightening these screws, which are placed over the metallic partitions, the inks as they flow beneath are prevented from mixing. The inking rollers, instead of being fixed at a certain angle relative to the table, are arranged so as to run perfectly straight, the distibution being effected by the plates above described.

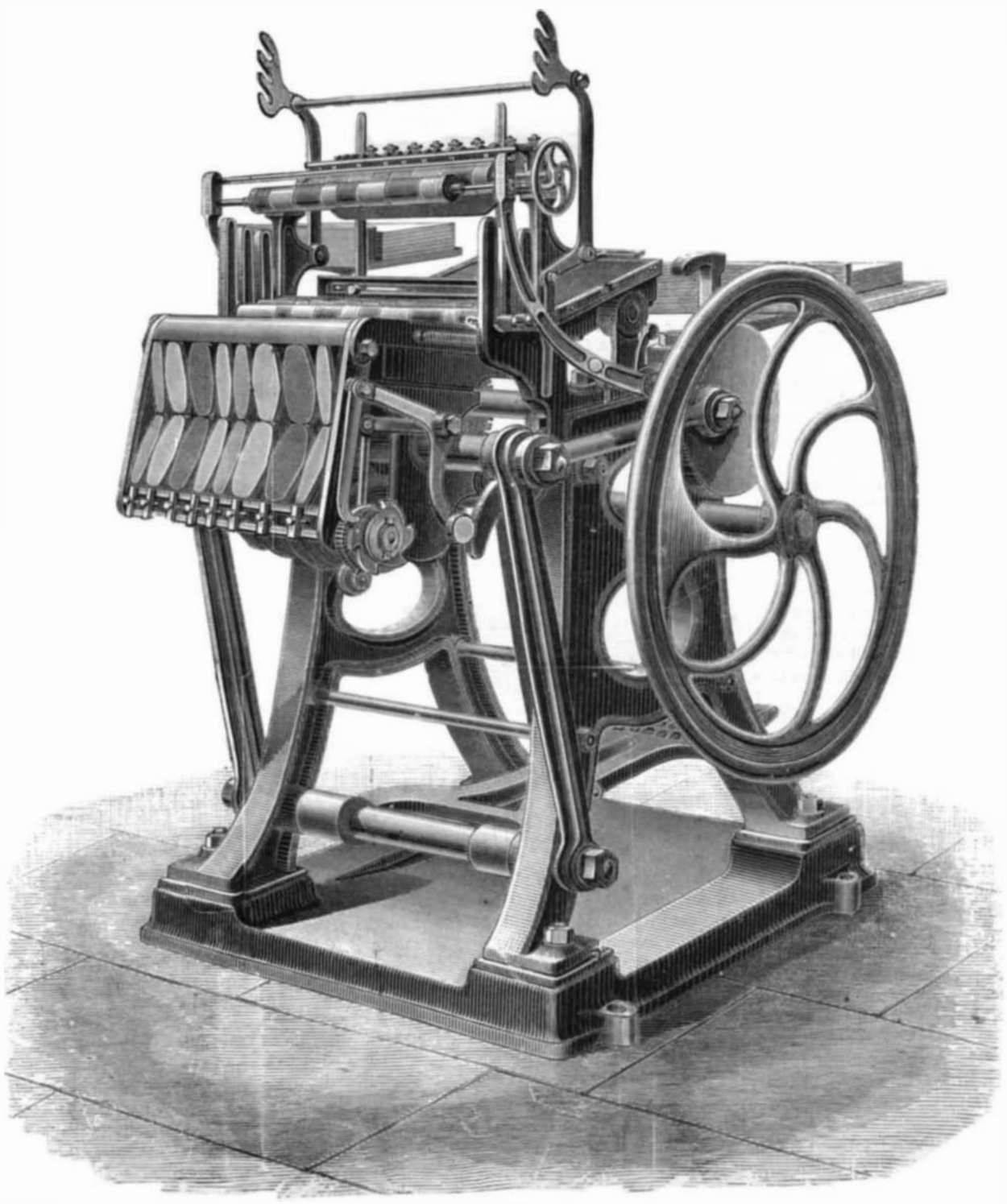
The different inks are spread on the multiple table in the usual way. As a consequence of the motion of the articulated joint, the inking table is caused to move slightly in one direction and the other at every revolution of the table, and the ink is thus as well distributed as if several rollers were used. The movable plates which constitute the inking table are of different widths, so that the uppermost or the lowest line in a prospectus can be printed in a color selected beforehand. Motion is communicated to the movable plates by a small lever which hangs under the table, and which rests on a small vertical iron plate affixed to a cross-stay of the machine.

The removal of an ordinary inking table and its substitution by the multicolorous one can be effected while the form is being prepared. There is, however, no reason why the articulated table should not be used for work in black; it is only necessary to have a sufficient number of plates to cover the whole breadth, and then the rollers may be allowed to run obliquely as usual. With this apparatus a demi-octavo prospectus may be readily printed in eight colors at a single impression, each color being brilliant and perfectly distinct from the others. As the rollers move in a perfectly straight line the inks do not mix, although the plates which carry them may be placed as close together as necessary.

This same system of multicolorous tables may be applied to various printing presses. The impression can be made in just as many colors as may be desired, and with such advantages it is certain that the use of such a method must become widespread for printing prospectuses, circulars, bills of fare, and other work of this nature. The apparatus will effect a complete revolution in colored work, since the difference in price between printing in black and printing in colors by the Bacon system is very slight, being merely the difference between the cost of black and colored inks. We should remark, in conclusion, that two colors cannot be printed on the same line—neither in initials nor in borders—since the colors are arranged in a straight line; but it will be readily understood that, by superposing the colors and taking several successive impressions, the most varied effects may be obtained.

This machine attracted considerable attention at the late fair of the American Institute.

T. Sarony-Lambert, Room 5, Bennett Building, New York City, is agent.

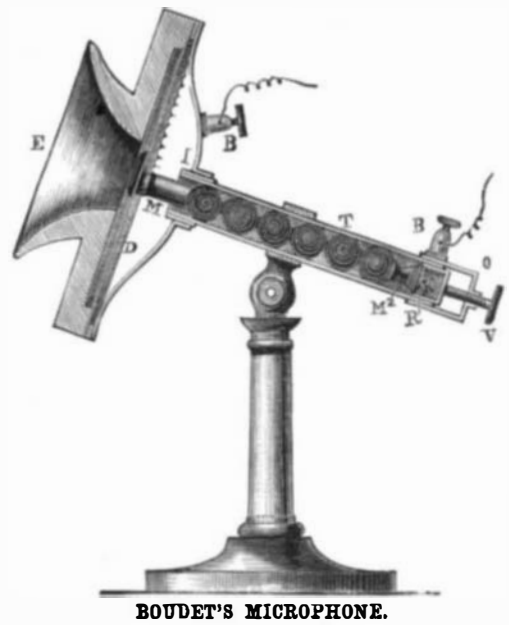


MULTICOLOR PRINTING PRESS.

NEW MICROPHONE.

BY M. BOUDET, OF PARIS.

This microphone, with multiple contacts, as shown in the accompanying figure, is composed of a mouthpiece, E,



BOUDET'S MICROPHONE.

affixed to the end of a glass tube, T, one centimeter in diameter, itself fixed on a jointed stand, thus enabling the whole apparatus to be moved at any inclination.

The mouthpiece contains an ebony plate one millimeter thick, on which is fixed a piece of copper, M^1, penetrating the glass tube a slight distance. In this tube there are six carbon balls slightly smaller in diameter, so that they can easily be moved.

The microphone is completed by a second piece of copper, M^2, supported on the end of a hollow breach, K, by means of a little spiral spring, not shown in the figure. The screw, V, fixed in the cup, Q, serves to regulate the pressure of the piece, M^2, against the balls. The variations in the resistance of the microphone are reproduced equally through all the coutacts of the balls, because, when talking at the mouthpiece, the vibrations are transmitted almost instantaneously, as in the well known case of billiard balls.

The apparatus acts like an ordinary middle-sized Gaiffe microphone, with six elements (peroxide of manganese and chloride of zinc) set up with a resistance of 800 ohms, with a Bell telephone for receiver.

By employing inductive currents and a fine wire telephone receiver—a necessity with inductive currents—the distance may be largely increased, and extended, with artificial resistances, to 250,000 ohms.

We have been present at experiments made with this microphone, and we have found that it transmits the voice very clearly, without altering the tone and without any scratching sounds.—*Electrician.*

RECENT INVENTIONS.

A suspension clothes line pulley has been patented by Messrs. David H. Payne and Jerome H. Payne, of Troy, N. Y. The pulley is formed of a central disk, projecting arms, and rings, joined to the arms, the line running in the groove or throat formed by the arms and rings. The pulley turns horizontally on a vertical axis, and the lower ring has rollers placed on it, which prevent the entanglement of the clothes with the pulley when the line passes over it.

Mr. August Berghaus, of Brugge, Prussia, Germany, has patented a handle attachment for agricultural implements, which is simple and effective. A spring socket attached to the implement is arranged to receive the end of the handle, which is held therein by a conical ring or sleeve drawn over the ends of the spring socket. The handle is by this means quickly and firmly clamped in the socket.

Mr. James E. Tyler, of Orange Court House, Va., has patented a machine for edging sheet metal, which forms either a single or double lock upon the edges of the plates that may be hooked or pressed together to form a secure joint either for sheet metal articles or for roofing. A pair of griping jaws, one of which is provided with a lip, seize the edge of the metal and bring it under a presser bar to form a single fold or lock, and the machine is further supplied with a pivoted bending jaw that may be forced around the griping jaws to form a double fold.

Mr. William G. Lindsay, of Winneconne, Wis., has invented a stovepipe damper of that variety made in two circular parts separated by a narrow space and secured to the same turning rod. The pieces are made with lugs having square holes, and the turning rod is square to fit these holes. One plate is of greater diameter than the other, and has an opening in its center. By this construction the passage of the smoke or gases of combustion is obstructed, but never wholly prevented.

Mr. John Herrmann, of Columbus, O., has patented a window cornice which may be adjusted to windows of different widths. The adjustment is made under the centerpiece, and is therefore concealed. It is accomplished by a tongue and groove device with suitable means for fastening the adjustable pieces in adjustment.

Mr. Ila M. Moore, of Battle Creek, Mich.

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