

IMPROVED CHAIN PROPELLER.

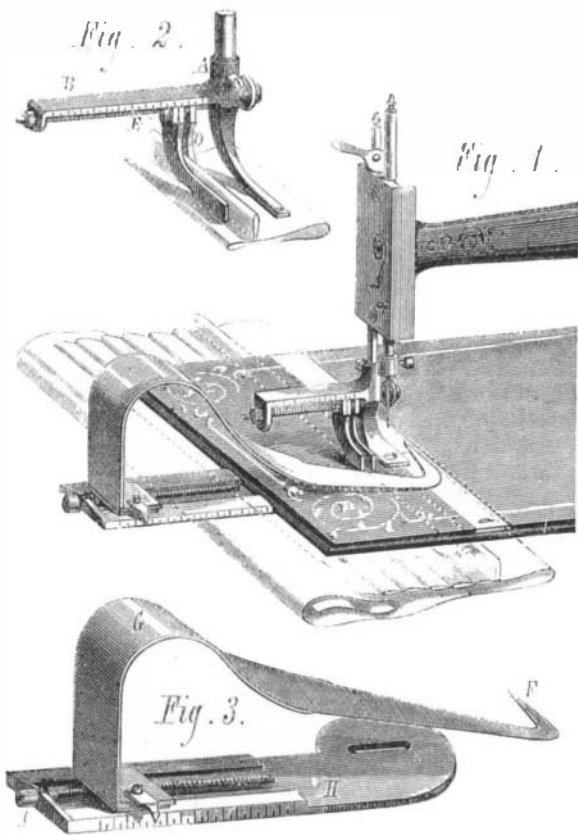
In the novel mode of propulsion to which our illustration refers, it is claimed that a very large amount of bucket capacity is obtained, thus allowing of the use of a considerable percentage of power, and that the action of the device is such that it is suitable for canal as well as for river and lake navigation.

In the center of and lengthwise the boat, a channel is constructed, at either extremity of which are placed pairs of grooved wheels, B, their axles passing through the vessel at the points represented. To these axles, by means of a belt or other suitable contrivance, power is applied to cause the rotation of the wheels. Endless carriers, A, of wire rope, chain, or similar suitable material, pass over the wheels and support buckets attached crosswise and projecting at right angles. These buckets are as long and wide as the channel will permit, and are arranged as close together as necessary for obtaining the greatest effect upon the water. Braces, C, are attached near the outward edges of the buckets, and extend on to the carrier whereon they bear by a foot piece, their object being to support the buckets against the resistance of the water. The braces are not attached to the carrier, so that the latter bends freely around the wheels. The power may be of any preferred kind, and applied to either one or both wheels as desired.

Patented through the Scientific American Patent Agency, Dec. 10, 1872. The inventor, Mr. John Neumann, is the originator of several other useful devices, and attained some celebrity several years ago by making a finely executed copper statue of Washington, entirely with the hand hammer. The work was exhibited, but unfortunately destroyed in the old Crystal Palace. Mr. Neumann may be addressed for further particulars at 159 South 9th street, Brooklyn (E. D.), N. Y.

TUCKING ATTACHMENT FOR SEWING MACHINES.

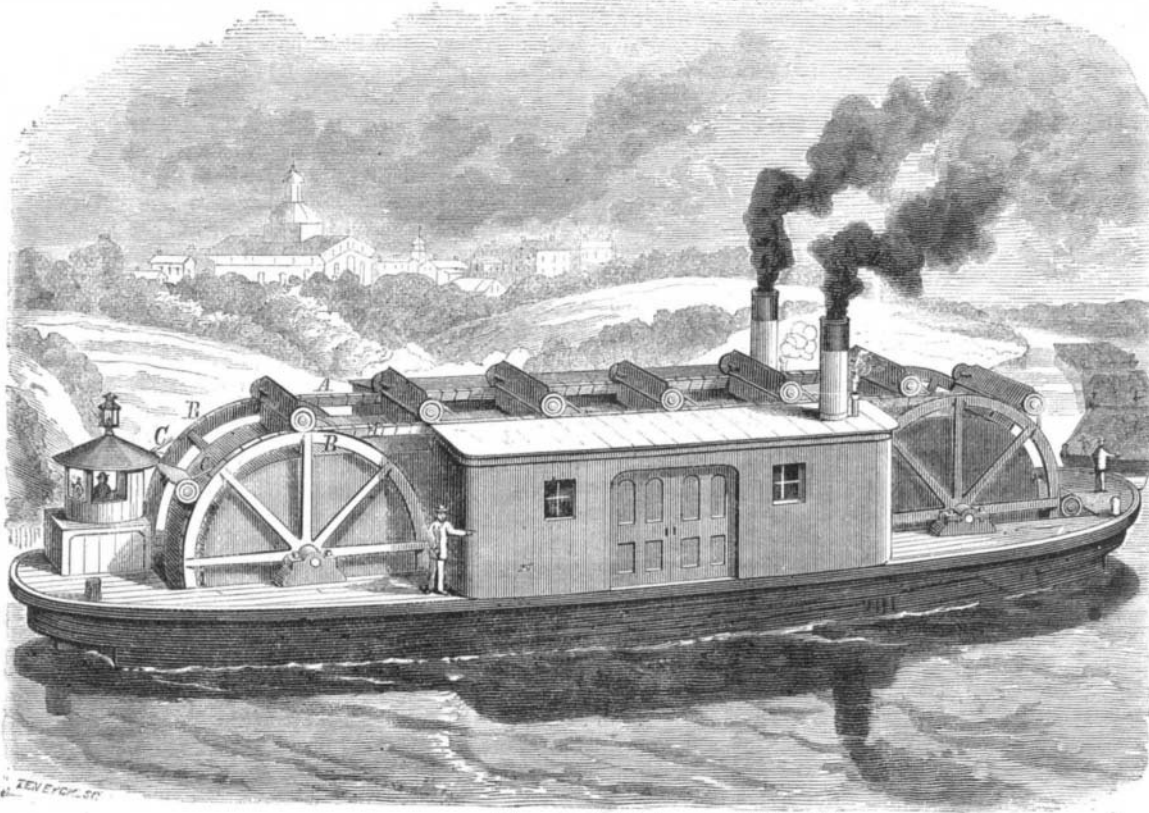
The invention herewith illustrated is a device for forming and sewing tucks at one and the same operation, and also for insuring a perfect uniformity in parallel lines, in tucks and in spaces between tucks, in an expeditious manner. In its operation, the inventor states, it folds the fabric in form for a tuck, regulates the tension of the material while being sewed, maintains its uniformity in parallel lines, and secures the seam, all at one and the same operation.



In the engravings, Fig. 1 shows the apparatus attached to the machine, and Figs. 2 and 3 portions separated. A is the presser foot, the upper end of which is hollow and can be slipped on any cloth presser bar. This foot has a lateral arm, B, on which is an index plate; C is the head of a temper screw, by means of which the vertical guides, D, are adjusted laterally, with reference to the presser foot. The opening between these guides is more or less closed by means of two set screws, shown at E. F is the end of the horizontal guide, G, turned at right angles from its body and parallel with the side of the presser foot and vertical guides. The body of the horizontal guide is shaped as a loop, and works

in a dovetail on the index plate, H, engaging with the temper screw, I. The slot represented in the shank of the index plate serves to secure it to the platform of the machine in the position shown in Fig. 1.

The index plate, H, is attached with the point, F, parallel to and drawn laterally by the temper screw, I, against the side of the presser foot, so that the needle will come near the inner corner of the angle. A set screw secures the presser foot with its attachments to the presser bar, and the vertical guides are laterally adjusted by the screw, C, to regulate the width of space between the tucks. By turning the

**NEUMANN'S CHAIN PROPELLER.**

temper screw, I, the horizontal guide is adjusted laterally for enlarging or diminishing the width of the tucks.

When all these adjustments are completed, the first tuck is turned by hand, feeding it to the needle, in the same manner as any other plain sewing, until the seam is finished. Then a piece of thin metal is shoved inside the tuck to distend it to its full width, so that it will appear as standing on its edge. The raw edge of the remainder of the fabric is made into a roll parallel with the tuck just distended, and passed through under the loop of the horizontal guide, G. The part of the cloth containing the tuck is next drawn out under and then over the outside of the right angled point, F, under the presser foot, and thence on until the tuck containing the guide can be introduced edgewise in the opening of the vertical guides, H. The machine being set in motion, the fabric is fed in the ordinary way to the needle; and when the same is ended, the thin metal strip is withdrawn and introduced in the tuck last made. The cloth is again drawn along until the strip or plate guide can be once more introduced between the vertical guides, and thus continuously until all the tucks are completed.

The right angled point, F, is in the tuck, being formed and sewed, and the fabric is stretched over and travels parallel with it. The thin plate rests in a tuck already made, stands edgewise in the vertical guide opening, and travels parallel at all times with the point, F, thus giving two fixed parallel guides in combination with the needle; thus, it is claimed, effecting perfect uniformity in parallel lines, in tucks, and in spaces between tucks.

To increase or diminish the width of the latter, the temper screw, I, is turned, thereby actuating the horizontal guide on the index plate, and moving the point, F, laterally from or to the presser foot until the desired width is obtained and noted on the index plate. The distance from the needle to the outer edge of the point, F, is the width of the tuck. To increase the width of space between the tucks, the temper screw, C, actuates the vertical guides, D, laterally from the needle and presser foot. When the desired width has been reached, it can be noted by the index on the lateral bar. The distance from the vertical guide opening to the needle is the width of space between tucks. The vertical guide opening can be closed or opened to suit any desired thickness of stuff by the screw, E. The plate guides are of any suitable material similar in thickness to the mainspring of a watch.

The inventor claims for this device cheapness and simplicity, and a sample of its work forwarded to us seems to be very neatly and accurately made.

Patented May 13, 1873. For further particulars regarding rights, etc., address the patentee, Mr. Eugene Bouillon, care G. Lavie, Box 1,093, New Orleans, La.

In one of the ancient Indian mounds in Oregon, examined by H. A. Chase, he found among a great variety of stone tools and implements, a hatchet or adze of brass, 4 inches long, 3 inches wide at cutting edge, and 2 inches wide at head. The aperture for the handle was through the side—like a hoe. It may have been obtained from the wreck of some ancient Japanese or Chinese junk; or possibly have been made from copper and zinc, ores of which exist in this neighborhood—Chetko river.

Machiae for Charging and Drawing Gas Retorts.

A machine for this purpose has been for sometime in successful operation at the Dublin (Ireland) gas works. It is by John Somerville, of that city, and consists of improvements on the Best and Holden machine.

The method of working is as follows: One man takes off the lids of the retorts of one row, the drawing machine moves opposite to one retort, sends in the rakes, at one draw brings out the coke, and then moves on to the next retort, and the charging machine comes up to the discharged retort and puts in the charge of coal. The scoop is made double, and forms

two small scoops hinged together and discharging in opposite directions; so that, in turning, the coals are spread well over the surface of the retort thus utilizing the greatest amount of heating surface in the retort. As the retorts are charged, the man who preceded the drawing machine and took off the lids now follows the charging machine, closing the retorts. Two boys drive the machines, one man fills the coal into the hopper, and another attends to the taking off and putting on of the lids or doors. The platforms of the machines are now altered to the level of the row of retorts to be drawn and charged next, and those operations proceed as before. By these arrangements, the retorts are exposed to the action of the atmosphere a much shorter time than in the case of hand labor, as the stokers generally "slack out" ten or a dozen doors at once, and draw them all before charging any, thus leaving the first drawn retort a long time to the cooling atmosphere, whereas with the machine the retort is charged directly it is emptied, an advan-

tage that must be appreciated by all gas engineers. The work of drawing and charging is done with a regularity that cannot be attained by manual labor; the retorts are supplied with the maximum quantity of coal they will take, and the quantity does not depend upon the caprice of a scoop driver. The coke must be raked out clean and a quantity cannot be left in, as is often the case with manual labor when the eye of the foreman is not on the men. The same quantity of gas is made on Saturday nights and Sundays as on any other day of the week, a result not often obtained with hand labor.

COMBINED CRADLE AND ROCKING CHAIR.

This invention may be termed a nurse power economizer, in that by its aid may be utilized the force developed by that natural see-saw motion which nurses invariably take up while crooning those peculiar and musically unwritable melodies which are supposed to act as powerful soporifics upon their infant charges. Instead of requiring the handmaiden or maternal parent to oscillate on an immobile chair and, at the same time, by a reciprocating motion of the foot actuate the rocker of the cradle, in the device herewith illustrated she is provided with a rocking seat attached directly to the latter, to which the undulatory motion of the body is thus transferred.



The back of the chair is hinged to the seat and consequently may be folded forward thereupon. The seat is attached to the standard, rocker, and arm of the outer side of the chair; and when the back is turned down flat upon it, both together may be shoved or telescoped into the cradle through an opening made in the rear end and below the slats. The upright portions of the chair then fit snugly up against the foot of the cradle. Suitable stops are secured to the back standard to prevent the back from falling too far to the rear when it is opened, and similar devices keep the seat from being drawn out too far. Patented February 4, 1873, by Mr. Ephraim Hamburger, of Detroit, Mich.