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NEW SERIES

Improvement in Sewing Machines.

Incredible as it may seem after all the thought that has been directed to the subject by the most fertile intellects in the world, some important improvements have just been made in the shuttle-stitch sewing machine. They are the invention of Louis Bollman, an ingenious young German, who has long been in the employ of the Grover & Baker Sewing Machine Company, the well-known manufacturers. The invention was perfected in the shop of this enterprising firm, and has been assigned to them. It introduces material modifications in the construction of the shuttle machines, dispensing with parts that have heretofore been considered essential, and displays an ingenuity which will render its examination interesting to every mechanic. We doubted at first the possibility of explaining this invention clearly by an engraving, but the illustrative skill of our artists has made it perfectly plain, as will be seen by an examination of the illustration.

Fig. 1 is a perspective view of the principal parts of the machine on the lower side; the machine being turned on its edge for the purpose of displaying these parts. The hook, *a*, is attached to the shuttle carrier, *d*, and moves back and forth with it. As the shuttle, *e*, moves forward, this hook passes close by the side of the needle, and catches into the loop upon the upper thread, drawing down and enlarging the loop over the wide part of the hook as the latter is carried forward; the loop, at the same time, being held by the stationary hook, *b*.—Then, as the shuttle returns, the loop is caught and held by the stationary hook, *c*, and the shuttle, scraping along the side of the hook, *a*, passes through the loop, carrying the lower thread with it. Just as the shuttle completes its transit, the thread slips from the hook, *c*, and the loop is drawn past the end of the shuttle.

Fig. 2 is a sketch with the seam turned at right angles, and the other parts somewhat out of position to show the manner of tightening the thread. As the hook, *a*, and shuttle, *e*, are moving to the left, while the hook, *b*, and plate, *i* (through a hole in which the threads pass), are stationary, it will be seen that both threads are being drawn tight, and the arch of the

upper thread has both of its sides pulled downward at the same time; thus forming a peculiar rounded seam, without any tendency to gather or disarrange the fibers of the cloth.

The shuttle carrier has its fulcrum on the rockshaft, *h*, and is driven by the pin, *j*, on the pulley, *k*. This same pin also actuates the lever, *l*, which has its fulcrum on the rear end of the machine, and is bent forward to carry the needle.

It has been found that when the thread is drawn

Bollman. The thread, as it comes from the spool, is passed over the curved bar, *f*, in the upper plate of the shuttle, and, as the thread unwinds, it slips along this bar, thus always being drawn at right angles to the portion of the spool from which it is unwinding. This is more clearly shown in the cut which represents the shuttle open.

A third improvement, by the same inventor, is the spooling apparatus illustrated in Fig. 3. The spool is placed lengthwise between the lever, *m*, and the

spindle, *n*, turning on a point in the lever, and being rotated by the spindle. The spindle has a broad disk upon its inner end which is pressed against the pulley, *k*, when the spool is in position, and is thus turned upon its axis. This is an application of those friction gears which have been extensively introduced in England, and are coming more and more into use in this country. It will be seen that the mere act of placing the spool in position presses the spindle into gear, while the act of removing the spool relieves the spindle head from its pressure against the pulley, and thus stops its rotations.

The following are the advantages claimed for this invention:

1. That the loop is not taken from the needle by the shuttle point, but by a distinct narrow hook, so shaped as not to pull or drag on it while the needle is in the cloth, but merely to keep it down until the needle is out.

The needle and thread have, therefore, less strain, and both can be much finer than in other shuttle machines.

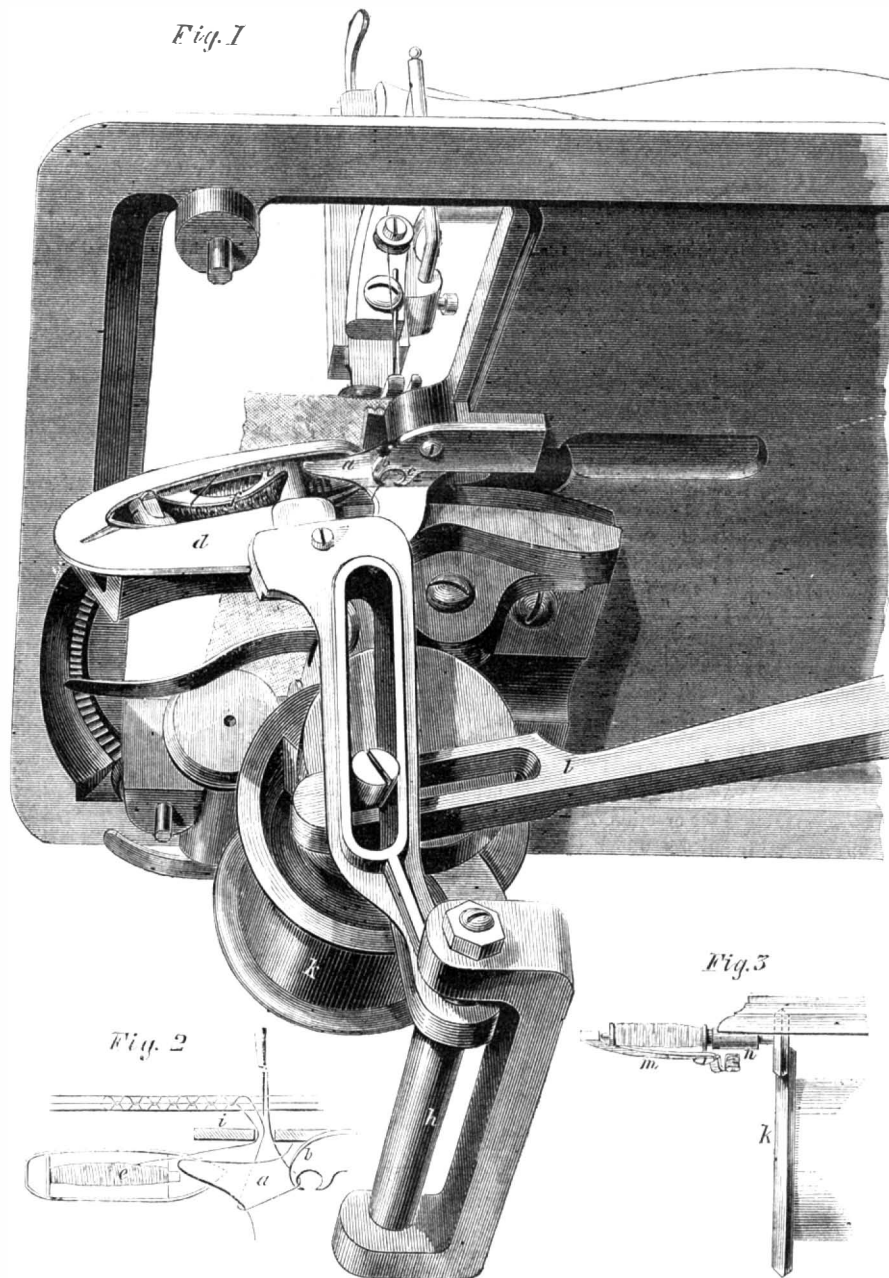
2. The application of this hook does away with the stop motion of the needle during the passage of the shuttle through the loop; we thus obtain a smooth crank motion for both the shuttle and needle, and can use a higher speed.

3. The shuttle passing through the loop after the needle has risen out of the cloth, and it not requiring to drag the thread for the formation of the loop through, the needle eye may be a great deal larger than in other machines sewing as fine thread, and a much larger bobbin may be used.

4. The stitches are tightened from below, and by the same motion of the shuttle driver pulling both the upper and under threads at the same instant.

This method gives a full and round appearance to the upper side of the stitch, admits a very high tension to both threads without drawing or gathering up the goods, and, altogether, produces a superior seam.

5. No take-up is required to drag the entire loop

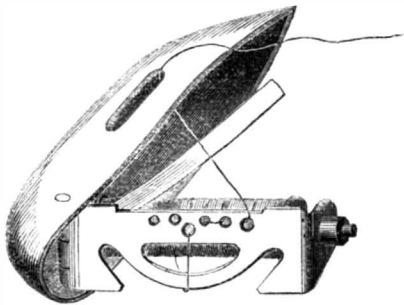


A NOVEL SEWING MACHINE.

from the shuttle spool in the ordinary way, the tension will vary, in consequence of the thread unwinding more readily when running from one part of the spool than from another; it being drawn at one time at right angles to the spool, and at another nearly lengthwise with it. This difficulty is overcome in the most simple manner by an invention of Mr.

during every stitch back and forth through the needle eye. This further admits the use of a finer needle for the same thread, which, in shuttle sewing, is of the utmost importance, because a large hole with a fine thread will not cover the joints of the thread, and very much weakens the strength of the seam in all unelastic goods.

It is well known that, in machines having a take-up, the exceedingly rapid back and forth motion of the thread through the needle eye will, in many kinds of work, heat the thread and needle so as to



burn the thread; therefore, but very slow speed can be used, and a very large needle must be employed to avoid this effect.

6. There is almost no friction on the shuttle, it bearing on its front against the driver; while, in other shuttle machines, this front bears against the race, and the friction is therefore very great.

7. The stop motion and the take-up being dispensed with, the machine is thus much simplified.

Application has been made for a patent for this invention, and further information in relation to it may be obtained by addressing the Grover & Baker Sewing Machine Company, at No. 495 Broadway, New York.

THE WAR.

The great importance of the following proclamation induces us to give it in full:—

HEADQUARTERS OF THE WESTERN DEPARTMENT,
ST. LOUIS, August 31.

Circumstances, in my judgment of sufficient urgency, render it necessary that the Commanding-General of this department should assume the administrative powers of the State. Its disorganized condition, the helplessness of the civil authority, the total insecurity of life, and the devastation of property by bands of murderers and marauders, who infest nearly every county in the State, and avail themselves of the public misfortunes and the vicinity of a hostile force to gratify private and neighborhood vengeance, and who find an enemy wherever they find plunder, finally demand the severest measures to repress the daily increasing crimes and outrages which are driving off the inhabitants and ruining the State. In this condition the public safety and the success of our arms require unity of purpose, without let or hindrance to the prompt administration of affairs.

In order, therefore, to suppress disorders, to maintain as far as now practicable the public peace, and to give security and protection to the persons and property of loyal citizens, I do hereby extend, and declare established, martial law throughout the State of Missouri. The lines of the army of occupation in this State are for the present declared to extend from Leavenworth by way of the posts of Jefferson city, Rolla and Ironton, to Cape Girardeau, on the Mississippi river. All persons who shall be taken with arms in their hands within these lines shall be tried by court martial, and, if found guilty, will be shot. The property, real and personal, of all persons in the State of Missouri, who shall take up arms against the United States, or who shall be directly proven to have taken active part with their enemies in the field, is declared to be confiscated to the public use; and their slaves, if any they have, are hereby declared free men.

All persons who shall be proven to have destroyed, after the publication of this order, railroad tracks, bridges or telegraphs, shall suffer the extreme penalty of the law.

All persons engaged in treasonable correspondence, in giving or procuring aid to the enemies of the United States, in disturbing the public tranquillity by creating and circulating false reports or incendiary documents, are in their own interest warned that they are exposing themselves.

All persons who have been led away from their allegiance are required to return to their homes forthwith; any such absence, without sufficient cause, will be held to be presumptive evidence against them.

The object of this declaration is to place in the hands of the military authorities the power to give instantaneous effect to existing laws, and to supply such deficiencies as the conditions of war demand.

But it is not intended to suspend the ordinary tribunals of the country, where the law will be administered by the civil officers in the usual manner and with their customary authority, while the same can be peaceably exercised.

The Commanding General will labor vigilantly for the public welfare, and in his efforts for their safety hopes to obtain not only the acquiescence but the active support of the people of the country.

(Signed) J. C. FREMONT,

Major-General Commanding.

THE NAVAL EXPEDITION.

The Atlantic coast of the United States, from the middle of Long Island to the southern point of Florida, is of very peculiar formation. Throughout almost the whole of this 1,200 miles there are narrow ridges of sand at a short distance from the main land, leaving long shallow sounds inside, with narrow inlets communicating with the ocean, through which all the shipping must pass. The sounds thus shut in on the North Carolina coast are Albemarle and Pamlico, both broad, navigable sheets of water, which, in times of peace, have been whitened with the sails of numerous sloops and schooners, bearing away the products of the great pine forests of that State—rosin, tar, turpentine, plank, timber, and pine wood. These sounds communicate with each other and are both separated from the ocean by a low sand ridge 200 miles in length. At about the middle, a point of this ridge runs out easterly into the Atlantic, and is called Cape Hatteras, a point much dreaded by mariners from the storms which prevail in its vicinity. With the single exception of Wilmington, a place of 7,000 inhabitants in the south part of the State, all the harbors of North Carolina lie behind this ridge of sand, and consequently, almost the entire commerce of the State must pass through its navigable breaks or inlets, of which there are but two—Hatteras Inlet, 15 miles south-west of Cape Hatteras, and Ocracoke Inlet, 12 miles still further to the south-west. There is a third opening through the sand ridge far to the north of Cape Hatteras, called New Inlet, but as it has only five feet depth of water, it is not navigable for vessels of any considerable size. The two principal inlets, besides serving as gates for the North Carolina commerce, furnish a water communication from the ocean, by the way of the Dismal Swamp Canal, with Norfolk and the ports on James River, in Virginia.

The great and manifest importance of these two inlets caused the secessionists to make early and very vigorous efforts to secure the control of them, and the erection of fortifications was commenced at both places under the direction of William Beverhout Thompson, Chief Engineer of the North Carolina Coast Defence. The United States Navy Department also appreciated the importance of these two inlets, and before the late session of Congress a plan was formed for capturing the fortifications at both places, but various delays occurred in carrying out the plan, and the expedition did not get away from Fortress Monroe till the 26th of August. This was the secret naval expedition, the sailing of which was mentioned in our last number.

The fleet, consisting of seven war vessels and two transports, all steamers except one, under the command of Commodore Stringham, U.S.N., with about 800 land troops in the transports under the command of Major General Butler, sailed from Hampton Roads on Monday, August 26, and arrived off Hatteras Inlet about four o'clock in the afternoon of the next day. On Wednesday morning, the 28th, the transports with the troops were sent in close to the shore, about two miles north of the inlet, under the protection of three of the smaller naval vessels, and the landing of the men was commenced. But the surf ran so high that the boats were all soon swamped or stove, and only about three hundred of the men were got ashore.

In the meantime the large ships of war took up positions at long range and opened a bombardment on the only fort that could be seen from the outside. At

10 o'clock the *Wabash* fired the first gun, the 11-inch shell striking near the battery with tremendous force. The battery, which was of sand, covered with turf and mounting five long thirty-twos, instantly returned the fire, the shot falling short. The *Minnesota* and *Cumberland* immediately opened fire and rained nine and eleven-inch shell into and about it. The fire was terrific, and soon the battery's responses were few and far between, save when the frigates suspended fire for a while to get a new position, when the enemy's fire was most spirited.

No damage was sustained by our ships, and when they again took their position the cannonading was intensely hot, the shells dropping in the enemy's works or falling on the ramparts, exploding in death-dealing fragments, and carrying death and destruction with them. The small wooden structures about the fort were torn and perforated with flying shells.

At eleven o'clock the immense flag-staff was shot away and the rebel flag came down, but the fire was still continued by them.

At twelve o'clock the *Susquehanna* steamed in, and, dropping her boats astern, opened an effective fire. The cannonading on our part was incessant, and the air was alive with the hum and explosion of flying shell; but the enemy did not return the fire with any regularity, the battery being too hot for them, from the explosion of shells that dropped in at the rate of about half a dozen a minute.

The enemy ceased firing a little before two, and after a few more shells had been thrown in, the Commodore signalled to cease firing.

In the meantime the land forces advanced, and, discovering that the battery was abandoned, entered it and raised the United States flag in order to prevent the fleet from wasting ammunition upon it. The rebel garrison fell back upon another fort in the rear which was out of sight of our ships, and as the *Monticello* entered the inlet to protect our land forces, this second fort opened fire upon her at short range. At the same instant she got aground, and stuck fast, the enemy pouring in a fire, hot and heavy, which the *Monticello* replied to with shell sharply. For fifty minutes she held her own, and finally getting off the ground she came out, having been shot through and through by seven 8-inch shell, one going below the water line. She fired fifty-five shells in fifty minutes, and partially silenced the battery. She withdrew at dusk for repairs, with one or two men slightly bruised, but none killed or wounded. This ended the operations for the first day. The next morning the vessels proceeded more closely in shore and renewed the attack. They fired nearly half an hour before the battery responded, when it answered briskly. Our fire was more correct than on the previous day. The range had been obtained, and nearly every shot went into the battery, throwing up clouds of sand and exploding with terrific effect. The fire was so hot that all of the enemy that could do so got into a bomb-proof in the middle of the battery. Finally, at five minutes past eleven A. M., an 11-inch shell, having pierced the bomb-proof through a ventilator and exploded inside near the magazine, the enemy gave up the fight and raised over the ramparts a white flag. We immediately ceased fire. Gen. Butler went into the Inlet and landed at the fort and demanded an unconditional surrender, which, after some parleying, was consented to, by the commander of the forts, who proved to be Commander Barron, formerly of the United States Navy, and at the time of his capture Assistant Secretary of the Confederate Navy. By the surrender we came in possession of one thousand stand of arms, thirty-five heavy guns, ammunition for the same, a large amount of hospital and other stores, two schooners—one loaded with tobacco, and the other with provisions; one brig loaded with cotton, two lightboats, two surf boats, &c. The prisoners surrendered numbered 45 officers and 665 non-commissioned officers and privates. They were placed on board the *Minnesota* and sent to New York, where they arrived on Monday, Sept. 2d, just a week after the sailing of the expedition from Fortress Monroe.

If this operation is followed up by the capture of the forts at Ocracoke Inlet, all but one of the ports of North Carolina, as well as those of Virginia, will be hermetically sealed; and by stationing sufficient forces at the two inlets, all this stretch of coast may be effectually blockaded without the employment of any vessels.