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Rail-Road News.

Railroad through the British Provinces of America.

This subject has been brought before the House of Lords, and was favorably looked upon by the Peers. Lord Monteagle presented a petition from New Brunswick, and stated that he believed the Secretary for the Colonies was desirous of giving every facility for the improvement of Railway communication in North America. Almost all those in authority in those colonies, and more particularly the military authorities, had recommended the construction of a military road between New Brunswick and Canada. In 1847 the necessity of making a railway communication from Halifax to Quebec was brought under the attention of the Government. Two officers of the Royal Engineers, Major Robinson and Captain Aitchen were employed to survey the ground, and on the perusal of their report the Colonial Secretary expressed his opinion as to the importance of establishing such a communication. Lord Stanley said a line of railroad from Halifax to Quebec would pass through three separate Provinces, in some respects differing from each other, yet all were anxious for the establishment of the line. They were willing to give a guarantee on the public fund, and a grant of land to the extent of 10 miles on either side of the railway, comprising about 5,000,000 acres; and all they asked was the countenance of the Home Government. Nova Scotia desired to construct her part at her own expense. The cost of the Nova Scotia part of the line would be £800,000, nearly $4,000,000. The revenue is £80,000 per year, and the surplus £40,000. It would take twenty years of the surplus to pay up this, and the money could be raised at 5 per cent., and at 3½, if Government took hold of it. 11,000,000 of acres of land would be pledged for the advances, and any amount of such security given.

Cumberland Mountain Tunnel

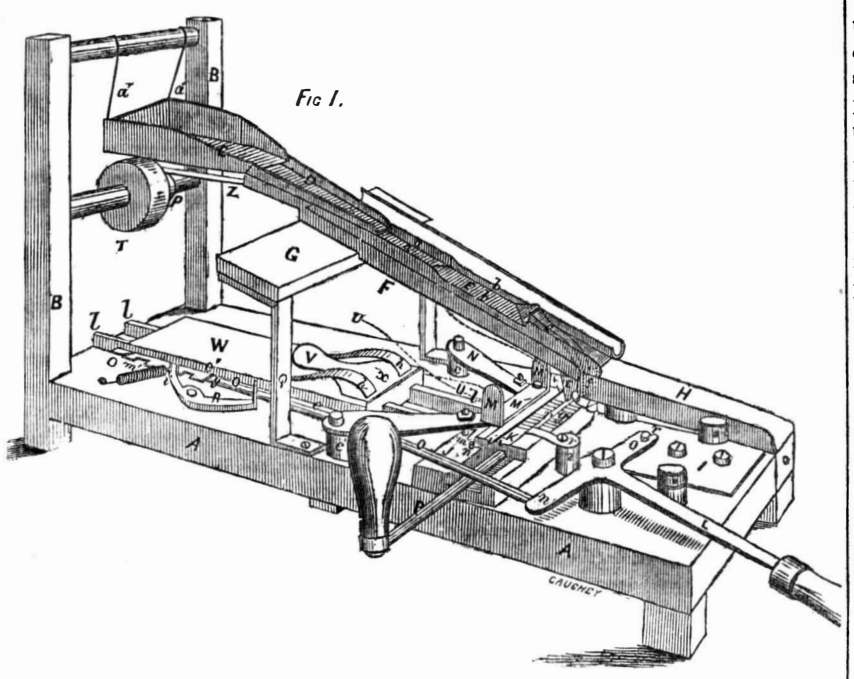
On the 22d ult., the citizens of Tennessee celebrated, with speeches, a sumptous dinner, and a ball at night, the completion of the great tunnel of the Cumberland mountain, on the Nashville and Chattanooga Railroad. Nearly seven hundred ladies and gentlemen participated in the festival, and passed through the tunnel, which is three thousand feet long, and one hundred and eighty-five feet from the top of the mountain.

The Blue Ridge Tunnel.

We see it stated that the work which was commenced at the eastern end of this tunnel, in October, has progressed ninety-four feet, and that the whole number of cubic yards excavated amounts to 942. On the west side total progress of the heading since August, when the work of excavation was begun, is 224 feet and the total nnmber of cubic yards excavated is 1,239.

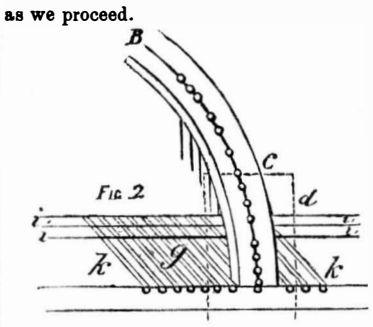
MACHINE FOR STICKING PINS INTO PAPER.

Fig 1.



This is one of the most ingenious machines in the world, and is something like its fellow, the Card Making Machine of Whittemore; it is the invention of Mr. Degrasse Fowler, of North Brunsford, New Haven Co., Conn., and is secured to him by letters patent.

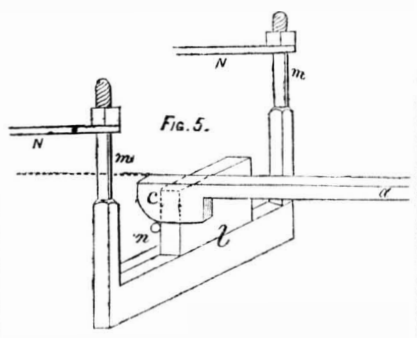
Figure 1 is a perspective view of the complete machine. Figure 2 is a section showing the curved part of the conductor, with a portion of a series of grooves. Figure 3 is a longitudinal section. Figure 4 is a section showing the manner in which the piece, *c*, fig. 3, passes over the pin, *n*, and is thrown back again under it. Figure 5 is a section showing the mode of drawing down the crumping bars into the grooves. We will refer to the figures as we proceed.



A A, fig. 1, is a platform; B B is a frame; C is a hopper suspended on the frame, with a spring, Z, to jolt it; D is a broad tapering trough; E E is a conductor; F F are two gutters; G is a small platform attached to two pieces, Q Q; H is an inclined plane with a perpendicular side; J is a metallic plate on which the plate K slides; this plate has a series of grooves, marked *q*. L is a lever with two arms, *n o*. M M M is the crumper; N is a spring to throw the crumper up; O is a rod to move the slide W; P is a rod to move the slide K; R is a lever with two arms working upon a centre pivot; *s* is an upright piece to support the fulcrum of lever L. T is a band pulley; U U, the dotted lines, show the position of the paper; V is a piece of metal kept down by the springs, *h h*, to hold the paper. The slide, W, runs the paper during the process of sticking.

In figure 2 *c* is the conductor; B the narrow slit in the centre through which the pins pass; K K is a plate with a series of grooves, *g*; *i i* are longitudinal grooves to confine the paper: this figure shows the pins.

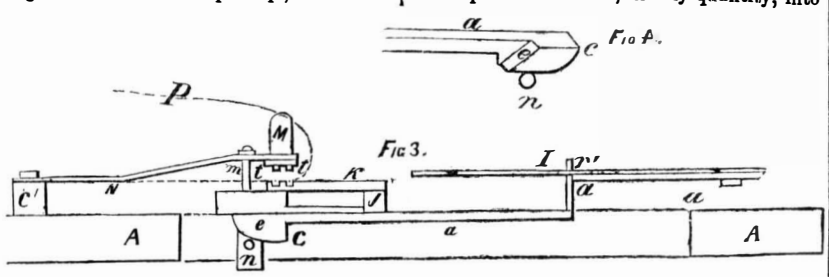
Figure 3 is a section of the platform; I is a metal plate; *r'* is a pin by which this plate is moved by the arm below; *a a a* are metal bars attached to the plate, I. C is the thick end of the bar made like a door latch-knob, *e*; *n* is a pin over which the latch passes to bring down the crumper; N is a spring to throw the



crumper up; M *t t* is the crumper; J is a plate on which the slide, K, moves. The dotted lines, P, show the position of the paper; *m* is a rod fastened to the spring, N, and the plate, *l*, fig. 5.

In fig. 4, *a* is a metal bar with a large end, *c*; *n* is a pin over which it passes; *e* is an inclined plane for the pin, *n*, to back over the piece, *c*. The figures 3, 4, and 5 should now be compared together.

The pins are thrown, in any quantity, into



the hopper, C, which gets a shaking motion by the spring, Z, from the piece, P, on the shaft of the pulley, T; the pins then slide gradually down and fall into the conductor, E E, at *a a*. When the pins fall into the channel, *a*, they roll to the centre, the body of the pins passes through slits, and they are suspended by their heads, as seen in section B, fig. 2. The conductor is sufficiently inclined to make the pins slide down and fall into the grooves, *q*, in the slide K, fig. 1. The conductor is stationary, the grooves, therefore, are filled by passing the said slide under the lower end of the conductor, by the rod with the handle, P. As more pins might fall into the channel of the conductor than would be sufficient to fill the slit, a portion of the said conductor is bevelled at *b b*, and the surplus pins slide over into the gutters, F, then upon an inclined plane, then into a receptacle from whence they are taken to the hopper again. To prevent the pins falling with their heads at irregular distances from the ends of the grooves, a flat upright plate, *f*, (dotted lines), the same as at *d*, fig. 2, is placed so as to have the heads of the pins strike it, and cause them to fall into the grooves correctly as they pass under the lower end of the conductor. When the slide, K, has its grooves filled, it is drawn back, and is arrested by the pin, *n'*. A thin piece of metal, *r r*, keeps the pins in the groove from being thrown out by the jarring of the machine. The pins are now ready to be stuck into the paper thus. Upon the slide, W, is the metal plate, V, the end at *x* being as broad as the slides. The other end is bent upwards, so that when pressed down by the thumb, the end at *x* rises. The sheet of paper to be filled with pins is placed under this broad end. The springs, *h h*, pressing upon the broad end of V, hold the paper to the slide. The paper is then passed under the crumper, M', and then thrown over back as shown by the dotted lines, U U, (or dotted line, P, fig. 3.) The paper being thus made ready and the grooves filled with pins, the lever, L, is moved by the handle, and by this movement the plate J, is carried towards the pins in the grooves, and the crumper is operated as follows:—when the said plate is moved forward by the lever, the bar, *a a a*, fig. 3, which is attached to it, also moves, and its thick end, *c*, sliding under the plate, J J, passes over the pin, *n*, which, being attached to the piece, *l*, causes it to be drawn down a distance equal to the curve of the piece, *c*. To each end of *l*, as seen in fig. 5, are attached two perpendicular rods, *m m*, the upper ends of which are attached by a nut to the springs, N N, and near to the crumper, M. As *l* passes over the pin, *n*, fig. 3, by means of its rods, *m m*, it draws down the crumping bars, *t t*, into the longitudinal grooves in the slide, K, and thus the operation of crumping the paper is performed. Notches are made through the crumping bars, *t t*, in position to correspond with the groove in the slide, K, and large enough to allow the pins to pass easily through when closed into the longitudinal grooves. The paper, by the action of the bars and grooves, is raised into two folds at proper distances upon the sheet, and when the pins pass through the notches of the crumping bars they penetrate these folds. At the moment the crumper completes the operation, the plate, J, moved by the lever, L, strikes the heads of the pins in the grooves, and forces them through the folds in the paper. At this time the piece, *c*, fig. 3, passes over the pin, *n*, and the crumper is thrown up. When the bar, *a a*, is drawn back by reversing the motion of the lever, L, the piece, *n*, passes up the incline plane, fig. 4, and the piece, *c*, assumes its former position, as seen in fig. 3, and thus the operations of crumping the paper and sticking the pins are performed by a single motion of the lever, L.

The paper is moved by the slide, W, which has a rack, *e*, with teeth, *e'*, on it that is operated by the rod, O. When the lever, L, is moved, the rod, O, is drawn forward, and