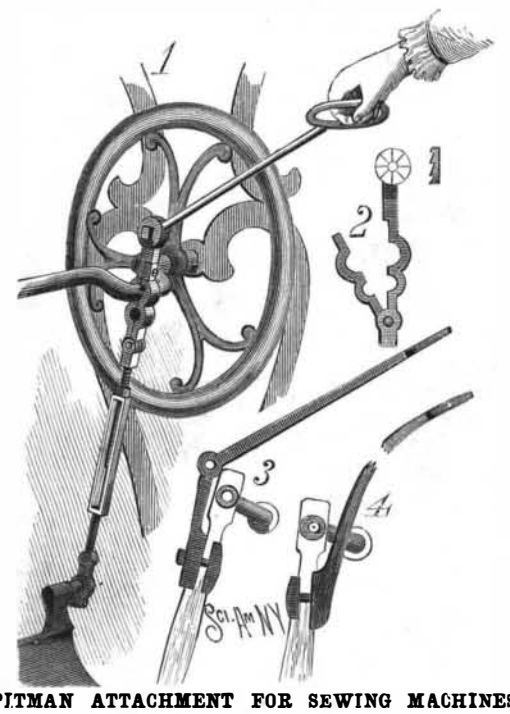
PITMAN ATTACHMENT FOR SEWING MACHINES.

The pitman attachment herewith shown is so constructed that the machine can be operated by the feet or by hand as may be desired. The pitman shown in Fig. 1 is formed of an upper and lower section united by a turnbuckle; pivoted to the lower part of the lower section is a clamp, and at some distance from the top of the upper section is a second clamp. These clamping pieces, Fig. 2, have semicircular grooves in their inner sides, and with corresponding grooves in the sections form apertures for receiving the pivot on the treadle and the crank of the shaft carrying the hand wheel; the top clamp has two recesses of different sizes to adapt it to shafts of different diameters. On the end of the upper section is a disk, Fig. 2, against the inner toothed face of which is pressed a similarly formed disk on the end of a bar having a handle on its outer



PITMAN ATTACHMENT FOR SEWING MACHINES.

end; a bolt holds the disks together. The handle bar can thus be held and locked at any desired inclination. By means of the turnbuckle the length of the pitman can be increased or diminished as required. The crank shaft can be revolved either by working the treadle with the feet or by means of the rod. In case the machine is not provided with this pitman, a bar is clamped on the usual pitman near its top, Fig. 3, the handle bar being pivoted to this bar; the joint is made with toothed disks for holding the handle at any desired angle. If necessary, the curved handle bar shown in Fig. 4 may be clamped directly on the pitman.

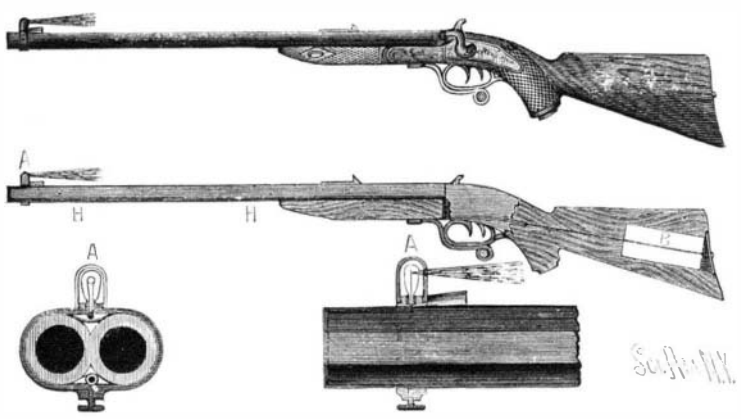
This invention has been patented by Mr. P. S. Roy, of 26 North 15th Street, Denver, Colorado.

AN ELECTRIC "FRONT-SIGHT" FOR FIREARMS.

In shooting deer or other game for which the rifle is employed, there is often a difficulty in getting an aim in the early morning or evening (which is the best time for getting a shot) on account of there not being light enough to enable the front-sight of the rifle to be seen.

This invention is designed to overcome this difficulty by means of a temporary front-sight, to be fixed to the rifle when the light is not good enough to see the ordinary fixed front-sight properly.

This temporary front-sight consists, briefly, of a very



AN ELECTRIC GUN SIGHT.

small incandescent or glow lamp (something like a dentist's), covered with a metal shield.

The shield has a small hole in it, through which the light shines, and this spot of light, being turned toward the shooter, is used as the "bead" of the front-sight in aiming, a small electric battery in the stock of the rifle generating the electricity for the lamp.

The illustration shows the invention applied to a double-barreled "express" deer-stalking rifle.

A is the electric front-sight. B is the electric battery, inclosed in the stock of the rifle, a "push button," C, in the butt of the rifle causing the front-sight to glow when the butt is pressed against the shoulder in taking aim.

The conducting wires between the battery and the lamp are laid in a groove in the stock, and where they emerge are protected by a metal tube, H H.

A silver battery, of not more than 5½ cubic inches capacity, is enough, as the lamp need only glow, like the wick of a candle freshly blown out.

The invention would be of great use also for military rifles, and especially for machine guns on board ship, where no electric battery on the gun would be required, as the electricity for lighting the ship could be laid on to the guns by wires.

It has been patented in the United States and in England by Mr. Walter Winans, 2 Clarendon Terrace, Brighton, Sussex, England.

Rope Making.

The word rope probably signifies an article exceeding an inch in circumference, smaller descriptions consisting of cords, lines, twines, threads, etc., made of yarns, which are the first product of the spinning. A given number of yarns, more or less according to the kind of article required, are twisted together to form a strand, and three of these make a rope, while a similar union of three ropes makes a cable.

Rope making is not what it used to be. Nowadays a girl at a spinning machine can do more work than eight men could do in the old fashioned way, and where one man could comb one bale of hemp, one machine can now comb seventy-five bales. The product of the largest ropewalk in the United States, according to the N. Y. *Sun*, is 150 tons of rope and twine a week, as compared with 16 tons when it was built, 56 years ago.

For best qualities of ropes, hemps and flaxes and sound cotton are used. Of the 12 kinds of hemp used Russian is the best. The hanks are bound into bales that can be readily handled. Separating the hanks is the first process in rope making. Men do it. The hanks are unbound and tossed one side, where men stand ready to pick them up and oil them. The oiling machines are large revolving drums of wood that absorb and hold the oil kept in the troughs below. They are inclosed in wooden boxes, each with a hole about as large as half an ordinary window. Taking a hank, an oiler spreads it out and dashes it through a hole and against the oily surface of the drum. It clings and is drawn upward, but before the end is reached the man draws it back, and repeats the motion until the fiber has been oiled. From the oiling machines the hemp goes to the combing machines, of different sizes and capacities. Five combings are necessary. The combing machines are very ingenious. Endless bands with cross rows of long fine teeth seize the fibers, and carry them along until other teeth on a band moving faster comb through them, and straighten and draw them. After the combing the fibers become roping, and endless yellow streams of it flow from upper stories to stories below for the spinning machines. Each stream flows faster than several machines can spin it when everything is in good working order, and piles of roping stand ready for use. Roping after going through the spinning machines becomes spun yarn. The combing, straightening, and spinning used to be done by hand.

Spun yarn for tarred rope goes through a process as old as the hills. Through long troughs nearly filled with hot tar the yarn is drawn until it is thoroughly saturated. On coming out it passes through squeezers, and any excess of tar is pressed out. Then it passes through the air for a considerable distance to dry, and finally is wound on bobbins. The machinery for making large ropes, or cables, shows that very little change has been made in the half century. It is crude but substantial. The bobbins of spun yarn are placed upright on iron pins on a series of shelves. The ends of the threads are drawn together and put through the holes of a gauge plate, from which they go to an iron tube in the tube board, the size of the hole being gauged by the size of the rope to be made. Ninety-eight threads make a six inch cable.

The friction of the threads going through the tube makes the iron so hot that the hand cannot be kept on it. After being drawn through the tube, the end of what is now a strand is attached to a hook in the former, an upright machine on wheels that runs on a track the full length of the ropewalk. The hook revolves rapidly, and makes the twist in the strand. The former is drawn along by ropes, and as it moves away from the gauge plate, arms are swung out from pillars along the track to hold up the strand from the floor. The former travels slowly, but with a good deal of whirring, to the upper end of the track. The strand is then attached, with as many others as necessary, to hooks in another former on another track, forming the rope. About 100 sizes of rope are made, running from one-sixteenth of an inch to 24 inches in diameter.

SCHOOL DESK AND SEAT.

The desk is supported by two slightly inclined corner legs secured to the floor by angle irons. The upper end of an inclined brace bar is attached near the middle of each leg, the lower end being fastened to the

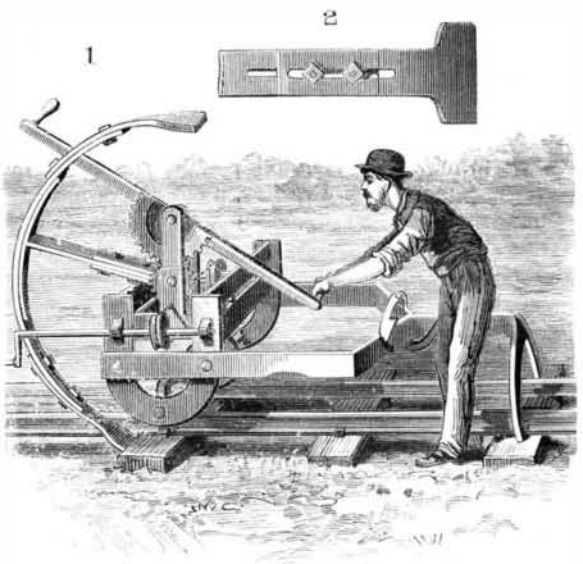
HAMEL'S SCHOOL DESK AND SEAT.

floor. To the upper end of the brace, which bends and projects rectangularly from the edge of the leg, is pivoted the bracket supporting the seat. Each bracket is provided at its inner end with an inwardly and downwardly inclined lug, the end of which rests against the corresponding leg when the seat is lowered, thus preventing the free edge of the seat from swinging down too far. The back of the seat is secured to the legs.

This combined desk and seat is simple in construction, strong, and durable. This invention has been patented by Mr. Gustavus Hamel, of De Soto, Missouri.

RAILWAY TAMPING MACHINE.

The machine herewith illustrated is used for tamping or packing the earth under the ties of a railroad. The main frame of the apparatus rests on an axle fitted with two wheels to run upon the rails; by means of set screws the wheels may be adjusted to different widths apart to suit different railroad gauges. The frame carrying the tamping tool moves between parallel slotted cross plates uniting the sides of the main frame. On the tool frame is a shaft, parallel with the main axle, carrying the tamper proper, which may be set in or out from the shaft to give the proper stroke. The shape of the tamper is that of a half or part circle, thereby leaving two exposed ends on opposite sides of the arm carrying the tool. Each end of the tool is



BRYANT & GILLILAND'S RAILWAY TAMPING MACHINE.

fitted with a tamping hoe-like blade, Fig. 2, adjustable along the body of the tool to adapt the tamper to its work, and to provide for the easy removal of the blades. The tamper is rocked to and fro to pack the earth alternately from opposite sides under the tie by means of a double cross handle attached to a gear having its bearing on an upright of the sliding frame and engaging with a gear on the shaft. The tool frame is moved back and forth transversely by means of a chain attached to the frame, and passing around a pulley mounted on a shaft at each side of the machine, one of these shafts being provided with a crank. When at work, the forward part of the apparatus is supported and anchored by a forked rest pivoted to the end of the frame. This rest is formed with a back arm terminating in a hook which, when the rest is thrown forward, engages with a pivoted slide catch. When it is necessary to move the machine along the track to any distance, the rest is thrown up so as to be out of the way, and to expose a hook for attachment to a hand car. With this tamper a very large amount of work may be done with but a comparatively small expenditure of labor.

This invention has been patented by Messrs. R. P. Bryant and J. H. Gilliland; information can be obtained from Messrs. Linder & Montgomery, sole agents, Jacksonville, Ala.