

Sewing Machine Motors.

That there is a large field for a good practical sewing machine motor cannot be denied; but, like perpetual motion, many have tried the "perplexed thing," but failed. A motor, to be practical and popular, must be a part and parcel of the sewing machine—not a heavy, cumbersome contrivance that costs more, and occupying more space, than the sewing machine itself. How it is to be accomplished must be left to the inventive genius of the country, which in time may solve the question. Of course these remarks refer to motors for family use. For factories and workshops, water and steam solve the question.

So far the best motor for sewing machines is the common treadle. Such devices as those which imprison one hand in their operation are useless—as far as practicability and usefulness are concerned. A person might as well have but one arm, as it leaves but one hand to direct the work. Whenever a sewing machine motor is invented that will do the ordinary work of a family, without the aid of steam, water, or electricity, and run a reasonable length of time without replenishing the power exhausted, a step will have been made toward solving this question. But, where more power is expended in storing up what is wanted for use than it takes to operate the machine for a given period of time, such devices are worse than useless—they are time lost. We expect, yet, to see this problem solved.—*The Sewing Machine Journal.*

A Fossil Human Skull.

Dr. T. G. Horn, of Colorado Springs, Colorado, favors us with a photograph of "a petrified human skull," picked up near Gothic, Gunnison County, Colorado. The doctor says that the skull has been examined by quite a number of the medical profession, and all pronounce it the greatest curiosity ever discovered. Every bone, suture, and outline is perfect. As shown in the photograph the posterior half of the skull seems to justify the description; the forepart is less clearly exhibited. The jaw is gone, and a mass of stone resembling a hot spring deposit obscures the facial outline.

No account is furnished with regard to the conditions under which the skull was found, so that no estimate can be made of its probable age. If found in connection with hot spring deposit, it might easily be quite modern. On the other hand, it may be the skull of an "original settler," ancient enough to have used the implements found in the inter-glacial or pre-glacial gold gravels.

A NOVEL STEAM CARRIAGE.

A great many steam wagons and carriages have been devised and built for transporting loads on our ordinary highways without tracks, but although some of the devices were masterpieces of ingenuity, the practical results obtained were never perfectly satisfactory. Walter Hancock, the most persistent of inventors and constructors in this line, built a steam phaeton in 1838, and obtained a maximum speed of 20 miles and an ordinary speed of 10 miles per hour. Within the last few years the interest in steam wagons has been renewed, and some very successful experiments have been made with them, the trip by M. Schmid, M.E., who traveled from Zurich to Paris, in 1878, on a self-propelling steam fire engine of his construction, being an example. A steam carriage, invented and built by the French engineer Bollé, of Le Mans, and exhibited at the Paris Exhibition of 1878, was an object of more than ordinary interest. Its speed was said to surpass that of any ordinary vehicle drawn by horses. The inventor named his carriage "La Manselle," in honor of his native city Le Mans.

This carriage is shown in the annexed cut, taken from the *Leipziger Illustrirte Zeitung*. The casing in the front part of the carriage contains the driving engine, which is controlled by the engineer seated above it, who also operates the steering gear and the powerful brake levers. The rear axle is driven by spur wheels and chains. The boiler is placed above the rear axle, the coal bins are at each side of the boiler, and the water truck is below the seat of the engineer. Experimental trips have been made with one of these carriages on the road from Berlin to Charlottenburg. The average speed attained, according to the above authority, was 18 miles per hour, but a maximum of 22 miles per hour was reached. Coke was used as fuel, which produced but very little smoke, about 8½ to 10 pounds being consumed per hour. The carriage rounded the curves in an excellent manner, and the entire experiment proved most satisfactory.

**TRIAL TRIP OF THE NEW STEAM CARRIAGE AT BERLIN.****BURTON'S IMPROVED STREET LAMP.**

The engraving shows a lamp for lighting streets, parks, and other places where gas lamps are not used. It is a novel arrangement, and has the advantage of simplicity and cheapness.

Projecting from an opening in the cap there are one or more downward curving hollow arms, carrying a series of chains; these chains extend into the base, where their inner

**BURTON'S IMPROVED STREET LAMP.**

ends are attached to a weight or counterbalance, their outer ends being secured to the sliding lamp frame. There is a pin or bolt threaded to work in a nut at the top of the base; its inner end is shaped to fit a groove in the weight, and forms a key or stop to secure the lamps at any desired elevation. When the key bolt is withdrawn the lamps may be readily raised or lowered by sliding the frame on the post, the chains running freely through the arms, and the weight rising and falling in the body of the post. The weight need

not necessarily be made fast by the key or bolt, as the weight counterbalances the lamps so that they will remain in any desired position.

The post is made of cast iron, in two parts, firmly united by a set screw at the top. The weight weighs 20 pounds, and is secured to the bail of the cage by a three-quarter inch chain. The sliding frame is of cast iron, of sufficient strength to hold and guide the lamp along the body of the post. The lamp is well made of the best material, and may be adapted to either kerosene or gasoline.

With this post the inconvenience of carrying a ladder is avoided, and there is no danger of dropping the chimney or spilling of oil. After the lamps are once filled, a small crooked handle, which is furnished with each post, is all that is required to equip the lamp-lighter for his evening journey to light the streets for one month. All that is required is to draw the lamp down, trim, and light it; a slight push upward replaces it, when it remains in the proper position.

This lamp has been manufactured and sold extensively for the past two years, and we are informed that it is meeting with great favor in the New England States. It has been patented in the United States and in Canada. It was awarded a silver medal at New England Fair, 1878. For cities, towns, suburban villages, and private use, and for other purposes where outdoor lighting is required, it fills a great want.

Further information may be obtained by addressing the inventor, Mr. Geo. D. Burton, New Ipswich, N. H.

ENGINEERING INVENTIONS.

Mr. William H. Weeks, of Dartmouth, Nova Scotia, Canada, has patented a device for the safe and economical burning of liquid hydrocarbons under boilers, evaporators, etc., whereby the combustion is made perfect and the control over the flame absolute.

Mr. Orlando S. Emerson, of Elkhart, Ind., has patented improvements in steam valves. These improvements relate to puppet valves which have heretofore been constructed with an adjustable lip, fitted for movement by a screw ring to adjust the lip, and held in place by screw pins entering notches in the ring. In such valves the screw pins become loose or are jarred off, so that the adjustment is unreliable. The object of this invention is to avoid these difficulties. The invention consists in a spring pin used in place of a screw for retaining the adjustable lip in place.

An improved egg beater has been patented by Mr. George A. Schmidt, of New York city. The object of this invention is to provide an effective and durable device designed especially for use by confectioners, bakers, hotels, etc., when a large number of eggs are to be beaten at a time.

A machine for grinding mower and reaper knives has been patented by Mr. Charles Askew, of Madison, Wis. The invention consists in a novel rest and carrier for the sickle bar and combination and arrangement thereof with relation to the grindstone, whereby provision is made for adjusting the sickle bar to the grinding surface.

Messrs. Leonard A. Cooper and Oliver F. Bostwick, of Atchison, Kan., have patented a combined listing plow and seed planter, so constructed as to open the ridge or clear a space for the row of hills, open a furrow to receive the seed, drop the seed, cover the seed, and roll down the soil. It is simple and readily adjusted and controlled.

An improved injector and condenser has been patented by Mr. Gaspare Mazza, of Turin, Italy. The invention consists in combining a boiler pipe, cones, and connected eccentrics having different throws with a feed water pipe and a steam inlet pipe having a cock.

An improved steam engine governor has been patented by Mr. Walter E. Crane, of Alma City, Minn. The object of this invention is to dispense with all devices depending on centrifugal action or the force of gravity for their operation in the regulation of the speed of steam engines or other motors. The invention consists in a governor wherein the straight line movement for regulation of speed is obtained by the variations in speed between mechanism operated by the engine and mechanism moved by a separate motor at a regulated speed.

Mr. Alexander C. Lewis, of Fayetteville, Ark., has patented an improved rotary engine of the class in which a rotary valve is employed. The novelty consists in a combination of parts which cannot be clearly described without engravings.