November, 1908-13

The World of Invention

Engine Without Fire

Owing to the danger involved from fire, a great many industrial plants are unable to use engines, the steam and sparks of which are ordinarily allowed to escape into the open air. A machine construction company of Berlin, Germany, has therefore constructed an engine without fire, one which does away with the annoyance of smoke. The engine is run by superheated steam under high pressure. This is condensed in its filling chamber, one quarter of which is taken up by cold water. The chamber is surrounded by an insulating air mantle.

Several iron jackets and a felt layer cover the condenser. The condensing continues until the temperature and the pressure equal that in the large feed boiler. If, at the beginning of the movements, some steam is allowed to enter the cylinder, the pressure in the boiler, of course, sinks. The steam and water masses, under the excessive pressure, are somewhat relieved, and furnish new steam in the same proportion as the consumption of steam, until the supply is entirely exhausted.—*Technical World Magaine*.

One Way of Taking a Drink

Some of the great transcontinental engines take on eight thousand gallons, or two hundred and forty-free barrels of water, to be turned into steam for the next run of two hours, or about sixty miles. But such a vast amount of water is a burden, and new supplies are desired oftener. It is a loss of time to stop and het such vast quantities come aboard through a pipe, hence some way of taking water while rushing at full speed is desirable. It has been found. How?

If you make a scoop of your hand and swing it swiftly, the hollow side forward, into water, some of it will be likely to spurt up your sleeve. That is nature's hint. Follow it up. Find a level place in the road and put down an iron trough four inches deep, fourteen inches wide and one-eighth of a mile long. The engine comes rushing along, and, having passed the end, drops a scoop into this trough. There is a general splutter of water, but a tremendous stream rushes up the sleeve of the dropped hand and pours into the water tank. When it is full the fireman raises the scoop or it glides up the slope at the far end of the trough, and the engine is watered for the next run.—The Epworth Herald.

"Artiste Stoppeur"

A new sign appears in a London window this season. A little Frenchwoman announces herself an Artiste Stoppeur, and she is nothing more nor less than an artist at stopping holes—darning and patching after the latest French fashion.

France and Austria are mistresses of the art of making things last. One may find in a sumptuous hotel in Vienna curtains in which the mending actually vies with the lace in beauty and daintiness. In every French hotel of importance an *artiste stoppeur* is constantly employed, and her handiwork may be seen on table linen, bed linen and curtains, and will elicit praise from any lover of fine needlework.

The public "darner" in London or Paris will deal with an ugly rent in a cloth gown so cleverly that it will be hard to find it. If she has a bit of the material, she carefully ravels it for her needle. If that is not obtainable, her bag of pieces will yield something of which the soft threads may be made to serve. The mending-shop will have on any one day a great variety of repairs to make, ranging from a worn place in a gentleman's shooting-breeches to a rent in a piece of old lace, and from silk stockings to brocade drapery. Every stitch, on whatever material, is set with a true sense of its value, and whatever goes from the hand of the *artiste* deserves to be called a work of art.

One hears nowadays that it is a waste of time to mend clothes when one can buy new ones so cheaply. What one does with the time saved by buying poor, cheap gloves instead of mending good ones is not usually set forth. But one might write a sonnet on the charm added to stocking or glove by the dainty stitches, which are in truth a testimony to the esteem in which a gentlewoman holds her chosen garment.

Three Giant Lamps

A young electrician, barely twenty-five, has solved the problem, apparently, of lighting large spaces economically and practically. His name is Ralph Scott, and the *Techni*cal Magazine gives an account of the three giant lamps he has lately prepared. One is being installed at the Hoboken railway station, close to the Hudson River, over which its light is to shine. Being of one million and a half candle power, it lights an area of two miles, with a brightness like the full day. It is an are lamp, consisting of a double row of circularly arranged carbons in a cluster, so managed that the carbons slant downward obliquely from each other. In this way all shadows are eliminated and the light seems to come from one great orb of intense penetrating radiance.

Times Square, New York, is to have another of these great lamps, and the third is to be bigger yet, as befits its position. It is to crown the Quaker broadbrin of William Penn's statue on the public buildings in Philadelphia, and is of five million candle power. Half a dozen such lamps may in the future light our great cities without trouble, and as they take only a small amount of current compared to other lights, they would be a gain in every way. The inventor was a high school graduate at Wilkes-Barre, then took an electrical engineering course at college, and now works in his father's shops. He has already secured over twenty-seven electrical devices.

Clothes Made From Wood

It will probably not be very long before we can go into one of the dry-goods stores and say to a clerk, "Let me see what you have in the line of wooden suits." He may "Let me reply, "Hard or soft?" whereupon it will be our part to specify that we want a suit of "good" pine, "without any cheap sapwood." Vests of this kind are already worn by the carding-room foremen in some of the woollen mills. The material resembles a stiff, thick cloth, and is apparently as durable as leather. It is not improbable that in the future cheap suits, costing about fifty cents, and guaranteed to last for years, will be made of spruce and pine. Napkins, shirts, collars of the finest quality have long been made from the fibre of hemp; and in using wood for heavier cloth, the process is equally simple. The wood is first ground into a soft pulp, and this pulp is pressed through holes in iron plates. It comes out in long ropes about one half inch in diameter. These ropes, which are very easily broken at this stage, are dried, and then twisted tightly, till finally they become as small as threads. Part of the threads are used for the warp and part for filling, out of which a strong web of the wooden cloth is woven. Technical World Magazine.

Electrically-Heated Bath Robe

Among the most curious of the recent electrical inventions is a bath robe heated by electricity. The outer surface is made of heat-retaining material, and between this and the lining is a mesh of wires. These wires all run together at one of the pockets into a common lamp socket. This is connected with a regular electric current by plug and cord. Another pocket holds a snap-switch which enables the wearer to turn the current off or on quickly. The garment, which is used as an ordinary lounging robe when the current is off, is practically fireproof.