

Edison Electric Light Consolidation.

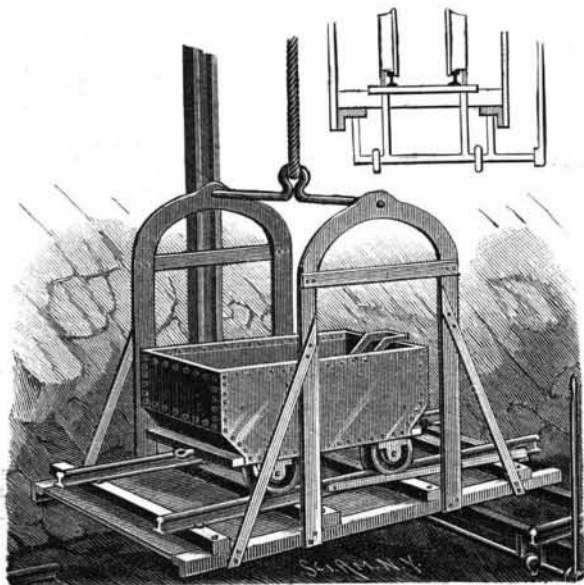
A consolidation has been effected between the various Edison electric light companies, which have heretofore consisted of five in number. These have all been incorporated into a single company, with a large increase of capital. The consolidation has been conducted quietly, and full details have not yet been made public. The articles of incorporation, however, have been recorded at the County Clerk's office of Essex County, N. J., at Newark.

The new organization is to be known as the Edison General Electric Co., and is capitalized at \$12,000,000, divided into 120,000 shares at \$100 each. The five companies which are the parties of incorporation, and which carried on the entire electric light business under the Edison patents, which are now to pass into the hands of the general company, were the Edison Electric Light Co., the Edison Lamp Co., of Newark, N. J., the Edison Machine Works, Schenectady, N. Y., manufacturers of dynamos, etc., the Edison Electric Light Co., of New York City, and Bergmann & Co., who supplied the minor electrical materials and fixtures. These companies are all represented in the new Board of Incorporators, consisting of E. H. Johnson, late president of the Edison Electric Light Co., Samuel Insull, manager of the Edison Machine Works, F. R. Upton, vice-president of the Edison Lamp Co., C. Batchelor of the Edison Laboratory, Orange, N. J., and A. O. Tate, secretary of Mr. Edison. It is said by knowing ones that the general factory is to be established at West Orange, N. J., near the factory now used in the manufacture of the phonograph. The general offices will be also, it is presumed, located there. It is claimed that the benefits to be derived from the consolidation of such varied interests will enhance the value of the property, conducted as it will be under one management.

The new company will have control of a great industry well equipped and organized. Formerly the Edison Electric Light Co. has secured the contracts for public and private lighting, built the works, and then sold or leased them on royalty to the local companies. This is to be changed under the new arrangement. The general company will not only establish and equip the local works, but will also, it is stated, attend to running and operating them.

IMPROVED LIFTING CAGE FOR MINES.

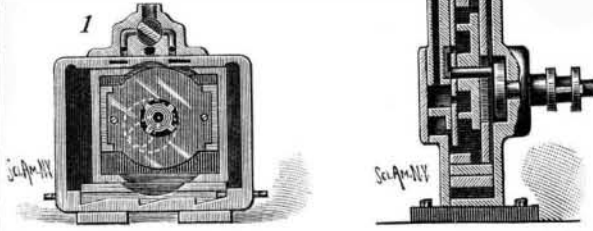
The accompanying illustration shows a lifting cage in which the cars are firmly held in position, when raised or lowered in the mine shaft, and may be easily run on or off the cage at either end. This invention has been patented by Mr. Daniel T. Denton, of Soudan, St. Louis Co., Minn. The rails on the cage platform are each provided, near one end, with a segmental depression, into which fit one pair of the wheels of the car to be lifted by the cage, and at the sides of the rails are pivoted arms, preferably connected with each other at their outer ends by a transverse bar passing under the rails. As the car is moved onto the cage one set of wheels drop into the depressions, holding the car firmly in place while it is being moved up or down the shaft. When the car reaches either the surface or bottom of the shaft, the pivoted arms, engaging the tread of the wheels, are raised, lifting the wheels out of the depressions and in line with the tops of the rails, so that the car may be readily run off the cage in the usual way. The raising of these pivoted arms is effected by means of a shaft mounted in suitable bearings at the top or bottom of the main shaft, this shaft having two arms engaging the platform of the cage as it comes to rest, and two longer arms or prongs adapted to engage the transverse bar connecting the arms pivoted at the sides of the rails under the wheel treads, as shown in the small sectional view, whereby the wheels are lifted out of the depressions. A lever, weight, or other device may be employed for operating the latter shaft, so that it will assume the position necessary for raising the pivoted arms automatically whenever necessary.



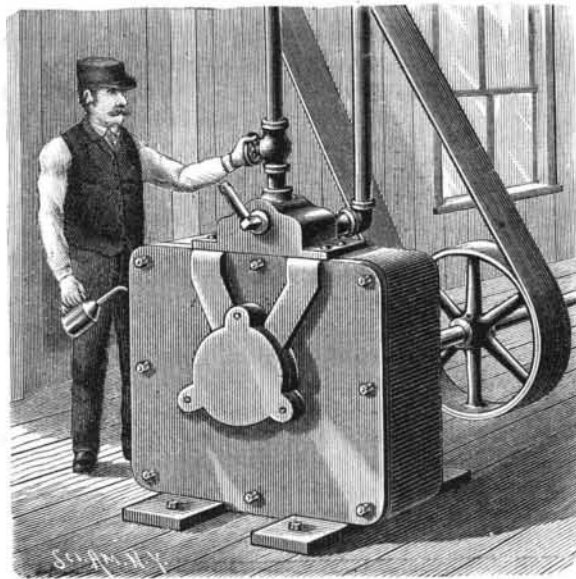
DENTON'S LIFTING CAGE FOR MINES.

IMPROVED DOUBLE-RECIPROCATING ENGINE.

The accompanying illustrations represent an improved double-reciprocating square piston engine, Fig. 1 being a front view, with the cover removed, and the steam chest in section, and Fig. 2 being a sectional view. It has been patented by Mr. William F. Dake, of Grand Haven, Mich., and is an improvement on a former patented invention of the same inventor. The engine is within a casing, in which a rect-



angular piston is held to move backward and forward horizontally. This piston has a chamber in which an inner piston is mounted to slide vertically, the inner piston being mounted in its middle on a crank pin projecting through a slot in the backplate of the outer piston, the crank pin being secured to a crank disk on the inner end of the main driving shaft. The steam



DAKE'S DOUBLE-RECIPROCATING ENGINE.

chest on top of the casing has a four-way valve, into which leads the steam inlet pipe, this valve also connecting with the exhaust pipe, and being adapted to connect the inlet pipe and the exhaust pipe with either of two ports formed in the steam chest, and leading to ports in the casing connecting with channels formed in the outside of the cover of the casing. One of these channels leads to a central aperture in the middle of the cover, and opening at the inside against the face of the inner piston, while the other channel leads to an annular opening on the inside of the cover opening on the face of the inner piston, the arrangement being such that either of the channels may serve as an inlet for live steam, according to the direction the engine is to be run, by simply turning the four-way valve, the other channel then serving as the exhaust.

The central opening and the annular opening connect alternately with four ports in a circle in the inner piston, the passage of the steam through these ports communicating a reciprocating horizontal motion to the outer piston, the inner piston moving up and down, and communicating rotary motion to the main shaft, by means of the crank pin and crank disk, the movement of the inner piston causing the inner ports to register with the central opening, while the exhaust is through the annular opening. The wear of the outer piston is taken up by plates, on the under side of one of which are inclines sliding on corresponding inclines in the bottom of the casing, whereby the pressure of the bottom plate upon the piston can be readily adjusted by screws. These engines are said to have given excellent satisfaction during two years' practical use, proving durable and not liable to get out of repair.

For further information relative thereto address the Dake Engine Manufacturing Company, Grand Haven, Mich.

Berlin Wool a Preventive of Sore Throats.

According to Mr. H. V. Knaggs (*Archives of Pediatrics*), a few threads of Berlin wool placed round the neck and worn continuously are an efficient preventive against these uncommoding complaints, which many persons are so prone to catch on exposure to cold. From ten to twenty threads are enough for the purpose. They should only be removed for making ablutions, and should be left off gradually by discarding daily one thread at a time. The remedy probably acts by keeping up a belt of skin action, thus acting mildly and continuously as a slight counter-irritant.

Thread Spools.

Among the peculiar industries which flourish in western Maine is the making of thread spools. They are cut from smooth, white birch timber—a wood which works easily—by various kinds of improved machines. There are numerous mills throughout the lumbering region, where the birch is sawed into strips about four feet long and from one to two inches in width and thickness. These strips then go to the spool factories, to be converted into spools. The processes they are put through are numerous, and one of them, the method of polishing them, is quite interesting. A barrel is filled nearly full of them and then revolved by means of machinery and belting until the spools are worn smooth by rubbing one against another. Spool manufacturing is the most important industry in several of the villages of Oxford County, and will doubtless continue so until the supply of white birch timber is exhausted. The manufacture of shoe pegs is another peculiar Maine industry, though shared in to some extent by other New England States. These are cut from maple and white birch by machinery, and are worth at the factory from thirty-five to ninety-five cents a bushel. The compressing of sawdust is also a flourishing business in Bangor in that State. There is a firm there styling itself a "compress company," who convert sawdust and shavings into solid bales by compression, which finds ready sale in the large Eastern cities.—*Timberman.*

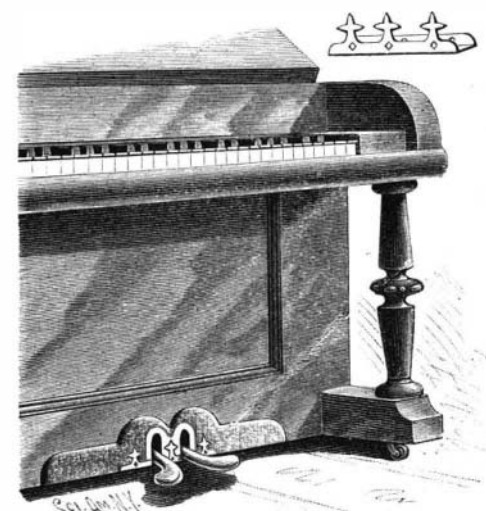
Coffee Deceptions.

Staining Coffee Berries.—J. König, *Zeitschr. f. angew. Chemie*, No. 22.—Berries are often roasted with addition of roasting sirup, which unsavory article the author found to consist of: Water, 26.21; fermentable sugar (dextro-glucose), 45.80; unfermentable bodies and dextrin, 37.45; ash, 0.54. Its use is said to be in preserving for a long time the delicate aroma of the berries; but, according to the author, it really constitutes a fraud. Not only does it make the coffee decoction look stronger, but it enables the roasted berries to hold about 7 per cent more water than they otherwise would.

Artificial Coffee Berries.—J. König, *Zeitschr. f. angew. Chemie*, No. 22.—A sample submitted to the author for analysis looked very much like the real article, only the berries had all precisely the same shape, which is not the case with the genuine product. The result of the analysis was as follows: Moisture, 5.14; nitrogenous matter, 10.75; fat, 2.19; non-nitrogenous matter, 76.76; woody fiber, 3.96; matters soluble in water, 29.88; ash, 1.20. Microscope revealed wheat starch. The berries, therefore, consisted, no doubt, of roasted wheat flour dough of low quality. They are eagerly brought by retailers, and afterward mixed to an extent of sometimes 50 per cent with genuine berries.—*The Analyst.*

A FOOT-SHIELD FOR PIANOS, ETC.

The illustration herewith represents a simple device for protecting pianos, organs, etc., from being scratched or marred by the feet of the operator, when turning in the seat to face the instrument or leave it, or when the feet are removed from the pedals for any cause while the operator remains seated at the instrument. It has been patented by Mr. M. R. Brinkman, of No. 928 Chapel Street, New Haven, Conn. A shoe, shown in the small figure, essentially U-shaped in cross-section, is screwed or otherwise attached to the bottom of the front casing of the instrument, the outer wall of the shoe having apertures through which the shield may be made fast therein, and upward ornamental projections which may themselves serve to hold the shield in place. The shield is ordinarily of wood, padded and covered with silk, plush, or equivalent material, with the padding extending over its edges, to protect that portion of the instrument against which the shield may bear. This shield may be attached to the instrument without leaving any material defacement, should the device for any purpose be removed.



BRINKMAN'S FOOT-SHIELD FOR PIANOS ETC.