

SOME NOVEL ELECTRIC LABOR-SAVING DEVICES.

The wonderful adaptability of electricity for most varied purposes is constantly being made evident in new forms of light, new heating appliances, and new uses of the electric motor. The accompanying engravings illustrate a few novel labor-saving devices, which are dependent for success on the convenience of the electric motor as a power source.

The dandruff-removing apparatus, which we show, is the invention of a resident of New York city. Many of our readers are doubtless aware of the difficulty with which the cuticle of the scalp is thoroughly freed from dandruff scales, and how inadequate the conventional means are for this purpose. The device in question utilizes a partial vacuum, by means of which air is drawn through the teeth of a hollow comb with which the scalp is massaged, thus drawing the loosened scales through the teeth of the comb into a receiver. As the illustration shows, a small electric motor is provided in the base of the device. This motor may be connected by convenient flexible wires to the ordinary lighting circuit. Above the motor is located a small rotary air pump, which is connected by means of a belt to the motor. The air pump communicates through a metal tube with the interior of a glass cylinder supported above the top of the apparatus. The tube enters the cylinder, and extends to a point near the top of the same. A flexible tube communicates



Electric Shoe-blackening Machine.

neglected. Recently many progressive concerns have been using the mechanical groomer which we illustrate, thereby affecting a great saving in time, and securing better results than could be obtained with handwork. The machine consists of a pair of flexible shafts, each connected by a universal joint to a swinging arm, which in turn is connected by a universal joint to a bracket secured to the ceiling. The device is operated by a two-horse-power electric motor, inclosed in a box, which may be seen at the rear near the ceiling. The power furnished by the motor is transmitted by means of belting down to a pulley on the flexible shaft, thereby causing the latter to rotate. The free end of each flexible shaft is provided with a spindle, on which a cylindrical brush of any desired type may be secured. The brush is very rapidly rotated by the flexible shaft, and in use is passed with a gentle pressure over the animal's coat. The shaft is very flexible, being formed of spirally-coiled wire, and is provided with handles which permit the operator to seize it and freely bend it to any desired angle while following the contour of the horse.

The work done by this machine is very thorough. The amount of dust and dandruff that it will loosen and remove from a horse which has been well groomed by hand is surprising, and well illustrates the superiority of machine grooming over hand grooming. When one of these machines is introduced into the stable, it must first remove from the horse's coat the dirt which has been accumulating for years. It may be a week or two before this is thoroughly effected, but when once the skin is clean, it takes less than two minutes of grooming twice a day to keep it clean. Thirty horses per hour is the average work per machine done in many stables. Furthermore, the animals thoroughly enjoy the massage, for this is virtually what the operation is, and when released from their stalls will often run over to the machine of their own accord. The look of perfect peace and contentment depicted on the face of the animal shown in our engraving is an excellent testimonial in behalf of the grooming machine.

The shoe-blackening machine which we illustrate might almost be called a modification of the horse groomer, so similar is it in operation. In this case, however, the flexible shaft is directly connected to the motor, which is suspended from a crane over the customer's chair. The crane is swiveled on the back of the center chair of a three-chair stand, but can be swung to overhang either of the other two chairs. The motor is mounted on a double set of trunnions, so that it may tilt in any direction. Brushes suitable for the various classes of work may readily be secured to the spindle



Removing Dandruff by Vacuum.

with the interior of the cylinder, and has at its free end a specially-constructed comb, which has hollow resiliently-mounted teeth covered with rubber or similar material, so that they will not injure the head when in use. The cylinder, which is provided with removable heads, also has a safety valve, an adjustable air inlet, a vacuum gage, and a pressure gage. When the motor is started, the air is soon exhausted from the cylinder by means of the pump, and a strong current of air is thus drawn through the teeth of the comb into the cylinder, bringing with it the loosened dandruff scales. The cylinder is partially filled with water which catches the dandruff, thereby preventing the entrance of the same through the pump into the room.

By throwing a switch the motor may be reversed, causing the air pump to force a strong current of air through the cylinder and out through the teeth of the comb. This or a special nozzle may be used for drying the hair, or an atomizer may be connected directly to the tube. The machine is furthermore equipped with a massage appliance, by means of which the vacuum or suctional massage so generally used may be applied.

A device which resembles the above in purpose, though it is very different in operation, is the electrically-driven horse groomer. Not only does grooming improve the appearance of a horse, but it materially assists in keeping him free from skin diseases of various sorts. To properly groom a horse takes time, time which can be ill afforded in large stables, such as those of an express company, a department store, or the like. As a consequence, the hard-worked, dust-coated animals must often be content with a hasty or careless brushing, and sometimes they are entirely

at the end of the flexible shaft, and used in obvious manner. The ordinary lighting circuit supplies sufficient current to operate the motor.

Many an inventor casting about for some field of usefulness has lit upon shoe-blackening as a promising subject, and quite a number of boot-blackening machines have accordingly been invented. The difficulty with most of these machines is that they are too mechanical, the boot-black being almost entirely eliminated. With this type the present invention forms a marked contrast; for it is only the muscle-tiring, back-breaking work that is taken over by the motor, while the application and the manipulation of the brush is still left to the intelligent control of the experienced boot-black.

Imitation Precious Stones.

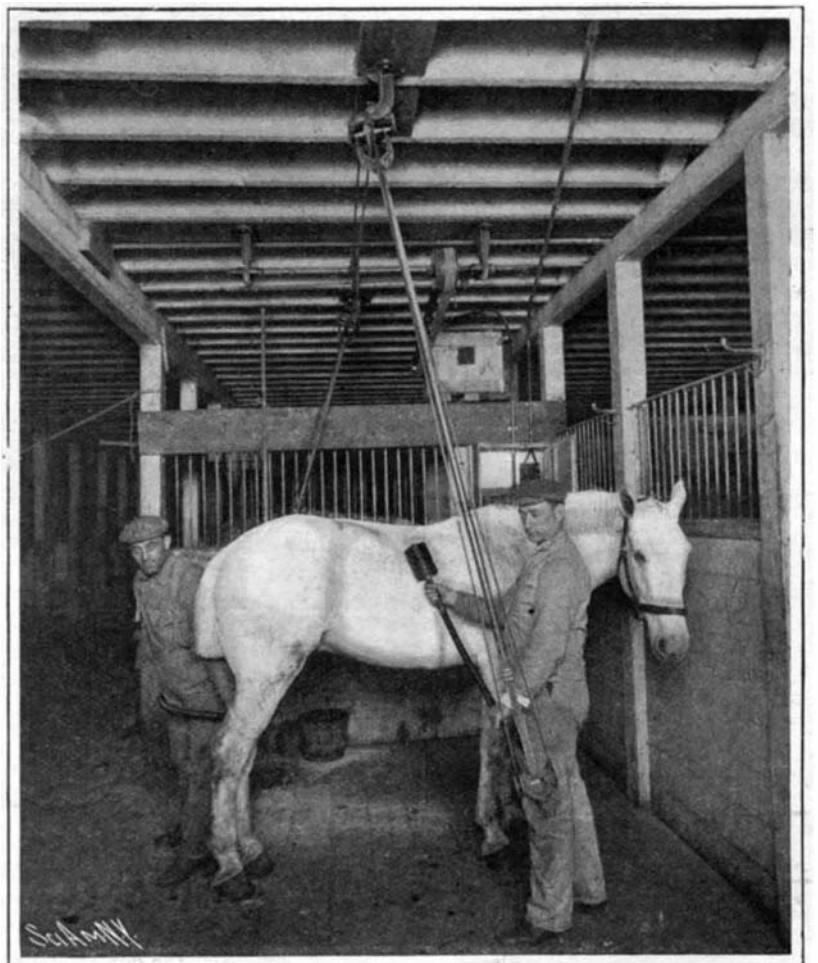
Consul Albert Halstead, of Birmingham, reports as follows in regard to successful methods of imitating certain precious stones:

Birmingham is the center of jewelry manufacture in the United Kingdom. Here are trained jewelers of the most skillful kind. Jewelry workmen have emigrated from Birmingham to the United States in such large numbers that a few years ago in one of the largest silverware manufactories in America there were employed 600 men who had learned their trade in the Birmingham district. Not a little jewelry was formerly exported from this district to the United States, but the development of the art in all classes of jewelry in America has materially reduced Birmingham's exports. Still the trade here is reported to be better than for some time, although manufacturers complain that things are not as they were. The keen competition of German cheap and imitation jewelry has so seriously interfered with Birmingham manufacturers that they now make comparatively little imitation jewelry. Much 9-carat gold jewelry is still made here, but the finer type of jewelry is Birmingham's staple.

The Birmingham Daily Mail shows how adept fakirs have become in recent years, now that the prices of genuine precious stones of the highest quality have greatly increased. The diamond seems to be the only stone that resists successful imitation. The ruby, sapphire, emerald, and pearl are skillfully imitated. Even experts find it hard to detect the fraudulent gems. Defective white pearls can be converted into brown or even black ones. A converted black pearl has been so well colored that it sold at a fabulous price.

Imitation pearls are plentiful and look so like the real thing that they deceive experts. They are made by means of a transparent glass shell, a little glue, and some essence of the Orient, a silvery, pearly substance, composed of fine scales rubbed from a small fish called the "bleak" or the "ablete," 17,000 of which require rubbing to get a pound. Even turquoises are not above suspicion.

The copper output for the United States for 1905 was 397,909 tons, 100,000 tons greater than the average for the last five years.



Grooming a Horse by Electricity.

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