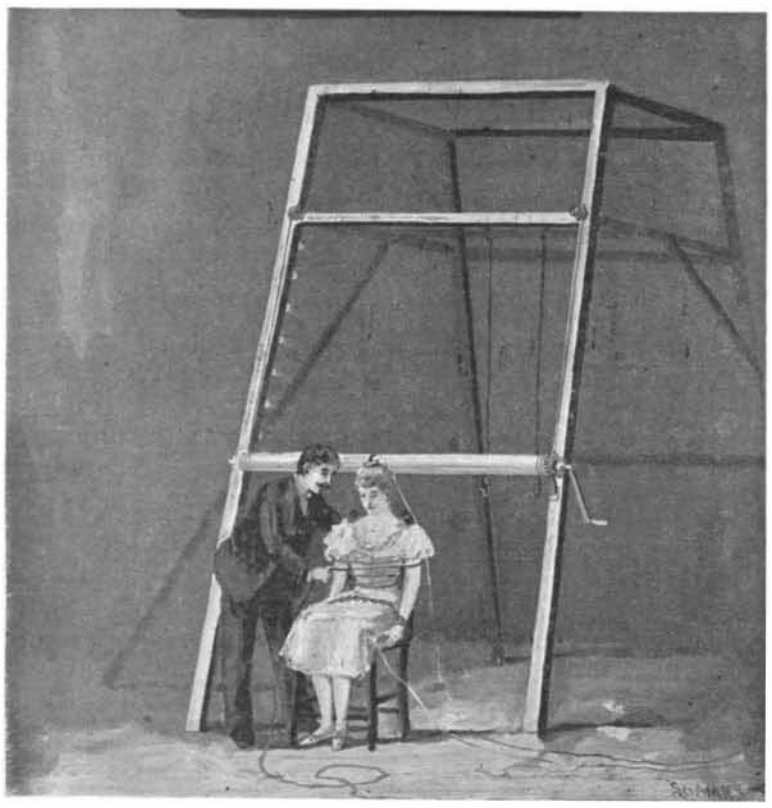
"GONE."*

This clever illusion was designed by Mr. W. E. Robinson, the assistant of the late Herrmann the Great. It



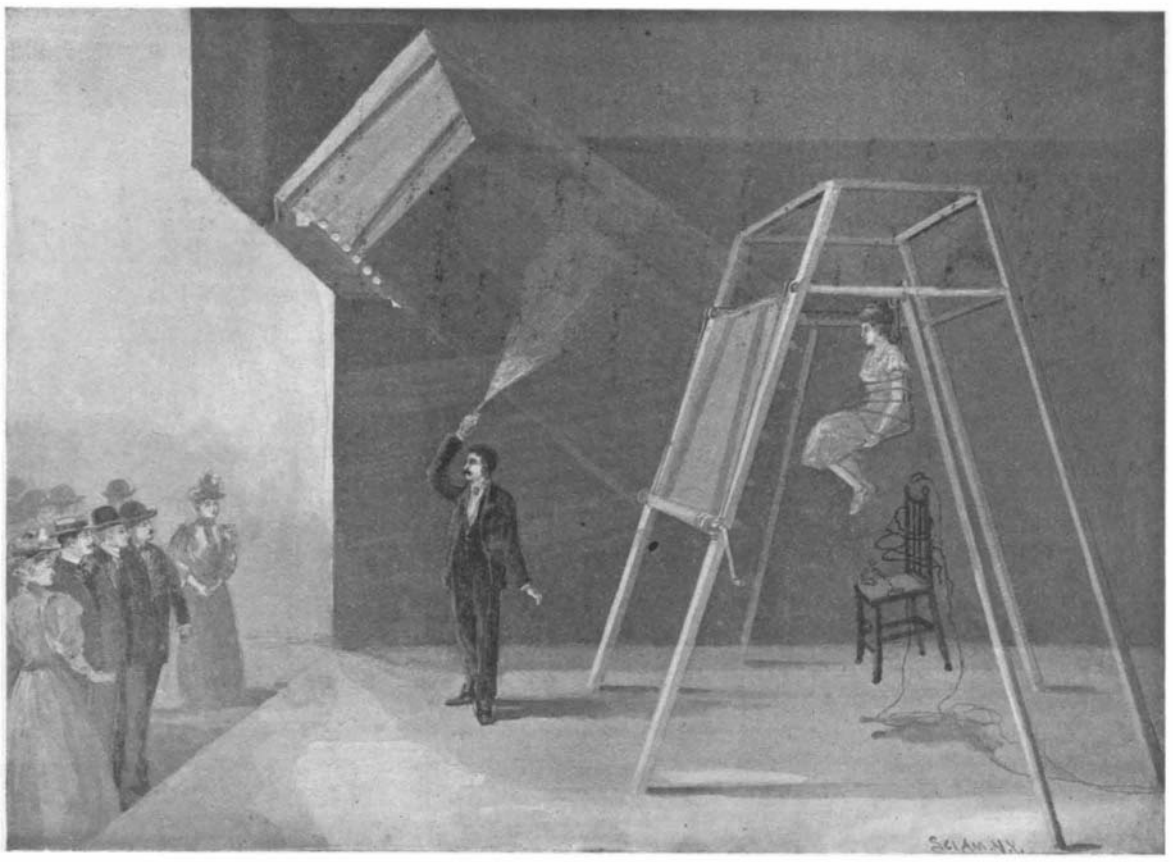
THE LADY READY FOR ELECTROCUTION.

has been exhibited in several of the large cities, and is always a great success. When the curtain is raised, the square frame is seen; this frame is braced laterally by side pieces. At the lower part of the frame, within easy reach of the prestidigitateur, is a windlass. Ropes pass from this windlass, over pulleys, to a crossbar in the upper part of the frame. A lady is now brought upon the stage and for some terrible crime is sentenced to be electrocuted. She is seated in a chair, which she grasps tightly. She is then tied tightly to the chair with ropes, and her hands are chained together. The prestidigitateur now secures the chair, with its fair occupant, to the ropes which are connected with the windlass, by means of hooks which fasten to the top frame of the chair. Wires are now secured to the unfortunate lady, so that it really seems as though she was to receive the death-dealing current. The professor of magic now winds away at the windlass and raises the chair until the head of the victim is on a level with the crossbar. He then discharges a pistol, and at the same instant the lady disappears and the chair drops to the floor. Such is, in brief, the mode of operation of the trick called "Gone."

In reality the illusion is a clever adaptation of the "Pepper Ghost," of which we have already described several variations. A reference to our first engraving will show at the sides of the frame a row of incandescent lights. While the lady is being secured to the chair, and while she is being hoisted up to the crossbar, these lamps are kept lighted; but the instant the pistol is fired, these lights are extinguished by a stage hand in the side scene. Up over the proscenium arch is arranged a background which corresponds to the background of the stage. Two wooden bars cross it. Directly below this screen, and carefully shielded from the observation of the spectators, is a row of incandescent lights. As the pistol is fired these lights are turned on, while those in the frame are extinguished. Now, according to the principles of the "Pepper Ghost," which we have already described, the person or thing which is brilliantly lighted has its image projected on a sheet of glass and appears to be real. The front of the frame, from the windlass to the horizontal cross piece, is covered with a sheet of glass which is not apparent to the audience.

The image of the background is projected upon this glass, which hides the lady from view, although she is immediately behind it, and the pieces of wood and this artificial background take the place of the back posts of the frame, thus deceiving the audience. The chair is made in two sections, the lady being tied to the upper or skeleton chair. She holds a heavy chair with her hand tightly, and at the instant when the pistol is fired she releases the chair, which falls to the floor with a loud noise.

There is another illusion, called "Out of Sight," invented also by Mr. W. E. Robinson, which is somewhat similar, but is not as interesting from a scientific point of view. It is, however, better adapted for a traveling company, as there is no glass to break, the large sheet of plate glass in the front of the frame being entirely dispensed with. When the pistol is fired, a curtain of the same color as the background is released by the prestidigitateur, and it is drawn down quickly by means of rubber bands. It takes only an instant for the curtain to descend, its lower edge being hidden from view by the windlass. The audience is usually deceived as easily by this illusion as by the more complicated one.



THE ILLUSION OF 'GONE" EXPLAINED.

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Sectionalized Machinery.

In the light of modern engineering achievements it is safe to say that there is no mine situated in so inaccessible a place that it cannot be worked if it is rich enough, says The Engineering and Mining Journal. It is a greater evidence of our engineering skill, however, that many mines which are not especially rich can be operated profitably in remote places whither a wagon cannot be driven. We have perhaps the most remarkable instances of this kind in Mexico, where the cordillera has a precipitousness that is nowhere approached in the United States, where there are few railways besides the main north and south lines, and wagon roads are scarce. When, therefore, one comes across a stamp mill loudly pounding away at the bottom of a barranca in the heart of the Sierra Madre, or a smelting furnace belching its black smoke, one may well be lost in astonishment at their being there at all. That they are there is due chiefly to the ingenuity of mining machinery makers in dividing their apparatus in such a way that no part of it will weigh more than a mule can carry. This is a branch of work in which American machine works have excelled, and their experience in it is now so complete that the engineer can safely intrust to them his orders for almost any kind of apparatus.

The maximum load that the Mexican mule can carry in the Sierra Madre is 350 pounds, and this requires a specially picked mule. The ordinary mule load is only 300 pounds. It is necessary, therefore, that there shall be no piece of machinery weighing more than 350 pounds, and those of that weight should be few in number. The most experienced machinery makers are generally able to keep within these limits. Such apparatus as boilers and water jacket furnaces are shipped, of course, in nested plates, which have to be set up and riveted on the ground.

A no less important requirement than the weight of a piece is its length, since a mule cannot safely make the sharp turns of a narrow mountain trail with anything longer than nine feet on its back. This restriction, which obviously applies to lumber as well, often increases very much the difficulty of mill construction, since there are numerous mining camps in Mexico where every stick of timber that is used must be brough in by muleback or on the shoulders of men.

RAISING THE LADY BY MEANS OF THE WINDLASS.

The Naphtha Industry in Baku.

The Kolonialwaaren Zeitung says: Since the discovery, not so very long ago, of the great naphtha riches of the environs of Baku, Russia, that city has developed into an important industrial and commercial center. It is true the oil springs of the Apscheron Peninsula have, since the time when the first drills were made, decreased considerably in productiveness, and the spontaneous effusions are no longer as frequent as in the beginning. Nevertheless, enormous quantities are still produced, and an exhaustion of the subterranean naphtha reservoirs need not be apprehended for the time being. Single wells yield, during short periods, 3,000 to 5,000 barrels per day. The British consul at Baku ascertained that a single well produced no less than 10,000 barrels per day, which meant a daily income of $25,000 to the owner. The productiveness of the well did not remain so great for a long time, but in the course of two months it yielded in the aggregate 300,000 barrels, valued at $750,000. The product of all the springs together, no matter how enormous the quantities, always finds ready buyers at current market prices, which are but little influenced by the size of the offerings. The mineral oil is always carried away as soon as possible, to be either shipped in a crude state or else to be worked up in Baku. There is a large number of refineries in Baku, where naphtha is turned into numerous varieties of oil and kerosene products. Large quantities of refined petroleum are shipped from Baku to many more important places up the river Volga, as well as to other Russian and Persian ports of the Caspian Sea. A considerable portion of the products is sent by rail to Batoum, from which port it is shipped to all parts of the Black Sea.

A DISCOVERY has just been made in the archives of the Vatican. It is a collection of medical prescriptions for diseases of the eye, in the handwriting of Michelangelo. He was much troubled with his eyes in old age, and he seems to have made a record of all the remedies which were prescribed for him.