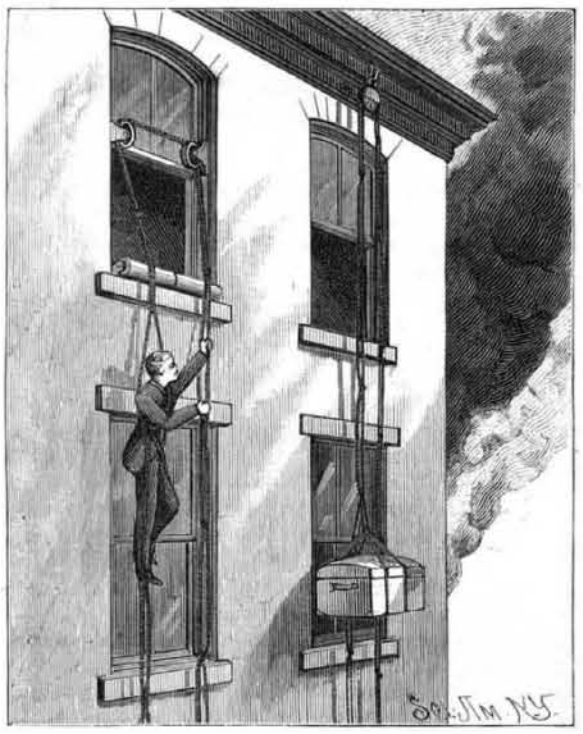
IMPROVED FIRE ESCAPE.

The fire escape herewith illustrated—for which letters patent have been granted to Mr. J. W. Wetmore, of Erie, Pa.—is extremely simple in construction, so that it can be readily understood and easily brought into use, is ready for use at once at the window of every story of the building along which it is suspended, and it may be used by persons in the building to descend without assistance, and also by firemen to ascend to any story. The device consists of two endless ropes knotted together at intervals to form loops from 1½ to 3 feet long. This double rope is passed around a pul-

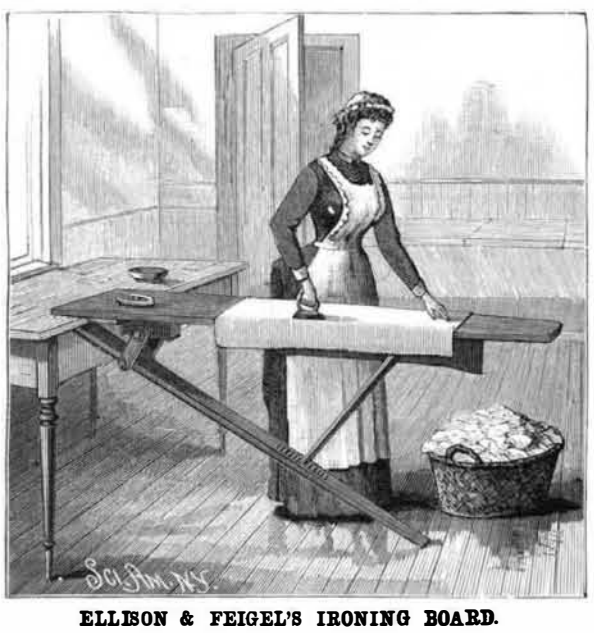


WETMORE'S IMPROVED FIRE ESCAPE.

ley suspended either from a hook attached to the cornice or to the inside of the upper window. If desired, a hook may be placed at each side of the window and two pulleys be used, as shown in the left of the engraving. The person descending passes one of the links under his arms, and controls his descent by holding the other side of the rope. An auxiliary endless rope, which is first looped in one of the links of the double rope, may be used to raise persons or objects, and would be particularly useful in lowering a child that could not be safely held in one of the links. When the position of the pulley renders it necessary, friction rollers are placed on the window sill. It will be seen that the double rope can be operated from the window of any story or from the ground.

IRONING BOARD.

Secured near the under side of the head of the board is a transverse cleat designed to strengthen the board and prevent warping. Two short links are pivoted on the ends of a bolt passing through a block bolted to the board. The lower ends of these links are pivoted on the ends of a bolt secured in the lower leg of the board. This leg is made tapering, and is flat on its upper and lower surfaces, so that it can be used in



ELLISON & FEIGEL'S IRONING BOARD.

pressing sleeves or the legs of trousers. The upper end of the leg is extended beyond the links, and the extremity is finished obliquely to form a bearing parallel with the under surface of the main board. Several teeth are inserted in the bearing.

When the end of the main board is placed on the edge of a table, and the support is turned down to rest upon the floor, the upper end of the leg rises under the table edge, forcibly engages it, and holds the head of the ironing board in position. This fastening is made secure by means of a brace hinged to the main board, and when the lower end engages with one of a series of notches formed in the leg. The links allow a free adjustment of the lever support both in regard to the height of the table or bearing to which the ironing board is to be attached and in respect to the thickness of the bearing to which the clamp formed by the end of the board and the extension of the lever support is applied. One of the bolts passing through the block holds in place an iron holder shaped like a horseshoe and bearing the words "good luck." The board will not tip, neither will it tip the table to which it is attached, no matter what weight is placed on the projecting end.

Further particulars concerning this invention can be had from Messrs. Ellison & Feigel, of 38 South Diamond Street, Allegheny City, Pa.

Francis W. Bacon.

Francis W. Bacon, widely and favorably known as a mechanical engineer and expert, died in Boston, January 13, at the age of 76 years. He was a native of Southbridge, Mass., and served his apprenticeship in a Worcester machine shop. On becoming a journeyman, he worked some years in various New England cities, finally being forced by failing health to go to Cuba, where he remained three years as chief engineer on a sugar estate. Returning to the United States, he became associated with various business enterprises, and at the opening of the civil war was carrying on a machinists' supply store in New York. About this time he took up the steam engine indicator, which he was destined to do more to introduce into general use than perhaps any other one man. When first adopted, it was considered by the majority of engineers to be a mere scientific toy, of no practical value whatever. He believed in it, however, and suggested a number of improvements. To-day, thousands of the instruments are in use, their dictum being unhesitatingly accepted, not only in the engine room, but in the highest courts of the land. Mr. Bacon was a valued contributor to the SCIENTIFIC AMERICAN, the *American Artisan*, and the Boston *Journal of Commerce*. He was a member of the American Society of Civil Engineers and many other organizations, as well as a life member of the American Institute of New York.

Another Remarkable Gas Well.

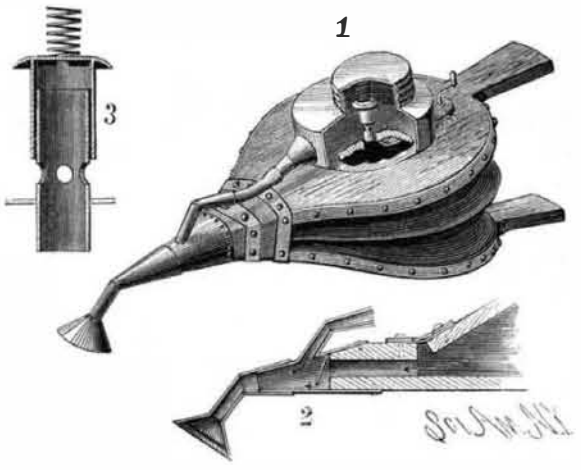
The *Sanitary Plumber* reports the greatest strike in natural gas yet made in Ohio, which occurred at Tiffin on the 19th ult. A well at that place was torpedoed with 400 pounds of rackarock and 25 pounds of nitroglycerine, at a depth of 156 feet. There were 300 feet of oil in the well at the time, and this was thrown to a height of 125 feet in the air, and was followed by an escape of gas, the flow of which Mr. Brownyear, the contractor, estimated at 600,000 feet per day, which would surpassany of Fidley's first four wells, and equal all of Bowling Green's combined. The shock of the explosion was felt in the most distant parts of the city, and thousands of people from the surrounding country hastened to the scene, led by a brass band, to welcome the new arrival. For the safety of the drilling apparatus the gas was piped a distance from the well, where it burned with great brilliancy, illuminating all the eastern part of the city. Over 200,000 feet of gas flowed during the night, and it is now steady at about 100,000 feet per day. Oil in considerable quantities for lubricating purposes has filled the well, and flows in a steady stream.

Proposed New Water Supply for Chicago.

A unique scheme for supplying Chicago with water has recently been proposed, and rests upon such plausible grounds that the Academy of Sciences has ordered an immediate investigation and report. A limestone strata underlies the city at no great depth, and outcrops in the bed of Lake Michigan, about two miles from shore. The stone contains numerous caverns and fissures which are filled with water from the lake, after it has percolated the intervening filtering courses. In a half a dozen wells which have penetrated the limestone formation, it has been found impossible to lower the water below the level of the lake, by the most persistent pumping. Based upon these observations, the plan of supplying the city with water by means of shafts sunk to the limestone has been proposed. It would take about $20,000, it is said, to make the experiment. Great care would be necessary to exclude all surface water and drainage contaminations.

IMPROVED BELLOWS.

The engraving represents a bellows particularly adapted for discharging insect powder on to trees or plants or about furniture, and also for blowing the loose sand from moulds used in casting metals, and for distributing facings over the faces of the moulds. The bellows is simple and durable, and is readily adjustable for its various uses. Secured to the top board of the bellows is a box for holding the pulverized substance it is desired to distribute. The box is connected with the bellows nose by a flexible tube, as clearly shown in the sectional view, Fig. 2. A wire gauze partition is fitted at the inner end of the box nozzle, to prevent choking up of the powder passages by lumps or foreign substances. The box is filled through an opening bordered by a screw neck upon which the cap fits. When the handles are operated to force the air through the nose of the bellows, some of the air will pass into the box through a check valve pressed down lightly by a spring. This valve (Fig. 3) is so constructed as to admit air to the box at two levels, thereby insuring thorough agitation of the powder in the box and a more effective distribution of it through the tube and into the nose, where it is met by the main air blast and ejected forcibly from the nozzle, which is, preferably, provided with a rose head. When the bellows is to be used to distribute foundry facings, the passage leading to the box can be closed by a valve on the inner face of the upper board when the facings are not to be blown



CAMPBELL'S IMPROVED BELLOWS.

upon the moulds—as, for instance, when the bellows is to be used for blowing loose sand from the moulds. This valve is operated by an arm on a crank lever pivoted in the board as shown in Fig. 1.

This invention has been patented by Mr. Geo. T. Campbell, of 935 Howard St., San Francisco, Cal.

CLOTHES DRIER.

This clothes drier, which can be attached to the wall of a room, consists of a sliding frame and folding drying rods, and is so constructed as to occupy but a small space and yet give a large surface for drying the clothes. The main frame consists of two uprights connected by cross bars and formed on their inner edges with vertical grooves, and provided with guides between which runs a sliding frame having grooved rollers. A rope attached at one end to the upper cross bar passes downward under a grooved pulley secured to the sliding frame, then upward over a pulley in one of the uprights, and then down the outside of the upright to a clamping lever. At the upper and lower ends of the sliding frame are wedge-shaped blocks turning on pivots. To these blocks are fastened strips having holes to receive the hooked ends of the drying rods, which are made of galvanized wire.

To use the drier, the upper wedge-shaped block is turned on its pivot into a horizontal position and fastened by a pivoted latch, and the drying rods are spread apart to receive the clothes. The lower block may be

BOGLE'S CLOTHES DRIER.

adjusted in the same way. The sliding frame with the blocks and drying rods is then raised to near the ceiling, where it is brought in contact with the warmer air of the room, by pulling the rope, which is then fastened by the clamping lever. The wedge shape of the blocks allows a compact folding of the drying rods. More than two blocks, provided with any number of rods, may be used, as desired.

This invention has been patented by Mr John A. Bogle, of Milton, Pa.