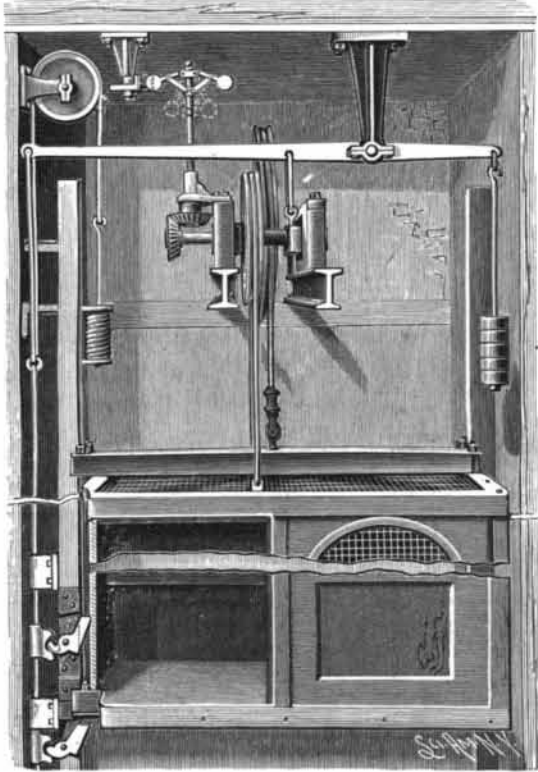


A SAFETY ATTACHMENT FOR ELEVATORS.

The numerous attempts which are constantly being made to find a satisfactory solution of the problems involved in the construction of a safety attachment for elevators which shall be at once simple, reliable, and economical, are a conclusive proof that the world is still waiting for the crowning achievement in this department of mechanics. It is, in fact, well understood by every one who has paid any attention to the subject that all the devices now in use fall very far short of doing for elevators what the air brake has done for railroads. Until at least the same standard of safety shall have been attained for vertical as for horizontal locomotion, the public have certainly a right to demand that manufacturers of hoisting machinery shall give every encouragement to inventors

**LABATT'S ELEVATOR SAFETY ATTACHMENT.**

who have this laudable object in view, and it is fortunate that the keen financial interest which the casualty insurance companies have in the efficiency of these contrivances is a guarantee that popular expectations in this respect will not be disappointed.

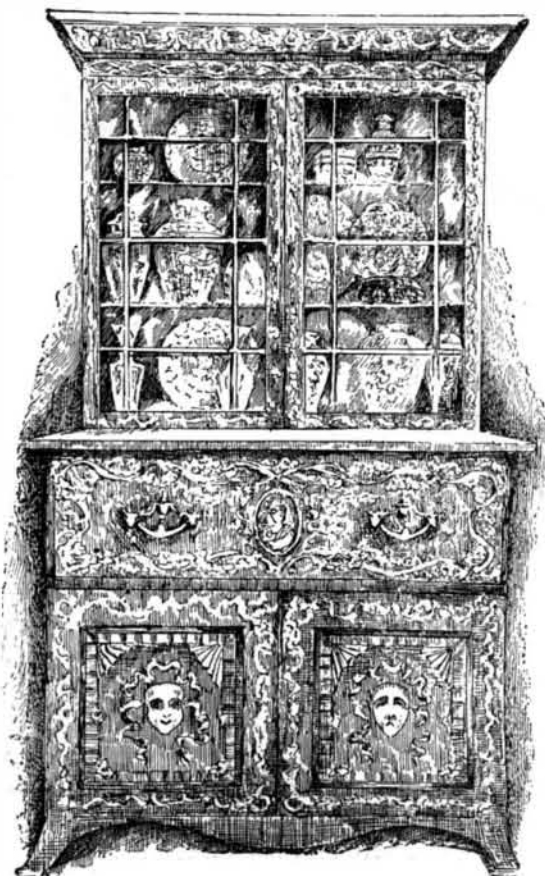
It is a peculiarity of the improvement shown in the accompanying illustration that the arresting apparatus designed to automatically stop the cage should the rope break, or should an unsafe speed be attained, is detached from and altogether independent of the cage. The improvement is readily applicable to any elevator shaft and cage, the mechanism being brought automatically into action either directly through the movement of the cage itself, or by controlling devices connected with the bearings of the drum over which the hoisting rope or cable passes. The invention forms the subject of a patent issued to Charles B. Labatt, of No. 143 West Fifteenth Street, New York City. In a vertical bar or beam at one side of the elevator shaft are recesses, at frequent intervals, in each of which is fulcrumed a safety catch of latch form, and when the shank portion of the catch is liberated or moved upward its body portion is carried outward into the path of the cage. On the other side of the latch beam are eyes, through which pass a trip rope on which are blocks adapted to engage the shank portion of each of the catches, these blocks normally holding the catches wholly out of the path of the car or cage. The trip rope extends over a pulley in the upper part of the shaft, and its end is connected by a rod with a spring, whose normal action is to draw the trip rope and throw the catches in the path of the cage; but this is prevented by the engagement of a lever with lugs in the periphery of the pulley. The lever is fulcrumed in a hang-

er, and is adapted to be engaged by the arms of a governor when the cage attains an unsafe speed, the lever being by this means disengaged from the lugs in the periphery of the pulley, when the spring draws upon the trip rope to throw the safety catches into the path of the car. The shaft on which is the drum wheel carrying the hoisting cable has at one end a miter gear meshing with a similar gear on the governor shaft, whereby the undue speed of the car expands the governor arms. The boxes in which the drum wheel shaft is journaled have a limited vertical movement, and one of these boxes is connected by a link with a lever fulcrumed upon a hanger, a weight being suspended from one end of the lever and its longer end being connected with the trip rope. On the breaking of the hoisting cable, the weight on the short end of the lever causes its other end to draw upon the trip rope and throw the safety catches out into the path of the car. The patent also provides for some modifications of the construction shown in the illustration, and the invention is in a measure an improvement on a formerly patented invention of the same inventor, whereby provision was made for projecting safety stops into the line of travel of the elevator in case of the breakage of the hoisting rope. The apparatus provides for the automatic stopping of the car before it can possibly attain a dangerous speed, and, if desired, provision may be made for lessening the shock of the impact of the cage on the stops by the use of springs or air cushions. It will also be noticed that, should the cage break through the first pair of stops meeting it in its descent, there will be another similar pair of stops waiting to meet it just below, and so on down to the bottom of the shaft.

ANTIQUE FURNITURE.

The perfection attained in the production of factory-made furniture within the last few years, and the comparatively low prices for which most elegantly finished articles are afforded, are the best proofs of the progress being made in the furniture trade. The styles, too, are now more varied than they ever were before, for, in addition to the new designs which the manufacturers are all the time originating, the copying of antique and classic designs is extensively followed in all work where the difficulty of execution does not prove too great an obstacle. The fact remains, however, that the best taste of the present day is most decided in its preference for old furniture of the classic styles of such makers as Chippendale, Mannering, Mayhew, and other artistic workmen of the last century, and good samples of such work are always sure to command high prices. A collection of eighteenth century furniture recently exhibited in London, comprising secretaires, cabinets, tables, screens, etc., was well calculated to stimulate interest in such work, and we are indebted to the Furniture Trade Review for the illustrations and description herewith presented of two of the most important pieces in the collection.

The satinwood kneehole writing desk is inlaid with cross-bent tulipwood, and decorated with painted heads, wreaths, and festoons of fruit. It has a rail round the top, beneath which are four small cedar-lined drawers, a sloping front covered with morocco

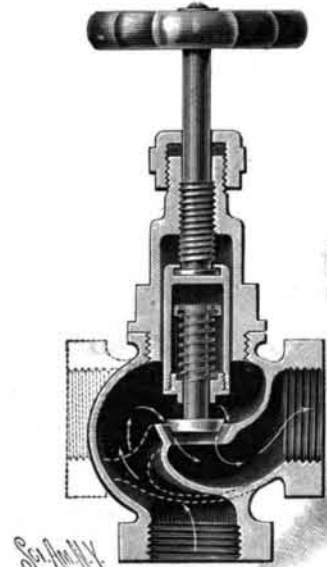
**ANTIQUE ENGLISH DESK AND MAHOGANY SECRETAIRE AND CHINA CABINET.**

and painted with a group of Cupids in the style of Cipriani. Beneath is a long drawer, and there are four small drawers on each side of the recess. Hanging above is a Chippendale mirror with brackets for china.

The mahogany secretaire and cabinet is in the Sheraton style. It has a secretaire drawer fitted with ten drawers and pigeonhole, a cupboard below with two paneled doors, inclosing sliding trays, and above are two glazed doors inclosing shelves. The whole is finely decorated with elaborate paintings of masks, medallions, wreaths, and ribbons, with exceedingly rich effect. This fine old example has had the interior restored and new lining added to the drawers, but the exterior is in as good condition as when it left the maker's hands, with the additional charm of softened tones that time alone can give.

AN AUTOMATIC PRESSURE REGULATING VALVE.

A valve adapted to close proportionately on an increase of pressure and open correspondingly with de-

**SLEIGH AND DE LONG'S VALVE.**

creasing pressure in the flow of gas or other fluid is shown in the accompanying illustration. It has been patented by Charles F. Sleigh and John M. De Long, of North Baltimore, Ohio. The valve seat is comparatively deep, and conical in shape, and the valve is held on a stem sliding loosely in a cap on the lower end of a cage which also slides loosely in the cap of the valve body, the cage being adapted to be raised or lowered by a threaded stem on which is a hand wheel. On the upper end of the valve stem is a cap against which presses a coiled spring, and an increase in the pressure of the gas flowing through the valve, causing an increased pressure also against the top of the valve, moves the latter downward against the tension of the spring, thus decreasing the opening between the valve seat and the valve, the spring lifting the valve and enlarging the opening as the pressure decreases.

The Largest Black Diamond.

This diamond weighs 3,100 carats, and is, therefore, the largest ever known. The great Jagersfontein diamond, which was found in South Africa about two years ago, and which was said to be the largest known to be in existence up to that time, weighed about 970 carats. The stone was found in the Carbon district, the old diamond fields of Brazil. It is of the class known as "black diamonds," or commercially as carbon, which are used in diamond drills and for similar purposes, their color not adapting them to ornament.

At the present time the stone is in the hands of the jewelry firm of Kahn & Company, of Paris, and the Brazilian government is negotiating for its purchase for the National Museum. The stone was offered to Messrs. Bishop & Company, but they declined to purchase it, as it is difficult to say how such an exceptionally large stone will turn out when cut into commercial sizes, and the price demanded was too great. The value is placed by experts at between \$30,000 and \$40,000. The price paid for it by the present owners is somewhat uncertain, one account putting it at \$26,000, while another says that they paid 52s. 3d. (English) per carat, which would make the price nearly \$40,000, or not far from its probable maximum value.