

**IMPROVED ELEVATOR.**

We illustrate herewith improved mechanism for elevators, in which will be found combined several novel devices, tending to simplify the apparatus as well as to render the same strong and safe. Among the new features are the means for holding the platform should the hoisting rope break, the use of a single belt running in one direction to actuate the hoisting gear, an improved clutch, and a simple arrangement of an idler on the belt, in connection with a brake lever, which last, on the breaking of the belt, at once throws the brake into action, and so stops the machinery.

We also illustrate, in Fig. 2, the direct application of a steam engine to the hoisting gear, in cases, for example, where power cannot be obtained from some main source in the building. The engine is built by the same manufacturers, and is of neat and compact pattern, well adapted to this special purpose.

Referring to Fig. 1, it will be seen that the driving belt, A, is caused to lap over both pulleys, B and C, thereby rotating the same in contrary directions, and, through its application to a large pulley surface, communicating an increased amount of power without slipping. D is a bar pivoted to the center and provided at each side of its pivot with clutches which engage with pulleys on the shafts of wheels, B and C. It is obvious that but one clutch can be thrown into action at a time, and this is done by the end of the bar, D, at E, being provided with a projection which enters a worm on a shaft, at the extremity of which is a pulley, F. Cords from this pulley are led down alongside the elevator carriage. By means of said cords the pulley, F, may be turned in one or the other direction, so moving correspondingly the end of bar, D, and thus throwing into action one or the other of the clutches. The latter are of novel construction, and consist essentially of cones which, on entering the pulleys, expand movable pieces which enter V-shaped grooves and tightly bind. The effect of operating the clutches is, as will be obvious from the gearing represented, to transmit motion to the hoisting drum in one or the other direction, and so to hoist or lower the carriage. In order to hold the mechanism during the instant when, in shifting the clutches, both are thrown out of gear, a bell crank lever, connected with the end of the bar, D, is provided. This, when the bar is moved either way, pulls down the brake on the brake wheel, G. The same, of course, serves as the means for stopping the carriage at any desired point. Connected also with the brake is a long lever, I, which terminates in an idler which rests on the belt. Should the latter become ruptured, the lever falls, and its weight, applying the brake at once, prevents accident by arresting the motion of the mechanism. This arrangement obviates the necessity of the governor usually provided.

An inspection of the standards in which the platform travels will show that the rack, ordinarily placed on the inner sides, with which pawls engage, and so prevent the fall of the platform in event of the breakage of the hoisting, is here done away with. The safety mechanism substituted is much simpler and, at the same time, cheaper. It is shown in the broken away portion of the upper crossbar of the platform, and consists of a reversed T-shaped piece of iron, the vertical portion of which passes through the bar and serves as a point of attachment of the hoisting rope. The horizontal part of the T underneath connects with a leaf spring, and this with a toothed pivoted eccentric. When a strain is on the T piece, the spring is held out of action; but on the breakage of the rope the T piece falls, the spring is thrown outward, and the cam turned so that its widest portion becomes jammed, and the teeth bite in the wood of the standard, thus holding the carriage securely. The same arrangement is on each side of the crossbar, which is also steadied and held in place by the guide rollers shown at I.

The mechanism generally is of excellent construction, and, judging from practical trials which we have witnessed, appears to show that the claims of its manufacturers are fully substantiated.

For further particulars address the Holske Manufacturing Company, 279 Cherry street, New York city.

It is said that a few drops of oil of anise or oil of rhodium, placed upon bait, will entice animals into a trap.

**Vulcanizing of Caoutchouc.**

Professor Böttger states that Gauthier de Caubry has established by experiment that, upon mixing flowers of sulphur and dry chloride of lime in a porcelain mortar very intimately, a decided odor of chloride of sulphur soon becomes noticeable, accompanied by an elevation of the temperature of the mixture, while the sulphur softens, and a plastic mass is formed. If the sulphur is largely in excess of the chlor-

and without punching or mutilating in any way, all kinds of papers, such as bills, statements, deeds, manuscripts, etc., of any size, either folded or open, and in such a manner that any heading can be found at once, and so that one or several papers may be removed or inserted easily and quickly, without disturbing those not wanted. It adapts itself to any uneven thickness which may exist in the folds of the papers. When the file is full, the papers are already partially compressed and in proper shape for tying up and putting away in bundles.

In the bed are shallow cups, A, holding conical spiral springs, which bear upward with a constant pressure against a piece on which rests a table. The piece beneath the table has on its under side small cups for confining the upper ends of the springs, and on its back edge a cross, Fig. 2, which works in a slot in the upright portion of the bed, and hold the table in proper position. The table is of wood; the balance of the file is metal. The papers are inserted at a single movement by being taken at both ends between the thumbs and fingers and introduced between the table and the top plate, B.

The file can be suspended on a wall by the ears, as shown, but ordinarily it will rest upon a desk or writing table. The conical shape of the springs allows them, when the file is full, to be received entirely into the shallow cup, thus giving the entire space (about three inches being a convenient size) for the reception of the papers. There is not a screw, rivet, nor fastening of any kind used in the construction of the file, all parts being neatly fitted together.

Patented through the Scientific American Patent Agency, March 2, 1875, to Richard H. Hoffman, of Keyser, Mineral county, West Va. The exclusive right to the patent is offered for sale. For further information, address the patentee as above.

**Improvement in Music Printing.**

For printing music it is necessary to have, first of all, the composition lightly sketched on sheets of tin, after which it is engraved on the plate by a workman, who holds a punch in his left and a hammer in his right. As the design has to be transferred, it is engraved reversed, which requires both an experienced eye and a steady hand.

M. Lourdel, the well known photographer, of Paris, thought it would be a great saving to suppress the sheets of tin, which cost generally about 82 cents. To do this a piece of transfer paper is taken, which has been previously lined and spaced. The workman has before him a composition case like a printer's, which contains in each division a tool, at the extremity of which is a musical sign. Beside him is a pad impregnated with transfer ink. He lays the ruled transfer paper before him, and with the right hand he takes the musical signs, notes, etc., inks them, and prints the paper without the slightest effort. It is simply a matter of regularity and rapidity, speed being easily acquired after a little practice. The music is then transferred to the stone and proofs taken at will.

**Penikese School.**

It is certainly a misfortune that the Penikese school, after so promising a start and with its usefulness so well demonstrated by its work during the two summers which it has been in existence, should now be compelled to suspend for lack of funds. Mr. Alexander Agassiz states that the Anderson donation has sufficed to equip the school in an inexpensive manner and to support it up to the present summer; but that this is now exhausted. As an attempt to levy a charge upon the pupils has proved fruitless, nothing remains but to close the doors.

The usual class of scholars who have hitherto taken advantage of the summer session have been principally teachers and students of natural history, of straitened means, and who, although enthusiasts in study, are as a rule unable to contribute toward any educational project, however beneficial, out of their scanty earnings. Consequently, when it was announced that the Penikese school was no longer free, a few individuals responded and the large majority stayed away; and hence the suspension of operations. An excellent opportunity is here offered by some friend of Science to revive the school by means of a liberal endowment, and to avoid the scandal that must certainly be caused if Mr. Anderson's generosity is allowed to be nullified for want of a few dollars.

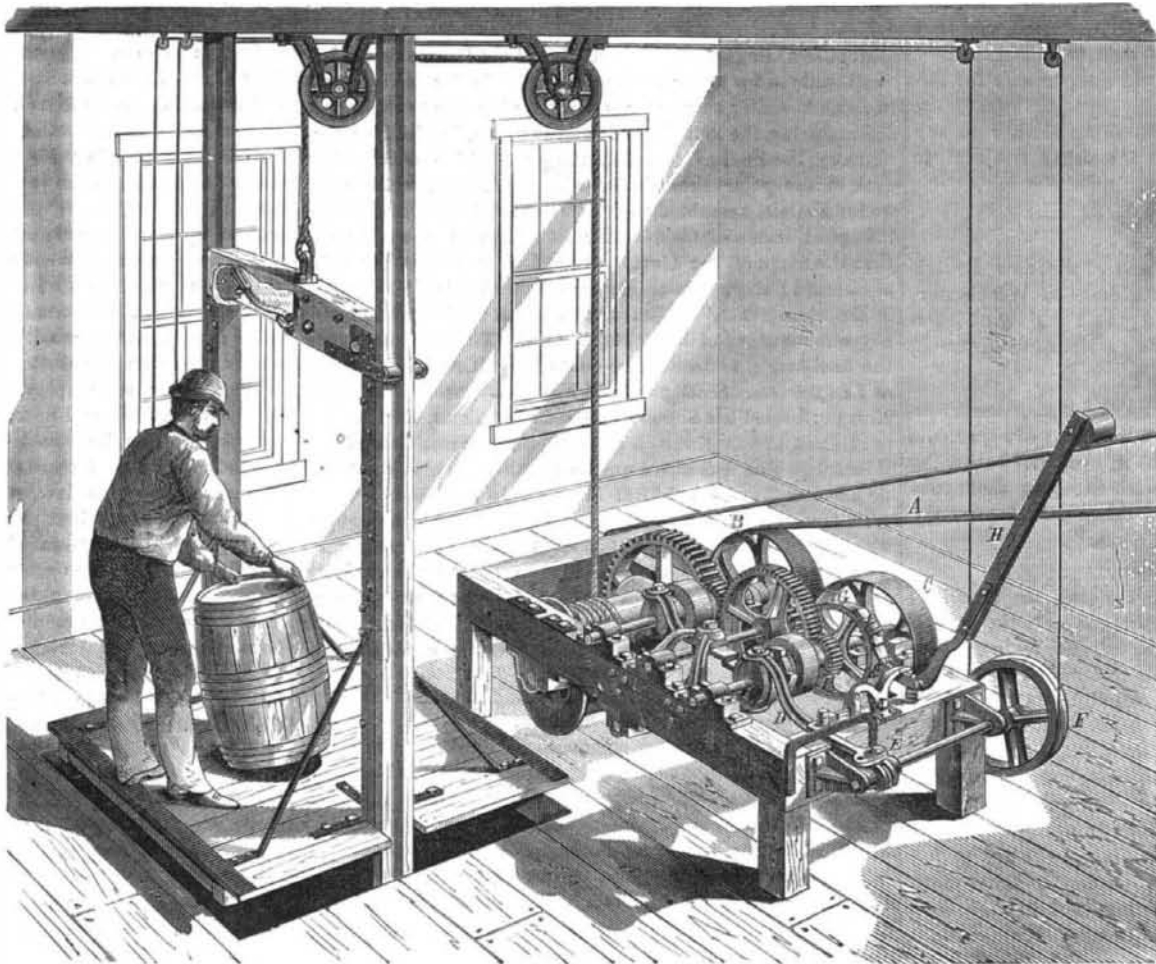
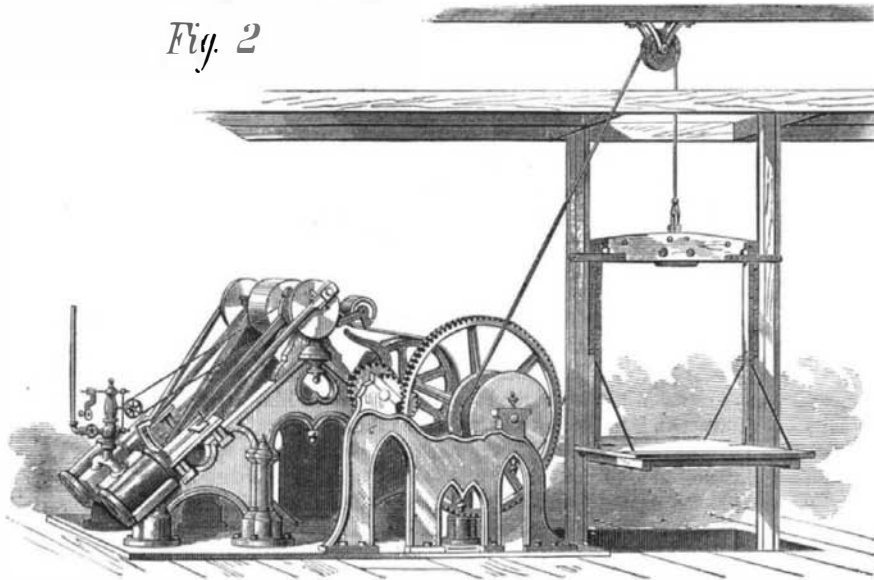
**HOLSKE'S ELEVATOR.**

Fig. 2



chloride of lime in excess, the mass remains pulverulent, instead of becoming pasty.

**IMPROVED BILL FILE.**

The device herewith illustrated is designed to hold firmly,

