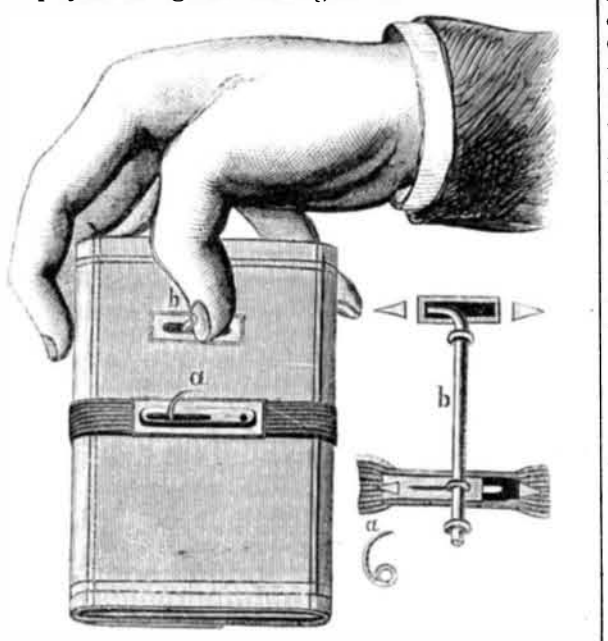
WEBER'S SAFETY POCKETBOOK.

Not only visitors to our large cities, but the regular inhabitants have frequent cause to deplore the skillfulness of the professional pickpocket, who so adroitly relieves them of their pocket-books, generally without alarm or detection. The engraving, however, shows a very simple means of balking their skill and protecting the citizen's money. Under the clasp, which retains the elastic strap in place, is a curved needle, seen at *a*, which is secured to a wire bar, *b*, in the smaller figure, inside the wallet cover. The other end of the bar is bent at right angles and terminates on the outside of the porte-monnaie in a small knob, which works in a slotted guard, b, in the large figure. The point of the curved needle projects through the central guard at *a*.



The operation is simple. When the pocket book is to be placed in the pocket the thumb presses against the knob, b, and the neeble is turned back until its point is below the surface of its guard; the thumb is then withdrawn, and a spring on the inside of the book cover throws the curved needle forward, engaging with some portion of the pocket or clothing and securing it in a loop. Now, unless the knob is pressed back, the book cannot be removed from the pocket, at least, without alarming its possessor.

This ingenious device was patented April 2, 1867, by Theodore A. Weber, who can be addressed care U. Herrmann & Bro. 159 Pearl street near Wall, New York city.

Correspondence.

The Editors are not responsible for the opinions expressed by their correspondents.

"Running Down" the "Dunderberg."

MESSRS. EDITORS:—When the English journal *Engineering* by error assigned to Captain Ericsson the design of the *Dunderberg*, it was made an occasion to declare this vessel a "weak monstrosity;" when she was sold to France this was made an occasion to impeach her prowess and ridicule her purchasers. The last paper ball fired at this persistently abused vessel was by the *Army and Navy Journal* in its issue of June 29, 1867. If there is then, anything in the tone of the present article seemingly harsh, let it be viewed in the light of those persistent misrepresentations; let it be viewed in the knowledge of persistent efforts to glorify Mr. Ericsson's monitors and defame any ship of any other man. Then to the subject. The *Army and Navy Journal* tells us: "The broadside vessel is a style of iron-clad which we have uniformly pronounced inferior to the turreted monitor. . . . The 9-inch Woolwich rifled gun, a very common gun in England, at moderate range, would certainly penetrate the 3½-inch armor of the *Dunderberg's* casemate, and probably go through both sides into the sea." Now the SCIENTIFIC AMERICAN says, page 173: "The *Dunderberg's* casemate sides and ends are inclined inward for the purpose of 'shedding' the shot fired against it, and plated with armor plates 28 inches wide and 4½ inches thick, extending in one section the entire hight of the casemate." So there seems one inch more of solid iron than the *Journal* gives credit for. Then the *Journal* gets 7 feet of soft timber into the *Dunderberg's* casemate, in order to afford its shells chance for "maximum destruction," when other accounts put the 7 feet of timber as well as the 3½ inches on the vessel's sides proper. Is the *Journal* merely innocently "in error" or "wilfully misrepresenting?"

Further on we quote: "The *Tennessee's* armor was not only much thicker than the *Dunderberg's*, but was backed by more solid timber," etc. The report of Captain Jenkins and others on "Survey of the rebel ram *Tennessee*," of August 13, 1864, says: "The plating at the casemate sides is 5 inches thick, consisting of two 2-inch and one 1-inch plates, about 6 inches wide. The backing was yellow pine, 13 inches, placed vertically; outside planking of yellow pine, 5½ inches thick, placed horizontally, and outside of this a layer of oak 4 inches thick, bolted on vertically, upon which the plating is secured." In all say 22½ inches mixed timber and 5 inches laminated armor in plates only 6 inches wide.

The *Dunderberg's* casemate has 4½ inches solid hammered plates 28 inches wide (which are certainly equal to the laminated armor of the *Tennessee*), and three courses of timber each one foot thick, say 36 inches of timber (which are certainly a little more than equal to the backing of the *Tennessee*)—so this assertion is "curiously the reverse of the fact."

Then the *Journal* tells of the "15-inch shot fired at the *Tennessee*, instead of being fired at point blank range, was fired at a considerable elevation, and struck not fair and square, but at an acute angle with the casemate, and even at an acute angle with the length of the vessel." Official reports do show that a certain Captain Nicholson, of the *Manhattan*, claimed all sorts of havoc committed by his 15-inch shot, but the survey of Captain Jenkins rectified some of this "fearful" havoc. In 2 hours and 52 minutes the *Manhattan* fired just 11 times, whereas the *Winnebago* fired 56 times in 2 hours and 30 minutes, the *Chicasaw* in about the same time fired 12 times, and the survey aforesaid showed more "fearful havoc" by the 11-inch balls of the *Winnebago* and *Chicasaw* than by the 15-inch balls of the *Manhattan*. Only two 15-inch balls are claimed as effective; one went through the armor, the other indented it (as per Captain Nicholson's report) so that Captain Jenkins and others did not find the indentation, for they do not mention it. Now does not the *Journal* get the two 15-inch balls "mixed"—did not the one that was fired at considerable elevation, at an angle, etc., as stated above, only graze the armor, and was not the ball that went through really fired "fair and square?" It looks too much so to be otherwise.

Then the *Journal* persists: "A single well directed shot, even if it took an hour to fire it, would pierce the *Dunderberg* * * *, while the latter might be firing her guns once a minute, if she liked, for an hour, without being able to enter such monitors as the *Puritan* or *Kalamazoo*." It is proposed to accept these odds. The *Dunderberg* fires for an hour, the *Puritan's* turret has an hour to get jammed (and certain official reports show that it does not take an hour to so get them), the pilot house has an hour to be pounded out of true, and its supporting spindle to be strained so as again to jam the turret; then there is the hour to jam a port stopper—in short, an hour in which any one of the numerously authenticated ills may befall the "rotating turret" which disable the ship. But even at the risk of imputation of cruelty, it is proposed to pour a single well-directed shot into the *Puritan* in the following manner. Aim to strike square about 2½ feet below load water line, if the swell of the sea only once in an hour favorably exposes the side armor of the *Puritan*, then the *Dunderberg's* single well-directed shot meets two 1-inch plates of iron and four feet of wood, and just beyond the boilers! It is not proposed to send the ball entirely through.

The *Dunderberg* carries an armor of 3½ to 4½ inches solid iron on the entire side to a depth of six feet below the water line, placed at an inclination, backed by seven feet of timber; the *Puritan* has laminated iron—six one-inch plates—extending but one foot below the water line, and then receding at the rate of one plate for every six inches of depth, backed by four feet of timber. Which is the better, or to put in other words, which isn't a swindle?

The English *Bellerophon* carries her solid 6-inch plates six feet below load water line, and here is the boasted, puffed monitor fitted with a sham protection that does not need a Woolwich 9-inch gun to "certainly penetrate it." To hold the *Puritan* or any other monitor to be an immaculate conception is an Ericssonian assumption. The interests of John Ericsson, Esq., are not always those of the nation—the *Puritan's* side armor shows it. To boast of the monitors as our accepted "war vessel," is to remain in the past. Happily, republics are ungrateful enough to keep on regardless of individual interests. In our infancy we may have petted these things over much; in our riper day it becomes us to consider that nothing, even nothing is perfect, save the illustrious vanity of certain inventors.

When the little *Monitor* drove back the *Merrimac* we felt gratitude to the great engineer; she was a good ship to fight in. When she buried herself and part of her gallant crew, we buried a part of our gratitude; she was a bad ship to sink in. Every blow that jammed a turret, or strained a spindle, or broke the turning gear, undermined a great Ericssonianism—the rotating principle—and the first design that gives us a vessel strengthened by her turret, not subject to derangement in her battery, not endangered by that ever awkward turret deck joint, the first such design that gives equal offensive prowess of battery, will apply the principle of rotation in office to the rotating principle of the Ericsson turret.

Progress never sleeps, and this country will progress, and in spite of the *Army and Navy Journal* or any of its pet notions.

G. P. HERTHEL, JR.

To Prevent the Ravages of Bolt Eaters.

MESSRS. EDITEURS:—I notice in your valuable paper an answer to inquiry in No. 23, Vol. XVI., of E. W., of Pa,, by J. Allen, of Grafton, Ill., how to prevent the bug from destroying his bolting cloths. I have had quite a good deal of trouble from the same cause in my own mill. I first tried to prevent the ravages of the bug by giving light to the chest by putting glass around it and muslin doors; their deeds being evil, I thought they would require darkness. The result was profitable, but not radical. I next procured wire cloth, so fine that those bugs could not get through the meshes, covered a reel, and bolted the chop through this bolt just before entering the silk cloth reel. Thus the bug never gets into the reel; it also prevents any hard substance from injuring the silk cloth. I have a smoothly made barrel at the end of my wire bolt, where I can catch hundreds of them, as they can not crawl out of the barrel. Mr. Allen's plan of running bolts rapidly when empty may be a partial remedy, but when the bug once gets into the reel it is certainly difficult to bolt him out, as he holds tenaciously to the cloth in the vicinity of the rib, and at that point bores through to release himself from prison. I hold to the doctrine most emphatically that an ounce of prevention is worth more than a pound of cure.

If E. W. will come to Miamisburg he can see my arrangement, which I know is effectual, in an old mill where any quantity of bugs are hatched, besides seeing one of the prettiest countries in the United States, with a harvest unsurpassed in quality and good in quantity in wheat, rye, oats, and flax, abundance of all kinds of fruit, with a good prospect for corn and tobacco.

JACOB SHUEY.

Miamisburg, Ohio.

The Mechanical Question.

MESSRS. EDITORS:—In reading the "mechanical question" of your correspondent H. H., page 50, I am at a loss which most to marvel at, the complacency of your contributor, who seems to be both imperfectly acquainted with the rules of simple arithmetic and profoundly ignorant of the nature of the mechanical laws he professes to manifest such contempt for under the name of "theory," or the superficial nature of your reply. His statement is briefly this:—Take an inclined plane having a length of 4 feet and a hight of 4½ inches (or else a base of 4 feet and same altitude; it is difficult to make out which he means, but the result would not be materially different), then 100 pounds resting on the plane can be balanced by 8⅝ pounds power. He speaks of "occular demonstration." The thing is simply absurd. The testimony of individuals, or crude and careless experiments, can have no weight with any intelligent mind against that of absolute laws. He may indeed place his inclined plane upon a rickety table not beveled up, and imagine he has a rise of 4½ inches when the actual lift may be perhaps 2 or 3 inches. But accuracy is as necessary in conducting "practical experiments" as in working problems, and he who fails in the latter and treats arithmetic with contempt may well be suspected in his attempts at the former. I give the problem, (l being length; h, hight of plane; P, power, and W, weight). $\frac{P}{W}=\frac{h}{l}$ $\therefore$ $P=\frac{Wh}{l}=\frac{100\times 4{\cdot}5}{48}=9\frac{3}{8}$ pounds (or in case 4 feet represents the base of his plane, $\frac{100\times 4{\cdot}5}{48{\cdot}21}=9{\cdot}334$ pounds). To move the weight would require considerably more, of course—experiments to the contrary notwithstanding. Let me add that the laws of mechanics were first deduced from multitudes of careful and accurate experiments—not from theories, which on the contrary were against them, as Galileo found to his cost while verifying this very principle of the inclined plane.

Washington, D. C. H. H.

Siberian Marmots.

MESSRS. EDITORS.—In your Scientific Magazine of the 27th April there was a rceipe to destroy rats by injecting into their haunts sulphuret of carbon in vapor. We have here an immense quantity of little animals about the size of rats which live in the ground, they lie dormant all winter very deep in their holes and in the summer they are destructive to the grain crops, particularly wheat, they are called "siberian marmots." Would some of your correspondents be kind enough to tell us how they can be destroyed? If by vapor from what the vapor is produced, and by what means it can be injected into the ground as their runs are very extensive running out of one into another for a great distance and for about three feet from the surface perpendicularly.

WM. COWLEY.

$\frac{6}{18}$ June, 1867. Nicholas Plain, Kharkoff, Little Russia.

[The marmot belongs to the squirrel family; the American wood chuck and gopher are varieties which closely resemble in their habits the European marmot. If the outlets of the holes are guarded, it seems very likely that a good dose of bi-sulphide of carbon would destroy the pest. Bi-sulphide of carbon is a very volatile liquid, and if it were poured into the marmot holes, its heavy vapor would immediately penetrate into all their ramifications.

Our readers will observe the peculiar method of expressing the date of the letter. The Russians still adhering to the unreformed calender or old style are twelve days in advance of our reckoning. Our 6th of June was their 18th. Little Russia is one of the departments of Russia in Europe and Kharkoff is a province.—EDS.

Mysterious Boiler Explosions.

MESSRS. EDITORS:—There have been three mysterious boiler explosions in this city within two or three years, all in the same mill. First, that of a four-flued boiler, which had been in use two or three years, when one of the owners passed through the engine room a few minutes before the explosion, and noticed the water running out of a leaky gage, and believed there was plenty of water in the boilers.

They then put in two double-flued boilers, with glass water gage in addition to the usual gages; water connection in the form of a large mud receiver, with large pipes from the boilers down to the mud receiver. It ran about a year and blew up, killing the engineer, so there was no evidence in regard to the state of the water, but it is supposed that with the glass water gage he could not very well be deceived.

The mill was rebuilt, with two more boilers, water connections the same as before. The steam connection was the pipe for conveying steam to the engine. In both the last explosions the boilers next the brick smoke stack were blown to pieces, while those next the engine remained whole, except the damage caused by being thrown out of the building. The engineer says that by the indicator he had between 45 and 50 pounds. It had been higher but it was working down. He tried the water and found it well up; stepped out to get a drink and away it all went.

Many suppose that some peculiarity of the water causes it, there being indications of oil or something of the sort near by, where they are boring for oil. But if this is so, why should not other boilers in the vicinity be troubled in the same way?