A WORD ABOUT OURSELVES.

Many people imagine that these times are favorable for newspapers, owing to the fact that the news is eagerly sought for. This is not so. We verily believe that there are few newspapers now published that are actually paying their way, while we do know for a certainty that some of our leading daily papers of large circulation—larger than usual—are not paying their way, and this simply because of the falling off of the advertising patronage. A few months more of such times as these would annihilate more than half the papers now published. We have lost of course all our patronage in the seceded States, in consequence of the stoppage of the mails. Many of our readers have gone to the war; yet our subscription list has kept up better than we expected, and we owe many thanks to those of our friends who have interested themselves to get up clubs. We know that this labor has been more than usually difficult, nevertheless it has been nobly done, and we are grateful for it. We wish to emphasize what we have before said, that, *but for the patronage given to our patent agency department, we could not give a paper every week so costly as the* SCIENTIFIC AMERICAN *for so small a sum.* Our profit on each paper is very small, and it could only be made a source of remuneration except by a very large subscription list, such as we have hitherto enjoyed. Will not our friends bear this fact in mind, and work for us a little more?

Another thing. A few of our readers seem to think we ought not to use our space for details of army movements. One subscriber—John Gill, of Patriot, Ind.—discourses after this fashion:—

When my subscription is out for the SCIENTIFIC AMERICAN, you will please discontinue it. I do not know just when it expires, but it will be soon. I liked the paper very much as long as it kept to what I thought was its legitimate sphere; but since you have gone into politics it don't suit me. I get partisan newspapers on both sides daily, and they understand getting up the lies and so forth a great deal better than you do; beside, the daily papers are fresh, whereas your news is stale when it reaches this longitude. A weekly political journal is a slow coach these war times, I can assure you; and then to mix up scientific matters with Black Republican coercion doctrines is too bad—worse than amalgamation of white and negro races. Hoping you may see the folly of this course, or I may see its wisdom, I bid you a friendly farewell.

Of course, we shall comply with Mr. Gill's request. It strikes us, however, that he has mistaken his proper place of residence, if we may judge the people by the Patriot-ic name of their town. Mr. Gill is probably so terribly afraid of coercion that he would see the government destroyed, root and branch, whenever his particular candidate saw fit to do it after a defeat. Some people have just such muddy notions of the powers and importance of a government. Thank Heaven, we "train in no such company." If Mr. Breckinridge, or even Jeff. Davis, had been constitutionally chosen President of the United States, we should have yielded to the government loyal obedience, and should have justified forcible resistance to all *armed* opposition to its authority.

We have long since learned that, in the publication of a journal, it is impossible to please everybody. If we thought our readers generally preferred not to have our weekly *resumé* of the war news, we should stop it; but many who do not take the daily papers are anxious to know what is going on in the country, and, as a matter of future reference, the summary we give every week will be invaluable.

CONDITION OF THE PATENT OFFICE.

A correspondent—"Aquinas"—in a communication published in another column, animadverts upon a growing tendency on the part of Patent officials, to turn that department more and more into a political asylum. The old political war cry "to the victor belong the spoils," stimulates party zeal, and urges many an ambitious man to throw himself into the thickest part of the fight, and sustain the conflict in the "imminent deadly breach." Such men look for their reward only in the honors and emoluments of office, and it cannot be denied that modern precedent justifies an administration in filling up the offices from the ranks of its followers; but we have long maintained that the Patent Office ought to be an honorable exception in this respect; that men should be selected or retained only on the ground of qualification. The Commissioner cannot always be blamed for the character of the appointments that are made in the Patent Office. He may ofttimes have to yield to the wishes of the Secretary of the Interior, who is head over the Patent Office.

The Commissioner, however, is wholly to blame for allowing unworthy or incompetent officers to remain in the office, and we confess that even now we are puzzled to understand something in connection with this matter.

We have now before us a list of ten persons who have been quite recently removed from the Office, and we must say that we do not fully understand why it is that officers are removed against whom no opposition is raised, and some are still retained who are strongly opposed, suspected and almost despised. They remain fixed and immovable like the head of the "old man of the mountain." We suppose Commissioner Holloway fully understands why these things are so, and can manage the Office without advice from outsiders; nevertheless, we venture to speak for inventors generally, that while retrenchment seems to be necessary, owing to a decrease in the business of the Office, removals should first be made of those who are decidedly objectionable. It seems to us that thus only can the Office escape suspicion that it is not doing its whole duty faithfully and manfully.

RECENT AMERICAN INVENTIONS.

Projectile.—John Gault, of Boston, Mass., has patented an invention which consists in the construction of an elongated projectile with two or more movable sections formed by a longitudinal division of its body, and hinged at the base or rear end of the projectile, fitted with a band to keep the said sections together in a compact form previous to the insertion of the projectile in the gun and during the first part of its flight, and with a cavity or chamber within and between the said sections, to contain a charge of powder to be fired by a fuse, for the purpose of bursting said band and spreading the said sections by its explosion, that the said sections may, in the continued flight of the projectile, have a wide sweep, and make the projectile more destructive. It also consists in making such movable sections hollow, to contain gunpowder or other explosive material, and with vents leading to the aforesaid chamber, that the charges in the said sections may be fired by fuses ignited by the explosion of the charge in said chamber, for the purpose of bursting the said sections into fragments, and scattering such fragments in all directions in a suitable time after the spreading of the sections.

Boring Revolver Cylinders.—The object of this invention is to insure the boring of all the chambers of the rotating cylinders of firearms in a true circle concentric to the axis of the cylinders; and to this end, the invention consists in a certain device, combined with a revolving concentric chuck, for holding the cylinder in the requisite relation to the axis of revolution of the chuck, and permitting it to be turned to drill or bore the several chambers. Charles H. Alsop, of Middletown, Conn., is the inventor.

DE BRAME'S REVOLVING CANNON.

In the list of patent claims, on another page, will be found those of Mr. De Brame's patent for his curious cannon, illustrated on page 358, last volume, of our journal. This young and confident inventor has exhibited the most extraordinary and determined perseverance in overcoming the formidable and discouraging obstacles which he encountered in obtaining security for his invention. He had a working model constructed, and after exhibiting it to prominent military men in this city, took it to Washington, and showed its operation to the Commissioner of Patents, Examiners, and others. Though his application had been objected to, causing him repeated journeys to Washington, his last journey, he informs us, secured a decision in his favor, and he had the satisfaction of bringing his long labors to a successful issue.

The bold originality of this invention no doubt startled the Patent Office Examiner. It is something new under the sun, and the Patent Office will do well not to obstruct the progress of inventors by too many technicalities.

The Cabinet and our Generals.

There are some things that outsiders cannot possibly understand without some light from the magnates sitting in council. Why are those veteran generals Wool and Harney laid by, while important commands are entrusted to politicians like Schenck and Pierce? Is the Administration afraid its friends will be "put out" if their politicians are not made generals? How shamefully ridiculous that the government should dare to trifle with the interests of the people in this manner! General Wool's health is not good, and this may be the reason why he is shelved, but General Harney is a most efficient officer. As a field officer he is one of the most vigorous in the army, and would inspire his troops with courage such as they cannot feel while commanded by a mere political general. Epaulets, swords, tassels and gilt buttons cannot make a general in war. Science and bravery are wanted, and if, as in the case of General Harney, experience in war is desirable, then he is just the man to lead on the "Union Legions" to battle and victory. The government, in the main, has done well, but it could do better, in our opinion, if each member of the Cabinet would dismiss all selfishness and use the best means possible to save the country.

We had rather have Gen. Harney's old fighting clothes stuffed and tied to a war-horse, and placed in front of battle, than to be led on by mushroom brigadiers, who are represented as carrying into the field a guide how to fight a battle.

SAFETY CLOTHING---A SAD DEATH.

The public has been painfully startled by the sudden death of Mrs. Longfellow—wife of the distinguished poet—which took place at Cambridge, Mass., on the 10th inst. The cause of this afflicting event is thus related:—Mrs. Longfellow was seated in her library, on the 9th inst., at her residence in Cambridge, Mass., and in the act of making seals with sealing wax. A bit of paper lighted and fell upon her dress, which caught fire, and before it could be extinguished she was terribly burned. She was attended by Drs. Wyman and Johnson, of Cambridge, but their efforts were vain to alleviate her intense suffering or to save her life.

The dresses commonly worn by ladies in warm weather are composed of muslin, and such like inflammable materials. Such fabrics may be prepared at a very small cost, to render them safe against such accidents, as described on page 407, Vol. 3, present series, SCIENTIFIC AMERICAN.

The process of preparing such dresses, after they are washed, starched and dried, is to moisten them with a solution of the tungstate of soda, or the phosphate of ammonia, prior to ironing. The sulphate and carbonate of magnesia are also good substances effecting the same object, and these may also be mixed with the starch.

Although we have, on several occasions, urged the preparation of ladies dresses with such non-inflammable agents, we regret to state that but very little attention has been given to our admonitions. Upon inquiry, we have reason to believe that but very few, if any, of our American ladies have ever directed their laundresses to apply these safety substances.

The most able writers on education have complained that females pay great attention to the ornamental in dress, but very little to the really useful and convenient. We trust that the subject of safety-clothing will hereafter receive more attention from ladies. Their own safety and good sense demand this.

Improved Screw Propeller.

A patent has lately been taken out in England, by R. Griffiths, for improvements in screw propeller blades, which decrease in their width of surface as they become more distant from the shaft. It is preferred by the inventor that the propeller blade shall be a portion of the true screw of the desired pitch, excepting at the after edges of the blades, which are each composed of an angular surface, which is in its whole length at the same angle to the shaft as that at which the widest part of the blade stands to the shaft. The widest part of the blade is preferred to be at a point about one-half the radius of the screw from the center of the shaft. The angular surface at the edge of the blade commences at the widest part of the blade, and increases toward the periphery of the propeller. The angular surface stands at an inclination to the after face of the blade; consequently, as it rotates the water which has been put in motion by the fore part of the blade is again struck by the after portion of it, according to the description of the inventor. The improvement is intended to give increased efficiency to the blades of propellers.

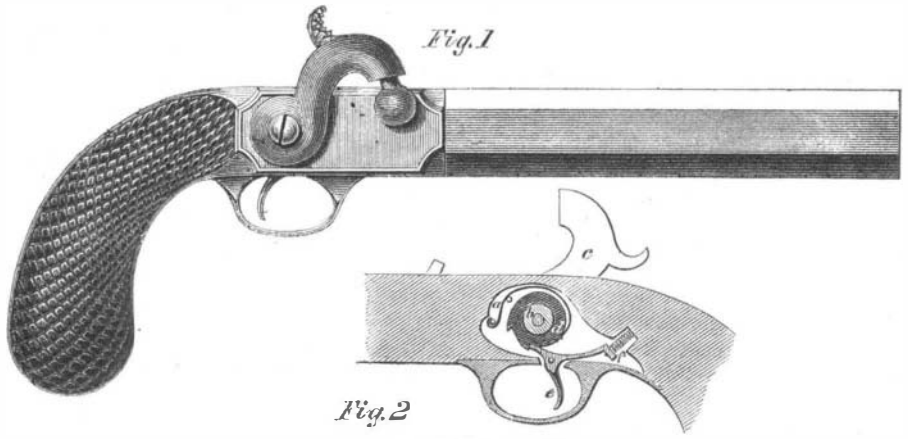
Improved Gun Lock.

The accompanying engravings represent one of the simplest and most compact gun locks that has yet been devised.

The main spring, *a*, is coiled around the shaft, *b*, to which the cock, *c*, is rigidly secured ; the tumbler, *d*, being slipped upon the same shaft, and held in place by a set screw. This mode of securing the tumbler enables the sweep of the cock, or length of arc through which it moves, to be varied and adjusted so as to give a blow of any force desired. The trigger, *e*, is pressed into the notches in the tumbler, by a spring, *f*, which may be spiral, as represented in the cut, or of the usual straight form.

The manifest advantages of this lock are its exceeding cheapness, compactness and simplicity. It is easily taken apart and put together, and if the mainspring or either of its other few pieces should be broken, it could be quickly and cheaply replaced.

The patent for this invention was granted April 30th, 1861, and further information in relation to it may be obtained by addressing the inventor, Prince Hiller, Mattapoisett, Mass.



HILLER'S GUN LOCK.

A Steamboat Present to the Government.—Benj. S. Walcott, Esq., a wealthy manufacturer, and proprietor of the New York Mills, Oneida county, N. Y., has presented to the government a steamer now lying at St. Louis, which he says cost him last year $70,000. General Prentiss, in command of the United States forces at Cairo, "takes the responsibility" of accepting the gift, on behalf of the government, remarking that "a good steamboat is and has been in constant need" at that post, and has been obtained at an exorbitant rent.

Cannon and Iron Plates in Parliament.

In the last number of the Scientific American, we stated that the published accounts of the Armstrong guns having smashed 10-inch plates must be received with great caution. Since then, we have noticed that the subject was brought up in the House of Peers, and the doubts we expressed of the correctness of the reports have been confirmed. The Earl of Hardwicke called attention to the statement made by the First Lord of the Admiralty on a previous evening to the effect that shot from guns had penetrated bars of iron eight inches thick. That statement, he understood, was felt by the iron manufacturers to be detrimental to their interests, and he was informed that these bars had been put together endways, and welded in that form, and that it was at the welded parts that the shot had penetrated.

The Duke of Somerset said that Lord Herbert and himself had appointed a committee of scientific men to test the various qualities of the iron ; and that with regard to the 8-inch plate penetrated by shot it was composed of bars which were not welded, but bolted together in the strongest possible manner. At the same time he was quite ready to admit that plates of iron six inches thick had not yet been penetrated. His reason for trying bars was, that they could be bent to the various curves of the ship's side better than bolts, without impairing their strength. All the experiments had been made with the greatest care by eminent scientific persons, who had also tried experiments upon sloping sides, to test at once the power of the gun upon them and the quality of the metal. He was present at some of those experiments the day before, and it certainly appeared that the sloping side possessed great advantages, and that the flat-headed bolts had no effect upon it.

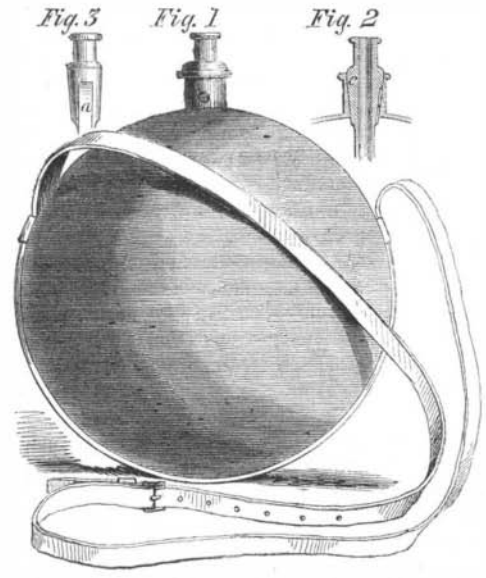
Ship Building in the Provinces.—Ther are twenty-nine ships in the course of construction at the port of St. John, N. B., and vicinity, the aggregate tunnage of which amounts to 25,210 tuns. It is estimated that one-half of the tunnage will be launched this and the ensuing month.

CASE'S TUBE FOR CANTEENS.

Perhaps there is no more awkward and inconvenient act performed than drinking from the mouth of a bottle or canteen. The tipping back of the head and the gurgling of the fluid down the throat, is only to be gone through with either in the case of very violent thirst, or for very acceptable liquor. The invention here illustrated obviates all of this awkwardness and inconvenience by an exceedingly simple arrangement. A small tube is inserted into the canteen, reaching to the bottom, and provided with a mouthpiece, through which the liquid can be drawn up into the mouth while the canteen is below the mouth, or in any other convenient position.

In the cuts, Fig. 1 represents a canteen with the tube inserted, and Fig. 2 is a section of the end of the tube. The opening through the nozzle is made conical, and an enlarged piece of metal, *c*, Fig. 2, or a piece of cork fits around the tube, and into the conical nozzle. As the liquid would not rise through the tube unless air were admitted into the canteen, provision is made for this admission of air, by cutting off a flat section on one side of the conical stopper, as shown at *a*, Fig. 3 ; a hole being made through the wall of the nozzle, so that air is admitted to the canteen, when the flat section is turned opposite this hole. The canteen is closed air tight by turning the stopper, so that the flat place upon its side will not be opposite the hole in the side of the nozzle. Simply closing the canteen air tight prevents the liquid from flowing out, though the small tube remains open ; but to prevent the entrance of any dust or dirt, the outer end of the tube may be closed with a cork.

A sponge or other suitable filter may be attached to the tube to strain the impure water, should it be necessary to fill the canteen with such. The tube will



be found convenient in drinking from brooks which may be crossed on the march.

It will be seen that this tube may be adapted to the canteens now in use at a very small expense.

The patent for this invention was granted through the Scientific American Patent Agency, July 9, 1861, and further information in relation to it may be obtained by addressing the inventor, John Case, 309 Market street, Philadelphia, Pa.

DON'T BITE THE CARTRIDGES.

In the authorized version of U. S. Infantry Tactics, published by J. B. Lippincott & Co., Philadelphia, the following directions for handling cartridges are given on page 78 :

Take the cartridge *in* (not between) the thumb and first two fingers, and place the end of it *in* the teeth. Tear the end of the cartridge down to the powder, then hold it upright," &c.

This is one of the multitudinous and unscientific movements still retained in our military tactics. A man may be young, sound in limb, strong of arm, quick of foot, keen of eye, and a first rate shot, but if he has had the misfortune to lose his front teeth by a kick or fall, the fellow, however patriotic, cannot be admitted into Uncle Sam's army, and all because he cannot bite the cartridge with his absent teeth.

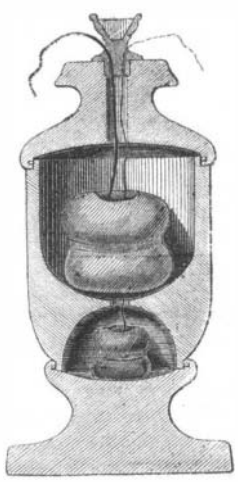
It is well known to all soldiers that the tearing of cartridges with the teeth in battle soon causes an almost intolerable thirst. It is one of the least agreeable operations to a soldier to bite a cartridge, especially if it is lubricated with grease, and we are astonished that military men should still cling with such conservative leadenheadedness to the practice when a very superior mode is known. By filing the upper edge of the handle of a fixed bayonet until it is made quite sharp, the soldier, instead of being required to bite his cartridge, can rip it open neatly and rapidly, by drawing its end upon the edge of the bayonet handle. All the bayonets used in the army should be filed as suggested ; the expense would not be over one cent for each, while the improvement would be of incalculable value if introduced into the army.

DOUBLE TWINE BOX.

We take the following description of a neat little improvement in twine boxes for counters from the London *Chemist and Druggist*:—

It consists, as shown in the sectional view, of three parts, forming two distinct cavities, adapted to the reception of coarse and fine twine.

The different parts are fastened together by short projecting pins, openings, corresponding to their positions, being cut in the overlapping rims, so that the box can be taken apart without trouble ; consequently it is not subject to the inconvenience of becoming fixed, as in the ordinary arrangement, where the lid is fastened with a screw.



The convenience of having stout and fine twine in the same box is too evident to require description ; time and trouble are so obviously saved by the arrangement, not to speak of the economy of space, in having one box instead of two on the counter.

The top is finished with a guarded cutter. The whole is formed of stout, heavy wood, not liable to overset, and is in a very elegant and artistic form.

The crew of the privateer, *Savannah*, now in prison in this city, have been indicted for piracy, and, in the state of the law and evidence, no doubt is entertained of their prompt conviction.