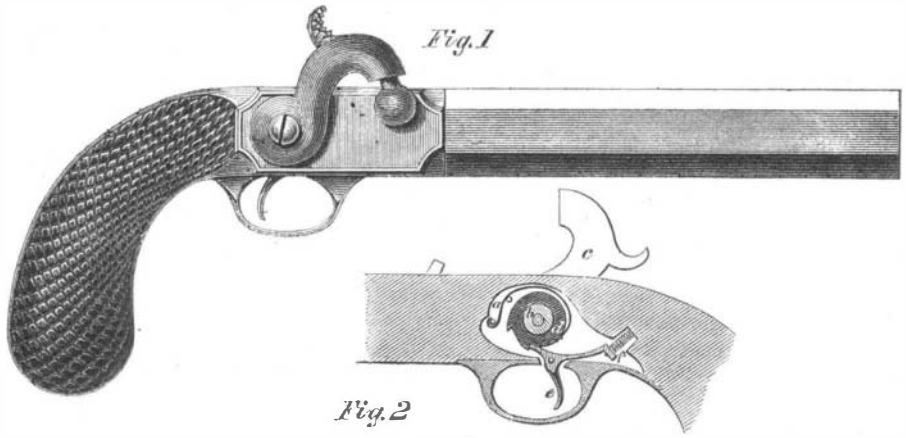
Improved Gun Lock.

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.

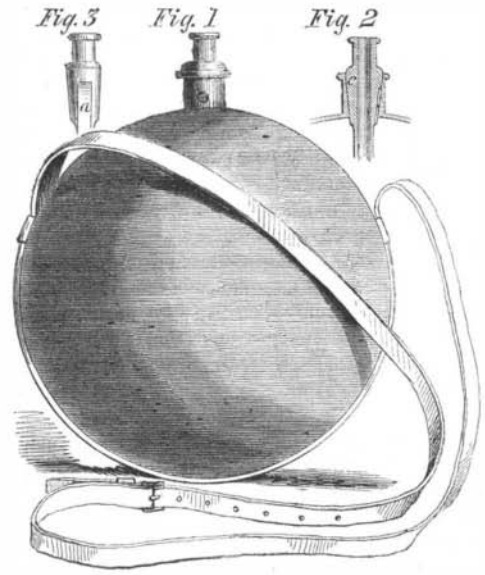
Ship Building in the Provinces.—Ther are twenty-nine ships in the course of construction at the port of St. John, N. B., and vicinity, the aggregate tunnage of which amounts to 25,210 tuns. It is estimated that one-half of the tunnage will be launched this and the ensuing month.

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.

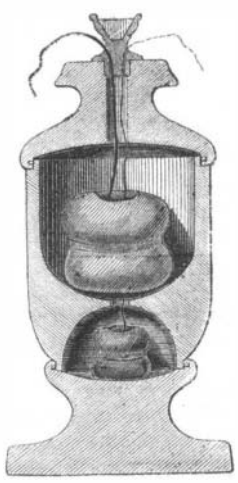
It is well known to all soldiers that the tearing of cartridges with the teeth in battle soon causes an almost intolerable thirst. It is one of the least agreeable operations to a soldier to bite a cartridge, especially if it is lubricated with grease, and we are astonished that military men should still 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.