

An Asiatic Firearm.

An American gentleman, W. S. Livingston, residing in Shanghai, China, after the capture of the Peiho forts by the English troops went out to visit the battle field, and brought away with him a very curious relic, which is illustrated in the accompanying engraving. It is a Chinese musket, or, as they call it, a jingall. A large number of these had been laid down by the Chinese to form a corduroy road, and Mr. Livingston dug one up, and on a visit to this city brought it with him and exhibited it in our office.

The barrel is 8 feet long and weighs 22½ lbs., the whole weight of the gun being 28 lbs. It is a match-lock, the cock carrying a slow match which is thrown down into the pan of powder on pulling the trigger, the match being lighted before the aim is taken. It is carried by two men and fired by a third, as shown in the engraving. Sometimes, in fixing it, the breech is placed against the shoulder and the trigger is pulled by the finger instead of by a chain, as shown.

The Chinese doubtless used these muskets for hundreds of years, while English and French armies were fighting with bows and arrows, but western civilization in this, as in so many other respects, has passed by that most conservative of all nations, and a Chinese jingall is a primitive and very inefficient weapon when compared with the arms now manufactured and used in the United States and all European countries.

WHICH IS THE BEST WASHING MACHINE?

Our female readers and acquaintances often make of us the above inquiry. We wish we were able to answer it unqualifiedly, but with all our experience in this class of inventions it is difficult to determine which, among the legion of different kinds, is the very best for family purposes. Hundreds of patents have been granted for washing machines. We have solicited patents for machines of this class operated in every conceivable manner, and by all kinds of power—from steam down to dog power—and yet it is impossible for us to state which apparatus is the best. The "Union Machine," patented and manufactured by Jossie Johnson, 447 Broadway, has been used in our families for sometime and it gives satisfaction.

A few weeks ago another new washing machine was introduced to the public, which, for family use, promises to become very popular; we allude to the machine of Messrs. Oakley & Keating, illustrated on page 282, current volume of the *SCIENTIFIC AMERICAN*. This machine operates on the plan of a fulling mill, as will be seen by reference to the engraving. We now have one of these last-invented machines in use, and our Ann and Bridget say, after a trial of it for five successive Mondays, that it is the "best washing machine ever made."

Owing to our lack of practical knowledge on the subject of washing we are unprepared to say as much for the machine as our help have expressed, but we fully endorse the girls' honesty in thinking it the best and pronouncing its merits in such positive language. Certainly we know of no machine which, to our mind, excels the principle on which this one is operated. Messrs. O. & K. also furnish a very superior article of clothes-wringing machines on the elastic-roller principle, which may be attached to their washing machine or that of any other.

As a labor economizer we think the clothes-wringing improvements, which have been made for a few years past, are the most important to the housewife and laundress of any domestic utensil invented.

Whitworth's View of Breech Loaders.

Joseph Whitworth, of England, the inventor of one of the best, if not the best, breech loading cannon that has yet been devised, in a recent letter to the *London Times*, makes this remark:—"In 1830, I ad-

vocated as I still do, the employment of simple muzzle-loaders for field artillery. It was proved then, by the brass guns I rifled for the government, as it may be proved now by publicly trying them, that it is a grave error to overlook the many advantages offered, both for land and sea service, by the muzzle-loading rifled brass guns."

COBURN'S PATENT SASH FASTENER.

The accompanying engravings represent a sash fastener recently patented by John H. Coburn, of Lowell, Mass., which presents some peculiar advan-

A cup or case, *a*, (Figs. 1 and 2,) is made of iron, bronze, silver, or other suitable metal, with the latch, *b*, pivoted in its center and forced into place by a single screw passing through its center to the upper rail of the lower sash. Upon the front side of the lower rail of the upper sash is secured the catch, *c*, and as either sash is restored to its place, the latch, *b*, is pressed from its position by the beveled edge of the catch till it reaches the notch, which it enters, and thus fastens the two sashes together. In opening the window the latch is forced outward from its hold upon the catch, by pressing the thumb against the end of

the latch that protrudes outward from the case. The projections, *d d*, in the lower edge of the case, enter the wood and hold the case from turning.

The patent for this invention was granted September 10, 1861, and further information in relation to it may be obtained by addressing the inventor at Lowell, Mass.

SECRET STEEL BREASTPLATE.

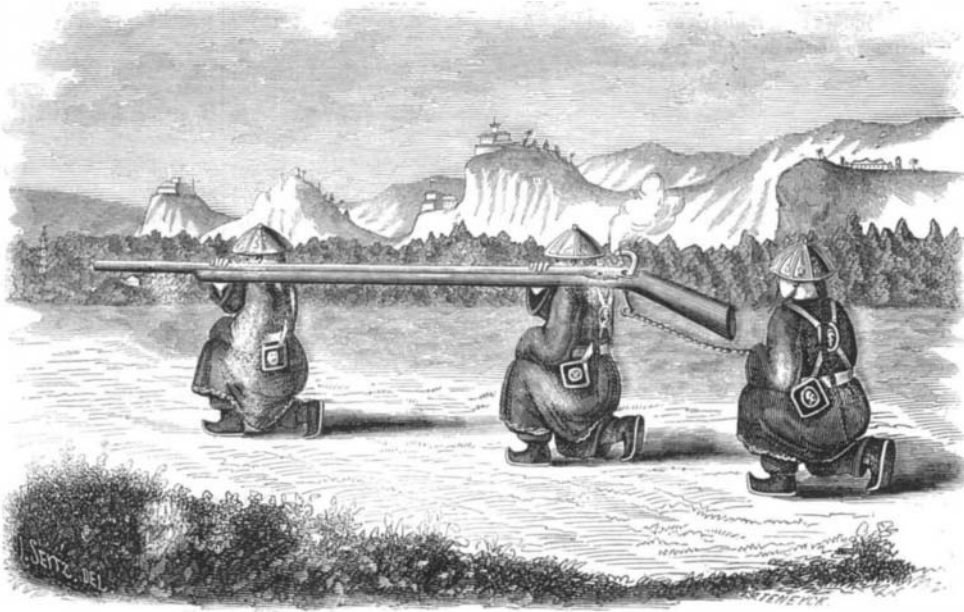
—On page 264, current volume of the *SCIENTIFIC AMERICAN*, we described the secret breastplate of J. S. Smith, of this city, and since that period a great number of inquiries have been made of us respecting it. We would state that all communications on this subject should be addressed to M. A. Benjamin, New

Haven, Conn., the sole manufacturer of such armor vest, who is prepared to fill orders for single ones, or by the hundred.

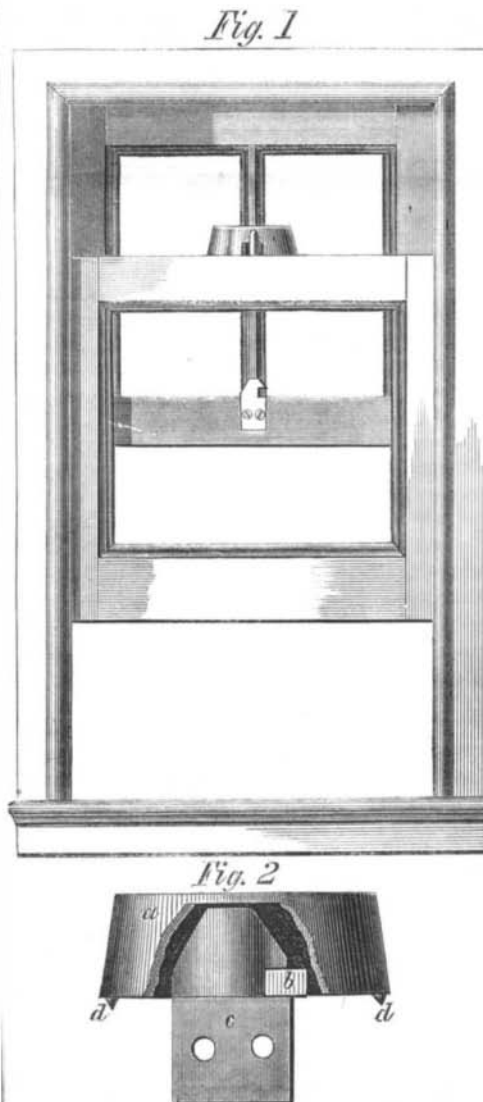
MUNTZ SHEATHING FOR IRON SHIPS.

The name "Muntz Metal" is derived from the late Mr. Muntz, M. P. of England, who first applied brass sheathing, also sometimes called "yellow metal" to ships as a substitute for copper. A patent was secured for the application, and it is stated, the inventor realized a large fortune from it. We learn from the *London Mechanics' Magazine*, that Mr. G. F. Muntz of Birmingham has taken out a patent for quite a novel method of sheathing iron ships. It consists in taking a sheet of iron about three-sixteenths of an inch in thickness, scouring its surface until it is bright, then placing upon it a thin sheet of sulphurized india rubber of the same size, and again laying over this a thin sheet of yellow metal pierced with small holes around the edges. These thin sheets are now placed in a suitable press and cramped together so as to cause intimate contact and exclude the air from between them. While thus held together, they are placed in a chamber where they are subjected to the action of steam and the india rubber becomes vulcanized. In this manner the adhesion of the two sheets of metal, is rendered very perfect. Holes are now pierced through the india rubber and the sheet iron, to coincide with those in the sheet of yellow metal, and the combined sheet is fit to be nailed on the bottom and sides of iron ships which have small holes drilled in them, for the purpose of forming an outside sheathing of yellow metal like that on wooden vessels. Many compositions have been applied to the bottom of iron vessels, to prevent them becoming foul from barnacles and sea weed, but although arsenic, lead and various poisonous substances have been used, they have all failed to give satisfaction. This new method of sheathing iron ships we believe, will answer a good purpose, but its first cost will be objectionable.

RIFLE PRACTICE.—We call attention to the remarks of a correspondent on another page, under the heading of "The Rifle Question." The writer of this paragraph, as an old deer hunter, expresses his full accordance with the opinions of "Rifeman," and cordially approves of his suggestions. Practicing at rifle shooting with a rest is ridiculous.

**A CHINESE MUSKET OR JINGALL.**

tages. It is self-acting, fastening the sash on closing the window after either the upper or the lower sash



has been opened; it is simple, cheap and efficient, and forms a neat ornament to the window. As it can be placed opposite the munnion, it is peculiarly desirable, especially for windows of four panes.