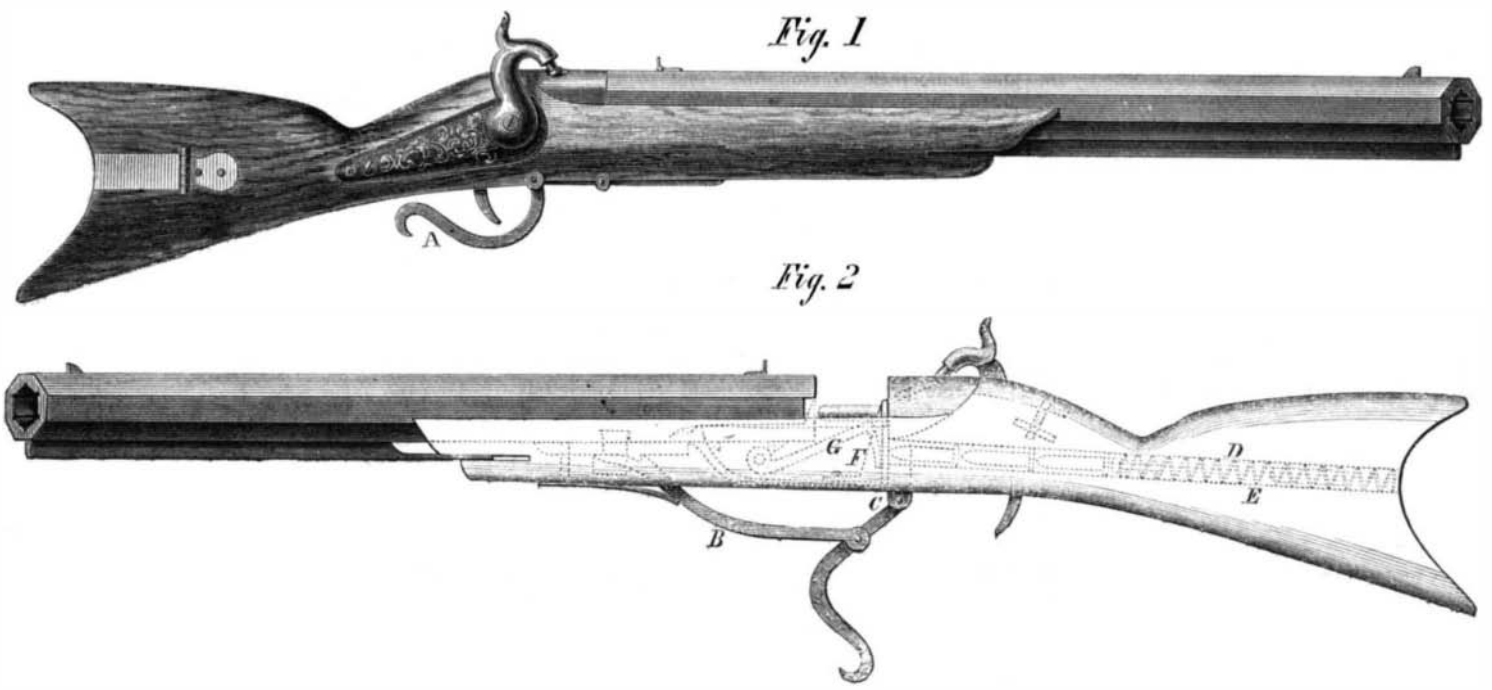
Breech-loading Rifle.

If the Government does not decide to adopt breech-loading weapons, it will not be for lack of variety to choose from; for, during the last few years, inventors have been active in this field, and very many breech-loaders of different patterns and principles of action are the result.

The gun here shown is of that class provided with magazines from which continuous rounds of ammunitions are forced out by springs or equivalent devices.



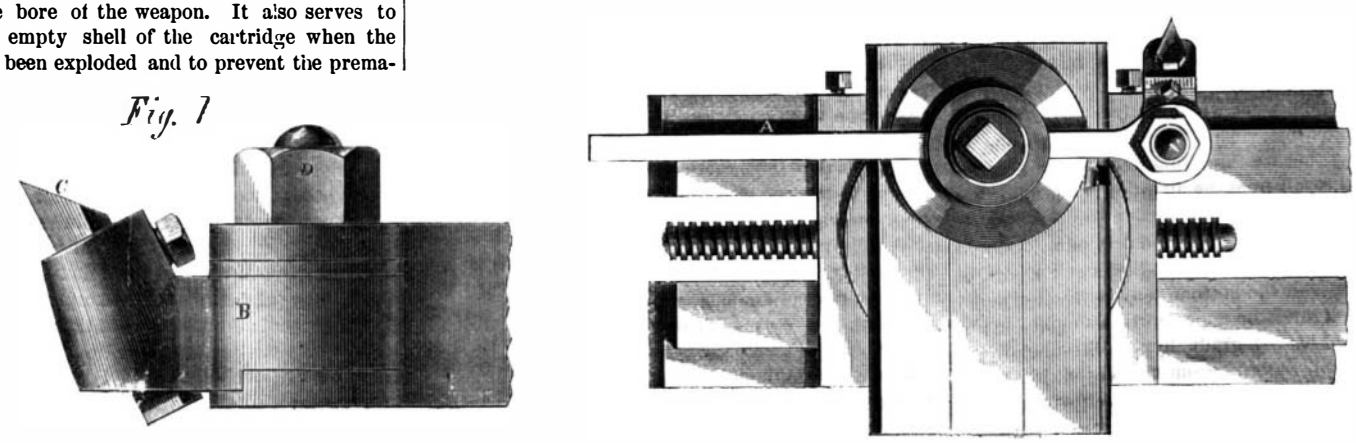
ROBERTS'S BREECH-LOADING RIFLE.

This weapon is peculiar in some details, one being that the barrel is removed from the breech piece in order to insert the charge instead of the reverse, as is generally the case. This action is obtained by working the lever, A, which is connected to the barrel by a bar, B. This bar being fastened to a lug, C, causes the barrel, when the lever, A, is worked, to be thrown forward; when the lever is reversed and brought close up to the under side of the stock, the barrel is firmly held up to the breech pin and magazine, so that no leakage of gas can occur.

Fig. 2 shows the magazine, D, in dotted lines, as also the spring, E, which forces the cartridges up to the jaw, F; this jaw, in connection with the cam lever, G, guides the cartridges and elevates them to the level of the bore of the weapon. It also serves to expel the empty shell of the cartridge when the charge has been exploded and to prevent the premature issue of the charges from the magazine. These details comprise the whole of the weapon, and it is both simple in design and cheap to construct. The inventor is a soldier in the Army of the Potomac, and his practical experience and observation have guided him in designing this rifle. It can be used with fixed or loose ammunition as emergency requires. It was patented through the Scientific American Patent Agency on the 27th of Dec., 1864, by R. Roberts; for further information address him at Utica, N. Y.

Improved Tool Holder.

Lathemen, who work metals, are well aware that boring tools sometimes require to be made very long —to reach through a pulley, for instance, or a fly-wheel with a deep boss. For such work, a bar is generally provided with a square hole in one end, to which is fitted a short cutter. This bar is not adjustable, except in its length, and the cutter in it can only be used at right angles. The accompanying engravings represent a useful improvement in this class of tools, which adds very much to their efficiency. The change consists in simply furnishing the bar, A, with a short joint, B; this joint is formed into a socket at one end in which the cutter, C, is set and held by the set screw. This arrangement permits the tool to be moved at any angle and there secured, and will save much time in grinding the same, for it frequently happens that more has to be cut off one end of the hole than the other, owing to the draft on the core, so that the tool binds or strikes sideways, unless unusual clearance is given; by running the tool-post carriage back, and setting the cutter on one side, this difficulty is obviated, and the work can proceed. It is also applicable to planers or other machines, and in working around the hubs of rock-shaft arms or cranks, it would be very useful. By tightening the nut, D, the joint can be secured in place. A patent on this tool bar was procured Feb. 21, 1865, through the Scientific American Patent Agency. For further information address the inventor, Chas. Pelet Benoit, Detroit, Mich.



BENOIT'S TOOL HOLDER.

SECRET PLANS FOR EXTRACTING GOLD.

The writer of this once saw in Marysville, California, a New York baker who had sold out his ovens and wagons in this city to purchase and practically apply a secret process for extracting gold from quartz by melting the rock. He had tried the plan and was describing the result. He had succeeded in melting the quartz, but was astonished at the intense heat required.

"When the rock cooled," he said, "it looked just like glass!"

We remarked that the secret probably consisted in using potash, as glass is made by melting together silex and potash.

But the man, having paid solid money for the secret, did not choose to continue explanations which might lead to its more complete revelation.

At the present time there are a great many men in this city who are dabbling in mining stocks and mining adventures of all sorts. Priding themselves on their keen shrewdness, they are the most fit subjects for sharpers, and are constantly making large losses, which they conceal insilent mortification, while their occasional lucky speculations are sure to be generally made known.

Not long since a quiet individual from the country was mysteriously intimating among these eager speculators that he had a secret for dissolving gold from crushed quartz, in place of extracting it with mercury in the usual manner, by which the yield could be very largely increased. After considerable negotiation, and after showing one of the shrewdest and most cautious of the speculators that the liquid would actually dissolve gold as completely as water will dissolve salt, he sold the secret for $500, cash in hand. It was not long before the lucky purchaser found that he had paid $500 for a receipt for making *aqua regia*, a receipt to be found in every hand book of chemistry, which could be purchased for $1.

In nearly every case where a secret is offered for sale it is either something well known to those familiar to the art, or it is a plausible novelty, which for some reason is impracticable and worthless.

COFFEE IN PODS.—An exchange, noticing the fact that coffee had been raised in this State, says, "it was planted in rows similar to peas, and the berry was contained in pods in the same manner." Coffee does not grow in pods, but in berries, of which the kernel, or the pit, as it might be called, is the berry. Coffee on the tree looks much like a cranberry or cherry.

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