

**Improved Cultivator.**

This form of cultivator is one that materially aids the farmer in his labors, for by the use of it a great deal of hand labor is dispensed with. At the present time this feature is of much importance, for farm hands are scarce as well as expensive. The cultivation of the growing crops is effected by this cultivator in the following manner:—The frame, which is suspended on the two wheels, carries two hanging bars, A, on its axle; these are jointed to the beams of a gang of cultivators, B. The cultivators do not follow in line with each other, but alternate so that they embrace either side of the crop; or they may be adjusted so as to pass upon one side alone, should such a course prove desirable. These cultivators have, from their being suspended, a swinging motion, or are capable of being moved from side to side accordingly as the operator directs them; the draught is directly on the cultivators, as the whiffletrees are connected to the bars, A, by brace rods, C. The two gangs of cultivators are both connected to each other sideways by a bar, D; this keeps both at the same distance apart, but permits the operator

to elevate one gang in case of meeting with any obstruction, while the other is continued at work. There are also two staples and hooks, E and F, in both the cultivator and the frame on the wheels; by these staples the cultivators are raised if desired, so that the machine may be transported from one place to another without any trouble.

This cultivator will be found useful in all places, and it is a desirable addition to the already long list of machines for farmers' use. It was patented through the Scientific American Patent Agency on Dec. 1st, 1863, by Samuel H. Mitchell, of El Paso, Ill.; for further information address him as above.

**Improved Knife-cleaner.**

This convenient little utensil will be found a great improvement over the ordinary method of cleaning knives, which is, we believe, to use a rag, a board, and, as we are told by an exchange, sometimes the half of a potato. These make-shifts are all superseded by this simple device which accomplishes the purpose much quicker and better, with less labor, and without soiling the hands. In addition to these virtues it always cleans the knife across the blade, thus sharpening it as well as imparting a high polish. The method of using it is fully shown by the engraving; the utensil itself consists of a light cast-iron box, A, having recesses, B, through which a rubber bar, C, passes; the knife sets on a base under the rubber, D, which is made of hard wood; that substance being found the best for the purpose; the rubber is then drawn rapidly over the knife in an obvious manner. The knife itself remains stationary, except to be moved so as to bring all parts under the action of the rubber. The box is filled with a solution of bath-brick and water so as to cover the knife, and as no waste takes place with this cleaner, one bath-brick will last ten times as long as by the old-fashioned and wasteful methods heretofore practiced. The whole affair weighs but half a pound, and is an excellent thing for the purpose. An application for a patent is now pending through the Scientific American Patent Agency. For further information address Egbert P. Watson, Box 773, New York City. See advertisement on another page.

**A HINT WORTH REMEMBERING.**

No better illustration of the value of simple inventions can be found than one afforded by an instance which lately came to our notice. A gentleman who was a large manufacturer of furniture recently called at this office with a small wooden block in his hand, which was a certain portion of a bedstead. This block, or model, he desired to patent. We expressed our in-

keenest of the Gothamites will be invited to expose the humbug, if such they can prove it. It consists of a wheel seven inches in diameter, to which are attached twelve arms at right angles, and to each arm a ball weighing half an ounce. These arms are all connected by twenty-four cords, two to each arm, and are so arranged that the falling of one ball affects the other immediately behind it, and so on apparently till the machine is worn out."—*Exchange*.

[We have been looking for the new "perpetual-motion" man for several days; but up to the time of going to press he had not arrived at our office. A self-operating machine is something we have never seen, and we are very desirous to have our curiosity gratified. Bring on your "perpetual motion!"—Eds.]

**How to insure Defeat.**

In the late disaster at Olustee, Florida, whereby the Government lost a battle and 1,200 brave men were killed and wounded, one regiment at least was demoralized before the engagement by a piece of folly on the part of some officers whose names are not given. As related by a correspondent of the *Tribune*, the case was as follows:—

"The 7th New Hampshire had so deadly a fire poured into them that they broke and fell back in confusion. Dissatisfaction had been created among the men by depriving them of the 'Spencer repeating rifle' and by issuing, in lieu of this formidable weapon, Springfield muskets in a damaged condition. Unable to protect themselves with such guns, one wing of the regiment gave way and could not be rallied, while the other wing, which still retained the repeating rifle, maintained its position until the ammunition was exhausted, when it too was obliged to fall back."

Such a record as this—if the above account is true—is disgraceful in the extreme; when Government goes to the expense of providing these weapons for the soldiers, what business have dolts in gold lace to deprive them of the means of self-defense?

**THE SCARCITY OF LABORERS.**

For the last year or two, since the country has been so thoroughly drained of men for the war, there has been a great scarcity of laborers. Farmers have not been able to get half enough to put in or harvest their crops; and in every kind of mechanical business there has been the greatest difficulty in getting operatives, and those who are obtained, even the most unskilled, will work only for the highest wages. The supply of laborers by immigration is not sufficient to meet the increased demand. In this emergency why not look to Canada for a stock of laborers? The supply is greater there than the demand, increased by crowds of cowards who have fled there to avoid military service; and wages are low. The prospect of steady work and higher wages would induce many of

the Canadians to emigrate to the States, if the facts could be put before them and some suitable effort made. The Canadians are intelligent, good-natured and valuable workmen in every respect. We don't want to invade Canada, but if an army of Canadian laborers would invade New England they would meet with a warm reception. The women may come too, and would find abundant employment in the factories and kitchens while their brothers were at work in the shops or on the farm.

**MITCHELL'S CULTIVATOR.**

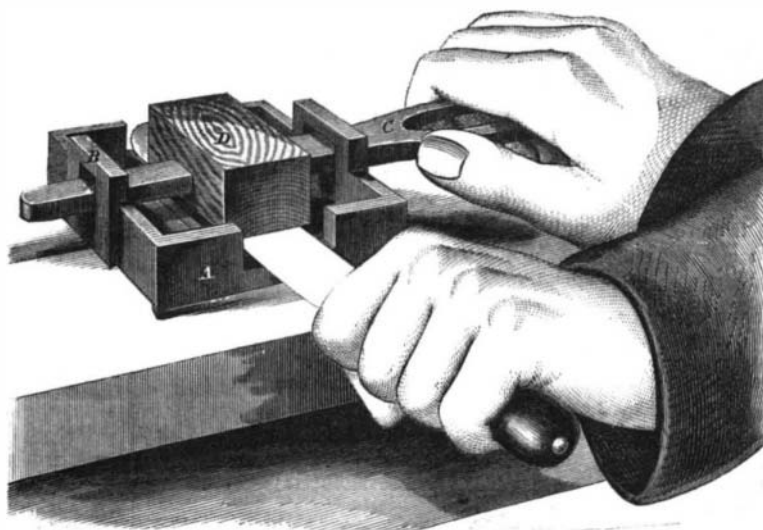
credulity at such a trivial matter being worth patenting, and asked how much he would probably save on each bedstead by adopting it in lieu of the parts now used.

"Well," he said, "possibly *three cents* on each bedstead."

"What does that amount to, in the course of the year?"

"Why, sir," the gentleman replied, "this simple thing that seems so unimportant to you is worth hundreds of dollars to me annually, and I have just such another little matter in my mind now, that will only save five minutes' work on a thing that is extensively used; and I anticipate as much profit from it."

Such testimony as this is most valuable to inventors and patentees. When a manufacturer voluntarily

**A NEW KNIFE-CLEANER.**

comes forward and pays the fees necessary to secure a patent on so simple an improvement in his business that he knows can only save *three cents* on each piece it is applied to, he not only shows his own sagacity but gives convincing proof that small things are not to be despised because they seem commonplace.

**A New Fallacy.**

"Leache's perpetual-motion machine, which has turned the heads of all the mechanics in Northern Vermont, has been sent to New York, where the