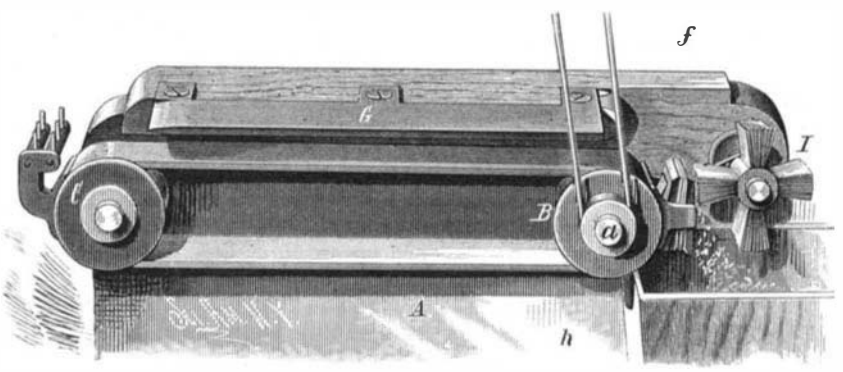
COLLECTING AND REMOVING WASTE FROM SPINNING MACHINES.

The apparatus herewith illustrated can be attached to any kind of spinning machine, and will keep the roller beam and floor clear of waste, beside enabling the spinner to do a third more work than could be done without it. Beneath the electrical rod, G, travels a belt carrying two cushions that touch each face of the rod; these are followed by a comb. All the loose fibers and broken threads are drawn to the rod, thus keeping the roller beam clean, and by gathering the waste that would accumulate on the floor, prevent it from becoming dirty and worthless. The waste is taken from the comb by the rapidly revolving brush, I, and deposited in the box.

By the use of this device the threads are prevented from running double or winding around the rolls, thereby lifting them and forming imperfect threads. The rolls being kept clean, the usual under cleaner is dispensed with. The roller beam and mule carriage being kept clean, the fly waste is kept out of the yarn and off the spindles. The waste is saved in a clean condition instead of becoming dirty refuse. One of the most important features of this device is that by using it manufacturers can avoid the making of a very large per cent of what is now styled imperfect cloth.

Further particulars regarding this invention may be obtained from the patentee, Mr. W. A. Delmage, 11 Bridge Street, Lowell, Mass.



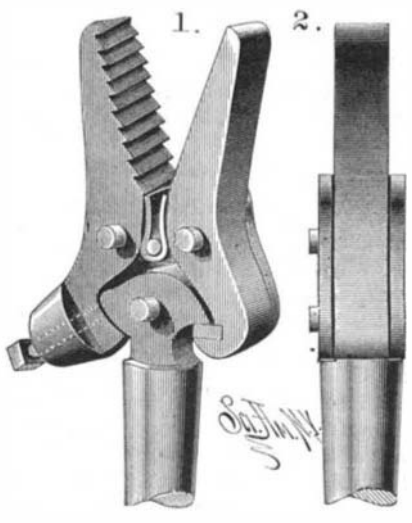
APPARATUS FOR COLLECTING AND REMOVING WASTE FROM SPINNING MACHINES.

Fall of a Meteorite.

It is reported that the French Academy of Sciences has just received an interesting account of a meteorite which fell not long ago near Odessa. A bright serpentine trail of fire was seen one morning to pass over that town; and the editor of one of the papers, surmising that a meteoric mass might have fallen from the sky, offered a reward to any one who would bring it to him. A peasant, who had been terribly frightened by the stone falling close to him as he worked in the fields, and burying itself in the ground, answered this appeal. He had dug the stone out of the soil, and preserved it, keeping the matter quite secret from his neighbors, as he feared ridicule. This stone was found to be a shapeless mass weighing nearly eighteen pounds. The fall of another meteorite, which in its descent wounded a man, was also reported; but it had been broken into fragments and distributed among the peasants, who preserved them as talismans.

IMPROVED WRENCH.

An invention recently patented by Mr. D. M. De Silva, of Corning, N. Y., is shown in the accompanying engraving. The tapering jaws and the handle are pivoted between two plates forming a head block; each jaw has a curved arm extending back from the pivots in the direction of the handle. The handle has cams that bear on the inner sides of the curved portions when the jaws are open, and they move along the curves when the handle is passed to the right—the jaws having been placed on the object to be turned—and wedge the arms apart, forcing the jaws together with great power for gripping the object. Since the force of the grip is in proportion to the force applied to the handle, the object offering great resistance will be gripped accordingly. The jaws are opened by a spring, placed between them, when the handle is shifted back. A book on one of the jaws comes



DE SILVA'S IMPROVED WRENCH.

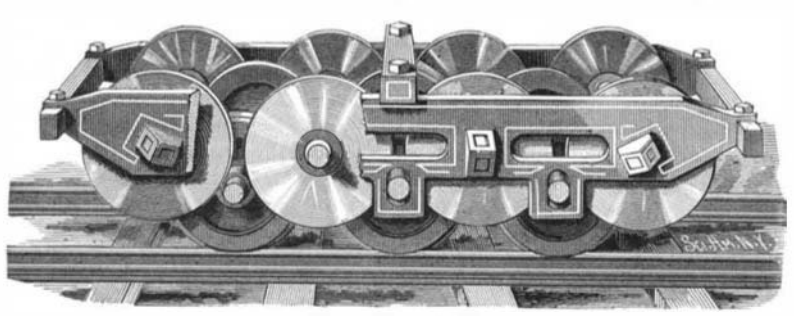
in contact with a shoulder formed on the handle to limit the backward swing of the handle to a line with the jaws. In order that the arms may be set to grasp small articles, one of the arms is provided with an adjusting screw that can be set in against the cam to lessen the extent of opening of the jaws. One or both of the jaws may be serrated to obtain greater holding power; one may be made with a beveled face, whereby the corners of the serrations at the highest side of the face will bite quickly, causing the jaws to grip more securely and without slip.

Measuring the Height of Trees.

In a recent number of the SCIENTIFIC AMERICAN SUPPLEMENT we gave a description, with illustrations, of a simple instrument for measuring the heights of trees, monuments, etc., with directions for its use. It is a cheap and efficient contrivance, styled a dendrometer, and was said to have been invented by Mr. Kay, forester to the Marquis of Bute. We are now, however, in receipt of a communication from a subscriber in Vienna, Austria, saying that the writer used this instrument to his great satisfaction forty and more years ago in buying timber for mining purposes. The invention was awarded a first class silver medal by the Scottish Arboricultural Society.

CAR TRUCK.

The axles of the wheels of the railway car truck shown in the engraving have their bearings against superimposed wheels which are so placed as to bear upon opposite sides of the journals of the axles above their centers. The superimposed wheels are made as large as is practicable; and are arranged in pairs—one upon each end of an axle extending across the frame. The arrangement and construction of the truck will be readily understood from the cut, in which a portion of the frame is cut away in order to show more clearly the journal formed by the superimposed wheels.



McCONNELL'S CAR TRUCK

This plan makes a slowly rolling bearing for the car axle, and the large size of the upper wheels causes their journals to turn at such a reduced velocity as to have but very little friction, so that all liability of heating is obviated. Thus wear of the bearings is reduced, and a large saving of oil and waste effected. Increased steadiness in running is also accomplished by this method.

This invention has been patented by Mr. A. E. McConnell, 197 Clio Street, New Orleans, La.

English vs. Arab Swords.

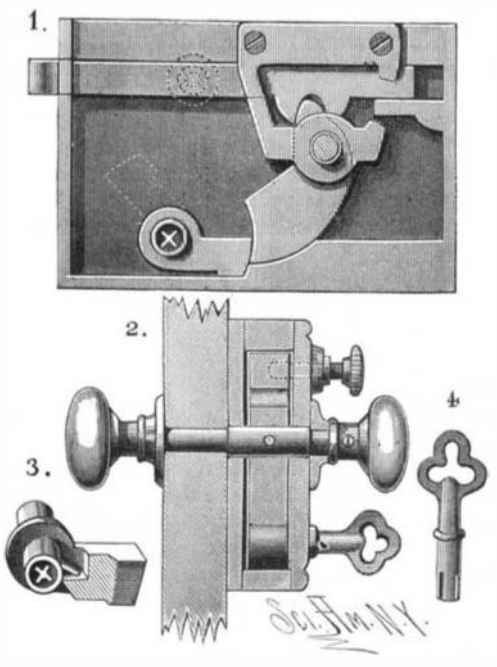
An English manufacturer of cavalry swords has recently made some severe criticisms of the manner of testing swords for the British army. The sword blades are taken to an official viewer, who is a civilian, and by him tested as regards balance, weight, and length. They are also gauged as regards size. Then the real test is applied. They are struck on a butcher's block by the viewer, and, if the result is considered favorable, they are passed. The operation is, of course, liable to great uncertainty, as no two men will strike with equal force, nor will the same man at different periods of the day. A method of testing swords much more severely, and in a way certain to be uniform, is afforded by a machine now in use by private manufacturers of the best goods, but it has not been adopted by the Government. The swords used by the Arabs in the Soudan have a heavy curve, and an edge which is kept as sharp as a razor, for use in cutting only, and not for thrusting, which is the only practice known in European swordsmanship. The Eastern swordsman seldom or never guards with his sword, and the hilt is made so small as to allow no play whatever to the wrist, so that when he cuts he does so from the shoulder, bringing into action all the strong muscles of the forearm and the back. The terrific force of a cut made in this way may be estimated from the accounts we have of the Sikh war, and many battles in India, where arms, heads, and legs have frequently been taken off at a single blow, which far exceeds anything that has been or probably can be done by the light, slightly-curved sword used in the European fashion. This is the reason why the hilts of all Eastern swords are made so small—not wholly in consequence of the smaller hands of the natives, but because a larger hilt would be a disadvantage, by weakening the firmness of the grasp, and consequently the force of the blow, in this method of cutting.

Traps for Inventors.

As soon as the United States Government grants an inventor a patent, and the *Official Gazette* of the Patent Office announces the fact, that inventor receives an alarming addition to his mail every day for a week. Advertisements, circulars, and letters come to him from patent agents, patent venders, patent institutes, bureaus, and all sorts of companies, firms, and individuals. All of these letters and circulars express a warm interest in the invention in question, and a desire to benefit the inventor. They are all philanthropic in tone, and suppress any indication of desire for gain. It is for the inventor's good only that they write. On closer investigation it is found, however, that every one of these disinterested individuals needs some pecuniary acknowledgment before any business can be done with them. One man wants a $5 or a $10 fee for advising the inventor what to do; another wants money to print circulars of the invention; another wants to exhibit the model in a room with other models, or wants to make a model; others want to negotiate for territory or sell rights, and so on. But every one needs more or less money in hand to do these things. The inventor who gets his first patent is dazed at all these offers, and sees so many tempting methods employed to make money that he is often deluded into parting with his coin without any very definite understanding of what he is to get in return. All sorts of traps are set for unwary inventors. There is a class of men who prey on them. Inventors, as a class, are enthusiastic and sanguine. They believe their devices are of the greatest benefit and highest importance. Men who acknowledge and recognize this, and who praise their inventive genius, are apt to gain their confidence, and too often this confidence is abused. Any respectable and reputable patent soliciting firm will advise its clients to be exceedingly careful of the persons with whom they transact business in patents or patent article. There are so many frauds that it is difficult to segregate them from people in legitimate business.—*Mining and Scientific Press.*

A NEW LOCK.

The bolt of the lock herewith illustrated has two studs projecting from its lower edge, to form a recess in which enters the toe formed at the upper end of the weighted tumbler secured to the knob spindle. The bar shown in the lower part of Fig. 1, and detached in Fig. 3, is turned by a key to a position in which it will not interfere with the movement of the tumbler; or to the position indicated in Fig. 1, where it locks the tumbler and prevents the shifting of the bolt. Threaded into the lock case is a screw pin, which enters a hole in the side of the bolt as a further security against unlocking. When the lock is used as a latch only the lock bar is swung back and away from the tumbler, leaving the latter free to be moved by the knob spindle. When the knob is released, the bolt will be thrown outward by the downward movement of the tumbler acted upon by its own gravity. The lock can be readily made for either a right or left hand door, and as it is entirely devoid of springs or delicate parts liable to be broken, it can be cheaply, strongly, and durably made; it can be used either as a latch or lock, the adjustments for either being easily made.



MIKESELL'S NEW LOCK.

This invention has been patented by Mr. M. L. Mikesell, of Muscatine, Ia.

A writer in the *Medical Times and Gazette* recommends the use of hot milk as a restorative. Milk when heated above 100° F. loses its sweetness and density, but has a most beneficial influence over mind and body when exhausted by labor or mental strain. Its effects are more invigorating and enduring than those of alcoholic stimulants.