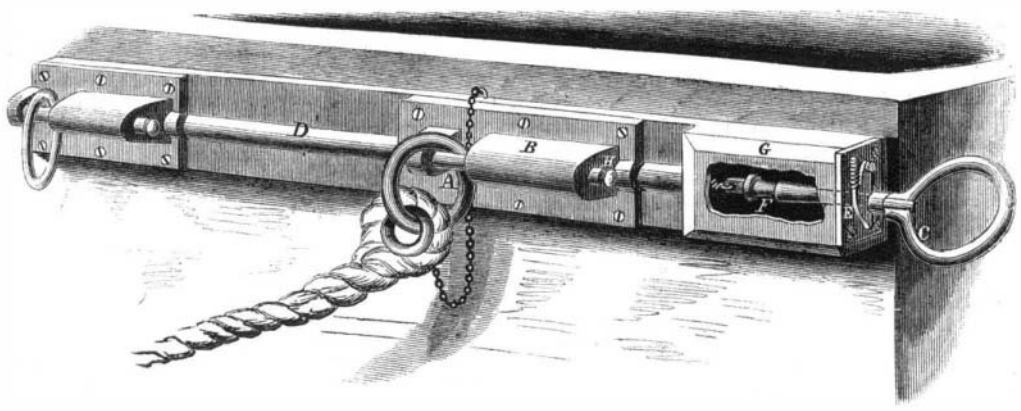
Improved Hitching Bolt.

The old idea that it is impossible to remove a horse from fire when once fascinated by it, may have had its origin in the unwillingness of some responsible individual to undertake the rescue of beasts so situated, and so ever afterward it became a proverb; doubtless like many others, without foundation. Of course, horses cannot get away when they are tied, and by the time the halter is consumed the animal is in no condition to leave. The invention herewith illustrated is designed to obviate this evil, and also others which attend unhitching horses, such as those which arise from entering the stable of vicious animals, and in short, to provide a secure and safe attachment to which horses may be tethered, without liability of accidental detachment. These objects are all obtained in the bolt herewith illustrated; the engraving explains itself. The invention is merely a stout bolt, A, provided with a spring in the case, B; these bolts are all connected with a handle, C, by a wire which runs through the groove, D; when the bolt is drawn back the halter may be slipped over it, and is then held in place when the bolt flies back to its seat as shown in the engraving. If it is necessary, the handle, C, may be kept extended. This is accomplished by the spring-catch, E; it being made in two parts which embrace the rod of the handle, C; when the catch is pulled open the rod is drawn out until the recess, F, comes outside of the case, G; the catch then falls into it, holds all the bolts open and the horses are released. Any number of bolts may be fastened thus and worked by one hand, or each bolt can at any time be worked separately by pulling on the knob, H; thus avoiding the necessity for going to the principal handle, which is perhaps situated at some distance.



KLOENNE'S HITCHING BOLT.

The patent for this invention was procured through the Scientific American Patent Agency, Oct. 27, 1863. For further information address Julius Hurxthal, 23 William street, N. Y.

Explosion of Naphtha.

At an inquest lately held in England, a grocer testified that while he was pouring coal oil from a barrel into another vessel, a lighted candle being within three feet, he saw a small blue flame run along the outside of the barrel to the bung hole. Of what followed he was ignorant. But it appears that a terrible explosion ensued, for the grocer was pitched up into the street, insensible; his house was set on fire, the upper apartments quickly filled with a dense black smoke, by which three of his children were suffocated, while his wife and three other little ones barely escaped with their lives. This explosive stuff was found to be a very light coal oil, or naphtha, the vapor from which is highly explosive.

Loss of an Iron-clad.

The *Weehawken* recently went down at her anchorage in Charleston Harbor. This was caused by great neglect on the part of those in charge of the battery. The *Weehawken* was very low in the water, so much so that her deck was submerged continually by the seas; during a severe gale the forward hatch was left off the hatchway, and the water poured down in a continuous stream, without those on board being aware of the fact until it was too late. There were some thirty persons, engineers and others, lost in the *Weehawken*; she was a monitor battery, and quite new. The accident is very much regretted; it was one that might have been avoided by proper care, as all the other monitors in the vicinity rode out the gale unharmed.

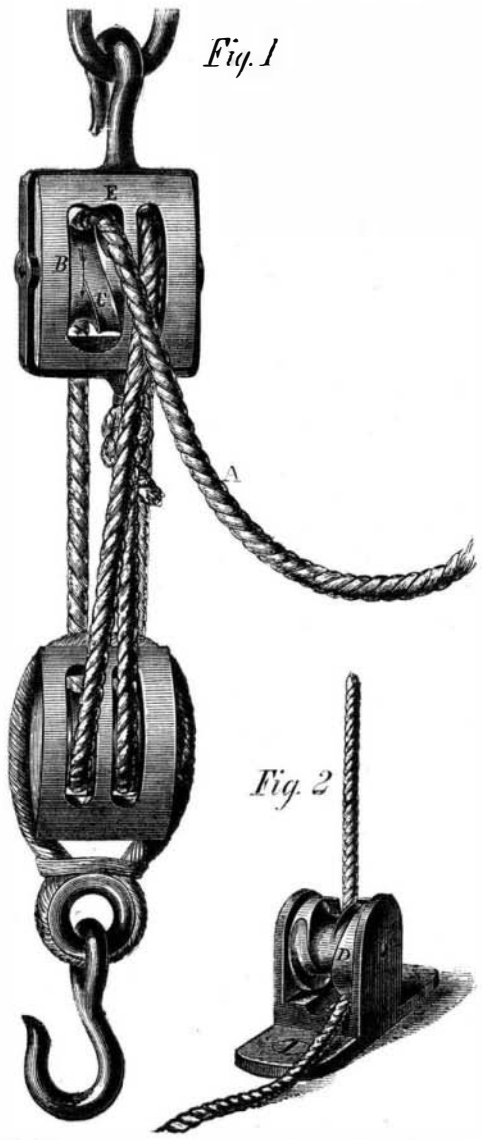
THE 22-tun gun of Sir William Armstrong requires a crew of twenty men to handle it; the 20-tun gun in the monitors can be worked by three, or at most four men—a slight difference!

Nitrous Oxide.

Concerning this gas, over which there is now so much discussion, the *American Druggist and Chemist's Circular* says:—"We have noticed the prominence which has lately been given by dentists throughout the country, and by a number of 'Professors,' to the inhalation of nitrous oxide gas as an excitant and an anesthetic. From what we have seen of the apparatus and materials employed by parties here, it is the old laughing-gas of Sir Humphrey Davy again galvanized into life and notice; and since, in the hands of dentists, the effects, as now described, are so much at variance with what is generally stated about them in the text-books, we must conclude that the gas is either more thoroughly purified and free from noxious admixtures, or that it is diluted with air or some other gaseous body, and thus divested of some of the unpleasant effects of the ordinary nitrous oxide."

PALMER'S PULLEY BLOCK.

The engraving published herewith represents an ingenious method for taking up the slack of a "fall," or rope, when attached to a block or pulley. By this arrangement one man can do as much work as two with the ordinary block and fall, as there is no duty or work required but simply that of hauling or pulling on the rope. It is well known that in the act of hoisting weights by the means of tackle, it requires much exertion to prevent the weight from falling back in the interval of hoisting; this labor is dispensed with in the pulley block shown in the engraving. When the workman hauls on the rope, A, the weight is hoisted as with all other pulley blocks; instead, however, of taking a turn around the nearest post to keep the "slack," the peculiar construction of one wheel, B, in the block, takes all the strain itself and leaves the workman fresh, or free, from the exhausting labor of holding back against the tendency of the load to drop. It will be seen that this is accomplished by simply cutting a side groove, C, beginning at the same depth as the true groove of the pulley (shown by the arrow in Fig. 1) and running out to nothing, ending in a flat surface or circumference as at D in Fig. 2. When, therefore, the slack is to be taken in the workman merely diverts the fall, A, a little to one side, when it takes the false groove, C, runs up in it and jams between the block and wheel; as at E, in Fig. 1. In Fig. 2 the same operation is shown and this variety in the form of the pulley may be substituted for the ordinary snatch-block, or for the cleat, so much used on shipboard. This device is a very convenient one for the purpose mentioned previously, as every practical man can readily see; it dispenses with labor, and completely secures the ends desired. The block and fall, with load attached, can be left suspended for any length of time with this arrangement. The pulley blocks, in other respects, are not peculiar.



This invention was patented on Nov. 1, 1859, by Isaac E. Palmer, of Montville, Conn. Patent reissued through the Scientific American Patent Agency, on Sept. 8, 1863.

The patent is for sale on very favorable terms, as it is out of the patentee's usual business. For further information address Isaac E. Palmer, care of H. F. Palmer, No. 28 Warren street, N. Y.

Quite Novel.

Army correspondents make a great many funny mistakes when they attempt to write about military or mechanical subjects; we think the following incident, however (which the correspondent who sends it says is "a novel effect") is the most startling and surprising one that ever came under our notice. Mr. Whitworth may learn something, it seems, even from an army correspondent. We quote:—

"After a few discharges the gun was found to have lengthened two inches. This was caused by the immense strain upon the piece in projecting the ball; the resistance offered by the rifling causing the immense mass of metal to draw out as if it had been a piece of iron wire in process of manufacture."

Copper-coated Boiler Plates.

An English boiler-maker has taken out a patent to protect boiler plates from damage by furrowing or corrosion. This occurs chiefly in the neighborhood of the seams and rivet holes; these parts are therefore covered with copper, either in thin sheets or by deposit, for the purpose set forth. This remedy is worse than the disease it is intended to cure, the contact of the two metals inducing galvanic action which will deteriorate the plates more rapidly than furrowing.

Gen. Burnside, by a rapid flank march from Knoxville upon Cumberland Gap, cut off the retreat of the rebel garrison which was thus compelled to surrender. His infantry made a forced march of sixty miles in fifty-two hours. His defence of Knoxville against the besieging forces of the rebel Longstreet, is one of the most heroic achievements of the war.