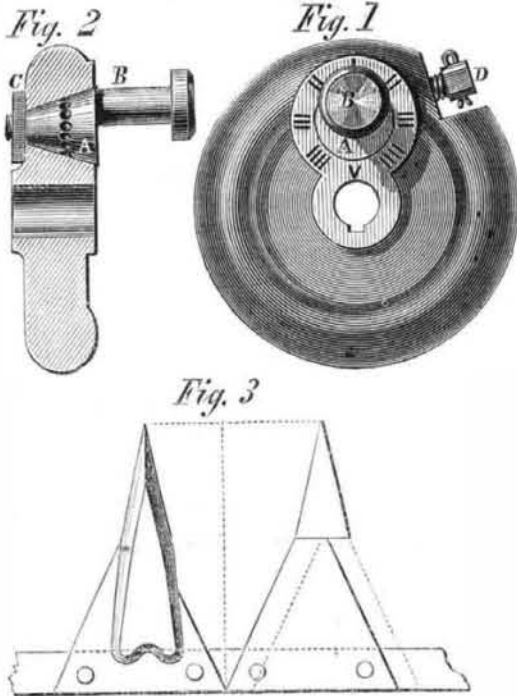


WANZER'S HARVESTER PITMAN CONNECTION.

The fact that the velocity of the knives of a harvester necessary to accomplish the best results is governed by the nature of the work and the speed of the team has been made a matter of importance by the improvements in harvesters within the few past years, which enable them to be used where there are obstructions and on uneven ground. As the wear of the machine in a given time is greater with every increase in the speed of the moving parts, various attempts have been made by which each farmer might adapt the vibratory motion of his cutters to suit all circumstances. The device herewith illustrated furnishes a cheap but efficient means for varying the stroke and velocity of the cutters.



The part, A, or shank of the wrist pin, B, which enters the wheel, is tapered as shown in Fig. 2, the wrist being placed near the periphery or eccentric to the center of the shank. The projection of the shank on the back of the wheel is square, having a square washer, C, by which the wrist pin and shank can be turned toward or from the center of the wheel, making the stroke shorter or longer, marks on a dial seen in Fig. 1, showing the relative positions of crank pin and center of wheel.

In the conical shank, A, are a series of holes which receive the point of a set screw, D, and serve to hold the wrist pin in place. Fig. 3 shows the position of the knives at the end of the stroke, when it is shortest its length being supposed to be three inches. By moving the knives to the other side of the guard finger, or half an inch further each way from the central dotted line, the length of stroke becomes four inches or is varied in the ratio of three to four. With this device a set of knives can be used a greater length of time than by the ordinary plan and their value will be lessened only by their becoming shorter. The method of fastening the pin may be varied, if desired, but is found that the one herewith illustrated possesses advantages. The conical form of the wrist pin shank secures a perfectly tight bearing. For reaping the stroke may be made shorter than the length of the knife section, thus securing a strong, steady motion of the sickle.

Patented through the Scientific American Patent Agency July 2, 1867, and reissued Nov. 12, 1867, which covers the use of a tapered wrist pin with eccentric projection and an improved plan for connecting the pitman to the cutter bar. For further information address Hiram L. Wanzer, Lanesville, Conn.

Friction Cigar.

Patented by Charles Quartley, of Baltimore, Md. Tobacco, eight pounds; saltpeter, twelve pounds; charcoal, one pound. These ingredients I mix with sufficient dissolved shellac to make a mass of the consistency of stiff paste. When the cigars or cigarettes have been finished in the usual manner, I take them, one at a time, and apply a portion of the above composition evenly over the end of the cigar with a small knife or any other convenient instrument, or they may be dipped into the composition, a number of them at once. The cigars are then laid aside for a short time, and, as soon as the composition becomes hard enough, a small portion of any of the ordinary match compositions, of which phosphorus is usually the main ingredient, is placed in the center of the first composition. After this composition has burned out, it leaves a live coal on the end of the cigar, which usually continues in this condition for some time, so that the smoker need not immediately "draw" on it. This coal lights the cigar in a perfectly even and regular manner, so that the cigar does not burn on one side, as is usually the case, when lighted in the ordinary way with matches, etc.

Smelting and Desulphurizing Iron Ore.

Alexander Hamar, of New York city, has patented the following:—

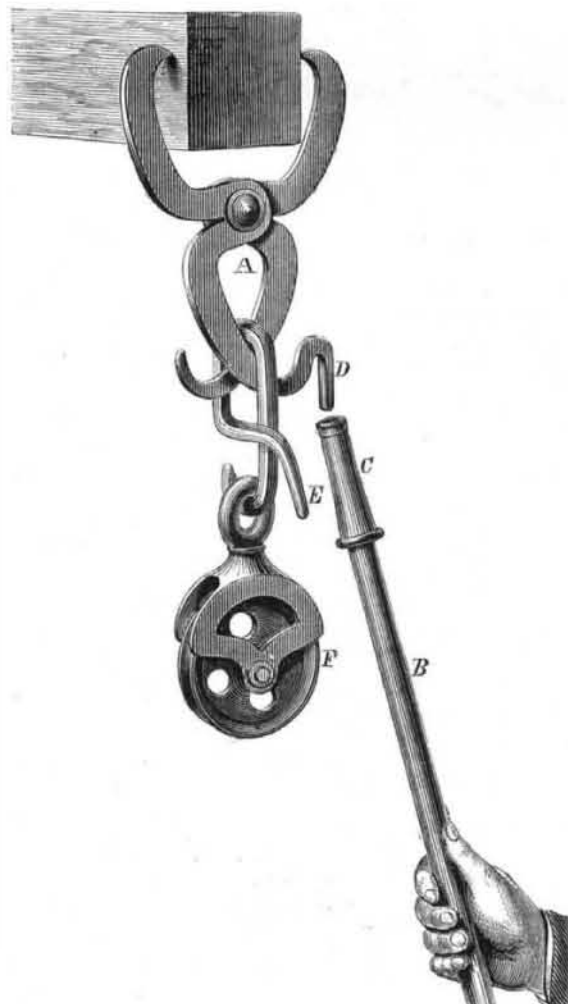
"I propose to desulphurize the ore by mixing hydrogen with it through the medium of the blast. A heated chamber is filled with coarse iron filings, and with charcoal in lumps about the size of a cherry, in the proportion of about two thirds iron filings and one third charcoal. Steam is injected

into this chamber, and is partially deoxidized by passing through the iron filings and charcoal, after which it passes through a coil of highly heated pipes, contained in a heating chamber warmed by gases. In passing through the heated pipes the steam is still further deoxidized by the absorption of its oxygen by the pipes. It is then conducted to the lower part of the furnace, whence the pipe divides into branches, corresponding in number with the tweers, into which I introduce the deoxidized steam. The steam thus deoxidized is nearly pure hydrogen. A blast of hot air is thrown in through the pipes, in the usual way, and, after mingling with the deoxidized steam, passes into the furnace and mingles with the charge, thus producing a high degree of heat. The hydrogen of the steam also combines with the sulphur contained in the fuel as well as with that of the ore, to form sulphuretted hydrogen, which escapes with the other volatile products of combustion. I thus desulphurize the metal and economize fuel. My invention may readily be adapted for use in either a cupola or a puddling furnace. When used in a puddling furnace, I supply independent jets of hydrogen over the iron and over the fuel, to desulphurize them separately, and convey away the products of combustion of each, by separate channels."

GREGORY & MELOTTE'S PATENT ADJUSTABLE CLUTCH.

The ordinary mode of attaching the sling pulley for hoisting hay, brick, stone, etc., involves more or less of danger to the operator. For raising hay from the wagon to the mow some one must climb to a beam or rafter and secure the hoisting pulley, at imminent risk of falling. Generally he must bore a hole in the beam and screw in the shank of a hook on which to hang the hoisting pulley. All this dangerous work can be done by any person standing on the floor by means of the simple contrivance illustrated in the engraving accompanying this article. A brief description will suffice to give a proper idea of the invention, which was patented by G. W. Gregory, Aug. 14, 1866, reissued Oct. 22, 1867, and by G. D. Melotte Oct. 29, 1867, the two patentees having combined their patents.

The grapple or tongs, A, is similar in plan to the tongs used by ice men for handling blocks of ice and by builders in hoisting blocks of marble and other stone. The construction of the grapple is readily seen in the engraving. In elevating the device, a stick is introduced between the points of the tongs to keep the jaws open and when it is lifted by means of the pole, B, having a socket, C, on its end, engaging with the tang, D, of the tongs, the contact of the beam throws out the stick, and the jaws engage with the side or top of the



beam by the withdrawal of the hoisting pole, B, and the weight of the tongs. It is evident that the greater the weight which the tongs support, the firmer the adhesion of its jaws to the beam.

When it is desirable to remove the gripe from one point to another, or to take it down entirely, the staff or pole, B, with the socket, C, is applied to the end, E, of the link that sustains the pulley, F, raising the link until it strikes the two arms of A, opening them and disengaging the jaws of the tongs. Only one pole is required for both the operations; that of attaching and that of detaching the tongs, and both these movements may be accomplished by almost any person.

The device is designed for use in hoisting either ice, hay, stone, brick, mortar, or anything, and is useful in depositing hay, ice, or stone, or lifting building materials to place; useful for butchers and handy about saw-mills. It can be made by

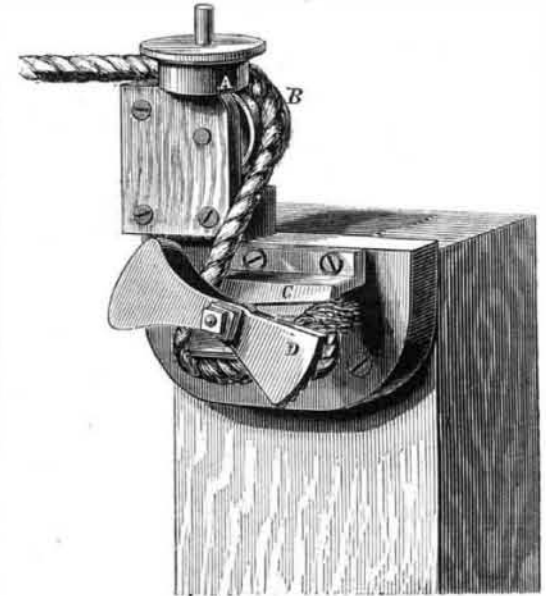
any ordinary blacksmith and cannot easily get out of repair.

The patent issued to G. W. Gregory is the first one taken out for clutch or adjustable pulley support, to be operated by use of poles, and his patent covers the device of elevating the clutch by means of a pole.

For information in regard to town, county, and state rights, or for the purchase of a clutch, address G. W. Gregory & Co., Watertown, Jefferson county, N. Y.

RIORDAN'S CLOTHES LINE HOLDER.

The object of the little article shown in the engraving is to overcome the trouble of putting up and taking down a common clothes-line, which is usually fastened by knots, the tying and untying of which is a matter often so annoying that the line is left up and exposed to all weathers. With this clothes-line holder once set up, no further trouble can possibly be experienced in this matter, as all that is to be done in



putting up the line is simply to pass the ends of it over the pulleys, A and B, one of which is vertical and the other horizontal so that the rope may run easily. The end is then pulled downward, until the line is brought to a proper tension, when it is introduced between the catching jaws, C D, by pressing it laterally to the left. The jaw, D, swings loosely on its pivot, and when the line is brought against it and pulled downward it swings, and thus admits the line, which is now let go, and as the outer end of D is weighted, it immediately presses up against the line and prevents it from running backward. The two jaws are made with a slope in contrary directions, and both are corrugated to assist in holding the line. When it is desired to take down the line all that is to be done is to pull the end downward and sideways to the right, thus withdrawing it from between the jaws and letting it run back over the pulleys.

It will be seen that not only does it afford the easiest means of putting up and taking down the line, but also that the line can be tightened to any required degree, thus dispensing with unsightly center props, and the holder may be set at any height from the ground, and can be operated with one hand with equal facility at whatever height.

The working parts are of cast iron, mounted on a block of wood, E, for facility in setting up, and are very little larger than the engraving. For further information address the patentee, P. Riordan, Arsenal, Washington, D. C.

Patented through the Scientific American Patent Agency, Dec. 31, 1867.

Composition for Removing Ink and Colors from Printed Paper.

Recently patented by Joseph A. Veazie, of Boston, Mass. A saponaceous composition is first made by dissolving twelve pounds of potash, in boiling water. To this add fourteen pounds of rendered tallow. Boil three hours; then pour it into a suitable vessel, and add, while cooling, twenty five gallons of soft water, the water to be added gradually and the mass constantly stirred until cooled, in which state it is of a brownish color, and of the consistency of stiff jelly. The paper to be cleansed is placed in an open or closed vessel, with sufficient soft water to cover it. When the mass has boiled thirty minutes, and is boiling, add for every hundred gallons of water, five gallons of the saponaceous composition above described, stirring and beating the paper as much as possible, so as to reduce it to pulp. The ink and coloring matter will soon begin to rise in a scum at the top of the water, which should be allowed to flow off through a spout or faucet fixed for the purpose. As soon as the ink or coloring matter ceases to rise the water must be drawn off from near the bottom of the vessel, clean boiling water being at the same time allowed to enter at the top, the passage of the water through the pulp serving to thoroughly rinse it. After boiling and stirring for a few minutes the pulp may be removed, when it will be found in a clean and white state, suitable to be again used in the manufacture of white paper. In all cases the pulp should be finally beaten and washed in clean water.

ACTION OF NAPHTHALINE ON INSECTS.—M. Eugène Pelouze has found that naphthaline prevents plants from being attacked by insects. Its effect is not to kill either the one or the other, but a very small quantity is sufficient to effectually drive the insects from the plant, and he believes that in this substance florists and agriculturists will find a very serviceable friend.