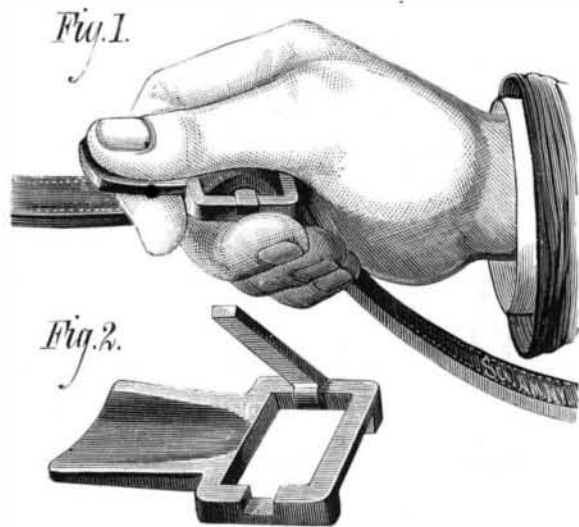


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**NEW HAND HOLD FOR REINS.**

The novel rein holder shown in the annexed engraving is to be applied to driving reins to afford the driver a strong



**POWELL'S HAND HOLD FOR REINS.**

hold upon the reins without undue pressure or cramping the hands. The device consists of a buckle conveniently arranged for attachment to the reins, and having a plate projecting from one side of it to be clasped between the thumb and forefinger, as shown in Fig. 1. Fig. 2 shows the device detached from the rein. This simple holder will add greatly to the comfort of driving, as it enables the driver to hold his reins without exertion, and it is especially valuable in cases of emergency, as it affords a firm hold that is impossible with bare straps.

Further information may be obtained by addressing the inventor, Mr. Hazael B. Powell, of Napoleon, Ohio.

**NOVEL VISE.**

The annexed engraving represents an improved adjustable vise recently patented by Mr. Fortunato C. Zanetti, of Bryan, Texas. The vise is capable of being placed and secured in any desired position to adapt it to different kinds of work, and to hold it in a convenient position for the workman. The lower end of the fixed jaw is provided with an arm projecting backward, and having a spherical socket for receiving a ball on the end of a fixed standard. The spherical socket is made in two parts, one being an integral portion of the vise, the other being secured to it by screws, and the two parts are capable of being drawn tightly down upon the ball by a clamp screw passing through one part into the other.

In the lower end of the fixed vise jaw there is a socket for receiving a standard having a convex foot which rests on the bench which supports the vise. This standard is adjustable, and is held in place by a set screw. When the vise is set in any desired position the standard is drawn out until it bears upon the bench or table, and assists the ball and socket joint in sustaining the weight and strain of the vise and the work.

Practical mechanics who are often obliged to work at a vise in an inconvenient and uncomfortable position will appreciate the advantages of this vise.

**Mystery in Mechanics.**

The Boston Journal of Commerce justly observes that there is a class of mechanics who affect great mystery about their work, and appear to imagine they can convey the impression that there is something occult or hidden in the processes they use and the materials they employ. Inventors are peculiarly sensitive about making known what they intend to do or the way they intend to do it, as though the world stood agape, ready to wonder and admire as soon as the letters patent were issued. Perpetual motion mongers are justified in keeping secret their experiments—they usually keep secret the result. But in nine cases out of ten the inventor could obtain the money assistance he requires simply by trusting his proposed improvement in detail to judicious friends, and he might with safety

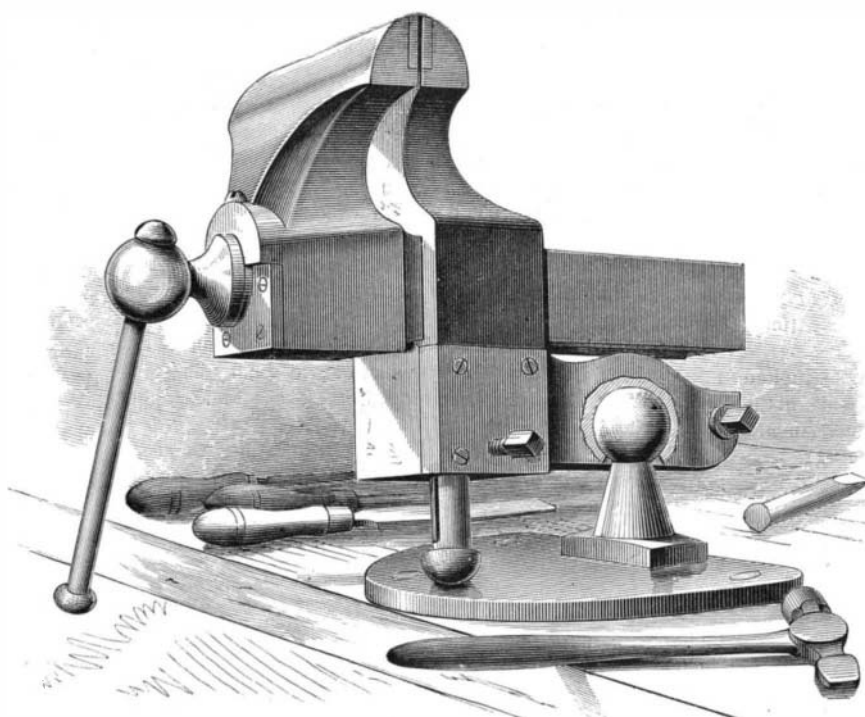
and advantage frequently take a brother mechanic into his confidence.

A short time ago a carpenter, in assisting to move some heavy machinery, had occasion to go into a room where the soldering of preserving cans was being done. He wanted to bore a hole through the floor through which to pass an eyebolt. He was refused admission until he solemnly promised not to notice the work which, with some handy appliances, was performed very rapidly. A visitor to a white lead manufactory was refused admission to a room where the pig lead was cast into sheets previous to being acted on by the acid. Yet there was absolutely no secret in it. The melted lead was simply thrown in small quantities on a sort of shovel of sheet iron, where it congealed to a thin film. The worsted braid used largely for the trimming of ladies' dresses a few years ago is as smooth as silk, without fuzziness, although the yarn is full of projecting fuzz. A certain company kept its process a great secret, but an examination of their braid under the microscope showed it was simply singed. Some temperers of steel profess a great secret in the preparation of their hardening pickle, a secret as patent as though described on a page.

There are very few manipulations or manufacturing processes which are truly secrets, and in many of these cases the secret consists in the quality of the material used, a material perhaps not readily obtainable otherwheres. If a secret process involves much mental calculation or expertness of handling, a chance visitor must have rare observing faculties if he can carry it away with him and reproduce it at will from his memory. The laws of the science of mechanics are open to all investigators, and what one man has learned of them may be learned by another man. It is an absurd and ridiculous pretension generally that assumes that one man knows alone what many are anxious to learn, that the finished article carries no suggestion of the processes through which it has passed, and that on one man's will and life depends the success of some important manufacture.

**Singular Case of Lightning Stroke.**

A paper was read at a late meeting of the Clinical Society, London, by Dr. G. Wilks, of Ashford, on a remarkable case of lightning stroke, which occurred on June 8, 1878. A farm laborer was struck by lightning while standing under a willow tree, close to the window of a shed in which his three fellow workmen had just taken shelter from a violent storm of rain. His companions found the tree partly denuded of its bark, and the patient's boots standing at its foot. The patient himself was lying on his back two yards off, and though he was fully clothed previously, he was now naked, with absolutely nothing on except part of the left arm of his flannel vest. He was conscious, but much burnt, and his leg was badly broken. The field around was strewn with fragments of the clothing; the clothes were split or torn from top to bottom, the edges of the fragments being often torn into shreds or fringes; they only showed evidences of fire where they came in contact with metal, such as his watch and the buckle of his waist belt. There were no laces in the boots. The left boot was torn and twisted into fantastic shapes, but the sole was uninjured, and there were no signs of fire upon it; the right boot had the leather much torn and the sole rent and burnt. The watch had a hole



**ZANETTI'S IMPROVED VISE.**

burnt through the case, and the chain was almost entirely destroyed. The stockings were split down the inner side; the hat was uninjured. The patient stated that he was struck violently on the chest and shoulders, became enveloped in a blinding light, and was hurled into the air, coming down on his back, "all of a crash," and never losing consciousness. The hair of his face was burnt, and the body was covered with burns. Down each thigh and leg was a broad crimson indurated band of burning, passing

along the inner side of the knee, and ending below the left inner ankle and the right heel; a lacerated wound, with a comminuted fracture of the os calcis. The bones of the right leg were fractured, and the tibia protruded through the skin in the course of the burn. He was discharged healed twenty weeks after the occurrence. Dr. Wilks remarked on the almost complete exemption of the nervous system and on the probability that the clothes being wet acted as good conductors, and so diverted the electric current from the great nervous trunks, thus saving the man's life.

**IMPROVED SHAWL STRAP.**

The accompanying engraving shows an improved shawl strap patented by Mr. Max Rubin, of New York city.

Two endless leather straps pass through slots in the frame, A, and through slots in the shanks of the handles. The shanks being pivoted in the frame, A, it will be seen that by



**NOVEL SHAWL STRAP.**

turning the handles the straps will be wound up, and will consequently bind whatever is inclosed by the straps. A catch, B, holds the handles in position after the straps are wound.

**MISCELLANEOUS INVENTIONS.**

Mr. James P. Bell, of Pleasant Grove, Ga., has invented an improved hame fastener, simple and inexpensive in construction; easily fastened and unfastened, and not liable to become unfastened accidentally.

An improvement in sole-edge burnishers for boots and shoes, patented by Mr. Samuel Jacobson, of St. Peter, Minn., consists of an ordinary shoemaker's burnisher, to the handle of which aspringis attached in such a manner that by means of a set screw it can be made to cover more or less of the burnishing surface, according to the thickness of the sole. The part that burnishes the upper edge of the sole is provided with a small adjustable tongue.

An improvement in sleds, patented by Mr. James H. Dennis, of Newark, N. J., consists in providing a sled frame with a hand steering device, and sweeps arranged in rowlocks.

An improved window shade attachment has been patented by Mr. Elliott Metcalf, of Findlay, O. The object of this invention is to provide a simple and effective device for suspending and opening and closing the blinds or shades known as "Venetian shades for windows."

An improved door bell has been patented by Mr. Joseph B. Richard, of Columbus, O. The improvement consists of a curved lever pivoted to the spindle of the bell knob, and which acts on a hammer that strikes the gong when the bell knob is pulled outward. The mechanism is compact, simple, and not liable to derangement.

Mr. Jesse H. Allison, of New Vienna, O., has invented an improved plaiting machine, consisting of tubular side frame, end strips, and wires, combined to form a desirable and efficient instrument.

An improvement in the manufacture of window shade cloth has been patented by Mr. Bonheim Birnbaum, of New York city. This invention relates to a new process of manufacturing decorated window shade cloth; and it is designed for producing cloth with a surface ornamented in imitation of moire antique, figured damask, watering, or any other design made by raising engraved lines on a lustrous surface.

Mr. John F. Hause, of Woodstock, Ga., has patented improvements in the construction and operation of tuyeres for blacksmiths' forges, the object of which is to procure a more perfect control of the blast, and to prevent ashes, cinders, dust, etc., from falling into the orifice of the blast pipe.

Mr. C. R. Elliott, of Golden, Col., has patented a simple and convenient device for fastening bags and sacks that may be used without sewing or otherwise permanently attaching it. This device is adapted for grain and ore bags, particu-