Correspondence

Tumbling of Projectiles.

MESSRS. EDITORS:—In my letter of criticism of the 8th ult., on guns and projectiles, I endeavored to show that it did not follow that because a gun did not shoot straight therefore it was at fault. From a knowledge of facts, and much experience, I concluded that it was more likely that in the case of the 600-pound gun the projectiles were more at fault than the gun. I have since become acquainted with a remarkable case illustrative of the correctness of my general views as stated, and which case has been developed since the writing of that letter. From one of the forts near this city a 3-inch Rodman gun (U. S. service) was sent to Washington Arsenal bearing this inscription, "This gun won't shoot straight." Probably from the press of business at this post the gun was overlooked. Two years rolled on, the gun bearing meekly the opprobious inscription. One of the young lieutenants, whose mind had profited by the every-day practical instruction elicited at this post, doubted the story. He examined the gun, and seeing nothing wrong with it, determined to test it practically. To this end, 3-inch Hotchkiss shell, 3 grooves, 5-second paper fuse, and 1 pound of powder, service charge, were used. Shot after shot was fired, each shell exploding in due time. The flight of every shell was excellent in every respect, and sound smooth. It was soon decided that there was nothing wrong with the gun. Doubtless, the officer who had tested the gun had used unsuitable projectiles, and given a verdict according to results.

I herewith give another example: Some time ago a gunsmith sent me an old rebel rifled musket for experiment, and with it I fired a number of shots, at short range, into pine plank. I found that every shot struck sideways, even at the short distance of six feet. On examining the rifling, I found that it was very much worn, and the bullet exhibited no sign of the rifling. I made new bullets, and drilled them out so much that they contained about the fourth of a charge. I notched the base end of the bullet so that powder would be exposed to the fire from the cap, and coated the end of the charge with collodion. The bullets being thus formed, I recommenced my experiments, charge and bullet in one. The result was, that every bullet went point first into the target, showing that the explosive force of the charge had expanded the base of the bullet, filling the shallow groove. In this case I would say that the musket was at fault, but it illustrates the value of the sabot.

On the same principle, I have experimented somewhat extensively with 3-inch shell, constructed with sabots about one inch in depth, and have witnessed uunsually favorable results.

In your issue of the 5th inst. I observe that Messrs. Hotchkiss & Son state, in answer to my communication, that I failed to give the cause of the tumbling of his large projectiles. I purposely but courteously hinted my conviction that the lead band was rendered weak by the grooves described; I shall here state my views more in detail. The Hotchkiss shell is composed of three parts—sabot, lead band and shell. The bands holds the sabot or shell together; grooves have been formed from end to end for reasons given. As the shell has not corresponding grooves underneath the lead grooves, the lead is not more than about one-eighth of an inch thick in the channels. Therefore, between the shock of discharge and centrifugal force of shell, which is greater in the case of the 4½ than the 3-inch, the lead snaps asunder, and flies in pieces at the groove. The shell and sabot come apart, giving the appearance of an exploded shell. To harden the lead may be some advantage, but I think that sound philosophy would teach the necessity of corresponding grooves in the shell, and the shell in turn should be re-enforced, giving mutual strength throughout. I think Hotchkiss shell thus formed would give better results. Although I have a high opinion of this shell I think it stands in need of further improvement. This shell, moreover, when packed, rests on its base; this is another evil, for the thump of transportation on its sabot condenses the lead band, and, in some cases, increases the diameter, so that the shell is apt to stick in the gun, especially when foul. I think for that also a remedy might be had. Hardening the lead would operate well, but the lead band might also be made smaller in diameter than the shell; force enough would be left to drive the band into the grooves. There is no other shell in use where the entire force of charge is so concentrated on the sabot. This is a great advantage; more force is obtained than is necessary to give perfect rotation; hence, since this shell was grooved its range is increased by the reduction of friction, while the vent admits the flame to ignite the common fuse without fulminate, which is very desirable for safety and economy. THOMAS TAYLOR.

Washington, D. C., Nov. 14, 1864.

About Steam Plows.

MESSRS. EDITORS:—Last winter I traveled all over the western country, from Minnesota to St. Louis, Cincinnati, Chicago, and all the principal towns. My business was hunting up steam plows and land locomotives. I was interested in everything that had steam and moved on the ground. At every town and village I could find two or three inventions in that line, more or less foolish. A few out of the number were, however, really ingenious. The most ridiculous thing of the kind was gotten up by the editor of the *Prairie Farmer*, at Chicago. I saw all the men that had been trying to plow by steam, their engines also, and compared notes with the inventors. All the plowing engines in that country have weighed from ten to fifteen tuns. Now just think of a steam engine of such weight traveling on the soft ground, and then ask it to plow! Was it not discouraging to find that all the men engaged in steam-plow business think that they must have a heavy engine to increase the traction on the ground. The facts of the case are, that an increase of weight will increase the necessity for traction faster than it increases the traction. A heavy engine will sink the wheels so far into the ground that the wheels will be traveling up a steep grade while on the level. A heavy engine drawing a heavy train on the rails is a different case. I intend to depend on sufficient claws on the drive wheels to make traction, and build my engine as light as possible. The cause of all the failures in steam wagons on common roads, and plowing engines, is to be found in the great weight of the engines. They have been obliged to carry along a surplus power to enable them to ascend steep grades and overcome difficulties, and such surplus power always includes a surplus weight, which surplus weight destroys all the practicability of the institution, if on the ground. Now, I propose to increase the power of the engine to suit any grade of hill, or any weight of train to be drawn, without increasing the weight of the engine, then it will be sensible to run on the ground by steam, and not otherwise.

PERRY DICKSON.

Erie City, Nov. 7, 1864.

Test of Air.

MESSRS. EDITORS:—A communication appears on page 295, current volume of the SCIENTIFIC AMERICAN, on "The Purity Test of Air," which contains a suggestion that an instrument might be invented to indicate the amount of oxygen in the atmosphere by allowing a jet of gas to burn in a limited supply of air. A very erroneous opinion exists in regard to the cause of impure air. We are often informed that the air in a close room is so poisonous as to almost destroy life, owing to the presence of carbonic acid gas. From recent experiments made by eminent chemists it is ascertained, that in a room inclosed by ordinary walls the amount of carbonic acid can never exceed one-half of one per cent. The most accurate experiments have never discovered more than four-tenths. This fact results from the well-known awl of "Diffusion of Gases." Thus, if two vials, communicating with each other by means of stop-cocks, be filled, the upper one with hydrogen, and the lower one with carbonic acid, though a barrier of india-rubber, earthenware, or even of water, be placed between, the gases will diffuse into each other, the light gas descending and the heavy gas ascending, until they are perfectly commixed. Now, the walls of an ordinary room are made of very porous material—brick and plaster especially so; therefore, the carbonic acid in the room and the oxygen of the outside air become commingled, and the air of the room retains its normal condition as far as the carbonic acid is concerned. This fact, while it proves the absence of carbonic acid, does not lessen the other fact, that the atmosphere of crowded and ill-ventilated churches, cars, halls and other rooms is very hurtful; for this reason, that a certain effluvium and organic matter is exhaled from the system, which, being inhaled, occasions the oppressive feeling we all know so well. The victims of the Black Hole of Calcutta perished, not from breathing carbonic acid, but, being overheated and crowded together in a small room, were suffocated by the effluvia arising from their own persons. J. J. M.

New Haven, Nov. 16, 1864.

[Our correspondent's position is correct, provided time be allowed for the diffusion to take place, but time is necessary. Atmospheric air in a vessel may be displaced by simply pouring carbonic acid gas into the vessel. We have seen a row of candles in an open trough all extinguished by pouring carbonic acid gas into the upper end of the trough. We have no doubt that the carbonic acid was the principal cause of death to the strugglers in the Black Hole at Calcutta.—EDS.

Boring for Oil near Chicago.

MESSRS. EDITORS:—As Dr. Stevens, in a recent article in your paper, alluded to appearances of oil in the stone of which the Second Presbyterian Church in this city is constructed, it may prove of interest to your readers to detail some of the facts connected with the boring of a well near the quarry from which this stone was taken. This well is now in the process of being bored, and has reached a depth of 620 feet. In and about Chicago, except at the point of boring, the alluvial soil is about 100 feet in depth. At this place, however, an upheaval or natural convulsion has thrown about 100 acres of rock to and above the surface of the surrounding prairie. This point adjoins the city limits of Chicago, and is only about two miles from the center of the city. The formation is the Upper Silurian. The surface rock, 35 feet in depth, is a dark fosiliferous limestone, thoroughly saturated with petroleum. Immediately beneath this is a stratum of what we call Athens marble. It is a coarse-grained, yellowish-white limestone, an excellent building material, out of which many of our first buildings are erected. This stratum is 100 feet in depth, and is varied by occasional bands of perfectly white marble. All through the surface rock plenty of oil was found. The Athens marble being exceedingly hard and compact, no oil was found in it. Underlying this stratum we penetrated a band of conglomerate rock, flint and limestone, very hard, interspersed with thin layers of iron pyrites and one trace of copper. This was 100 feet in thickness, and whenever crevices appeared in the rock strong indications of oil were found. Beneath this conglomerate we entered the shale which separates the Upper and Lower Silurians. This band here is 156 feet thick, characterized by no special peculiarities. We met with nothing but a few bushels of nodules of more perfectly-formed shale, which occasionally dropped into the well, but this entire band was saturated with petroleum; the sediment came up like putty—thick and greasy; a test by distillation afforded a small quantity of oil, and naptha in abundance. Gas now began to escape, and signs of oil were abundant. After this the drill penetrated the upper surface of the Galena limestone, and where this shale rests upon the underlying rock, at a depth of 527 feet, the largest quantity of oil yet seen was found. The drill and drill rods were covered so thickly that the oil ran from them in considerable quantities; these signs were highly encouraging. At 539 feet the first sandstone was entered, and here again oil was visible in amounts sufficient to produce satisfaction. This sandstone is 71 feet thick, and shows oil throughout the entire stratum, but whenever there appears a seam or crevice, or where two layers of different kinds of rock come together, leaving a crack or opening between the two, the signs are far more abundant and favorable. At 608 feet another band of limestone containing flint and sulphurets of iron was struck. It is very hard, and progress through it is slow. It is in this rock that the drill is now at work at a depth of 620 feet. At the present writing this well is in constant commotion from the action of escaping gases;

it boils and roars and surges; the water at times is forced to the surface, and then suddenly falls, 30 and 60 feet. The water usually standing in the well is about five feet from the surface of the ground. From the number of seams containing oil which have already been passed through, from the quantity obtained, and from the escape of gases, I have no manner of doubt that now a pump could be inserted in this well, and oil enough obtained to make it pay expenses. G. A. SHUFELDT, JR.

Hermetic Barrels.

MESSRS. EDITORS:—There is a description of a hermetic barrel on page 288, current volume of the SCIENTIFIC AMERICAN. There is also a reference to said barrel on page 292. Barrels intended to contain refined oil and spirits, are invariably glued on the inside, and, in most cases, painted on the outside. This is a hermetical package, but owing to shrinkage of the wood the glue cracks at the joints, and leakage is the consequence. I have known for some time that a perfect hermetical barrel is possible. The impermeability of the wood is accomplished by having the annular layers concentric in the package as they are in the tree. Our present mode of getting out staves is radial with the trunk of the tree, thus cutting the annular rings in lengths equal to the thickness of the staves, thereby exposing the cellulose portion of the wood to the percolation of fluids, that not only pass through the open pores, but dissolve the mucilaginous matters contained in those that are closed. By getting out the staves tangential to the circles of annular growth, the thickness of the staves would admit of quite a number of layers, the capillaries of which could be filled with water and the ends sealed up, thus preventing shrinkage, preventing percolation, and producing, beyond a doubt, an hermetically sealed package. This mode of getting out staves has another advantage. It is well known that old barrels are tighter than new ones, arising from the fact that the gummy matters having been dissolved, the cellular layers collapse under pressure of the hoops, bringing the ligneous layers closer. But what the barrel has gained in "seasoning" it has lost in durability. The wood being saturated with oil becomes as brittle as if it was dazed. By preventing the absorption of oil, the wood will retain its fibrous toughness; and if it be true that the lower ligneous layer must be pressed against the upper ligneous layer, to act as a fulcrum to break it on, we will be less troubled with broken staves, with their leakage and loss. JOHN CONNOLLY.

Boston, Mass., Nov. 10, 1864.

A Missing Boiler-maker.

MESSRS. EDITORS:—We have at the Union Volunteer Refreshment Saloon a lady refugee, from Richmond, Va., with four children. Her husband was forced into the rebel ranks, butdeserted in November, 1863. She left the following April in search of him. All her efforts to find him seem in vain, and she is much distressed in consequence. Our Committee have spared no pains to find his whereabouts, but have not succeeded. It occurred to me while perusing the SCIENTIFIC AMERICAN that a communication in your columns might be the most likely means of finding him, if alive, as he is a boiler-maker. His name is Richard Rodd.

By giving this matter a notice in your valuable paper you will serve the cause of humanity. Any communication may be sent to my address, or to our saloon. JOHN W. HICKS,

No. 713 South Second street, Phila.

Philadelphia, Pa., Nov. 22, 1864.

A Born Machinist.

Henry Maudsley, one of the most eminent of English mechanics (whose death is reported to us among the news brought by the last foreign steamer), had this mechanical instinct strikingly developed. His father was a carpenter, but young Maudsley himself was much fouder of working in iron, and would often excite the anger of the foreman by stealing off to an adjoining smithy. He urged so hard for a change that when fifteen years old, he was transferred from the carpenter's to the blacksmith's shop. Here he became an expert worker in metal, and was soon quite noted for forging "trivers" with great speed and skill, the old experienced hands gathering round to admire him when at this work.

When a boy has the innate love of his trade that Maudsley had, and thousands of American youth all over the country to-day have, he does not remain at the foot of the ladder. Take a boy—there are plenty such—who has no particular predilection for anything, and put him at a trade, and he will always remain a mere workman. But boys like Maudsley, almost without knowing it, are urged on to something better. At this time Brahmah, the lock-maker, had great difficulty to find mechanics skillful enough to make his locks with the neat precision he wanted. Young Maudsley was suggested to him, and, on being sent for, the Woolwich blacksmith came to London.

He was but 18 years old, strong, muscular, tall, and remarkably handsome. But both Brahmah and his foreman thought he was too young to be put in the shop with old workmen. A worn out vise bench was lying near by, and Maudsley seeing that his chances were in danger, asked permission to go right to work and fix it up. He did so, and the job was so splendidly executed that he was at once engaged, and he became as much a favorite in this as in his former shop. He rose in position and became foreman. In 1797 he opened a shop of his own, and he and his wife (for a pretty girl had a little time before accepted the hand of the handsome blacksmith) clearing the hired shop of the dirt and rubbish left in it by a former tenant. His first customer was an artist, who gave an order for the iron frame of a large easel; and thenceforth Maudsley's shop had plenty of work. His next success was the invention of the slide-rest with which his name is usually identified, an invention, too, which all familiar with the use of the turning lathe, now consider indispensable. Maudsley subsequently became a famous manufacturer of machinery; but even when he employed numbers of men, and found it necessary to labor more with the head than the hands, he used to go often to the forge and work enthusiastically with the sledge hammer, just from sheer love of his art. In time his shop became as it were a college of mathematical art, from which the best mechanics were proud to graduate.

The French Grape Harvest.

A traveler who has closely watched the progress of the vintage through France is of opinion that the present will rank among the best years. Such a good result was not expected in the month of August last. At that time the grapes had become hard in some places for want of rain, and in others they were scorched with the extreme heat. Fortunately, in the middle of September, a beneficial rain fell, which brought moisture into the veins of the plant. As the rain was prolonged the fears of the vine-dressers were again roused, and some of them gathered their grapes between two showers. fearing they would be washed away. "Quantity," said they, "is sufficient for us, for nobody can expect good quality this year." Contrary to their prediction, however, the rain ceased on the 22d of September, and an east wind set in with a bright sun. A complete transformation took place in the vineyards. The grapes that were shrivelled became full, and those that were green ripened in 24 hours. Hands were wanting to gather the grapes, and much would have been lost had not the commanders of regiments lent their men to assist the vine-dressers; and it was at that moment that the journeymen coopers struck for higher wages. The traveler was present at the making of the wine in the Medoc, and says the grapes are never pressed, except to make the wine used in the family, after the juice has run into a vat over which the grapes are placed. He describes the magnificent wine cellars at Bordeaux on the Quay des Chartrons, which are galleries lighted with gas, through which one may walk or drive amid 10,000 casks and 500,000 bottles of the best wines in the department. The cellars of the wine-growers are not so extensive, being only formed to receive the produce of two crops. Sometimes it is a marquis or an earl who does the honors to a visitor, but the majority of the wine-growers leave that duty to be performed by their head cellerman, a person who possesses the same faith in his master's wine as he does in his religion, and is as anxious in the care of his casks as he is in that of his children.

Iron Fortifications.

A large number of military and scientific gentlemen recently visited the Millwall Iron Works, London, to view a three-gun wrought-iron shield, completed to the order of the Russian Government, for the defence of Cronstadt. The shield in question is constructed upon the system of fortification patented by Messrs. Hughes and Lancaster. The following are the principal mechanical details of the massive structure:—It is 43 feet 6 inches long by 10 feet in hight, and is composed of wrought iron bars of a size hitherto unattempted in "grooved rolls," 12 inches by 12 inches, rolled with a "rebate," and corresponding hollows on the opposite side, strengthened by dovetailed ribs at their back, 3 inches in thickness, which are attached by keys or wedges in dovetailed holes to upright beams or girders, 14 inches by 14 inches, on each side of the embrasures and at the ends, and in two equal divisions of its length, to four frames or brackets like the letter A, with one vertical side. The foundation plate on which the whole structure stands is 43 feet 6 inches long, 2 feet wide, and 3½ inches thick, rolled in one length. The total weight of the shield is about 140 tuns. Each embrasure is 4 feet from the platform, and 4 feet high. In the throat it is 2 feet 2 inches in width, or, with the shelving of the cheeks, 2 feet 10 inches. The military advantages of such an opening in an iron parapet of 15 inches thickness is that the guns can be worked so as to take a greater sweep of range than is possible where the parapet is of masonry. In point of strength, an inch thickness of iron is equal to one foot thickness of stonework, so that the power of a resistance of the shield in question is equivalent to that of a wall 15 feet thick. As a matter of experiment it is to be put upon the parapet of one of the outer ports at Cronstadt, but should it be found to answer the expectations of General Todleben, it will itself take the place of the parapet, the whole metal platform being fastened by clamps and rivets into the granite rampart. The piece of work excited general admiration. The visitors had also the pleasure of seeing a 6-inch plate rolled for the defence of a ship's side. The company is at present executing a large order of them also for the Russian Government.

The Termination of a Great Strike.

English news mentions that the great strike of the colliers in South Staffordshire has terminated in the submission of the workmen to the employers' terms. This was the greatest strike of laborers that probably has ever taken place. It commenced in August last, and before it concluded eighteen thousand laborers were standing idle, and their families, embracing between sixty and seventy thousand persons, were left without support. A reduction of about five dollars upon the market price of a tun of iron reduced correspondingly the cost of material which enters into its manufacture. This lowered the wages of the colliers sixpence per day for one set of laborers and threepence for another, reducing their pay to four shillings sixpence and three shillings threepence per day. The colliers insisted that the whole burden should fall upon the iron workers and not upon them, though the relations of labor are so intimately connected that what affects one touches the other generally in an equal degree. The employers, or "masters" as they are termed in England, showed that they could be undersold in their own markets unless the cost of material was reduced, and their only alternative was either to contract expenses or close up their business and withdraw their capital to other branches of labor. They adopted the first expedient, and as the colliers would not furnish coal to them at the reduced wages, the iron masters closed their places of business, the customers went to other markets, and the whole district of Staffordshire has suffered accordingly. In the meantime invention has been set to work to furnish coal-cutting machines to supersede manual labor, and with every prospect of finding a useful substitute which will cheapen coal to the poor as well as to the iron manufacturer.

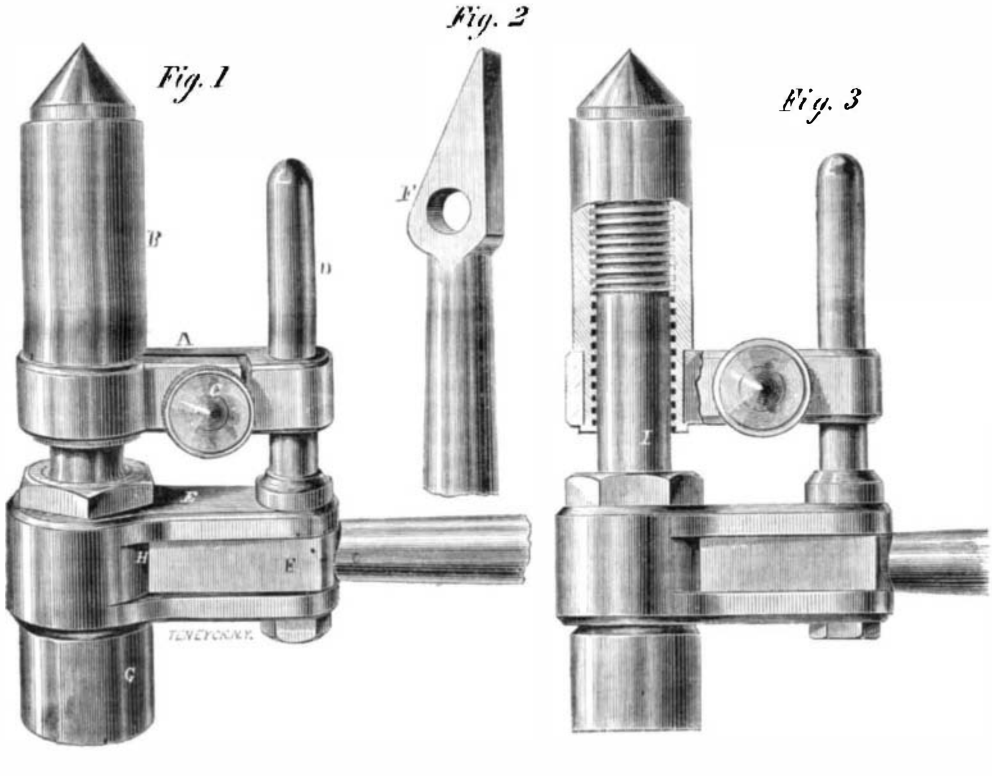
AN organized attempt to burn the principal hotels in this city failed by the vigilance of the fire department.

THE steamer *Francis Skiddy* was sunk on the 28th ult, a few miles below Albany.

Improved Ratchet Drill.

This ratchet drill is the most novel one we have ever seen. It is self-feeding, and has the details of the ratchet portion arranged in a very ingenious and durable manner. Every mechanic knows what trouble the springs on the pawls usually give; they are forever getting out of order, either breaking or "setting" so that they have to be continually repaired. This wrench has not a single spring employed in its construction. The movements are all positive, and the wrench is much stronger from the absence of delicate screws or other parts to be subjected to a heavy strain.

In Fig. 1 the wrench is shown in perspective, with the feeding arrangement. This detail is merely a clamp, A, falling in a recess on the socket, B, and having its other end sliding over a standing pin, D. When it is desired to work with the wrench, the socket is run down to its place, and the clamp screwed up by the screw, C. When the drill turns so as to cut, all parts move together, and there is no action; but when the drill is stationary, on the back stroke of the handle, the socket is held by the clamp, and screwed out so as to increase the pressure of the drill, and, of course, feed it down. This arrangement can be made to feed fine or coarse by simply making the pin, D, movable over the top of the wrench, at E. In this way it would suit large or small drills, for the latter require finer feed than the former.



OLMSTEAD'S RATCHET DRILL.

In Fig. 2 the pawl end of the handle is shown. The pawl and handle are all in one piece, and by being movable on the center, F, the pawl naturally pitches into the ratchet on the drill socket, G, inside the case, H. By this action no spring is required, and the pawl is much stronger than common ones.

In Fig. 3 the socket is shown partly in section. The spindle, I, has only a portion of its length cut with a thread, the lower part being turned true, and made to fit the inside diameter of the socket. As a consequence, the drill and wrench always stand straight, and a better hole can be drilled, to say nothing of the mechanical completeness of the arrangement for protecting the screw thread from injury. Sockets and spindles not so made invariably become loose and shaky, so that the drill and wrench stand at all angles.

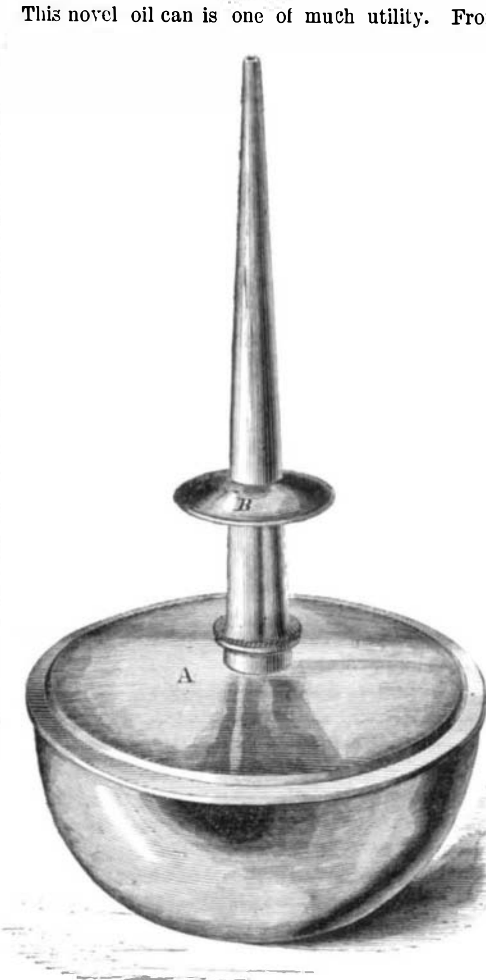
The thumb screw, C, adjusts the feed at the pleasure of the operator, for, when the friction caused by a maximum pressure upon the screw is greater than that between the clamp and the socket nut, the feed ceases, and only begins again when this pressure is reduced by the cutting of the drill. By this means a perfectly regular feed is kept up, and liability to break tools done away with.

These are the chief features of this excellent tool, but we wish to say one word in favor of its construction. It is made of the very best wrought iron and steel. The drill socket, G, is of cast steel, and it and the spindle are, of course, one piece. The fits are perfect, the threads accurately cut, the cone center of the socket true with the spindle below, and the several parts are as handsomely finished as a prize wrench. It is by far the handsomest tool of the kind that has ever come into this office, and the most efficient one, also. The proprietors inform us that they intend making them better than this in future, and that they are determined to make the best wrench in the market, as they doubtless will. A hole can be drilled much quicker and truer with this wrench, because the feed is always on, and is regular from beginning to end. For running fluted rimmers down in large holes on marine engine work it is a most useful tool.

It was patented by L. H. Olmstead, through the Scientific American Patent Agency, March 24, 1863, and is manufactured by Messrs. Davenport & Betts, of Stamford, Conn., to whom all orders must be addressed.

OLMSTEAD'S OIL CAN.

This novel oil can is one of much utility. From



its form it is impossible to upset it, so that oil which is wasted from this cause in flat bottomed cans is preserved in the one here shown. It has another advantage, also, which is in the position of the bottom. To use a Hibernicism—the bottom is at the top. The thin metallic part, which is spun up in the lathe, serves as a spring, impinging, when pressure is applied, upon the oil, and forcing it out of the tip. This spring-bottom is brazed in the upper part of the can, at A, and is much more durable than when in the obverse position. When used on metal-planing machines oil cans are often punctured in the bottom by the ends and angles of sharp chips, and in machine shops, generally, they are frequently injured in the way designated.

The body of this can is in one piece, so that there are no seams or joints to become leaky. The washer, B, is fast on the tip, and serves as a shoulder to slip the fingers over so as to spring the top in when oiling. This can was patented Nov. 18th, 1861, by L. H. Olmstead. Manufactured by Davenport & Betts, Stamford, Conn., to whom all orders should be addressed.

Winter Flowering Bulbs.

Henry A. Dreer, florist, of Phila., gives the following method to grow hyacinths and other bulbs in the winter season, in pots and glasses:—

"For this purpose single hyacinths, and such as are designated earliest among the double, are to be preferred. Single hyacinths are generally held in less estimation than double ones; their colors, however, are more vivid, and their bells, though smaller, are more numerous; some of the sorts are exquisitely beautiful; they are preferable for flowering in winter to most of the double ones, as they bloom two or three weeks earlier, and are very sweet-scented. Roman Narcissus, Double Jonquilles, Polyanthus Narcissus, Persian Cyclamens, Double Narcissus Early Tulips and Crocus, also make a fine appearance in the parlor during winter.

"Hyacinths intended for glasses should be placed in them during October and November, the glasses being previously filled with pure water, so that the bottom of the bulb may just touch the water; then place them for the first three or four weeks in a dark closet, box, or cellar, to promote the shooting of the fibers, which should fill the glasses before exposing them to the sun, after which expose them to the light and sun gradually. If kept too light and warm at first, and before there is sufficient fiber, they will rarely flower well. They will blow without any sun, but the colors of the flowers will be inferior. The water should be changed as it becomes impure; draw the roots entirely out of the glasses, rinse off the fibers in clean water, and wash the inside of the glass well. Care should be taken that the water does not freeze, as it would not only burst the glass but cause the fibers to decay. Whether the water is hard or soft, is not a matter of much consequence—soft is preferable—but it must be perfectly clear, to show the fibers to advantage.

"Bulbs intended for blooming in pots during the winter season should be planted during the months of October and November, and be left exposed to the open air until they begin to freeze, and then be placed in the greenhouse or a room where fire is usually made. They will need moderate occasional watering until they begin to grow, when they should have an abundance of air in mild weather, and plenty of water from the saucers, whilst in a growing state; and should be exposed as much as possible to the sun, air, and light, to prevent the leaves from growing too long, or becoming yellow."