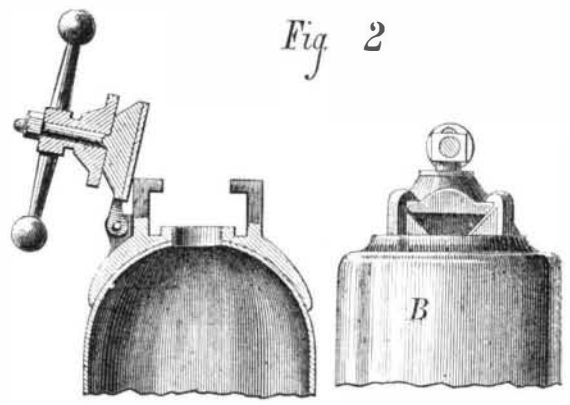
[*Continued from first page.*]

the apparatus to act so as to drive the liquid up into the other parts. This is done by a simple adjustment of valves and connections which need not here be explained. Steam may also be conducted to the acid reservoir to serve the same purpose. A water trap, O, is provided in the air pump pipe, which prevents the acid fumes from injuriously affecting the working parts of the pump. The pipes, P, connecting the domes with the chargers, serve to equalize the pressure between the two, and to permit the free passage of the acid down to the generator, when the chemicals are to be mixed, by preventing a vacuum above the acid. Each dome, by means of a horizontal distributing pipe, Q, with suitable vertical branches, communicates with the gas holder or purifier, R, into which the generated gas is thus conducted. The purifier is a cylindrical vessel, which is imperforate at the points where the entering gas strikes it in issuing from the branch pipes; and between these pipes it is perforated to admit the passage of the gas. The object of this partition is to eliminate the solid and liquid particles which are mechanically carried up on the form of spray, by causing them to impinge against the imperforate portion of the diaphragms. The gas then passes to the hose, S.

In order to remove the collected impurities from the purifier, a pipe, with suitable valve, leads from the bottom thereof to the discharge pipe, G. In this way, water may be led in from the main supply, E, and also discharged through the same pipe. The latter also serves as a drain for any of the liquid contents of the generator which might surge up into



GRANGER'S APPARATUS FOR EXTINGUISHING FIRE ON SHIPBOARD.—Figs. 2 and 3.

the holder; and thus it operates as an equalizer to restore the said liquid to the generators. In order to introduce the gas into the burning vessel, without causing it to entrain air with it, the nozzle, T, Fig, 3, has a tapered screw-threaded swiveling sleeve, U, which is provided with handles, and which may be screwed into a hole of any size bored in the deck. An attendant at the nozzle is thus dispensed with, and the latter is firmly held airtight. An extra pipe, V, is connected to the distributing pipe, and leads into the open air so as to prevent the escape of the gas into the room through the safety valves. There is a separate safety valve on each dome, and also one on the purifier, which is arranged to blow off into the atmosphere at a lower pressure than those on the domes, in order to insure that no gas shall escape between decks. Pressure gauges are also arranged on each generator, and one is provided to indicate the pressure applied upon the acid in the reservoir.

The apparatus, we learn, is already in use on the Protector, a vessel now used to prevent fire among shipping in the harbor of New Orleans. It is equally well adapted for use aboard the ship it is to protect, or upon a small vessel, as above noted, to serve as a floating chemical fire engine in ports. Within two months last year it was the means of extinguishing fire on three cotton-loaded vessels in the above-named harbor. These ships carried respectively 1,400, 900, and 3,200 bales of cotton, and were valued with their cargoes at an aggregate sum of $375,000. We are informed that, with the exception of the bales of cotton which had actually been on fire, in two of the vessels the cotton, after the flames had been subdued, was discharged "in as good order and condition as it would have been at port of destination had there been no disaster." In the third vessel, water was employed by the firemen; but the fire was subdued by the gas. In one instance the flames, which were rising twenty-five feet above the hatches, were brought under control in twelve minutes after the gas had been admitted to the ship. The importance of this invention in such cases as the above is especially great; as cotton, when soaked with water, becomes much deteriorated in value. The United States Board of Inspectors examined the vessels saved. This body, in an official report, recommends the adoption of the apparatus aboard all steam vessels. We need not point out the advantages of the invention to passenger-carrying ships. Even on a man-of-war, where rigid discipline prevails and where fire is provided against by an elaborate system of drill, the outbreak of a fire at sea is apt to produce a panic, as was recently the case aboard the Egyptian cruiser Latif in the Red Sea. On an ordinary ocean steamer, crowded with people, the terrible confusion can be easily imagined. Amid such a state of affairs, it is difficult to collect enough cool-headed people to aid in managing the usual appliances; and every moment of delay in getting the flames under only intensifies the general fear. In such cases the apparatus which we have described, which silently and quickly smothers the conflagration, might well prove invaluable.

Patented through the Scientific American Patent Agency, January 2, 1877. For further information, address the inventor, Mr. A. M. Granger, Exposition Building, New Orleans, La.

Preserving Metals.

For preserving metal and other substances from decay and fouling, Mr. Charles Weightman Harrison, of South Kensington, London, Eng., proposes to dissolve the crystalline hydrocarbon known as ozokerit in any of its solvents, such as benzole, petroleum, oil of turpentine, or resin oil, and he then mixes the solution in any desired proportion with other suitable bodies according to the purpose for which it is required. He mentions that his experiments have been made with ozokerit as a type of the mineral hydrocarbons, which are built up of molecules containing not less than 20 atoms of carbon, such minerals being capable of resisting the action of all acids at ordinary temperatures, and suffering no deterioration from atmospheric influences. On this account he has found them valuable for mixing with gums, resins, and colors applicable to a great variety of purposes for preserving, as they impart thereto a high degree of permanence. He explains that a simple and ready mode of preserving bright metals from rust is to rub them over occasionally with a wax formed by melting together equal parts, or nearly so, of ozokerit and beeswax. It is easily applied in a thin coat by rubbing the compound on the metal with a cloth. In applying this compound wax to iron, he sometimes adds finely powdered plumbago to give it the color of the metal. Another compound or solution for preserving metals he forms by dissolving in a sand bath (say) 4 ozs. ozokerit and 4 ozs. marine glue in 2 lbs. benzole, and then adds 4 lbs. linseed oil and ½ lb. essence of turpentine. The mixture is kept gently boiling in the bath for an hour or so, after which it is ready for use, and may be applied to the metal by a soft brush, as in ordinary painting. In some cases he impregnates the surface of the metal deeply by forcing the compound of ozokerit into the pores by exhaustion or pressure, or the two combined. A convenient apparatus, which he uses for this purpose, consists of a metal cylinder, such as a wrought iron boiler of a suitable size and strength, equal (say) to about 200 lbs. to the square inch, fitted by connections with exhaust and pressure pumps in a manner which is well known. This cylinder is provided with an airtight door and a safety valve. When the metal articles have been placed in the cylinder, the air is exhausted to about 27 inches of mercury, and the hydrocarbon fluid is then admitted through a connecting pipe until the articles to be impregnated are covered. The pressure is then put on, and the fluid forced into the exhausted pores. He also claims painting or coating metals with a compound formed by melting together about 5 lbs. of ozekerit, 5 lbs. resin, and stirring the fluid in 2 gallons rectified spirit (65° over proof), in which 2 lbs. gum sandarach and 2 lbs. garnet lac have been dissolved. Add turpentine varnish to them, and boil at a gentle heat for an hour or so. Filter through a fine cloth, and preserve for use. He forms a protecting varnish for suspended or open air telegraph wires by coating them with a fluid, formed by mixing together and heating at a low boiling point for a short time, ¼ lb. ozokerit, ¼ lb. gutta percha or india rubber, 1 lb. rectified resin oil, and 2 lbs. linseed oil varnish. As varnish for outdoor ironwork he proposes to dissolve, in 2 lbs. tar oil, ½ lb. ozokerit and ½ lb. resin, mixed while hot in an open pot. The invention also includes a process of poisoning barnacles with strong tonic bitters—Angostura and the like—or weak strychnine; but these not being of direct interest to manufacturers or miners, they need not be referred to.

American Fruit in Europe.

Europe is now taking a surprising quantity of American fruit. The purchases have amounted, according to the New York *Tribune*, to over $2,500,000 worth since June, 1876, compared with $600,000 in the same period the year before. Dried apples figure largely in this movement. This country has exported over 12,000,000 lbs. of them since last June, as compared with 522,000 lbs. the previous year. This new addition to the trade of the United States is due to invention, which has occupied itself of late with improved methods for drying and preserving for transporting fruit. The greatest progress has been made in the way of dryers. Within a year some notable inventions in this line have been perfected which are a great acquisition to the resources of the country. The fruit dryer bids fair hereafter to be as much of a necessity to every farming community as the cider mill and the cheese factory.

ACCORDING to the Philadelphia *Trade Journal*, Mr. Peabody, the inventor of the Peabody rifle, receives about $300 a day in royalty.

Communications.

Our Washington Correspondence.

To the Editor of the Scientific American:

In my letter published in No. 22, I mentioned that S. D. Locke had applied to Secretary Schurz for an order directing the Commissioner of Patents to re-hear a case decided against the applicant by Assistant Commissioner Doolittle, which application the Secretary denied. Mr. Locke has since applied to Judge Humphreys of the District Supreme Court for a mandamus directing the Commissioner of Patents to re-hear the case. The hearing was set for May 22, but was postponed until a later day; and on the second day set, the Judge again postponed the case until the fall term.

Under a recent examination of third assistant examiners, in which seventeen competed, Messrs. C. J. Hedrick, F. S. Williams, and R. J. Fisher were appointed second assistant examiners. To fill the vacancies thus made in the ranks of the third assistants, another examination has just been held, in which sixty-five competitors took part, the result of which has not yet been announced, but probably will be before this is published.

The managers of the French Exposition of 1878 have informed our government that, if the United States is to take part in the Exhibition, it will be necessary that immediate steps be taken for representation in the American section. The Secretary of State, by direction of the President, has now under consideration the proper measures to be recommended to the Cabinet to form a basis of a plan of representation of the United States Government and people at the Exposition. Both the President and Secretary express their regret that no action was taken by Congress at the time the notification of the proposed Exhibition, submitted to the Secretary of State by M. Bartholdi, was transmitted to that body. The letter of the late Secretary of State transmitting the notification was accompanied by no recommendation of a plan of representation, on account, it is said, of the dissatisfaction entertained by the late Administration with the action of some of the French Commissioners during our own exhibition. President Hayes and Secretary Evarts, on the contrary, are extremely anxious that some representation should be had, particularly in view of the fact that the French Commissioner Sommerard's conduct was satisfactorily explained. It is thought probable that the best plan will be to appoint a Provisional Commission, with the understanding that the Commission will not be paid unless Congress, when it meets, makes suitable appropriations, and that by this means arrangements may be made for the shipment of articles by American exhibitors. There is no constitutional impediment to this course, and the Secretary thinks there will be no doubt about Congress making the necessary appropriation when it meets in October. The minimum amount wanted for this purpose is said to be about $300,000. Several prominent gentlemen associated in the administrative branch of the Centennial Exhibition and now connected with the Permanent Exhibition, in a recent informal interview with Secretary Evarts, said, as they had the machinery for such work now in efficient organization, they would be happy to co-operate in any way that he might feel disposed to utilize their services. Another plan suggested by a number of prominent American manufacturers of machinery is that some person now in Paris connected with the State Department may be temporarily detailed to take charge of such shipments as may be made until Congress can meet and make the necessary appropriation.

Our Consul at Berlin has submitted to the Secretary of State a prospectus of the Leather Exposition, which is to be held in that city from the 8th to the 24th of September, and recommends that the American manufacturers of that necessary article send exhibits of their wares, which he thinks will turn out very beneficial to the leather trade.

From the Spanish Minister, Secretary Evarts has received a notification that an International Exhibition of Fine Arts will take place in Madrid in January of next year, under the auspices of his government.

Our Consul at Odessa, in a late report to the State Department, has the following: "Agricultural implements might be sent in great quantities to this country if our manufacturers would make an effort in that direction and adapt their implements for the use of the peasantry here. The principal thing to be done is to make them exceedingly firm and strong. American reapers and mowers are now the favorites above all others, and have a large sale. In other machinery the English manufacturers have the field, and I have seen no article of their manufacture that excels the American, unless expensiveness be deemed an excellence. I am persuaded that there is a fine field here for the American threshing machines. During the year an American firm has supplied a railroad here with fifty-five locomotive engines. They were remarkable in strength, power, and workmanship; and I am told that they draw a train easily through heavy snows that, with the engines formerly in use, would have been impassable."

Some three or four years ago, Congress appropriated $100,000 to be expended in experimenting on steam boiler explosions, to discover if possible the cause of some of the mystery that is believed by many to be connected with these accidents, which mystery, however, is generally believed by the best informed engineers to consist in low water. During the then ensuing season, a Commission, of which the Supervising Inspector of Steam Vessels was the chairman, made a series of experiments at Sandy Hook, and about one half of

the appropriation was spent without results of any value worth mentioning. The next season the Secretary of the Treasury placed a gentleman of scientific attainments at the head of the Commission, but with no more satisfactory results. It has now been determined to change the location of the experiments to Pittsburgh, but only about $8,000 of the appropriation remains unexpended, and it is feared that little or nothing will be gained by the expenditure of the $100,000, although great expectations were formed by many of the amount of knowledge that would be obtained from the expenditure of so large a sum.

There are encouraging indications that the spawn of the Californian salmon, deposited at or near the head waters of the Atlantic coast rivers by the United States Fish Commission, has produced large numbers of the young fish. Reports state that young salmon nine inches in length have recently been caught at the mouth of the Connecticut river. They were probably making their way to the ocean, as the young fish are said to remain in fresh water some twelve or eighteen months before going seaward, returning in two or three years weighing from ten to fifteen pounds each. A Richmond paper reports that salmon of the same size as those found in the Connecticut were caught in Hampton Roads going to the ocean, and thinks they were, no doubt, some of the young ones deposited in the James river by the Fish Commission in the winter of 1875–6.

The Director of the Mint estimates that the coinage at San Francisco for the present fiscal year will reach $45,000,000, including $13,000,000 of silver coins.

From a statement furnished by Dr. Young, Chief of Bureau of Statistics, it appears that the aggregate imports and exports for April were: Total exports, $44,515,439; total imports, $42,662,696; for the past ten months of the current fiscal year the exports of merchandise were valued at $514,799,053, the imports for the same time being only $357,584,817, showing a balance in favor of over $157,000,000.

Mr. H. C. Fisher, the general manager of the English postal telegraph, and Mr. W. H. Preece, the engineer, are here for the purpose of making an examination of the working of the American telegraph systems, particularly the use of the sound system, which has not yet been introduced in London, and will visit the principal cities and examine all the operations connected with transmitting and receiving messages.

The Postmaster-General is constantly in receipt of letters from parties who claim to have discovered an indelible ink for cancelling postage stamps. Impressed with the value of such an ink, which would effectually prevent the use of washed stamps, the department made arrangements with experts to test all inks presented, and public notice was given that any ink that was claimed to be indelible would be so tested, and, if the result proved satisfactory, the ink would be adopted. The result was that a large number of samples of ink were presented, and for nearly two years the department experts were engaged in testing these so-called indelible inks; but these tests proved the inks to be so far from indelible that they were discontinued by order of the Postmaster-General; and as there are now no longer any tests made, it is useless for inventors to forward any more samples.

Washington, D. C. OCCASIONAL.

"Knowledge is Power."

Every year an oration is delivered before the Hunterian Society of London, in eulogy of John Hunter, the celebrated physician, from whom the society takes its name. The address of Dr. W. Moxon for the present year is remarkably vigorous. The following is an extract:

"The great fallacy of the age is the vulgar fallacy that knowledge is power. But not all knowledge is power. Only the knowledge you have faith and aim to use is power; and the instinct of each mind is, I believe, a far better judge of how much knowledge it has faith and aim to use than we commonly suppose. Knowledge is not power. Any fourth year's student knows much that Hunter did not, and could not, know. But where is the power of Hunter? Power arises by training in the use of knowledge. Consider the difference between training and teaching. The teacher carries over the things he knows, and fixes them in the learner's memory; the trainer takes what is in the memory, and converts it into an organ for the pupil's own use. The store of memory of things taught is totally distinct and separate from the trained mechanism for use of knowledge. And these two different things—the store and the mechanism—are in separate places in the brain. It is only of late years we can be sure of this. We have it proved obviously in the case of language in what is called aphasia. In aphasia, a person paralyzed on the right side of his body has lost the power of using language, and yet understands all you say. Obviously, then, the understanding of speech is in one place, and the power of framing language is in another place, in the brain. The same is true throughout all human acquirements. The power of knowing is the fruit of knowing, and the power of acting is the fruit of acting. There is knowledge stored in one place, and the power of using it stored in another place. Teaching is the storing of knowledge; it may be done quickly. Training is the creation of an organ for use of knowledge; it needs much time; it is a slow process. The trainer has to convert the pupil's knowledge into motive, his desire into patience, his will into skill. Every good trainer aims to raise up in the pupil's mind a self-training faculty, which shall itself continue to train more and more knowledge into motive. By such training knowledge becomes power. But knowledge, as given by the mere teacher into the memory, is not power; it is so much weight, which by training may become the instrument of power. Now, the self-training spirit is natural to some men—to all great men. On the other hand, the self-training spirit is almost absent in some men. These are the fools, and they trouble every one as to what is to be done with them. But the vast majority of men have some self-training faculty; and the proper aim of education is to support this, which I may call the vital spark of character, by help from the training faculties of others."

Birds' Nests.

"The best way to find nests is to watch a bird while building; in that way, moreover, you are sure to see them in their best condition, and to know when the eggs are fresh. It requires patience; but you see the workers return again and again to the same spot, and a little closer inspection usually completes your knowledge, though you may sometimes be deceived or nonplussed by the caution and cunning of the architects. You will facilitate your work by scattering cotton wool, horsehairs, straws, string, worsted, and cloth where they will attract the attention of the birds about you. Put them on your lawn or on the piazza vines, and watch them. A robin comes to carry off the string, and, having used up what you have provided, and liking the material, attacks a long piece wound round a stake, and supporting a gladiolus. By persistent effort he frees a part of it; but the harder that he pulls the rest, the tighter he ties the knot around the stake, and the string is becoming entangled with his legs; he fights twenty minutes and then gives it up. Sparrows pick up hairs and straws from the lawn, and warblers come to the vines for cotton wool, passing fearlessly within three feet of your chair; then they come back to break off little twigs and to peel off shreds of dry bark from the honeysuckle. A pair of golden robins, the male with black and orange, the female with yellow and duller black, come for string, worsted, and thread; but beware of them, for they are thieves. Leave your knitting under the tree there for five minutes, and it is gone; you will find it a week later, a part irrevocably woven into the hanging nest, and a part dangling with the needle in it. The weaving is so cleverly done that you wonder whether the orioles haven't used your needles. Not at all, madam; I defy you to produce with your implements such a piece of work as these birds have produced with their bills. Successful experiments have been made by supplying the orioles, in the tree where they are occupied, with bright silks and worsteds, which they employ altogether, if liberally provided, so that a very gay and party-colored nest may swing in your orchard where you can see it from the house. Wilson says that an old lady, to whom he showed an oriole's nest in which a piece of dry grass, thirteen inches long, was passed through thirty-four times, asked him, half in earnest, if the birds couldn't be taught to darn stockings."—*H. D. Minot, in Harper's Monthly for June.*

Waste in Machine Shops.

A workshop, however small, however few the number of hands, is never too small to have a system; want of system is the cause of great waste of time and material, besides constant worry and discontent.

Step inside this building of fair dimensions, whose front is covered with big lettered signs, showing that it is devoted to the production of all kinds of machinery.

What do we find? The floor covered with litter, heaps of cuttings under every lathe or machine, under every bench; on the floor new and old material of all kinds have been thrown in almost inextricable confusion; the machinery is encrusted with oil and dirt, except just those parts that meet the hand in working; and the speed cones and pulleys are polished by the running belts, showing what might be and is not.

The cutting tools, the bolts and plates, and other gear used in these machines, lie around their bases; a new stratum seems to be fast closing over some of them. Overhead is heard the harsh grating of some loose pulley; the belts have been thrown off others by some sensitive workman, who cannot bear the unpleasant noise in such cases; the belts dangle from the shafts, the running shaft keeping a stretch on them and wearing them all the time. About thirty men are employed in these works, yet there is no one whose special duty it is to look after the tools, to replace or repair them when lost or broken.

A man has to drill a $\frac{3}{4}$ inch hole in a piece of plate; the time actually required would be about five or ten minutes if good order were kept in this case. The man commences by making a tour of the shop, for there are some drills lying around this machine, and some around that, and there is no *one place* where every drill not in use is sure to be found. His search is not crowned with immediate success; a $\frac{3}{4}$ clearing drill ($\frac{3}{16}$) is the nearest he can procure; he has set his callipers and taken the size of it; he proceeds to grind it to $\frac{3}{4}$; having reduced it to the size, he finds it will not clear itself so high as he wishes; however, at last, by more grinding, he is satisfied with it, and is ready to commence—time lost, twenty minutes. He is hardly through drilling, when up comes a man looking for the $\frac{3}{4}$ clearing drill he was using twenty-five minutes ago; he, finding it has been altered, takes it to the smith, and waits to have it flattened out, which, with the re-grinding, makes a further loss of twenty minutes—total loss, forty minutes on the drilling of a $\frac{3}{4}$ hole, for which the boss could scarcely charge more than ten cents.

Another has a brass to plane; no tool for brass seems to be visible; he has probably trodden it down too deep in the thick red dust of the flooring to be distinguishable. However, he soon grinds off the tip of a tool for cutting wrought iron; that is easy enough; but when that tool is wanted again to work in the material it was made for, a $\frac{1}{16}$ of an inch must be ground off its facets to restore the original angle—waste of time and steel.

If a workman should happen to drop a small pin, washer, or key, he makes another, because among the *débris* around he knows it is as much lost as though when it fell the earth had gaped to receive it.

Here is a man who has been half an hour filing out the hammer marks he has made in fitting two finished pieces together; another, the same time truing up an arbor damaged by blows on its center with a steel hammer. There was a copper hammer once, but it laid around and now no one knows where it is. A few of the old hands have lock-up boxes, chock full of all kinds of tools and contrivances, and are laughing in their sleeves at the frantic efforts others are making to produce a good job without those proper instruments, kept so securely under lock and key.

The grindstone—that much abused necessity of the workshop—is all out of true, has no water can, and sometimes not even a rest; it is nobody's special duty to keep the grindstone in order, and hence *nobody* does so, while everybody grumbles at its dilapidated condition. As to its speed, the pulley now driving it was put on when the stone was of large diameter, and there it has remained ever since, so that the velocity of the stone is about half what it should be; the slower the speed, the worse condition the stone can get into without wrenching the tool from the hands when grinding with the stone running towards you; hence the speed of the stone is admirably suited to its condition, and both are excellent levers to hoist the proprietor into bankruptcy, which under the above circumstances would just serve him right.—*J. R., in the Polytechnic Review.*

Employers and Working Men.

Difficulties between employers and working men would be less frequent, says the *American Manufacturer*, were their intercourse more conciliatory, and were each to realize that seeming inequalities are but surface appearances; and that the best interests of the one can only be secured in the protection and welfare of the other. Governed by such dispositions and opinions, irreconcilable differences could scarcely arise, because each would take a fair view of the rights and obligations of the other, and willingly make the concessions required by justice and kindness. A reasonable amount of information, derived from observation and reading, is a pre-requisite qualification, and is always found wanting, on one side or the other, where jars and contentions disturb the harmony essential to these relations. Admitting this qualification to be possessed by employers, a further duty devolves upon them, of insisting that their workmen shall possess it also. Men utterly illiterate, who can neither read nor write, cannot possess the self-respect and ambition needed to form skilled mechanics, neither can they be sufficiently enlightened to comprehend their rights and duties, to know when they are well treated, or to understand the fluctuations in business which justify the rise and fall of wages. It is therefore a duty of employers to employ none but persons sober, moral, diligent, and accustomed to reflect—men with whom they can sit down and reason—who can understand just conclusions, and feel the overruling propriety of abiding by them. Where large establishments are organized on these principles, the business moves on with contentment on both sides—each respects the rights of the other—misunderstandings are quietly settled without strikes, and peace and mutual goodwill reign as in well regulated families. Where the instrumentalities of labor are organized, with intelligence and integrity of employers, and with workmen suitably cultivated for respectable American citizenship, the most desirable consequences may be reasonably hoped for: 1. Superior safety of capital in enlightened hands. 2. Economy of time and labor when conscientiously employed. 3. Economy in the use of stock and materials manipulated by instructed men of good principles. 4. For the same reason, the best results may be looked for as to quality and quantity of products. 5. Interests of customers and consumers are better subserved with fabrics made upon honor. 6. Ignorance is the generator of crime and vice, producing the worst consequences where it prevails. 7. The safety of society can only be conservated by enlightened citizens, and are jeopardized by the malignancy growing out of general ignorance. 8. It is impossible to over-estimate the social value of making workmen good and useful citizens. 9. So to elevate a large class, gives stability to schools and institutions for moral and intellectual culture. 10. Working men constitute a large majority of our people, and whatever lifts them up in the social scale is important to the whole community. 11. In numerous eastern cities and towns, the benign efforts of cultivating the industrial class are visible in good order and the general moral tone of society. 12. It is, manifestly, a primary duty of employers, to themselves and to society, to give preference to workmen of intelligence and morality; where such qualities are uniformly preferred, those who possess them not will strive to attain them, and they will form an essential qualification in preparing youths for employment.

THE Providence Tool Company are making 600 guns a day for the Turkish Government.