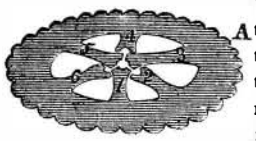
SHAW'S SHADE-SUPPORTERS OR SHADE CLASPS FOR LAMPS.

This invention consists in certain improvements in the manufacture of the article known as a "lamp shade clasp," by which the manufacturer is enabled to economize both stock and labor in the construction, and produce a cheaper and much more durable article. In the improved construction of supporters, as shown in the annexed drawings, the whole article is formed of one piece of metal. In Fig. D the supporter is struck up into form in dies; the bottom of the cup which is thus formed, instead of being cut entirely out, is stamped out, leaving the portions, 1 2 3 4 5 6, of it attached to the rim. The alternate strips, 1 3 5, are now bent up as shown, forming upper springs, and the other strips, 2 4 6, are bent down, forming lower springs; no riveting being required as in the old style of clasp, and no liability of the dropping-out of springs exists. By an inspection of Fig. A it will be seen that but a small portion of the stock is wasted; whilst the whole labor and time of riveting is saved and a much more substantial article produced. The scollop edge flat clasp, as represented by Fig. B, can be manufactured so as to be sold at a mere trifle above the cost of the sheet metal. The style of clasp represented by Fig. B is preferable to all others, not only in point of cheapness, but as a matter of convenience when it is desirable to remove the paper shade in order to illuminate the apartment. As the paper is not fastened but is merely laid over the clasp, the former can be removed without the slightest trouble, while the clasp can remain on the chimney. These clasps can be made either of common sheet brass or of spring metal. The common sheet brass is decidedly preferable, as it makes an article less liable to break the glass. If made of common brass and a stiff spring is wanted, this is easily accomplished by one or two blows of a die on the springs.



The patent for this invention was issued Dec. 14, 1858, and the clasp has met with approval by those who have used it. The patentee informs us that 27,600 have been manufactured to order and sold to the trade this season. Persons desiring any further information in relation to it will address the inventor, W. F. Shaw, at 174 Washington-street, Boston, Mass.

THE USE OF DIAMONDS FOR MILLSTONES.

Messrs. Editors:—Having noticed remarks and enquiries in several late numbers of the Scientific American, in relation to dressing millstones with the diamond, I will state that, about a year ago, I purchased two glazier's diamonds, with which we kept three run of millstones in good order for about two months; using the pick only near the eye where heavy dressing was required. We used a straight edge, and cut the stone in lines—fine or coarse—as was required to keep it in good face. The "cracking" done with the diamond cannot be equalled with the pick, as it cuts the stone easily in clean straight lines, without breaking the face of the stone. If great care was used the diamond would probably last a long time, as it does not seem to be injured by the cutting; but in drawing it over a porous stone it is very likely to be broken. This was the case with those I speak of; after which we abandoned their use.

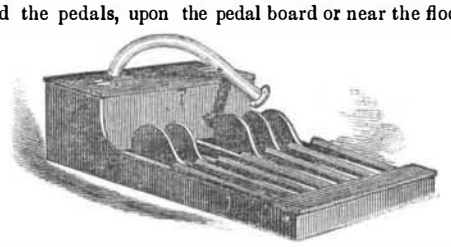
H.

Freeport, Ill., March 15, 1860.

[This subject of dressing millstones has attracted considerable attention of late, and many inquiries have recently been made of us in regard to it. We find, by reference to the patent claims as published on page 257 Vol. XIII. (old series) of the Scientific American, that Gabriel Natcher, of Indianapolis, Ind., obtained a patent in which he claims the application of the diamond in the production of the small lines in any required form upon the face of a millstone for dressing the same. In the same volume, page 328, illustrations are given of an improved dress, accompanied with remarks upon diamond dressing.—Eds.

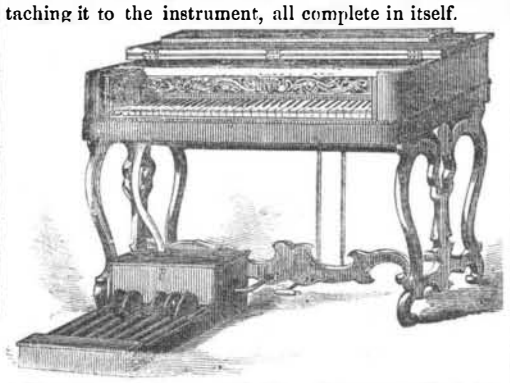
IMPROVED PEDAL BASS FOR MELODEONS.

The annexed cut represents an improvement in the pedal bass for melodeons and Æolian pianos, invented by George W. Lane, and Wm. N. Manning, of Rockport, Mass., the former of whom has sold his interest to E. T. Nichols. The invention consists in arranging the valves, the reeds, and the air chamber of the pedal base of a melodeon or other reed instrument immediately behind the pedals, upon the pedal board or near the floor,



instead of in the case of the instrument, where they are usually placed, thereby dispensing with the long connecting rods and other comparalively complicated mechanism required with the usual arrangement to connect the pedals with the valves, and only requiring in place thereof a simple pipe to connect the air-chamber of the pedal reeds with the bellows of the instrument. This improvement makes a pedal bass which is complete in itself and is portable, and which can be applied in a few minutes to any melodeon, as all that is necessary to effect its attachment is a pipe to connect its air-chamber with the bellows of the instrument.

The small cut represents the sub-bass, which consists of one octave of sub bass reeds, voiced and tuned, with the pedals, action, wind-chest and rubber pipe, for attaching it to the instrument, all complete in itself.



The larger cut represents the sub bass attached to a five octave portable melodeon, which is done by making a three-quarter inch hole in the bellows, and securing thereto the coupling on the pipe; then its position, being on the floor, gives it that full, round, and solid tone so much desired. It can be attached in a very few minutes to any instrument now in use, or any new one about to be purchased.

The patent for this invention was issued Dec. 1, 1857, and persons desiring further information in relation to it will please address Manning & Nichols, Salem, Mass.

A Large Brewery.—One of the largest establishments of the kind in the world is the brewery of Barclay & Perkins, situated in Southwark, London. This brewery was founded by Dr. Johnson's friend, Henry Thrale, who, in 1773 (according to the statement made by the doctor in his "Hebridian Tour"), was paying as much as $100,000 annually to the excise department. After Thrale's death the executor sold it (for $685,000) to Barclay, a descendant of the author of the "Apology of the Quakers," and Perkins, who had been Thrale's chief clerk. Since that time the business has assumed vast proportions, as the following statistics will show:—The buildings cover upwards of 10 acres; two steam engines, equal to 75-horse power, are required to work the machinery; there are 24 malt bins, each equal in size to an ordinary three-story house; and Westminster Hall is not much larger than the great brewing room. More than 100,000 gallons of water are used daily, and 2,000 quarters of malt weekly. Ten brewing coppers have an aggregate capacity of 120,000 gallons; there are four fermenting vessels, each capable of holding 1,500 barrels of beer. The cooling floor has a surface of more than 1,000 square yards; 300 vessels, of 309 gallons each, are used in the working off of the yeast from the beer, which is stored in 150 vats, the longest of which holds 108,000 gallons, and the average gives 30,000 gallons each. Two hundred horses and drays are employed in distributing the beer to London retailers.

THE PURIFICATION OF GOLD.

At a recent meeting of the Chemical Society in London an interesting paper was read on deteriorated gold, by Mr. M. Warrington. He found that a large quantity of gold sent from the Bank of England was singularly deficient in ductility; it was so "rotten" that it could not be rolled or subjected to the usual process of coining. He found by analysis that the specimen contained 92 per cent of gold, 4 per cent of silver, and 2 per cent of tin, and a little proportion of antimony. The presence of the latter metal was supposed to be the cause of the alteration in the usual mechanical character of the gold, and it was no easy matter to extract it economically without loss of the precious metal. After several experiments Mr. Warrington found that oxyd of copper when melted with the gold, in the proportion of about 10 per cent, removed the antimony; the copper parting with its oxyd to the antimony, which then rose to the surface as a powder, and could be cleared off. When, however, this plan was attempted to be carried into operation on a large scale by the metallurgist at the Mint, it was not found to answer, and Mr. Warrington was again applied to. The gold had been melted in the usual black lead or plumbago crucibles, the carbon of which had combined with the oxygen, and thus prevented the proper action of the oxyd of copper on the antimony. On the substitution of clay crucibles for those of black lead, the process was found to be very efficacious, and the difficulty was removed. Mr. Warrington having observed in the course of his paper that there was some difficulty in accounting for the presence of the antimony, one of the members stated that, when at the Australian gold fields, he noticed large quantities of almost pure antimony in veins close to the quartz whence the gold was obtained, therefore there could be but little doubt how the gold became deteriorated. In papers read by other members of the society, they stated, as the result of experiments on a large scale, that gold is to a certain extent volatilized during the progress of cupellation, a small proportion of the metal having been found deposited in the flues of the furnace; and that gold is also, in a slight degree, soluble in pure nitric or nitrous acids. In the course of the discussion, after the reading of these papers, one gentleman mentioned that he was in Australia soon after the introduction of the quartz-crushing machines, when he observed great difference in the amount of the produce of the amalgamated gold on different days; and on examining the "tailings," or refuse of the mill, he perceived a quantity of gold had passed through without amalgamating with the quicksilver. This led him at once to suspect that the surface of the gold was covered with some unctuous substance that obstructed its combination with the mercury, and on treating it with an alkali he found that the metals then readily combined. He consequently recommended the mixture of wood ashes with the powdered quartz, and by that means the daily produce of gold had been equalized and greatly increased. On afterwards subjecting the tailings to the same process, more gold was extracted from the refuse than had been obtained when the powdered quartz was first operated on.

PREVENTING BOILER EXPLOSIONS.

Messrs. Editors:—On page 121 of the present volume of the Scientific American, you speak of the explosion at the distillery in Williamsburgh. I have no doubt but your remarks are well founded when you say that "under proper laws and a thorough system of inspection, explosions may be completely prevented." As one whose business is constantly in connection with steam boilers, I will now give you my practical experience, having also read the evidence in the daily newspapers of that sad occurrence with much interest. I unhesitatingly say that the frequent displacement of water from one boiler to the other can be prevented by adapting the following plan:—The further ends of the boilers from the fire should be connected near the bottom with a pipe for that express purpose. This is easily done and a sure preventive of explosions from the causes named. Now, as safety in all establishments is a public question of general interest, where two or more boilers are used, this connection should be made. If the above was generally adopted, there would be no danger of explosion from displacement of water.

T. A.

Hudson City, N. J., March 17, 1860.