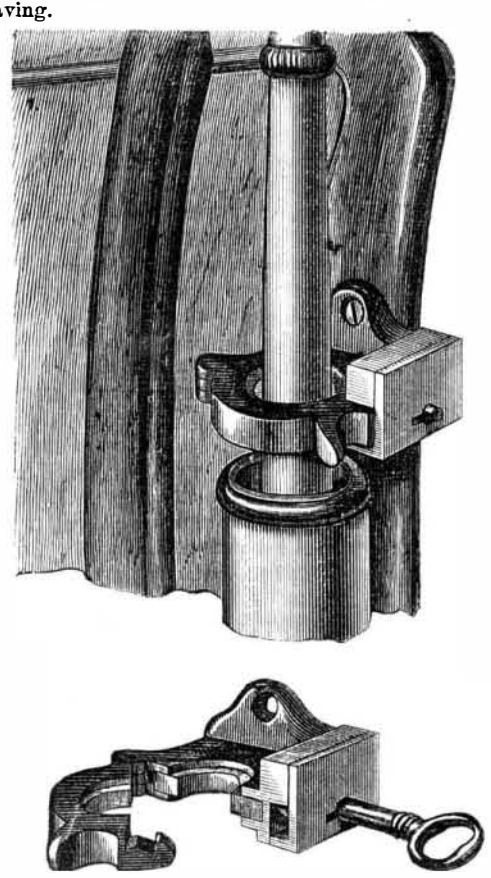
HILL'S LOCKING WHIP SOCKET.

This is not only a tasty, but an efficient device for locking whips in their sockets.

The lock is securely fastened to the dash, as shown, so that when the whip is placed in the socket it is clasped by the semicircular hasp of the lock, which corresponds to a semicircular recess in the plate of the lock, as shown in the engraving.



Both the interior of the hasp and that of the recess which forms its counterpart, are lined with thick leathers, cut in the form of halves of a flat ring, and let into grooves formed in the interior side of the hasp and the recess. This prevents rattling and wear.

The whole arrangement is small, neat, strong, and convenient. The lock is of that kind known as spring locks, and requires the use of a key only to unlock it. The attachment is rather ornamental than otherwise, and will effectually insure whips from theft.

Patented, through the Scientific American Patent Agency, Sept. 28, 1869, by W. S. Hill, whom address for further information at Manchester, N. H.

Our Moscow Exchanges.

We have received several numbers of the Moscow German paper, *Moskauer Deutsche Zeitung*, and are gratified to see with what discrimination and freedom the editor discusses all questions of education and politics. If the paper were printed in New York it could not enjoy greater license. It is also refreshing to observe that way off in the interior of Russia editors know how to indulge in those pleasing personalities that give style and character to papers nearer home. Among other items, we find one headed, "A New Yankee Speculation," giving an account of the proposed sale in New York of excursion tickets around the world, including board and lodgings at hotels, and all incidentals. The paper says that the arrangements are nearly completed, and that such a ticket will cost $1,200, and that the scamper around the world can be accomplished in ninety days.

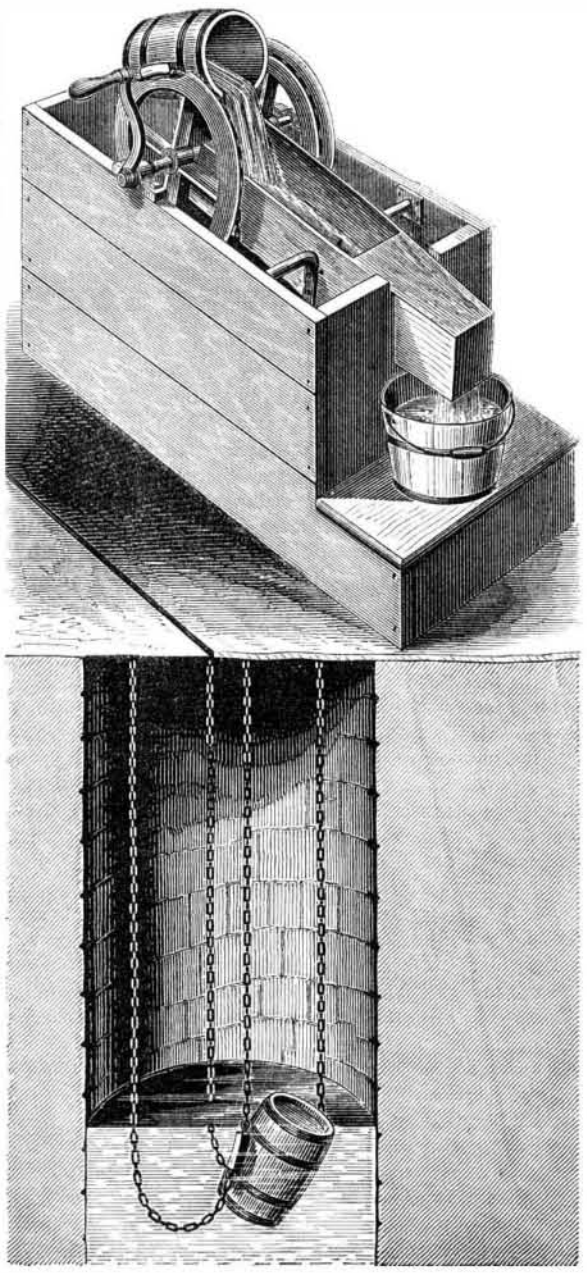
The Peforated Implements of the Stone Period.

Sir John Lubbock and the other archæologists are inclined to hold that the perforated axes and hammers of stone are coeval with the commencement of the bronze period. That many of them really do belong to this period there can be little doubt, since bronzes and stone are frequently found buried together, and it is well known that stone weapons continued to be made and used after the introduction of bronze. But this by no means proves that all perforated stone implements are to be referred to this period, and the present number of the "Archiv für Anthropologie" contains a paper by Rau, showing the mode in which they might be formed before a knowledge of bronze existed. M. Rau considers that the holes were made in two ways, or perhaps by means of two different borers. The more highly finished holes are of equal diameter throughout, and present a smooth surface, and exhibit at short distances from each other a succession of circular grooves. Such perforations as these, he thinks, were effected by means of a hollow cylinder of bronze. But there is another kind of perforation, the surface of which is more or less smooth, but which is not marked by the lines or grooves above mentioned. These perforations are constricted in the center, so as to present one section, more or less of an hour-glass form, indicating that they have been bored in from opposite sides. These, he thinks, belong exclusively to the stone period. In both methods it is probable that hard sand and water were employed to assist the process. His view is supported by an examination of weapons in which the perforations have not been completed, but carried only through a portion of the thickness of the stone. In the former class of borings, the hole on section presented somewhat of the appearance that would be presented by the bottom of a champagne bottle on section, the periphery being more deeply bored than the center; whilst, in the latter class of borings, the bottom of the depression was simply rounded and rather narrower than the superficial margin. M. Rau has been able to produce borings in a hard stone exactly resembling those on the weapons of the stone period, without the aid of any metallic instrument, but merely by means of the rounded extremity of a piece of hard wood made to rotate with a bow-drill, together with a little sand and water. The stone on which he experimented was a piece of diorite, so hard that a well-tempered knife-blade only marked it with a metallic streak, and of the same kind as that formerly employed, on account of its combining hardness with tenacity, in the construction of various weapons during the stone period, and still used for the same purposes by the North American Indians of the present day. In commencing the perforations, which required infinite patience, M. Rau found it advantageous to attach a piece of wood, with a hole in it, on the stone, which prevented the boring instrument from perpetually slipping off. Two hours' severe work were required to deepen the perforation by the thickness of an ordinary tracing with a lead pencil, and, though with many interruptions, he was fully two years in completing it. It was found requisite to add fresh sand every 5 or 6 minutes. When serpentine rock was experimented on, the perforation was accomplished with very much greater rapidity.

HAMILTON'S WATER ELEVATOR.

Ewbanks, in his treatise on "Hydraulics and Mechanics," has compiled a history of the various devices adopted in all parts of the world for raising water, from the earliest period of which we have any record up to a recent date. To obtain this essential to life, the minds of even the most rude and uncultivated savages have been stimulated into the invention of quite ingenious devices; and in modern times improvements in methods of elevating water form a large proportion of the inventions for which protection by patent is solicited.

The invention herewith illustrated is a good one, not only for shallow but especially for deep wells beyond the capacity of the atmospheric pump. It probably eliminates the element of friction to as great an extent as it can practically be done; and, therefore, applies a maximum proportion of the power to the useful work to be accomplished.



Our engraving gives an excellent idea of the device. Two grooved pulleys keyed to a shaft carry each an endless chain to which buckets are attached in the manner shown.

When the shaft is rotated in the proper direction, the buckets successively descend and fill, and are drawn to the top, when in passing over the center of the elevating shaft they empty their contents into the spout.

The spout is not fixed, but is pivoted in such a manner that it tips to allow the buckets to pass on their descent for a further supply; and it is also so balanced that as soon as the bucket has passed, it falls immediately into its normal position.

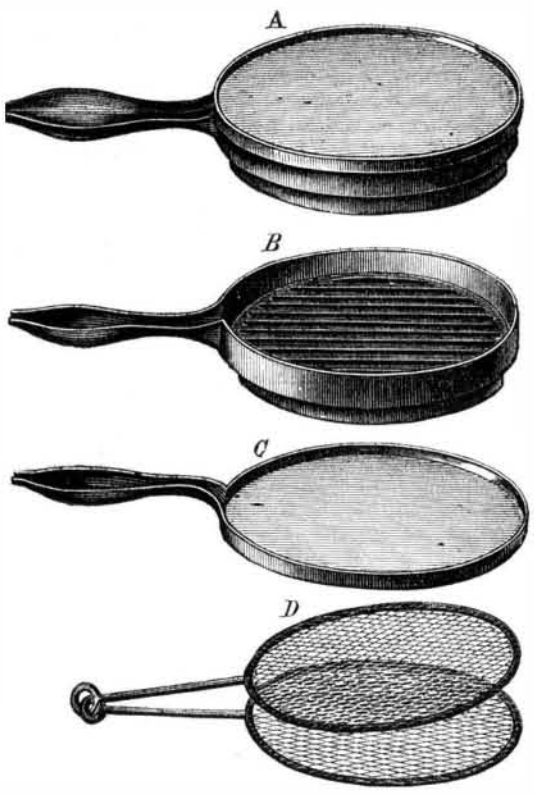
We judge that more water can be elevated by a given power, through a given distance, in a given time, by this apparatus than by the use of any pump; and the number of buckets may of course be multiplied, when it is desired to apply steam, or other power greater than can be applied to an ordinary hand machine like that illustrated.

Apparatus of this kind has the advantage over pumps that wells are constantly kept open, and the water being stirred at each drawing keeps the water thoroughly aerated.

This invention was patented, through the Scientific American Patent Agency, Feb. 1, 1870, by W. G. Hamilton, of Milton, Wis. Address as above for further information.

DENN'S IMPROVED GRIDIRON AND CAKE BAKER.

We have forgotten the name of the *gourmand* who said, that, if he were an autocrat, the individual who should presume to



fry a beefsteak in his dominions should be himself fried. The punishment proposed, though somewhat severe, is not much more so than the pains of dyspepsia which Nature meets out to those who will eat fried meats contrary to her express commands.

But without proper appliances, the broiling of meats, undoubtedly the most wholesome as well as the most appetizing mode of cooking them, involves many positive inconveniences, such as the smoking of walls, the dripping of grease, and other annoyances which we need not specify.

The object of the present invention is to do away with all these inconveniences, and to provide a gridiron whereby not only broiling but other culinary operations may be performed, and by which the bad health arising from the continual use of fried meats may be avoided.

It consists of three principal parts, shown separately in the engraving. The gridiron, B, its cover, C, and the wire gridiron, D, which may be used inside of the other, when desired, to broil food that would fall through the bars of the other, such as oysters, or it may be used as a corn popper or bread toaster.

The cover may be used as a cake baker by placing it on the top of the stove with the hollow side of the handle up. It will be seen by an inspection of the engraving that the gridiron has a rim or projection on its underside to rest on the ledge in the hole of the stove, the rim being narrower at the part toward the handle for the purpose of giving the bars an inclination in that direction, to cause the gravy to flow out into the hollow handle and be saved for use.

It will also be seen that the device, when in use, makes an air-tight cover to the hole, preventing the escape of smoke into the house, and keeps up the draft in the stove.

The patentee is, we are informed, in receipt of numerous testimonials as to the efficiency of this device, from those who have it in use.

The sizes range from No. 6 to No. 10, inclusive, and are made to fit the corresponding numbers of stoves and ranges; they may also be made oblong so as to occupy both the openings over the fire space, being more convenient for large families or restaurants in that form.

This device was patented, through the Scientific American Patent Agency, June 23, 1868, by Clayton Denn, of Frankford, Pa., who will sell State, county, or the whole right for the United States. For particulars, apply to, or address the patentee, No. 4,506 Trenton avenue, Frankford, Pa.

Purification of Water from Smoke Impurities.

Several correspondents recommend the use of permanganate of potassa for purifying water from the impurities derived from coal smoke. Enough of the salt to give the faintest possible tinge to the water is recommended to be added, and as the coloring property of this salt is very great, a little used in this way would purify a large quantity of water. After standing twenty-four hours the impurities will all be precipitated, and the sudzing property of the water is not impaired. Our Western friends who have been greatly troubled with smoke-soiled water will do well to make a trial of this simple remedy.