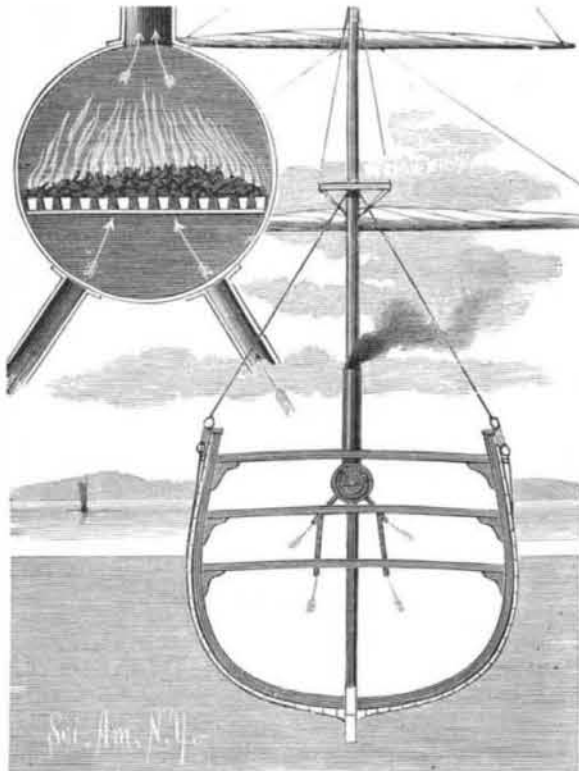


NEW SYSTEM OF VENTILATING VESSELS.

An improved system of ventilation for marine vessels has been patented by Mr. J. M. J. Barton, of 300 Pitt Street, Sydney, Australia. A series of pipes extends from the several compartments in the vessel to the furnace, which is closed perfectly at the bottom; the doors are made to fit very closely, so that no air can pass to the fire except through the pipes provided for that purpose. The fire in the furnace causes a draught, and as no air can enter except through the



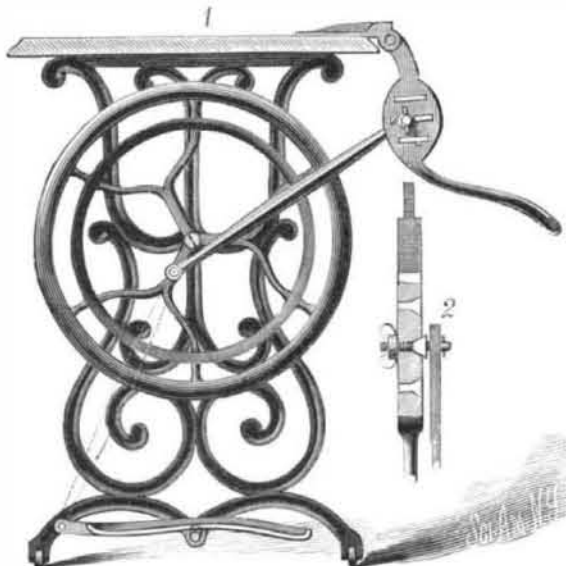
BARTON'S NEW SYSTEM OF VENTILATING VESSELS.

pipes, a powerful suction will be produced, and the foul air in the several parts of the ship will be drawn into the furnace; fresh air will naturally pass into the compartments through passages provided for the purpose. The inner ends of the pipes are closed by gratings, to prevent the entrance of live coals. In the engraving, the upper figure is an enlarged cross section through the boiler and pipes.

This device can be applied in any marine vessel, but is especially adapted for steamers, as the furnace of the boiler could be utilized; in sailing vessels a special furnace would have to be provided.

HAND POWER FOR SEWING MACHINES.

The object of an invention patented by Mr. Elijah Wright, of Coldwater, Miss., is to provide a simple, efficient, and inexpensive hand power attachment to sewing or other light machines, whereby the injurious effects of a continual use of the treadle may be avoided. The hand lever is hinged to lugs of a plate attached to the sewing machine table, and at a short distance from the pivot it has a transverse enlargement, in which are formed three slots, as shown in Figs. 1 and 2. From the outer end of the enlargement the handle proper of the lever ranges forward at about an angle of forty-five degrees, and in a gentle curve, making it easy to grasp and operate. The end of the pitman, which usually connects with the treadle, is by this plan passed loosely on the round end bearing of a pivot stud, which is adapted to enter either of



WRIGHT'S HAND POWER FOR SEWING MACHINES.

the slots; the screw-threaded portion of the stud extends through the slot to receive the thumb nut. A pin passed through the stud outside of the pitman keeps the latter in place. This construction is very clearly indicated in Fig. 2.

It is evident that by forming transverse slots in the lever provision is made for attaching pitmen of various lengths; hence this hand power may be connected with any ordinary sewing machine by varying the location of the pivot stud. The lever will be out of the way of the operator working the

machine by the treadle to which the pitman then connects; and when wearied the operator can rapidly disconnect the pitman from the treadle, and join it to the lever to work by hand power.

The Human Face.

BY D. Y. CLIFF.

When man first detected that the voice, sight, hearing, smell, and taste were all situated in and emanated from the head, he looked upon it, and its contours and proportions became to him comparable and beautiful; he said, grandly, "It is the image of God!" How much does the rest of the body owe to carnal passions and "pride of might"? Admiration and appreciation have surely played a large part in our development. The intellect animal looks to the face—has it an idea of beauty? Do we recognize "beauty" in the brute creation from long inbred association, or have they themselves had a hand (or an eye) in it? The fact that it contains scarcely anything to cringe or terrify us, at first sight, would seem to prove this inbred familiarity. We find nature to be born in and of ourselves. There are more dangers in the artificial productions of man than in the structures of Nature. The eye reaches further than the weapon; and it is easier to fall from a window than from a tree.

Some say the national face does not change, its apparent differences being the result of fashion—costume, hat, hair, etc. For my part it seems that the history of each age is painted on the faces of its people. Parents would seem generally to anticipate (or form) in fancy the realities of their offspring—probably unknowingly. I have on several occasions been struck by odd faces here and there which belonged to a past age. Some will, of course, smile at this. Once, *e.g.*, at a sham parliament in a Cheshire town, I saw an exact reproduction of the face (as generally represented) of the Georgian epoch of English history. The high cheeks, the ruddy skin, particularly the wide, low forehead with its distinctive depression (almost) in the middle of the forehead where the head curves downward, the broad face, the peculiar "look," etc.

The face of Charles I. suggests his artistic taste, his theological thoughtfulness (so general then), and a proud indifference to vulgar rowdyism. He was to his age what "Farmer George" was to his, and the Prince of Wales is to his—types thereof—the men thereof bearing one of its varied educations, but the same generally under each disguise.

It would be a long subject to discuss the features of the different ages in English history and speculate upon them, and perhaps foreign to this journal. It is this feeling we have, this recognition of a fact, that hurts our fancies to see an ugly artist, a handsome slave, and sometimes to wonder at the beautiful eyes some of our domestic animals possess. We find an innate pleasure in gazing on a handsome face.

The above causes, no doubt, have lent a diversity to the face of woman which reacts on the man. The favorite type is "married up" in excess of others, and effectually impressed on the race. To this we may trace, probably, the widely diverged races of men, the Mongol, the Negro, the European, etc. The transmission of the family likeness, paternally and maternally, is interesting to reflect on. That was a scandalous remark, to me, I read, I think in your journal, about the passing admirations of a mother being stamped on her children's faces. Why is not the husband, the favorite brother, the sister, the mother, father, etc., oftener reproduced, if that be the case—with the double chance? It is remarkable, though, that the eldest child seems very often to retain the strongest family likeness. But the strong likeness of brothers and sisters is an argument against it. Perhaps this is largely owing to their catching each other's expressions of countenance; and this again explaining why the "younger end" often differ so decidedly from their elders—lack of association. This same thing applies to nations; hence the force of the child's remark, "All Frenchmen seem to grin alike." A national contortion.

One would like to have seen the face of the Persians who made it part of their education to "speak the truth." We could have seen it! Was the Spartan stern in aspect who lived for his country's good? Was Deborah a Jewess in her look? Can we not read Byron's poetry in his face, and the heaviness of pondering judgments in Hallam's? Do you doubt, as you look at Nero's face, that he could fiddle while Rome burnt? And so on; a man's mind shines out of his countenance, the face in repose, or unanimated, is the generality of that individual's mind. And so we turn to look on the faces around us to-day. Are not the majority mere livers—mere nonentities? These will not remain in history, but they will form the nation's destiny!

Our souls were filled with sadness when we found inanity behind a lovely face. Nature lied to us! Do the choice minority conquer in the long run? It is one long fight.—*Jour. Science.*

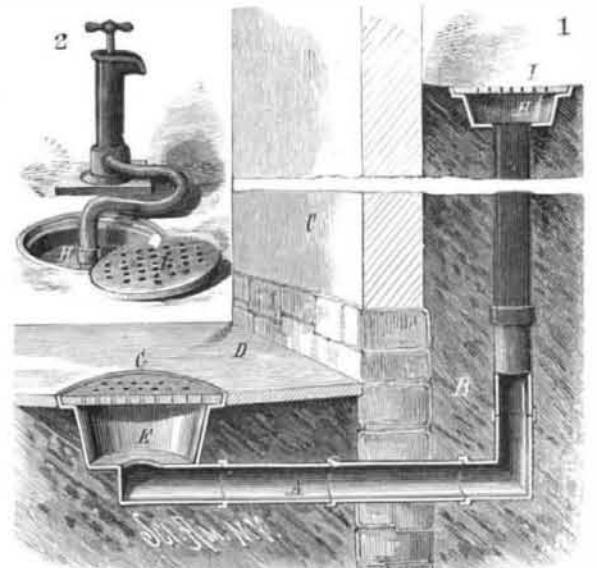
Test of Glue.

The *Tischler Zeitung* gives the following method of testing glue: Carefully weigh a piece and suspend it in water, at a temperature not exceeding 10° C. (50° F.), during 24 hours. The coloring matter is then precipitated, and the glue swells in consequence of the absorption of water. On removing the glue from the water, the increase in weight will be found to be in proportion to the quality. The weight of the coloring matter can also be ascertained by weighing the glue a second time after it has been thoroughly dried.—*Chron. Industr.*

CELLAR DRAIN AND VENTILATOR.

The drain and ventilating pipe, A, is sunk into the ground at the outside of the cellar wall through which it is passed, and conducted beneath the cellar floor, which inclines downward from the walls to a receiving basin, E, fitted with a perforated top, G, to pass air and to prevent solid matters from entering and choking up the pipe. Any water entering the cellar by overflows within the building, or by leakage through the outer walls or through the cellar bottom, will collect in the basin and flow into the pipe, from where it may be pumped through a hose introduced into the head of the pipe at the outside, the cover, I, having been removed from the basin, H. As a material of which to construct the pipe, earthen tile is to be preferred, because of its cheapness and suitability.

There are many advantages claimed for this plan over



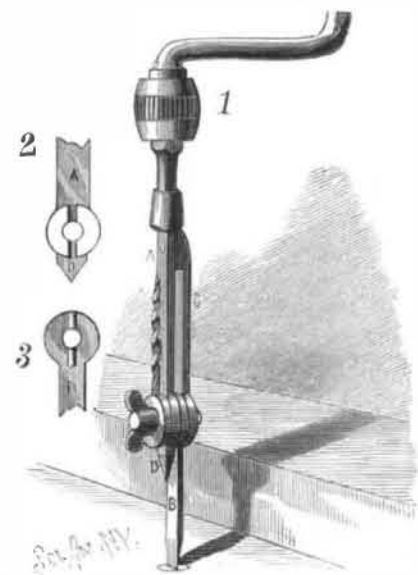
POSZ'S CELLAR DRAIN AND VENTILATOR.

drains connected with a system of sewers; dangerous sewer gases are prevented from entering the house, the walls of the building can be kept in a drier condition; non-liability to choking up under ordinary conditions, and especially so in times of flood, when the filth of sewers is forced back into the connected drains and cellars, to the positive injury of health; complete ventilation is also afforded. This plan will serve well where sewer systems are unknown, as on farms or in small towns and cities.

This invention has been patented by Mr. Michael Posz, of Shelbyville, Ind.

COMBINATION TOOL HOLDER.

The main portion of the holder consists of a blade, A, and a shank formed to fit a bit brace. Upon one side of the blade a clamping plate, C, is attached by a rivet at one end; the outer ends of the two pieces, A and C, are formed with eyes for the clamping screw, which takes a thread in the clamp, C. The clamp is offset to form a space next to the blades, that receives the screw driver, B, when closed, and a gimlet is attached at the other side of the blade, the two tools being upon the screw that passes through eyes in their ends. The eye of the blade, A, is grooved at each side (Fig. 2), and the tools are formed with ribs (Fig. 3) which fit in the grooves when the tools are either in use or turned up. The blade, A, is formed as a countersink, D, below the eye. The screw driver can be readily turned down for use when the screw is loosened, and clamped again by tighten-



SHINE'S COMBINATION TOOL HOLDER.

ing the screw. The driver is out of the way when not in use by being between the clamp and blade.

This invention has been patented by Mr. O. B. Shine, of Covert, Mich.

A GOOD substitute for ground glass is made as follows: Work together equal parts of white lead and common putty until quite soft, then form it into a ball, and roll it over the surface of the glass, and a ground glass appearance is the result.