

and about the same thickness as the toe. The shoe one-third as thick at the heel as the toe, recommended by the late professor, the majority of our horses could not travel in. There are many pernicious practices which smiths in general, if left to themselves fall into, viz:

1. Mutilating the frogs by improper cutting. I have at length got my farriers to understand that the only part of the frog which ever requires cutting, unless ragged, is the point, to prevent the sensible frog being bruised between it and the coffin bone.

2. Inflicting serious injury to the crust by improper use of the rasp, but especially the coarse side of it.

3. In fitting the shoes, by cutting too much out of the crust at the top to admit the clip. The shoe is consequently set too far back, instead of being fitted full to the crust, and afterwards rasping away the crust, making the foot, in fact, to fit the shoe instead of the shoe to fit the foot. This is a faulty practice and very seriously so, which smiths in general are very apt to fall into; one, too, which renders the crust shelly, for that part into which the nails are driven from time to time is in this way rendered weak.

4. In turning shoes, smiths in general do not attend sufficiently to bevelling or sloping the edge of the shoe from the foot to the ground surface, which I consider of great importance, especially if horses are given to cut or interfere in their action.

5. Cutting the heels of the shoe off straight. This is another bad practice. If well sloped, like a shoe for hunting, to which there cannot be any objection they are less liable to be pulled off by the hind shoe catching in them, and contribute more to the safety of both horse and rider.

6. Leaving the inner edges of the hind shoes as the toe-harp, which, if rounded, will in a great measure prevent over-reaching, as well as render the fore shoes less liable to be pulled off by their catching in the heels of the former. Squaring the toe of the hind shoe for horses that forge, or "carry the hammer and pinchers," as it is termed, leaving the horn projecting over the shoe, is in my opinion, good as a general rule, not only preventing that unpleasant noise, but rendering horses less liable to over-reach and pull off their fore shoes, provided, however, attention be paid to the rounding the inner edge.

7. In rasping the under part of the clinches, farriers are very apt to apply the edge of the rasp improperly to the crust, forming a deep groove round the same, which cannot but be injurious to the foot and, together with taking away too much of the crust in finishing off the foot, must have a tendency to render it shelly. Curving the shoe at the toe after the French fashion, where horses go near the ground, I am very fond of; but I cannot see any advantage in it as a general practice.

REMARKS.—We hope every shoer of horses who reads this, will compare its suggestions with his practice. As is the case with most of the mechan-

ics of this country, there is only one in a hundred that understands his business. It requires *art*, to shoe a horse properly, as to make a watch. There are important principles involved in the operation which the smith should study and understand. We believe there are more horses led into shambling gaits, and awkward over-reaching and stumbling habits, by bad shoeing, than by all other causes combined. And when the horse has acquired these habits, he is check-reined, martingaled, and abused in other abominable ways, because he does just what his owner ought to know he would do under such a course of shoeing!

THE WINDS.

The New York *Tribune* in its report of the meeting at Providence of the American Association for the advancement of Science, gives the following synopsis of a paper read by Capt. Wilkes, U. S.N., on the subject of winds:

Capt. Wilkes approached this subject with diffidence, as the theory of storms is very old. There is found to be a belt of heated water running around the world. The equator of heat lies mostly north of the Equator, dipping only once south of the Equator for a few degrees in the centre of the Pacific. Temperature is the great destroyer of the equilibrium of the atmosphere. Franklin first discovered that a north-west storm began at the south-west. Trade-winds have no connection with the rotary motion of the earth. Under the Equator we find winds blowing from the west. Take the world over, there is more west wind than from the east. The south-east trade winds are entirely different from those of the north. Trade-winds never flow home to the land—calms or monsoons intervene. In the Pacific the trade winds are much more irregular than in the Atlantic. The heated belt of water, the heated deserts, and the heated mass of water in the centre of the Pacific, are the causes of trade winds. All of them rush toward the heated areas. The circulation of the atmosphere is not between the Equator and Poles, but between the upper and lower regions of the atmosphere. When the trade winds pass the Andes they make a leap of 300 or 400 miles before touching the sea again, and in that space are the monsoons. When the sun is vertical the trade winds are fitful and squally, and regular as the monsoons are. The land and the sea breezes are the illustration of all winds, and even of storms. Cold air will go to the warm, and never the warm to the cold. No return current was noted at the top of Mannahoe. The earth does not slip away from its atmosphere, as meteorologists suppose. This is shown by the ascent of aeronauts. Here he proved to the satisfaction of all doubters that the winds are not caused by the inertia of the atmosphere, letting the earth slip past it, which, if it made the wind would make it blow 1,000 miles an hour. There are no rain bearing winds. Vapor percolates or filters through the atmosphere, and travels against the wind. On a point of the western coast of South America in the rainy season it rains just five hours each day, and then clears off, and it takes the sun just about the same time to cross the Atlantic, and it seems to bring its daily supply of rain with it.