

**IMPROVED CAMP LOUNGE.**

Parties intending to camp out during next summer, hunters, lumbermen, and, in brief, all who, either for pleasure or necessity, sleep in the open air, will find in the device here-with illustrated a light, compact, and comfortable couch. It is composed of but few parts, which may be taken apart and folded into very small space, so as to be carried in a small valise, or in the hand, or even in a deep overcoat pocket. The invention is simply a piece of canvas which, when stretched on a frame, presents the appearance represented in the engraving. There are two side sticks, A, which are jointed in the middle so as to be folded in smaller space, and two girths, B and C, which form the transverse portions of the frame. Girth, B, forming the head, is straight, and into its extremities the shanks of the double ferrules are screwed with right and left hand threads. The inner pair of ferrules receive the ends of the side sticks. The shanks of the ferrules of girth, C, are arched so as to raise the hip of the person reclining a short distance above the ground. Said shanks are also provided with right and left hand screws, so that, by turning both girths, the width of the frame may be expanded at pleasure.

In putting the couch together, the side sticks are inserted through the side hems, and the headgirth through an additional head piece. The foot girth rests upon the ground. The girths are then turned to proper width and the canvas stretched tightly. In order to support the couch at a suitable incline, two sticks are inserted in the outer ferrules of the double ferrules on girth, B, said ferrules being formed at right angles to those in which the side sticks are inserted. The holes shown in the girths are for the insertion of sticks in case levers are needed for turning the girths. A loose piece of canvas is provided, secured to the main portion, and which rests upon the ground beneath the lower portion of the body and feet of the occupant. The small compass and convenient shape into which the device can be folded, is shown on the left of the illustration. It is not absolutely necessary to carry any of the wooden portions of the couch, except the girths, B and C, as the side and supporting sticks may easily be cut from the forest when needed.

The device is a substitute for the india rubber, woolen, and other blankets usually carried to spread upon the ground. It may also be pitched upon uneven ground, securing a comfortable resting place; any desirable elevation of the head may be obtained by driving the sticks more or less into the soil. It, besides, furnishes a softer bed, and raises the body of the occupant above the surface, an advantage of great sanitary importance.

Patented through the Scientific American Patent Agency, January 12, 1875. For further particulars address The Camp Lounge Company, Troy, N. Y., who will forward one to any address for \$4.

**IMPROVED GRATE BAR.**

We illustrate a novel grate bar, by Mr. C. Toope, of this city, and patented to him January 12, 1875. The inventor has had many years' experience as a practical engineer and iron molder. In the present device he has utilized his experience to produce a bar which, while having the greatest amount of air surface, will still retain the necessary strength. The invention, it is claimed, cannot be injured by contraction or expansion. The lock on the sides, in the center of each bar, holds it securely in its place, and prevents it from falling in case the ends should be burned off. The lugs on its sides are about two inches apart, and intersect each other. These, together with the crossbars between the flanges, on the lower side, prevent the bar from warping or twisting, and the flanges from widening or contracting. The bar is further claimed to be light, durable, and to give a large area of air surface, and, from its peculiar construction, to save from 25 to 40 per cent in weight, according to size, as compared with other bars now in use.

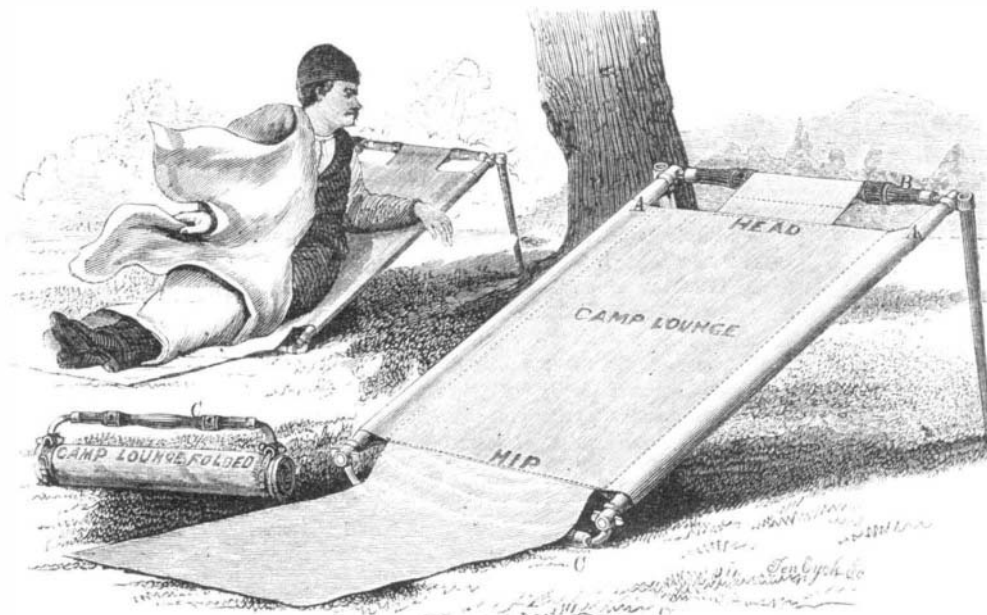
The inventor is extensively engaged in the foundry business, with ample facilities for manufacturing, and proposes to furnish these bars either by the pound or square foot, at the ordinary price of castings, and much below the price usually charged by middlemen.

The engravings represent, respectively, the upper side, Fig. 1, and the lower side, Fig. 2. For further particulars address Charles Toope & Co., Lexington Iron Foundry, 88th street, near Fourth avenue, New York city.

**Causes of the Decay of Teeth.**

In a paper read before the American Dental Society of Europe, Dr. George W. Field says: "By analysis, healthy blood is found to contain a small percentage of inorganic matter, and we can but infer that it is there for a purpose, and that purpose the building up and supporting a perfect osseous system, and that it is from this source alone that the teeth

can derive the materials essential to the proper development of their different parts. The blood, acting as medium to supply these materials, cannot manufacture them, but must be supplied most generously, and the food taken into the system must be the base for supplies. Then it follows that the food richest in phosphates is what we need. In the preparation of wheat flour the most valuable part is rejected—that which contains the very nutriment for the want of which we are losing our teeth. The animals fare better than we. The Scotch oatmeal is still richer in phosphates than wheat, be the latter ever so properly prepared; therefore, to substitute

**A NEW CAMP LOUNGE.**

this for the fine wheat flour is what is essential if we wish to have such teeth as Nature designed we should. These are my convictions, and they are strengthened daily.

I have had opportunity to examine the mouths of people of almost every nationality, and I have found none that could be compared with those from the north of Ireland and of Scotland. These people make use of oatmeal as a principal article of food. They tell me that it is an almost universal breakfast dish, in the form of porridge, with milk, especially for the young. In many families it is served in cake form for supper. This is a national dish. All partake of it, old and young; and it is with the latter, during the period when all the developmental forces are active, that the system thus nourished is the most benefited. These people not only have a good dental development, but they are strong and healthy, possessing a strength and vigor of constitution almost unknown elsewhere. Acknowledge that Nature must find in the food the material out of which to build up a strong and vigorous constitution: how can we expect to have teeth other than of the delicate, fragile sort, easily acted upon by the deleterious agents present in the mouth, if we persist in withholding the very elements required for their proper nourishment and development?

We all know that, during the period of growth and development, if there is an unusual deficiency of the bone-producing elements, if, because of a severe illness, there is a sus-

curious and striking results. He recognizes the fact that, out of 3,000 species of fishes, 52 are capable of producing sounds. Dr. Galton, in commenting upon the subject, adds that "there is every reason to believe that the majority of the sounds produced by fishes are not casual utterances, but are truly voluntary," and he further states that, among such, "there is a most remarkable development of the organs of hearing, in all essential particulars correlative with the degree of perfection of the instrument."

M. Dufossé divides the phenomena into two classes. Under the first he places certain sounds which fishes emit when taken off the hook and pitched into a receptacle. These are evidently involuntary, and perhaps convulsive; and among them may be mentioned a croaking noise made by the tench, carp, loach, and other thick-lipped fish, when compelled suddenly to open the mouth. The sea horse also makes a peculiar, sharp sound, by means of a little bone loosely articulated to the gill covering.

The second class includes expressive noises; and it is in this category that the novel and interesting portions of the discoveries are met. Subdividing his subject, M. Dufossé first refers to expressive sounds of a stridulous or harsh nature. These are caused by friction of the pharyngeal bones in a species of mackerel. The noise is rough, short, and piercing; and both males and females are equally sonorous, especially in the hottest part of summer. A somewhat similar sound, though more resembling a grinding of the teeth, is made by the sun fish, and is due to friction of hard prominences in the jaws, playing the part of

intermaxillary teeth.

Blowing sounds are included in the second subdivision, and are peculiar to the carp tribe. It appears that the fish has an air bladder, provided with a duct communicating with the gullet. Little valves in this duct can be opened or closed by the animal at pleasure, so as to control the escape of gases from the bladder, through which the blowing sound is produced.

The most important portion of the investigation is found in the second division of the second class, namely musical sounds. Their *timbre* is more or less sweet and soft, and never excites such sensations as are caused by grinding the teeth. They are subject also to an extraordinary degree of change, and their vibrations after being analyzed can be measured by appropriate instruments. They are generated by the air bladder, together with its muscles, the action of the latter being aided and intensified by the rest of the organs. The quality of the sounds is modified by the contraction of other muscles. The *maigre*, a fish found in shoals off the French coast, is cited as the most striking instance. The sounds emitted are notable principally for their length, having a mean of 24 seconds, and for their monotonous uniformity. The *timbre* varies very much, the most common being that of an ordinary reed organ or the reed of a clarinet. Another *timbre* resembles that of the largest string of a violoncello, sometimes passing to that of a *bourdon* organ pipe. Some sounds, are, however, less sweet, and may have some likeness to the tone of a hurdygurdy or rattle; while others are clear and pure, resembling in their *timbre* those produced by a hautboy, harmonica, or accordion. They have generally, however, a tendency to degenerate into a humming sound, either from an excess or from a want of intensity. M. Dufossé suggests that the song of the fabled sirens had its origin in the utterances of a shoal of *maigres*.

In his review of these investigations, which we find in the *Popular Science Review*, Dr. Galton mentions numerous other instances of musical fishes. In the harbor of Bombay there is a fish, resembling the ordinary perch, which makes long drawn musical notes like the dying cadence of an æolian harp; and in Ceylon two mollusks are found, called "creeping shells," which evolve similar sounds. The magoora, a fish found in the lake at Colombo, makes a grunt when disturbed under water, and Darwin mentions a kind of *siturus*, met with in the Panama river, which also produces a grating noise, distinctly audible when the fish is submerged.

Dr. Galton says, in concluding, that "as the sounds generally excel in frequency and intensity at the breeding season, it will not be unreasonable to regard them—granting, as we do, that the chirp of the cricket and the croak of the frog is each in its way an alluring serenade—as nuptial hymns, or, to use language ascribed to Plutarch, as "deafening epithalamia."

In plugging screw holes in finished work, give only the edge of the plug; put no glue in the hole. Pass a sponge of hot water over brad holes, and, when dry, sandpaper and paint. The putty in the latter case, after the wood is swelled, will not meet the brad head.

Fig. 1

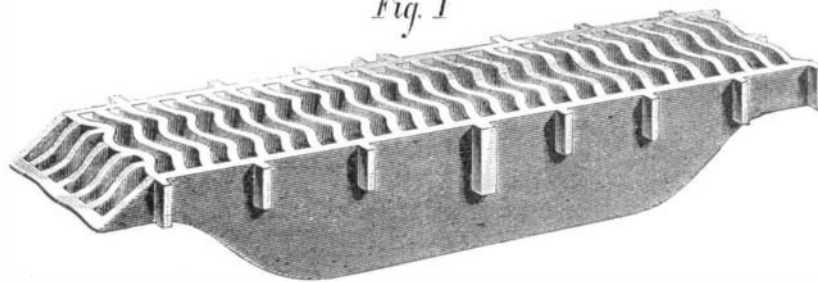
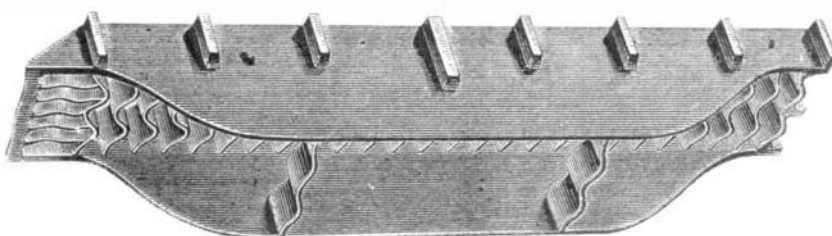


Fig. 2

**TOOPE'S IMPROVED GRATE BAR.**

pension or a weakening of the assimilative power of the system, this temporary arrest of the developing process in growth leaves its ineffaceable mark, and nowhere so conspicuously as upon the teeth. This being the case, is it unreasonable to suppose that, given the ordinarily good health and activity of the developmental forces of children, and a generous supply of the proper bone food, we will have as a result a good dental development?"

**Funny Musicians.**

M. Dufossé has recently published a series of admirable researches, in which acoustic phenomena and fishes have been fully systematized and classified, certainly with very