

**A PORTABLE COVERED HAMMOCK.**

The very comfortable looking provision for the siesta, shown in illustrations, is a device of Italian invention. It possesses considerable merit as a piece of camp equipment with a most desirable compactness and portability. The end supports, as best shown in the enlarged cut, are pivoted to each other, and when the hammock is occupied, are prevented from collapsing by the longitudinal bar uniting their upper ends. This gives a good, solid support for the hammock, keeping it at an easy dis-

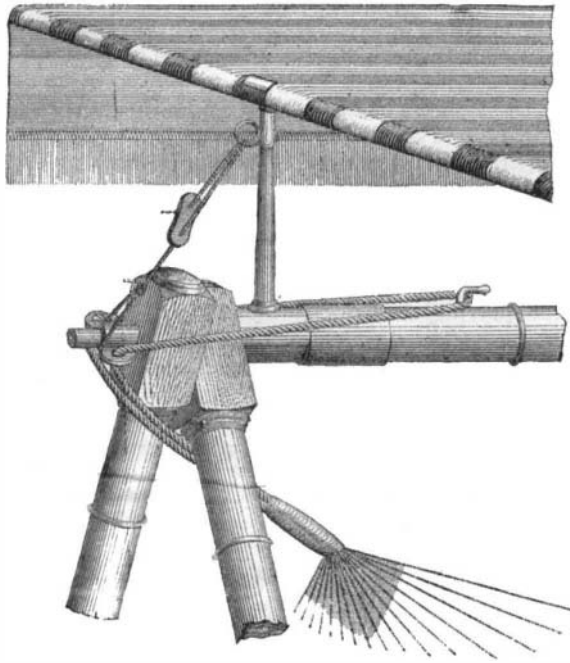


Fig. 2.—PORTABLE COVERED HAMMOCK.

tance above the ground, and making it possible to bivouac at any desired point without the necessity of searching for tree or post. The supporting rope, passing under the angle of the legs, and through the metallic eye pieces at the outer extremity of the pivot, is attached to a hook on the upper side of the longitudinal bar. This arrangement makes the device easy to erect, avoiding the continual tying and untying of ropes, which under certain circumstances may make a hammock more of a bother than a comfort, and at the same time gives an admirable distribution of the strains. The greater the weight in the hammock, the more firmly are the legs and bar united.

Not less important to the comfort of the device is the wide spreading awning, which throws its grateful shadow over hammock and occupant. Its end rods are balanced on short uprights extending from the longitudinal bar, and the desired inclination and stability are secured by the cords attached to the pivoted legs. Perhaps the greatest merit of the invention is illustrated in the figure which shows it packed and ready for shipment. The supporting frame taken apart, and wrapped in hammock and awning, forms a bundle easily gathered into a shawl strap, and a desirable addition to the outfit of invalid or tourist.

**The Ghetto of Rome.**

We learn from the *Building News* that the demolition of the Ghetto of Rome, the oldest Jewish quarter in Europe, dating it is said, from before Cæsar's time, is proceeding rapidly. The archaeological commission which is charged with the exploration and protection of ancient monuments has applied to the Italian Government that measures shall be taken for clearing the temple of Jupiter and the portico of Octavia from the buildings which have grown up around them, and also for putting them in such a state of repair as is necessary for their preservation. The commission also requests that the new streets which are to be laid down over the cleared area shall be so planned that their points of intersection shall coincide with the following ancient buildings, which are now within the Ghetto: The theater of Marcellus, the crypt of the Emperor Balbus, and the porticoes of the Flavian Emperors and of the Emperor Philip. It is proposed that these buildings shall be placed on the list of ancient monuments.

**BAUDRE'S SILEX PIANO.**

Among the flint stones that are met with in the chalk formation there are some that when struck with another flint emit sounds of great purity. The tones that are thus obtained with different musical flints are out of all proportion to the bulk and weight of the stone. This is a very curious phenomenon, the explanation of which is not furnished by the fundamental laws of acoustics, and which surely merits being studied by physicists.

As long ago as 1873, I spoke of musical stones as a curiosity worthy of attracting attention. I then promised to return to this interesting subject, but the years passed by, and the singing stones were forgotten. Upon recently visiting the new electric lighting of the Grevin Museum, however, they were casually brought to mind again. After examining this interesting installation, I was walking through the great hall of the museum, looking at the wax figures mounted therein, when I heard some delightful music that attracted my attention. Approaching the spot where these harmonious and pure sounds were being produced, I saw a musician, who, holding two flints, was playing upon a stone piano with wonderful agility, by striking other flints of all shapes suspended by two wires at a few fractions of an inch above a sounding board. I at once made the acquaintance of the player, who was Mr. H. Baudre, a distinguished musician, and a zealous collector of musical stones.

"How did you procure these flints that render so delightful sounds, and from which you get so remarkable music?" said I.

"Ah, sir, it required much time and many trips to collect the 26 stones which you see before you, and which form the two chromatic octaves. It took me more than thirty years (from 1852 to 1883), to search for them in the chalk beds of Haute-Marne, Perigord, Eure, and the Paris basin."

"Are such flints found in all chalk formations?" "I believe not; the innumerable quantities of English flint have yielded me nothing acceptable." "Are there any works that treat of this interesting subject of singing stones?" "I do not know; but I have letters from numerous scientists, who have been pleased to congratulate me, or to give me their opinion."

"Would you communicate a few of them to me? I should like to publish them in *La Nature*." "Very willingly, sir; I will send you my file to-morrow."

The following are a few of the notes that appear to me to give some new information in regard to singing stones:

Mr. Cartailhac, director of the Toulouse Museum, reports that three musical flints were once noticed by a missionary in the village of Chaffa, in the center of the plain of Thumazana, Abyssinia. These stones were hung by threads from a horizontal wooden rod, and were used for calling the faithful to prayers or to battle. They were struck with another flint, and their sounds, which were very intense, were heard from some distance.

In an interesting letter to Mr. Baudre from Mr. J.

stones being different when they are struck in two neighboring places. I should not be surprised if there were a sort of obliqueness in the structure, which would explain the impossibility of preserving the sound when a singing stone is cut or broken.

"There is here an interruption of the sonorous waves that are passing through the body. The great difference in the sounds that two bodies of nearly equal bulk are capable of producing is probably due to a difference in the arrangement of the molecule, which govern the mode of vibrating. I am sorry that I am unable to say more on this subject."

I reproduce a very pleasant letter from Mr. C. Sainte Claire Deville, of the Institute, the learned geologist, whom death robbed science of a few years ago:

"A feeling of remorse seizes me when I reflect upon the incalculable number of stones that I have broken—of flints broken in order to discover in them the traces of a shell, an echinus, or a polyp. And, when I consider all the sacrifices of this kind that my geologi-



Fig. 3.

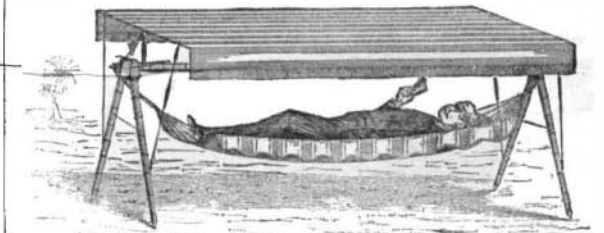


Fig. 1.—PORTABLE COVERED HAMMOCK.

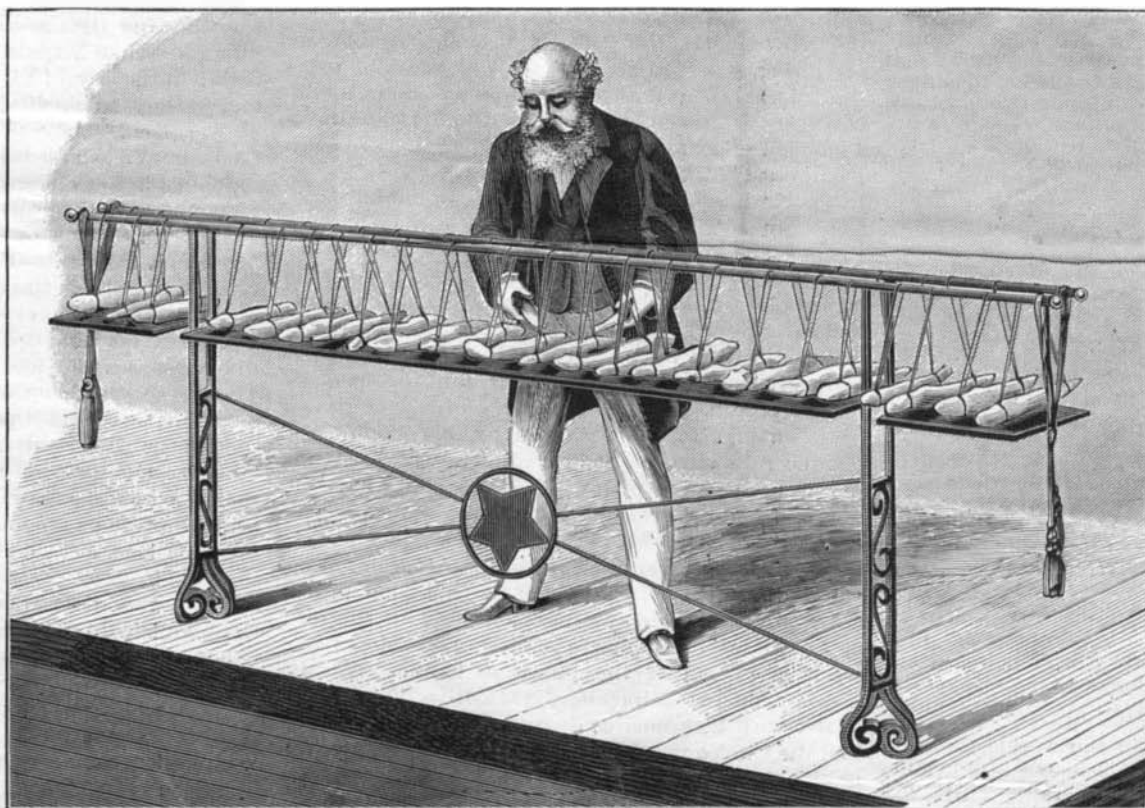
cal confreres are every day making, how many reasons have we not for thinking that we have destroyed specimens which might now be figuring among your sonorous keys! A vain search has been made for the mandrake that sings, but you have done better; you have found the stone that sings—you have discovered the singing soul of the stone! How many such souls, alas, have we sacrificed! You, on the contrary, less barbarous, instead of immolating them to a vain scientific curiosity, have approached them as a friend, have questioned them feelingly, and, when one out of a hundred thousand of them had the vocation, you offered it an asylum, opened the doors of your conservatory to it, and made a virtuoso of it! What superiority! And how much more crushing does such superiority become when we are obliged to recognize that your keyboard of stone offers a true paradox that geologists and physicists do not yet seem able to fully explain."

Mr. Baudre calls his singing stones "prehistoric music." It is not impossible, in fact, that analogous keys were used by our ancestors of the Stone Age. This was Abbot Moigno's opinion.

"Who knows," says the old editor of *Cosmos*, "whether, in eagerly excavating in search of relics of the Stone Age, we shall not find a series of attuned flints? Why may not the flint, which was the first arm, the first tool, of prehistoric man, have also been his first musical instrument?"

Mr. Baudre thinks that the reason no musical instruments have been found in prehistoric strata is that searchers have not occupied themselves with native flints, but only carved ones.

The following are some of the peculiarities of these attuned stones: The stone that emits the greatest tone weighs 4½ pounds, while the one that gives the half tone of this weighs 9. This large flint is immediately followed by one of one ounce, that finds its similar in weight only at the end of the series, although the difference in sound is considerable. A 3 ounce stone gives exactly the same note



**BAUDRE'S SILEX PIANO.**

Ellis, member of the Royal Society of London, this learned scientist treats of the sonorousness of singing stones. "We know not up to the present," says he, "whether the sonorousness is affected by the form, bulk, chemical mass, or molecular constitution. It is very probable that these stones have internal structures that differ from each other—the sound of the

as another that weighs but 6,000 grains. It will be seen that we have surprising anomalies here to puzzle physicists.—G. Tissandier, in *La Nature*.

Holyoke claims the honor of being the first town in Massachusetts to introduce electric light.

**Ourselves as Others See Us.**

The following notices, appearing in newspapers printed in places remote from each other, represent a small proportion of the approving comment with which our contemporaries welcome the weekly receipt of the successive issues of the SCIENTIFIC AMERICAN. To those of our readers who have been with us for a generation or more, of which our subscription lists show large numbers, the reprinting of such comments may seem superfluous; but the young are all the time coming forward to fill places on life's stage, and with them such words may aid an introduction to a life acquaintance. If it would be in good taste we might, likewise, quote from the many good things patentees say of us, in their correspondence, relative to our methods of doing this class of business—in preparing their applications, and our success in taking care of their cases before the Patent Office—but the confidential nature of such services precludes reference thereto.

The Streator (Ill.) *Monitor* says: The SCIENTIFIC AMERICAN is one of the papers which are necessary to every one who expects to keep up with the times. To be deprived of this journal after once getting accustomed to receiving it, is like moving to a country where science and invention are unknown. It keeps its readers posted on all things appertaining to the mechanic arts, new discoveries, and appliances in science, and the problems and theories receiving the attention of the foremost workers in the fields of discovery. It is published weekly at \$3.20 per year, and is worth to every intelligent person many times the cost.

The SCIENTIFIC AMERICAN is without a peer in its realm, says *The Capital*, published at Frankfort, Ky. It is not only a journal of arts, sciences, and mechanics, but it is the greatest of all journals of that class. Its pages are weekly filled with the most entertaining as well as the most instructive of matter, relating not only to really scientific matters, but to subjects that are intimately connected with everyday life. No family able to pay for it should be without this remarkable weekly.

The Dallas (Texas) *Machine Journal* says: The SCIENTIFIC AMERICAN, in our judgment, is indispensable to those operating machinery, as the valuable information contained in its columns if heeded would prevent many mishaps, and errors committed by ignorant applications in and about a plant of machinery. We notice in every number sufficient mechanical information to pay for its year's subscription. Operators of machinery dispense with a good and reliable assistant in not taking the SCIENTIFIC AMERICAN regularly.

THE SCIENTIFIC AMERICAN.—An examination of this paper, says *The Methodist Protestant* (Baltimore), will satisfy any person that it should find a place not only with every engineer and mechanic, but with every citizen of average intelligence, so varied and interesting are its contributions and illustrations. While it makes special record of new inventions, it covers the whole field of theoretical and applied science in all its departments. It is one of few of our exchanges we uniformly read through.

TRASH READING.—How deplorable the fact people spend precious time and money for trashy literature in this age of progress! If one-tenth part, says *The Mineral Wells Pilot* (Texas), was spent for such publications as the SCIENTIFIC AMERICAN that is spent and wasted for trash literature, ignorance and poverty would almost be banished from this fair land of liberty in a few years. Every number of the SCIENTIFIC AMERICAN contains 16 pages, beautifully printed and elegantly illustrated; it shows the progress of the world, and abounds with fresh, interesting subjects for all classes. No intelligent person, after reading it two or three months, would miss one single number for the subscription price, \$3.20 per annum. We mention it with the hope of turning the minds of some of our readers from poisonous, fictitious, trashy, and unprofitable literature to something ennobling, full of knowledge, and elevating in its tendency.

The Wesleyan *Christian Advocate* says: That old established and popular journal, the SCIENTIFIC AMERICAN, published by Munn & Co., New York, maintains with increasing interest and usefulness its high character for art and science. Those interested in the mechanic and manufacturing arts, and inventions, and discoveries in science, cannot well do without it. It seeks specially to popularize knowledge and science, and it does this needed work in such a plain and interesting way as to adapt it to the easy comprehension of the masses of readers, as well as the savants and scientists of the whole country. We cordially recommend it to all who desire useful knowledge and practical information upon every day topics and subjects of invention, education, and progress. Price, \$3.20 a year.

*The Messenger*, published at Minneapolis, Kan., suggests that if a person wishes to know about the great improvements that are continually being made in machinery, and learn of those things that the inventive mind of the American is bringing to light, he should be a subscriber of the SCIENTIFIC AMERICAN, one of the best periodicals of that kind in the world—beautiful cuts, clear print, good paper, and most interesting reading. One who takes the SCIENTIFIC AMERICAN once will always remain a subscriber.

*The Republican*, published at St. Clair, Mich., says: Of all the scientific papers published in this country, there is none which for the ordinary reader in any way compares favorably with the SCIENTIFIC AMERICAN. In fact, although a professedly scientific paper, its articles are so thoroughly free from all technical words and expressions that they are as well adapted to the general reader as to the pure scientist. It is a paper which no one can afford to be without who desires to keep posted in regard to the great progress which is now being made in the scientific world, because it contains a com-

plete record of this progress expressed in the most interesting way. One of its best features is its illustrations, which represent the highest attainment in the line of artistic engraving. We believe there is no paper which is capable of exerting a more healthful influence upon children, first, because the illustrations are attractive and the description of scientific discoveries entertaining, and, second, because for the most part they relate to and tend to interest the reader in subjects which are of a practical character.

**Photography Thirty Years Ago and To-day.**

Referring to the progress the amateur photographer is making in England, *The British and Colonial Printer* tells us that not only the Princess of Wales, but other members of the royal family, have become familiar with the camera. The same paper draws a contrast between the present and earlier modes of posing the sitter, and the process of taking pictures and the improvements made in all departments of the photographic art, which the older readers of the SCIENTIFIC AMERICAN will recognize as truthful, and all admit to be amusing.

The torture to the sitter of old was something very real. If the fussy "artist" would only have permitted his victim to sit as he sat at home, there would have been little to complain of. Evidently, however, there was one look for everyday life and another for the "studio." The man who never opened a book from one year's end to the other stood bolt upright, close by a marble column, with his finger inside a copy of "Locke on the Human Understanding." The mother of a family, in terror lest her heated face should "come out frightful," or agonized by the amblings of a fly across her nose, sat glaring at a spot on the wall, her countenance rigid with a wooden smile only seen in photographs, while the man of science waited, watch in hand, for the fatal moment when the cap was to descend, and all was over. People dressed to be photographed, and dressed, especially in the humbler walks of life, so fearfully unlike nature, that when their "doppelgangers" appeared in the photographer's case, it was regarded by their acquaintances as a sign of superior acuteness to recognize the prototype. The blacksmith, with whom half the country side were familiar in his leather apron and his shirt sleeves, looked extremely stiff and unhappy as he stood by the regulation marble pillar—of painted fir—in his Sunday clothes, with his forefinger in the property copy of Mr. Locke's erudite treatise.

The photographer of the old school fixed the person to be taken in front of a bull's eye, and requested him to look "as he usually did." Then—with a view to secure this end—an implement of torture called a "head rest" was fixed on his occiput, evidently under the impression that this curve of iron was the usual appendage of an arm chair. A second or two later, the artist declared with well feigned resignation that he must "pose you again," and posing in his vocabulary always meant pulling down your shirt cuffs, laying your right hand in an unnatural position over a shaky little table, propping up a lock of your hair to make it resemble the typical portrait of Byron. Then after one or two final pulls and pushes, and easings of the bust backward and forward and sideways, as sculptors manipulate their clay models, the "sitter," heated, irritable, and perspiring, was requested to "look pleasant." At last the cap was taken off, the watch produced, and a minute of torture, it seemed hours, inflicted on the man who, in a moment of good nature and ambition, resolved to "be taken." The result we all know.

A portrait taken in a dentist's chair would have been as pleasing. The only satisfaction a cynic got out of the business was that the fellow with the lens did not get off scot-free. Before he poured the collodion on the plate which had to be so laboriously cleaned, and then dipped it in the mysterious bath, and retreated into the dark room with it, and dipped it again, he generally managed to leave some trace of the operation on his person. A photographer of the wet process times could always be known by his fingers. As for the rare amateur, this rash man, at least during the early stages of his novitiate, had to seclude himself from society, as his hands were stained beyond the power of chemicals to cleanse them.

All this is now very ancient history. It seems as out of date to hear people talking of the collodion process as it is to read of Niepce experimenting with the bitumen of Judea, or Daguerre rendering his silver plates sensitive by aid of the power of iodine. The dry plates rendered miraculously sensitive by gelatine mixed with bichromate of potash have revolutionized the whole art. It is no longer photography, but photoglyphy. A supply of plates is bought from the dealer ready for use, without the operator requiring to touch them, and, indeed, so sensitive that if touched they are injured, and if exposed to the faintest ray of light they are spoiled. Then, at the fitting moment, one is slipped into the camera, a little catch is raised, a click is heard, and quick as the twinkling of an eye a view is secured. There is no trouble; scarcely any mechanical skill is exercised. Practically, the operation is instantaneous, since a passing train, a galloping horse, or a bird in flight can be pictorially fixed. They are becoming almost as indispensable a

part of the tourist's kit as his guide book. The explorer no longer requires to paint the scenes, or the ruins, or the savages he visits, as Bruce did so laboriously, and at such a tremendous cost of priceless time. A dry plate, a click, and in two minutes there is secured a view, the accuracy of which even the skeptic regarding traveler's tales cannot dispute. It is in truth hard for any one to escape the modern photographer. There is apparatus as small as an opera glass and shaped quite like one. The size of the picture taken is immaterial. It can be enlarged to any extent. A manuscript can be copied as easily as the building in which it is preserved, or the librarian who so cautiously uncovers it can be "taken." This, indeed, is the present condition of affairs. But now that the Princess has become a "photographix," we may expect to see a portable camera in every carriage, on the front of every tricycle, or even on the pommel of many a saddle.

**Treatment of Rattlesnake Poisoning.**

On the 11th of May, my little boy (aged eight years) while playing near the house, was bitten on the great toe by a rattlesnake. I saw him within a few minutes, ligated his ankle, and applied the following freely:

℞ Potash iodide.....gr. xv.  
Iodine.....gr. xxx.  
Aqua pura.....℥j. M.

Although the swelling was controlled, he suffered intensely from 5 P.M., the time he was bitten, until 10 P.M., when he became quiet and slept for two hours, when he awoke suddenly, screaming, starting about wildly, and complaining of excruciating pain in his limbs and jaws. I commenced giving him the tinctures of gelseminum and lobelia (two parts of the first to one of the latter) in half teaspoonful doses every five minutes, which was kept up for an hour before any effects were visible; relaxation having been obtained, all the tetanic symptoms subsided, and the cure was complete.

I was once called to a case where a large rattlesnake had bitten a little boy on the inside of the ankle—a very bad bite. I used the above prescription freely, and with like results as before. So far as the swelling was concerned, and by the early use of gelseminum and lobelia, cure was effected in five hours, *i. e.*, the active symptoms were subdued within that time, requiring no further professional attention. The iodine and iodide of potash have gained a great reputation in this country as an antidote to the poison of the rattlesnake, and is used when needed with the same results on cattle and horses as on man.

In the case of my little boy, I am satisfied that if I had given him freely of gelseminum and lobelia until it relaxed him, the trouble would have been at an end; indeed, I proved it on the case I had since, and hereafter I shall think of no other treatment, unless it should fail me.—*J. W. Holmes, M.D., in Medical Summary.*

**Violation of a Tomb after Six Hundred Years.**

The *Stampa*, a prominent Italian liberal journal, tells the following strange story: On the night between the 19th and 20th of May, the old church of Sta. Maria de' Gradi, in the city of Viterbo, was entered by the secretary to the municipality, the city engineer, and a band of workmen. They proceeded to the tomb of Pope Clement IV., whose body had lain in a marble sarcophagus in the church since his death in 1268. The sarcophagus was opened, and an inner coffin of wood was found. Upon opening this they found the remains in a fair state of preservation, and clad in the vestments suitable to the papal rank. They did not touch anything, but closed both coffin and sarcophagus. Next morning they returned, accompanied by the sindaco of the city and the sub-prefect of the district. The corpse was then taken out of the coffin; the ring, in which there was a precious stone, was taken from the finger; the richly embroidered silk gloves and sandals were torn off; the agraffe which fastened the cope on the breast, and which was richly mounted with precious stones, was cut out; and those portions of the cope, which was of gorgeous workmanship and in good preservation, were cut away. The remains were then huddled into a box and sent off to the municipal buildings; the articles that had been removed were, according to the sindaco, to be placed in the museum of Viterbo. The *Stampa* observes that if a poor man's grave were thus violated, the law would give some months' imprisonment to the criminals. Will not the same measure be given to the disturbers of a Pope's tomb which is one of Italy's historic monuments? And it calls on all the newspapers of the peninsula to publish the outrage, and bring public opinion to demand the punishment of the principals, whoever they may be.

MESSRS. GEO. H. HULL & CO., of Louisville, Ky., are supplying what they term Dresden sand, which is of such quality that the fine iron castings are made without facing, either in the sand or mould. Foundrymen will appreciate the value of the new sand.