

**THE CHAMPION SPRING BED.**

The sum total of human experience on the subject shows that the bed question is one of great importance to everybody, and that upon the wisdom of one's choice of bedding material depends much of comfort, health, and even the prolongation of life. A badly composed bed is too often but the breeding place of contagion and disease.

Good feathers and curled hair, in abundant quantities, make good beds, but their organic substance renders them unhealthy, and the best medical authorities discourage their use. A capital substitute for them has been found in the elastic properties of metal, and the subject of our illustration is the very latest improvement in this line—the Champion Spring Bed—which rivals in its softness the old-fashioned down and hair, embodying, likewise, all the other good qualities that experience has shown to be desirable.

This bed is composed of eighty-eight beautiful steel springs, comprising over eight hundred coils, drawn and tempered with accuracy, yielding and pliable like watch springs, the helices united by leather bands, and the whole so arranged that pressure, applied upon any one portion of the surface of the bed, is equally distributed and sustained by all of the springs. This imparts to the bed an even elasticity and general softness, which is a peculiar characteristic, preventing that sinking down of the bed in one spot, and that down-hill feeling of the surface, or sloping towards the place where the greatest weight rests—defects that are common to most of the ordinary spring beds.

Another striking advantage of this bed is its remarkable flexibility. As shown in our engraving, it may be rolled up like a blanket, forming a convenient package for transportation; and it may be lifted, turned, and carried about the household with the utmost facility.

Its extremelighthness is a distinctive and important quality, the total weight of a first class double bed being only 25 lbs. A child may carry it; any woman may lift it with one hand. Housekeepers will appreciate this quality, for they can remove and place the bed, wherever they require, as easily as if it were a bolster.

Another excellent feature is its perfect security against corrosion, the springs being inlaid with a firm waterproof fire enamel, which renders the bed serviceable in every climate, hot or cold, dry or damp.

Both sides of this bed are alike, it can be used either side up, has no attached frame of wood or slats, but is soft, yielding, and flexible in every part. In summer time it forms a cool and luxurious couch; no under bed being required, a blanket thrown over its surface is sufficient. In cold weather, a mattress of only half the usual thickness is needed.

This bed is noiseless and durable. It is also economical in price, the full sized double beds of this pattern being retailed at \$12—the smaller sizes for less. Rolled up for transport, as shown in our engraving, it forms a light, compact bundle of steel springs, which may be sent to any part of the world without risk of damage. Such are some of the merits of this invention, as claimed by the makers, and they appear to be well founded.

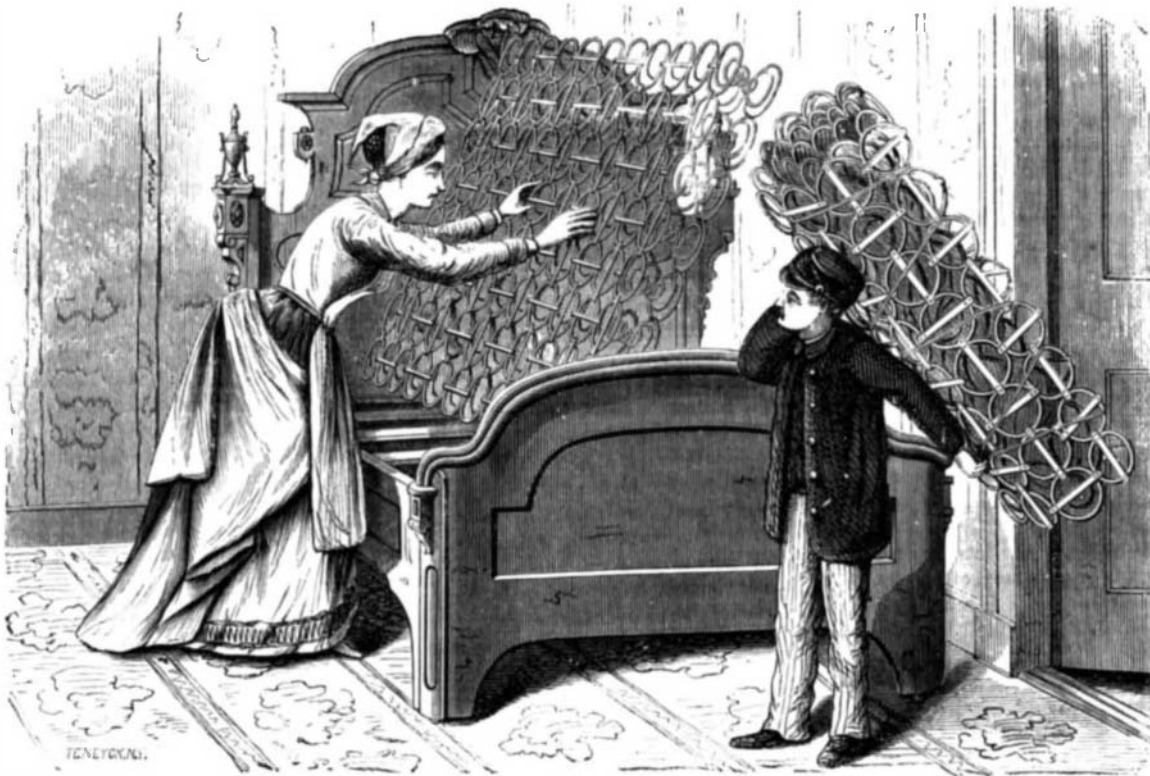
Patented Sept. 19, 1871, by Wm. B. Judson. Manufactured by F. C. Beach & Co., 260 Broadway, New York, from whom further information can be obtained.

**Silk Reeling in California.**

At the recent fair in San Francisco, a small space in one of the galleries of the pavilion was devoted to silk, and this was occupied by a reel, the office of which was to unwind the fibers from the cocoons. This was of much interest, and while at work was the center of an admiring group of spectators. The operation was conducted by a California lass, who took real pride in her occupation and showed great skill. The cocoons, which look like large peanuts, are put into a vessel of boiling water which stands in a small furnace, the furnace itself being set below or rather in front of a small table, on a level with the operator as she sat in a low chair. The action of the hot water in a few minutes loosened the gum, that, in the natural condition, cements the fibers to the cocoon. This done, the girl, taking a brush in one hand, stirred the cocoons about with it until the requisite number of fibers were detached at their ends, and clinging to the brush. From this they were quickly brought together to form a thread, passed through a fixed guide or staple at the opposite edge of the table, from this through a staple on a reciprocating bar, and thence to the reel, which was revolved by the hand of a small boy. A second thread was formed in like manner, and in the same way connected with the reel.

As the reel revolved, the fibers were drawn or unwound

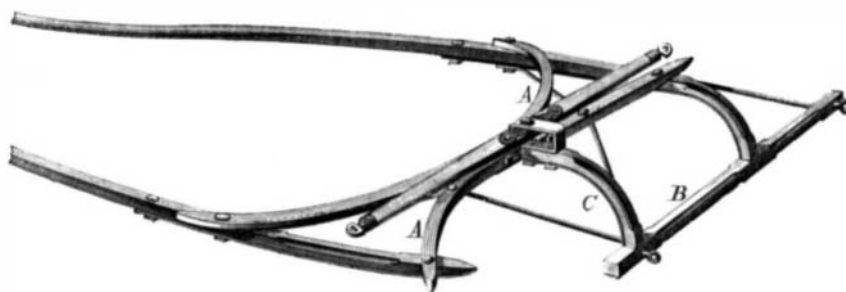
from the cocoons, which danced about in the boiling water, united in the two threads, and conducted to the reel upon which they were distributed by the vibratory movement of the bar previously mentioned. The two threads, in passing to the reel, were made to cross each other at an angle of about thirty degrees. This was the distinguishing characteristic of the new invention, and the advantage claimed for it is that the two threads, in rubbing each other as they pass to the reel, cause the gum to stick more closely together and consequently secure a smoother and firmer thread. After certain lengths of the two threads were wound upon the reel, its motion was stopped, the threads were severed from it, and the two skeins of raw silk, bright yellow or lighter colored, according to the original tinge of the cocoons, were slipped from its ends. The peculiar skill required from the attendant

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is shown in keeping the threads of silk continuous as the fibers wind off and leave the cocoons, it being necessary to add the fiber from a new cocoon at the instant the fiber from the previous one is exhausted. The fibers are of course too fine to be seen at the distance of more than a very few inches, and while the operator was attending to her work, it seemed as if her fingers were flying in the weaving of an invisible web.

**BOCK'S IMPROVED ONE HORSE SLEIGH SHAFT.**

In the old way of constructing the shafts of a one horse sleigh, the left runner extended out beyond the left shaft, so that in passing other sleighs, or in crowded positions, it was liable to get caught and broken

**ONE HORSE SLEIGH SHAFT.**

In the invention, herewith represented by our engraving, a method of construction has been adopted that not only obviates any such difficulty as that described, but gives a peculiarly graceful style and appearance to the shafts.

Our artist has so well delineated this improvement that any one conversant with sleighs will understand it.

The invention consists in the combination of the shafts with the double crossbar, A, the draft bar, B, and the short curved bar, C, made in such a way as to carry the left thill out laterally beyond the corresponding runner, as above described.

This improvement, though simple, is practical, and we think, will meet general approval.

Patented through the Scientific American Patent Agency, Sept. 5, 1871, by C. & D. Bock. For further information address the patentees, Drum P. O., Luzerne Co., Pa., or Bent, Goodnow & Co., 490 Washington street, Boston, Mass.

**To Preserve Flowers.**

A new mode of preserving flowers fruit, and botanical specimens generally, has been suggested by Dr Piesse, which we think will be appreciated by those who wish to preserve specimens gathered by departed friends, or to retain the form of flowers for botanical teaching. The process consists in simply dipping the flowers into melted paraffin, and withdrawing them quickly, when a thin coat of the paraffin instantly sets, and incloses hermetically the plant so treated. In order to

be successful, the flowers should be freshly gathered, perfectly dry, and free from dew or moisture of rain. The paraffin should not be hotter than just sufficient to liquefy it; and the flowers should be dipped into it separately, holding them by the stalks, and moving them about in order to get rid of bubbles of air, which are likely to become imprisoned within the corollæ of the flowers. Those parts of plants or flowers which are not required to be preserved should be removed with scissors prior to steeping them in the paraffin.

**COOGAN'S MACHINE FOR BOARDING, PEBBLING, AND GLOSSING LEATHER.**

The process of boarding leather is at present carried on by vibrating, by hand or machinery, a convex plate, on the doubled leather, which is placed on a flat table. This vibrating plate operates slowly, and the process is consequently expensive. Mr. Owen Coogan, of Pittsfield, Mass., in an invention just patented, proposes to use, instead of the convex plate and table, two cylinders or rollers, hung parallel to each other in a frame, and geared in such manner that they will revolve in the same direction. One of the rollers hangs in vertically adjustable bearings, so that its own weight, or machinery connected with it, may be used to press it against the other roller. The leather to be boarded is doubled, placed between the two rollers, and rotary motion then imparted to the latter. The two layers of leather are thereby drawn in opposite directions. The leather is thus constantly folded and refolded, and consequently softened, and, on the inner side at the same time grained or boarded in the desired manner. The rollers are smooth or roughened and made of any suitable material.

For applying a design to the face of the leather—"pebbling" it, as it is termed—he applies the machine a pebbling roller, which is placed between the first mentioned rollers, so that the leather passes around it. The surface of this roller is roughened by indentations, or provided with a suitable design, so that such design will be impressed in the face of the leather while the latter is pressed against the pebbling roller. In order to permit the easy application of various designs, he makes the pebbling roller of a central pin or shaft, and fits short tubes upon it, the tubes carrying the design on their circumference and constituting thus the outside of the pebbling roller.

For glossing the surface of blackened leather, a smooth or glossing roller is used in place of the pebbling roller. The pebbling and glossing rollers are removable from the machine, so that the latter may be used for boarding only. The axis of one of the boarding rollers has at its end a worm, which meshes into the teeth of a worm wheel. This worm wheel has a projecting pin, which, after a certain amount of rotation, strikes against a lever connected with a clutch lever, whereby the driving belt is carried so as to automatically reverse the motion of the rollers. Thus the leather, after having been doubled and moved one way, is subjected to the same process under reversed motion. The pin, set into the worm wheel so as to permit full action on the entire length of leather, is adjusted in position according to the length of the leather to be boarded. For this purpose the wheel has several apertures or sockets for the reception of the pin.

We regard this as an important addition to leather dressing machinery, and see no reason why it should not prove itself valuable in practice.

**Labor.**

"Labor," says the Rev. Newman Hall, "as a mighty magician, walks forth into a region uninhabited and waste; he looks earnestly on the scene, so quiet in its desolation; then waving his wonder-working wand, those dreary valleys smile with golden harvests—those barren mountain slopes are clothed with foliage—the furnace blazes—the anvil rings—the busy wheels whirl round—the town appears—the mart of commerce, the hall of science, the temple of religion, rear high their lofty fronts—a forest of masts, gay with varied pennons, rises from the harbor—the quays are crowded with commercial spoils, the peaceful spoils which enrich both him who receives and him who yields—representatives of far off regions make it their resort—science enlists the elements of earth and heaven in its service—art, awaking, clothes its strength with beauty—literature, new born, redoubles and perpetuates its praise—civilization smiles—liberty is glad—humanity rejoices—piety exults, for the voice of industry and gladness is heard on every hand; and who contemplating such results, will deny that there is dignity in labor?"

GOOD MANNERS are not learned from arbitrary teaching so much as acquired from habit. They grow upon us by use. A coarse, rough nature at home begets a habit of roughness which cannot be laid aside among strangers.