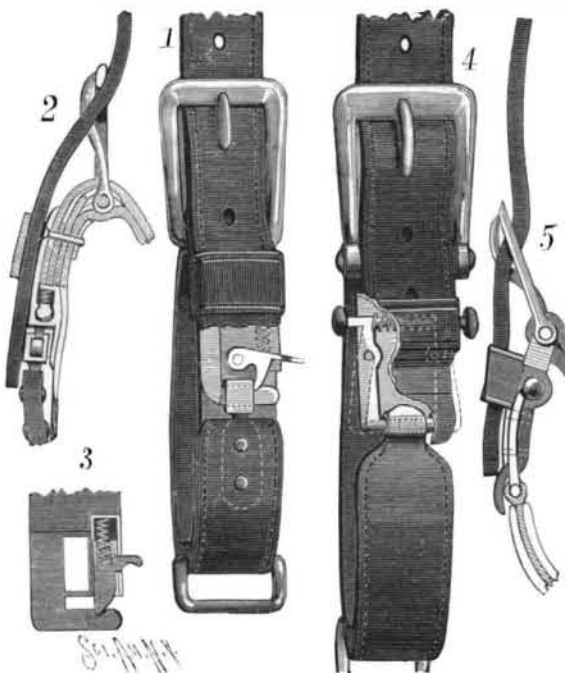


IMPROVED SHAFT TUGS.

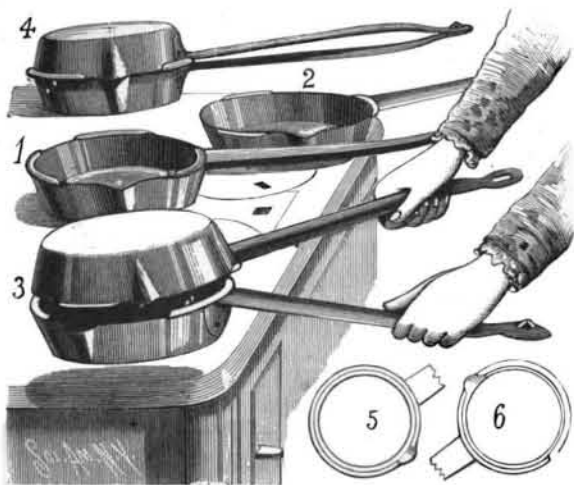
In the accompanying engraving, Figs. 1, 2, and 3, and Figs. 4 and 5 represent two forms of shaft tugs for which letters patent have recently been granted to Mr. Henry F. Bock, of Lansing, Ill. In the first form the shaft loop consists mainly of two straps, between which the buckle and eye are held. The buckle is secured by having its tongue cross bar passed within the curved upper end of a metal plate, the lower part of which forms the base plate of the lock, which is held to the upper end of the loop by rivets. This construction is shown in the sectional view, Fig. 2. The plate takes the strain of supporting the thills off from the outer



BOCK'S IMPROVED SHAFT TUGS.

strap, and insures the durability of the loop at this point. The outside plate of the fastening lies flat against the outer face of the turned-over end of the outer strap, and the same rivets serve to bind together the straps, the back strap loop, and the plates of the fastening. One side of the base plate is made thick, to form a strong bar, which has an arm extending across the fastening in such a position as to allow the passage over it of an eye held upon the opposite end of the loop. In a recess in the fastening is pivoted a spring catch, Fig. 1 (Fig. 3 is a modification of the catch device), whose point passes into a notch in the arm in front of the eye. Any effort of the eye to slip off from the arm will act the more surely to seat the point firmly in the recess. In harnessing, it is only necessary to pass the lower ends of the loops below the shafts to enter the latter within the loops. The eyes are then passed on the arms and locked. In Fig. 3 the catch slides in a casing, being forced outward by a spring.

In the second form the upper end of the fastening is hinged to the end of the loop, the same pin also serving to hold the buckle. Between the straps of the loop is a metal core, bent around to give the required shape to the loop. The end of the core which locks with the fastening has an eye, ranging transversely, that receives the ends of the catches from opposite sides. The catches are pivoted to the fastening, and their upper ends are pressed outward—thereby pressing



BOCK'S FRYING PAN.

the lower ends toward each other—by a spring placed in a bulged portion of the back plate. The lower end of this plate is bent outward to form a cup, to receive the eye of the loop and act as a guard. The upper end of each catch has a side projection, and by pressing them together the lower ends may be separated.

These loops are simple and durable, and can be quickly operated to secure or release the shafts without passing the ends of the shafts through them.

An Engineer's Story of a Brakeman.

The Chicago *Herald* gives the following graphic account of the experience of an engineer on one of our Western railroads as related by himself:

"Several years ago I was running a fast express. One night we were three hours behind time, and if there's anything in the world I hate, it's to finish a run behind schedule. These grade crossings of one horse roads are nuisances to the trunk lines, and we had a habit of failing to stop, merely slacking up for 'em. At one crossing I had never seen a train at that time of night, and so I rounded the curve out of the cut at full tilt. I was astonished to see that a freight train was standing right over the crossing, evidently intending to put a few cars on our switch. I gave the danger whistle, and tried to stop my train, but had seven heavy sleepers on, and we just slid down that grade, spite of everything I could do. Quicker than I can tell you, the brakeman of that freight train uncoupled a car just back of our crossing, and signaled his engineer to go ahead, which he did sharply, but barely in time to let us through. In fact, the pilot of my engine took the buffer off the rear car. Through that little hole we slipped, and lives and property were saved. Now, that brakeman was only a common rail-roader, yet he saw that situation at a glance. There wasn't time to run his whole train off the crossing nor even half of it—barely time to pull up one car length by prompt, quick work. He kept his wits about him as, I venture to say, not one man in a thousand would have done, and saved my reputation if not my life. He is now a division superintendent of one of the best roads in this country."

Shall We Sleep with Open Windows?

This question introduces a subject upon which there is a diversity of opinion, both among medical practitioners and individuals. "I have had no bad colds since I learned to sleep with my windows open," remarked a gentleman in the office of the *Medical and Surgical Reporter*, the other day. In reply, the editor says that the only "hard colds" he ever suffered from were contracted by sleeping in rooms to which the night air had free access.

The editor adds that it is well known that the bodily temperature sinks slightly during sleep; the physiological functions act with diminished activity; and hence the resistance of the economy to morbid influences is proportionately lessened.

But it is also well known that at night these influences are more potent and noxious. The air is charged with greater humidity; miasmatic and malarial poisons rise to higher levels, and extend with greater rapidity; the chill of the damp night air is penetrating and dangerous; the emanations from organic decay are more perceptible.

Against these the sleeper is less protected than in the daytime. He has divested himself of his woollen external clothing to put on cotton or linen, and lies between sheets of the same material, between which, at the tops and sides of the bed, the air gains ready access to his unprotected surface. If he is restless, he renders such access yet more easy.

A greater risk awaits him. A sudden fall in temperature at night is no unusual occurrence. In summer a thunder gust, in winter a shift of the wind to the north, often reduces the temperature ten to twenty degrees. The sleeper is unaware of this. He remains exposed to it with no further protection than he found agreeable at the higher temperature until he awakes chilled and stiff, perhaps with the seeds of a serious illness already sown.

These are such positive and unavoidable risks that we should counsel a delicate person to be exceedingly cautious how he ventured on the plan of open windows at night, however much has been said in its favor by popular hygienists.

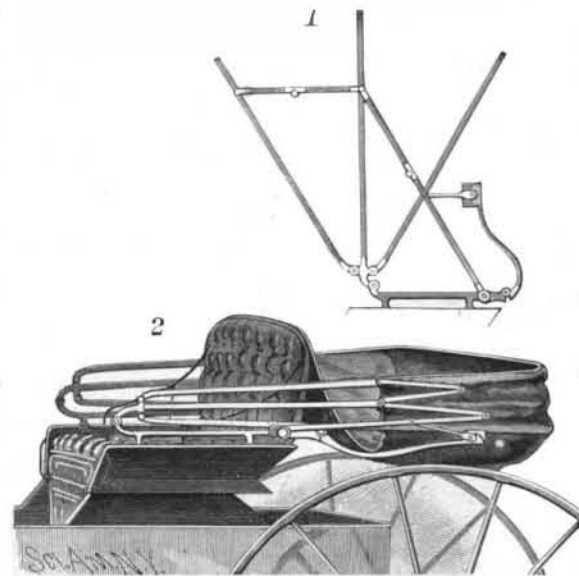
FRYING PAN.

The engraving shows an improved double pan for cooking purposes, consisting of two sections, each of which has a handle and pan body forming a complete pan. The sections are made to engage with and disengage from each other by constructing the rim on the face of one pan body with extended side lips, and the rim on the other with inwardly bent-over flanges, within which the lips may be made to enter by suitably placing and turning one body upon the other; by reversing the turning action, the sections may be readily disengaged. This form provides for a close and locked fit of the two bodies together to constitute a double or shut pan, and for the separate use of each pan without having to couple or uncouple fastenings. The handles form, when united, a light hollow handle having a round or oval section; they are held together by a nipple formed in the flattened end portion of one engaging with an aperture in the end of the other. Instead of a series of flanges on the rim of one pan, there may be only one of a length of about half the circumference of the rim, the other pan being made with a lip extending wholly around the rim, as shown in Figs. 5 and 6.

This invention has been patented by Mr. Henry F. Bock, of Lansing, Ill.

SUPPORT FOR BUGGY TOPS.

An invention patented by Mr. August Witzel, of Deadwood, Dak., prevents the breaking of the back bows of buggy tops as the tops are let down, and also avoids the excessive shaking of the let down top and overstraining of its parts when the vehicle is traveling over rough roads. The top support and buffer consist of a jointed arm and a rubber buffer (shown in the right of Fig. 1) held between side flanges on the outer end of the arm. The short arm section is attached to the buggy by placing it upon the square portion of the stud fixed to the shifting rail, thus holding it against turning. On the stud, at each side of the arm, is an elastic washer, outside of which on the round part of the stud is a washer, beyond which the end of the top prop bar is loosely held by a nut, so as to turn as the top is raised or lowered. The outer end of the arm is connected by a link to the top prop bar,

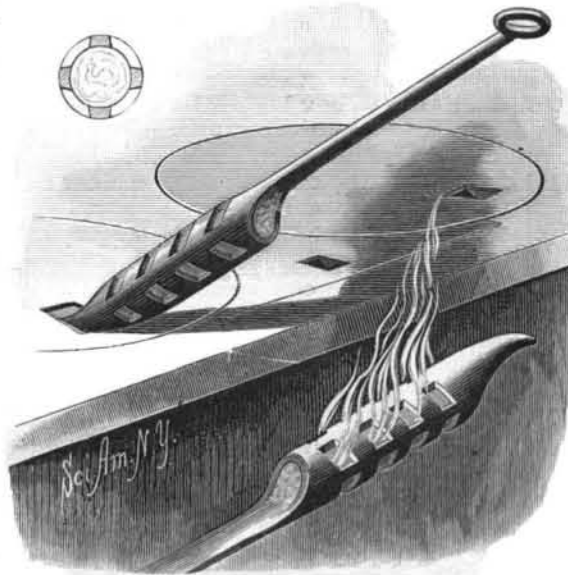


WITZEL'S SUPPORT FOR BUGGY TOPS.

so that when the top is raised the outer arm will also be raised and held by the bar; when the top is lowered, the shoulders at the joint will hold it rigidly in a horizontal position, and the back bow will fall upon the buffer at the end of the arm. This construction gives a substantial support to the top as it falls and afterward, so that it will not be shaken so much as when supported at the shifting rail stud.

STOVE IMPLEMENT.

The instrument shown in the engraving, lately patented by Mr. J. P. Welshans of Montezuma, Ind., is adapted for use as a poker and lid lifter, and for a fire kindler and torch. It is made of malleable cast iron, and consists of a handle portion formed with an eye and a hollow or tubular head terminating in a bent point. The head has side slots and an end opening in the upper part, through which it is filled with asbestos, or any suitable combustible material that will absorb oil may be used, cement being employed to keep the material in place. To use the implement for kindling fires, the head is plunged into oil and is then rolled in ashes; in this condition it can be ignited and inserted in the stove, or used as a torch for burning brush, caterpillars on trees, or for illumination. The rear portion of the head may be made to serve as a



WELSHANS' STOVE IMPLEMENT.

reservoir to retain oil, which will be given out gradually.

ACCORDING to Dr. C. Brame (*Repertoire*, Dec., p. 537), oil of peppermint forms a useful application to burns, easing the pain immediately. The part burned is first immersed in water, and then the oil is painted on with a fine camel hair pencil.