

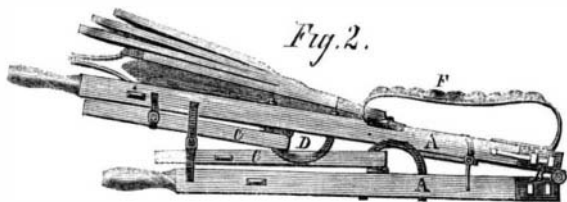
Improved Wheeled Litter and Ambulance.

The war created a demand for appliances to be used for the sick and wounded, appliances of which our service was, at the opening of the struggle, lamentably deficient. The invention illustrated in the engravings appears to be the best and most comprehensive device which has yet come under our observation. Nothing has been omitted that could be employed to diminish the torture of a wounded soldier or sick person. Surgeon General Barnes says that this litter should be used not only in the army, but should be adopted in all large towns and cities for conveying the injured and sick to their homes or the hospital. As will be seen, by examining Fig. 2, it can be put into a compact form for transportation when not in use.

Two longitudinal bars, with transverse connections, form the frame of the litter. These lengthwise bars have handles at each end to give facility for using the device as an ordinary stretcher. An axle can be added with wheels supporting springs, when the distance from the place of injury to the hospital is too great to be performed in the usual manner. The litter then becomes an ambulance.

The longitudinal bars, A, are hinged at B, at which point is a sliding bolt, which rigidly secures the two pieces in

one. The legs, C, are also hinged to the bars, A, and secured in a vertical position by the semicircular braces, D. At E is a sacking to support the person, which is attached at one end to a sliding bar, by which it can be fixed in a level or concave form, as the patient may require. The arm rests, F, are flexible and adjustable, and can be made to meet over the person at any convenient angle, for resting a wounded arm or arms. The head is supported on a flexible sacking, which also can be adjusted and secured as required, the space, G, under the head forming a receptacle for articles necessary for the patient. At the foot is a cloth, H, rolled, which can be used to cover the person. The



top of G is an expansion top similar to that of a chaise or buggy.

The axle is made in two pieces, jointed at the center, and, when straightened, held by a sliding sleeve covering the joint. The wheels are held on the axle by screw collars which screw into the inner end of the hub, so that there are no nuts to be lost. The springs are attached to the bars by means of blocks having dovetailed or T grooves, which receive corresponding tenons on the spring blocks. The whole apparatus can be made ready for the reception of a patient in a few seconds, and can be as quickly folded for transportation.

Patented Aug. 7, 1866, by Brevet Brigadier General Charles H. Tompkins, U. S. A., Washington, D. C., who will furnish all additional information.

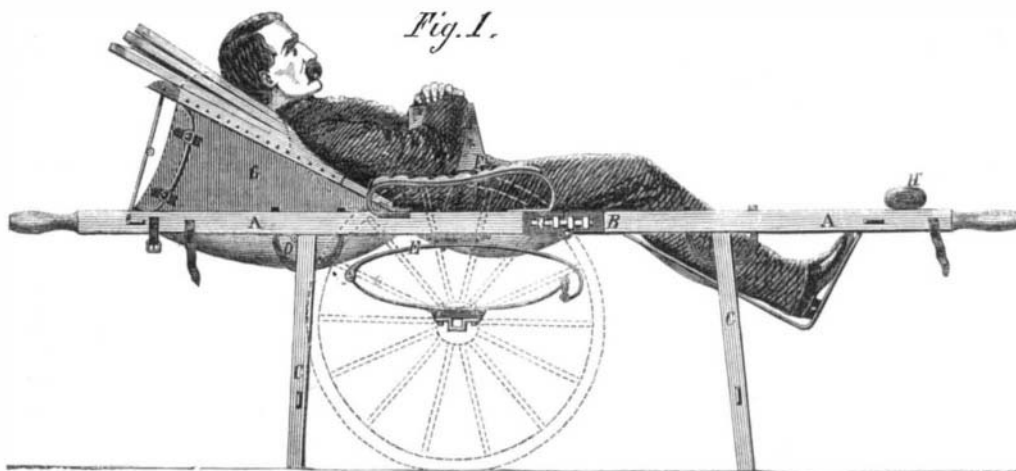
The Rose.

The trade in roses, as is well known, is of considerable importance in France. Rose trees are cultivated in different parts of the country in open fields, just as turnips or cabbages. Thus, there are 500,000 rose trees near Orleans, 200,000 near Metz, 1,000,000 near Angers, 1,500,000 near Lyons, 2,000,000 near Paris, and 2,000,000 in the thirteen communes of Bri-Comte-Robert. The varieties called Rose-The, the Bourbon, and Mousseuse flourish particularly in the environs of Paris and Orleans. These

flowers are raised for distillation into extracts, used in perfumery as rose water and as a constituent of Eau de Cologne. The ottar of rose is manufactured mainly in the East and is exceedingly valuable. The city of Damascus is almost environed with rose gardens.

VULNERABILITY OF IRON-CLADS--THE SHOE-BURYNNESS EXPERIMENTS.

A trial has lately been made at Shoeburyness, England, with a nine-inch muzzle-loading Woolwich gun, firing a 250-lb. Palliser chilled shot, which is said by the London *Times* to demonstrate that no iron-clad can now be considered invulnerable. The facts, as nearly as can be ascertained, are, that a target built of eighteen inches of teak, faced with plates

**GENERAL TOMPKINS'S WHEELED LITTER AND AMBULANCE.**

of solid rolled iron, eight inches thick, and backed by a plate of iron three-quarters of an inch thick, was pierced through and through by a nine-inch Palliser shot, or shell, weighing 250 pounds, propelled by a charge of 48 pounds of powder. From this bare fact the *Times* draws the inference that the supremacy of iron-clads and monitors no longer exists, and that as this was an English gun and an English shot, the lost sovereignty of the seas is restored to Britain.

But there are some considerations which do not seem to have entered into these sanguine calculations. We are informed that the target was exactly at right angles to the line of fire, and we are not in-

formed as to the distance of the gun from the target; two very important points in the decision of the question of iron-clads against guns. It is not often that the side of a ship is presented to the guns of an enemy so that the shot shall strike fair. Our iron-clads "tumble home," offering a diagonal target, and the turrets of our monitors present always a segment of a circle for a mark. It may be doubted, also, whether this Shoeburyness target presented a resistance equal to that of our monitor turrets. They are made of twelve inches of iron and may be increased to twenty-four. It certainly makes some difference whether a shot strikes against a vertical wall or against one inclined at an angle or curved on a circle. Distance from the object is also another point of difference.

But the shot, from any point of view, was a remarkable one. The gun was smaller than those used in our Fortress Monroe experiments, and the charge of powder less. The effects of those trials were of such a nature as to demonstrate the worthlessness of granite walls as a defense against great guns, and those at Shoeburyness seem to indicate great progress in deciding the vulnerability of iron ships.

THE ship-rigged boat *Red, White and Blue*, now creating some excitement in England, is the identical metallic life boat which received the gold medal at the fair of the American Institute in this city last fall.

THE Mobile papers announce valuable coal discoveries within convenient distances of that city.

CLEANLINESS OF TOOLS.

Dirt is a great disorganizer. Cleanly use will not half so rapidly wear a tool as uncleanly abuse. "Gurry" in the machine shop was at one time esteemed a saving ointment, and the workman who could most beplaster his clothes with oil and dirt, whose bench and lathe bore the marks of frequent contact with greasy filth, was considered a valuable hand; too busy to attend to the unimportant matter of cleanliness, and too much engaged with his work to look to the condition of his tools.

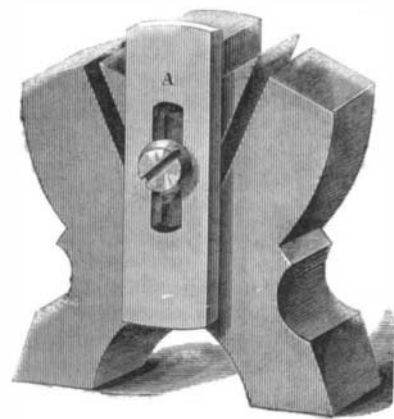
It is pleasant to note a change. It is encouraging to see that our master mechanics are unwilling longer to pay a premium on slovenliness. They care but little, perhaps, about the personal appearance of a workman—although he is not so pleasant when he appears as though just fished out of a barrel of petroleum—but it is not comfortable to find a tool, after being used, so coated with dirt that it has to be cleaned before being gaged.

Whenever tools are left coated with grease they gather particles of iron and steel, which, when they are put to use, act as so many particles of emery—grinding and wearing away the cutting edges. Latterly, in well-managed shops, there has been established a department for

the care of small tools, and when the workman has done with them he must return them in a clean state, or he is charged with the time employed in cleaning them. The practice is a good one and should be generally adopted.

RUSS'S PATENT KNIFE AND SCISSORS SHARPENER.

The above little implement, which is engraved full size, needs but little explanation to exhibit its advantages. Dull knives and gnawing scissors are an abomination, as every householder and housewife can testify. With this sharpener these commonly used utensils can always be kept in order.



It is a block of hard wood with slots inclined to the central blade, A, the lower ones adapted to the edge of a knife and the upper ones adapted to the bevel of scissors blades. The blade, A, is a piece of very hard steel, the edges beveled to present a cutting surface. The knife or scissors is placed in the slot, and drawn toward the operator, being held, the while, firmly against the cutter. A slot and screw admits of the re-adjustment of the cutter when worn at one point, and it can be readily removed for grinding.

Patented through the Scientific American Patent Agency July 24, 1866, by James J. Russ. For rights and other particulars address Russ & Eddy, Worcester, Mass.

MR. BURNS, a telegraph operator in Worcester, Mass., recently sent 250 words, containing 1,166 letters, in six minutes and seven seconds.