

**Improved Car Truck and Brakes.**

Brakes, as ordinarily applied to railway car trucks, are a source of danger, for not unfrequently the sustaining irons break and let the beams down on the track, endangering the security of the train and passengers. In this improved railroad truck such disasters cannot occur, for even if the stirrup irons, supporting the brake beams from the car frame above, are entirely removed, the brakes themselves cannot drop down, as in the ordinary truck. Additional security is given the brakes by prolonging the ends of the beams, A, and affixing an iron bar, B, between the two pedestals, C, so that the beam ends rest upon it. There are also iron straps, D, in the ends of the beams, through which the bar, B, passes, thus preventing the beams from sliding endwise should they be broken in the middle. In the center of this truck frame there is a stout timber, E, over which rods, F, provided with springs, G, pass. There is one of these rods at each end of the truck, and they also serve to sustain the brake beams, while the springs, G, keep the brake blocks, H, off the wheel, so that they are out of contact except when in actual use.

The application of the brakes, or retarding power, to these trucks, puts the train under perfect control. Two levers, I, are used, and the hand wheel, J, is connected with one, while to the other a stationary chain, K, is fastened, which holds it to the truck frame. These two levers are also tied rigidly together at the bottom, under the beam, by an iron rod, so that when strain is applied to the first lever it will be communicated to the other by the rod before-mentioned, and both sets of brakes will be forced up against the wheels.

This brake was invented by W. G. Goodnow, and assigned to Goodnow & Wood, through the Scientific American Patent Agency, on October 18, 1864. For further information address D. S. Wood, Albany, N. Y.

**EMPLOYMENT FOR DISABLED SOLDIERS.**

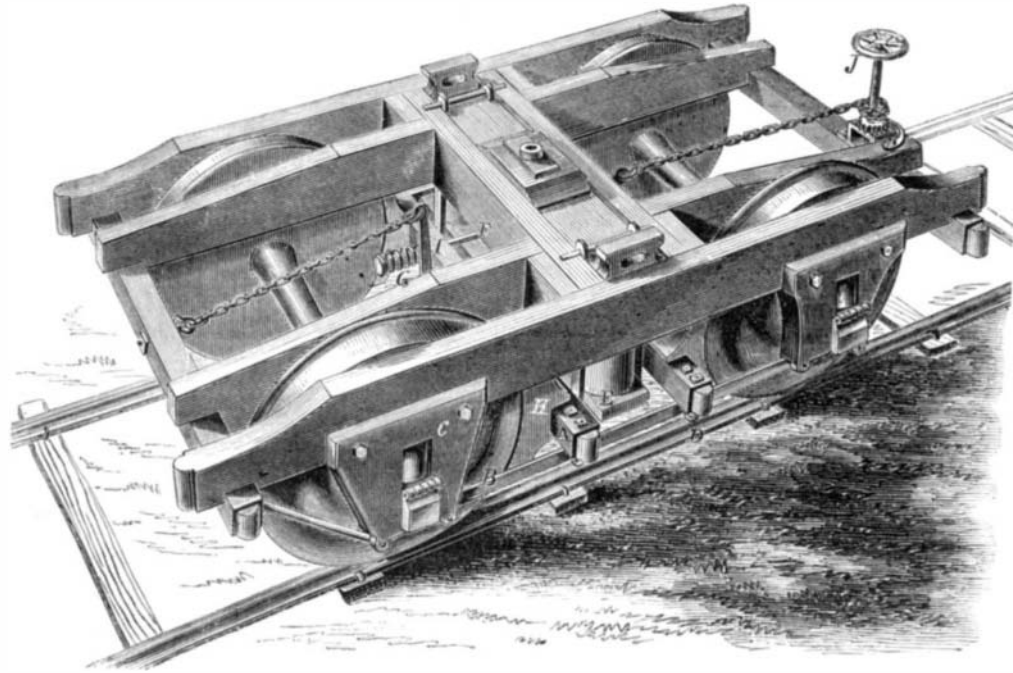
It is to be regretted that full and accurate records have not been kept by the Government respecting soldiers and sailors discharged for disability during the war. The authorities have been lax in this particular. The system which was well adapted to our regular army in time of peace falls far short of the requirements of a great volunteer army in active service. A Bureau of discharge established at Washington, St. Louis, Cincinnati, and New Orleans at which men sent from the front could be re-examined and through which candidates for discharge should be sifted, might have saved thousands of perfectly able bodied soldiers to the government, and at the same time furnished statistics of the most interesting and useful nature.

Although we have really no means of determining the number of men who have lost arms or legs, or suffered other injuries in battle, or even the number discharged by means of wounds, the fact that numbers have thus suffered and become unfit for future service and for ordinary employments, becomes more and more apparent. Col. Nott, who is acting as Secretary of the new "Bureau of Employment for Disabled and Discharged Soldiers and Sailors," at 35 Chambers street, gives us some data which future observations may confirm or modify. It appears that of the first two hundred applicants for employment registered at the Bureau, 63 per cent were discharged for wounds, 31 per cent on account of other disabilities and 6 per cent on the expiration of their terms of service. It also appears that 16 per cent of

all the applicants have lost an arm, and 15 per cent have lost a leg, and nearly every trade seems to be represented among them.

A main noticeable feature is the small proportion of men "fit for service." It indicates very clearly that nearly all of our veterans who are not disabled re-enter the service. The next fact is the large proportion of men who have lost the use of arms or legs. Thirty-one per cent of all the applicants (in effect one-third) are of those permanently disabled groups. A new class of laborers is, therefore, to be provided for in one of two ways:—either by giving them work, or by charity.

We cannot consent to make paupers of our soldiers; of all others they are the first who deserve

**GOODNOW'S CAR TRUCK AND BRAKES.**

well of the country. Whatever employment is adapted to their condition should be set apart for them. It is indisputable that thousands of able bodied men are employed on work which should be transferred to the disabled. The Government offices, Navy Yards and Custom Houses can give permanent occupation to large numbers of these men as clerks, book-keepers, messengers, letter carriers, watchmen, &c. The action of the Government and the efforts of every individual employer are needed to co-operate in this field of furnishing employment to disabled soldiers.

**CHITTENDEN'S HORSESHOE.**

Very many horses have been maimed for life by the carelessness of farriers. Sometimes the evil is



caused by misfitting shoes, or by driving the nails in too far. In either case the result is the same, and severe losses have been the result of the mischief re-

ferred to. There is another feature about a shoe which is permanently attached to the horse's hoof. Humanitarians have urged that it is no more reasonable that a horse should retain his stiff, unyielding shoes, after a hard day's work, than his master, and that where the latter doffs his heavy travelling boots, the beast should have the same privilege, and the shoes ought to be removed when his day's work is done. It is argued in favor of this course that the comfort of the animal is not the only consideration, for, if the animal stood in his "bare feet," the floor of the stall would be preserved from injury, and wear much longer than when sharp iron came in contact with it; also that the shoe itself would be more durable, because it would not be worn except when in actual duty. By the disposition of the several parts of the shoe here shown, which is intended to be removed at will by any person, the hoof is preserved from injury, and diseases of that member prevented, by keeping them in a state of nature, or free from the boring, burning and cutting incidental to the present system of shoeing horses.

Whether these conditions are all obtained is more than we can say. The shoe shown is simple in construction and adjustment, and seems likely to fulfill the ends required of an article of this character.

In detail, it is a common shoe, A, with a strong metallic shield, B, at the front and rear. This is fitted to the hoof, and the whole is then retained in place by the metallic bands, C, one end of each fitting over

a button, D, which holds them both in place, or allows the shoe to be taken off by simply turning the button on one side.

This horseshoe is the invention of Morgan Chittenden, of Danbury, Conn., and was patented on the 17th of October, 1864. For further information address him as above.

**Revived Corks.**

The attention of the French public has been called by M. Stanislaus Martin to the employment of refuse corks as dangerous to public health. It is the custom of the Paris scavengers to collect those which are brought down by the sewers, and sell them to persons who make it their business to revive them. If the corks are of unsightly shape they are recut; while, if containing holes, they are filled up with mastic, and then smeared with powder to give them a proper color. Such corks used only to be employed by the ink and blacking makers, but their low price (5s. 6d. per 1000) has of late induced retailers of bottled beverages to purchase them. Some of these corks may have been formerly used to stop bottles containing poisonous substances; for although a good cork is not permeable, a bad one, full of holes, may readily become the receptacle of particles of verdigris, carbonate of lead, arsenic, or an infinity of other poisonous substances, which may be more or less soluble in water, wine, beer, cider, vinegar, milk, or oil.—*London Grocer.*

**Marine Railway around Niagara Falls.**

Mr. Horace H. Day, the famous India-rubber manufacturer—now retired from that business, has shown us a plan which has been inaugurated by him for transporting vessels around the falls of Niagara on the American side. It is designed to place vessels with their cargoes in a portable lock filled with water, which is to be drawn by locomotives upon numerous rails.

The maximum grade is 120 feet to the mile, and the estimated cost is three and a half millions of dollars.