

IMPROVED MODE OF HANGING WHEEL VEHICLES.

Carriage and wagon makers have long been endeavoring to find a way for bringing the bodies of carriages near the ground, and which would still permit the employment of large wheels. For this purpose bent axles have been used, and the wheel has been placed upon a short axle fastened to the side of the body; but this latter plan prevented the employment of springs. The plan which we here illustrate (invented by Charles Bradfield, of Jersey City) is an improved mode of fastening the short axle to the side of the body, which permits the introduction of springs—either spiral, elliptical or india-rubber.

The plate, *a* (see Figs. 2 and 3) is bolted firmly to the side of the wagon. Upon this plate are flanges, *b b*, projecting outward, with holes in them for the guide rods, *c c*. To the rods, *c c*, is rigidly secured the bar, *d*, which is formed in one piece with the axle, *e*. Above the bar, *d*, is placed the spring of whatever form, pressing the bar downward, and thus taking the support of the body. Figs. 1 and 2 represent the mode of placing elliptic springs, and Fig. 3 the mode of applying spiral springs or those of india-rubber, either of which

Fig. 5

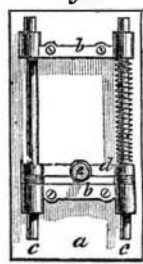
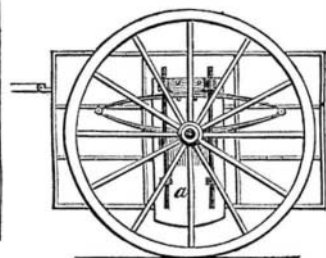


Fig. 2



latter are placed around the guide rods. Fig. 1 illustrates the mode of placing the body, so that the principal portion of the weight may come upon the large wheels, which are made heavy to sustain it; the smaller guide wheels being made light, as they have but little load to support. Elliptic springs are deemed the most suitable for all heavy vehicles, but the spiral or rubber springs answer a good purpose for hand-carts and children's wagons, and are very cheap. To prevent the plate, *a*, from being turned from the perpendicular, two iron rods are passed across under the bed of the wagon, connecting the bottom ends of the two plates together.

While this mode of hanging bodies is considered especially suitable for express wagons and others designed for loads, it is thought also to be well adapted for gigs and a variety of other vehicles.

It has been practically tested and commands the approval of carriage-makers. W. Lloyd, the extensive and well-known manufacturer of Newark, N. J., says:—"After having built a wagon under your patent and seen the principle well tested, I cannot hesitate to pronounce it a most valuable discovery or improvement over the old method of suspending the bodies of wheeled vehicles." The manifest advantage, besides the lowering of the position of the body, being the great simplicity of the construction.

The patent for this invention was granted, through the Scientific American Patent Agency, on August 16, 1860, and further information in relation to it may be obtained by addressing C. Stewart Bradfield, at No. 423 North Ninth-street, Philadelphia, Pa., or Charles Bradfield, No. 16 Exchange-place, Jersey City, N. J.

AN INDIA-RUBBER SADDLE SUGGESTED.

MESSEURS EDITORS.—It has not already been done (and I do not think it has, for the inventor would surely be sufficiently alive to his own interest to have brought it before the people in the columns of your valuable paper), why does not some inventive genius "get up" a saddle of inflated india-rubber? It surely could be done; and he that will do it will not only confer a

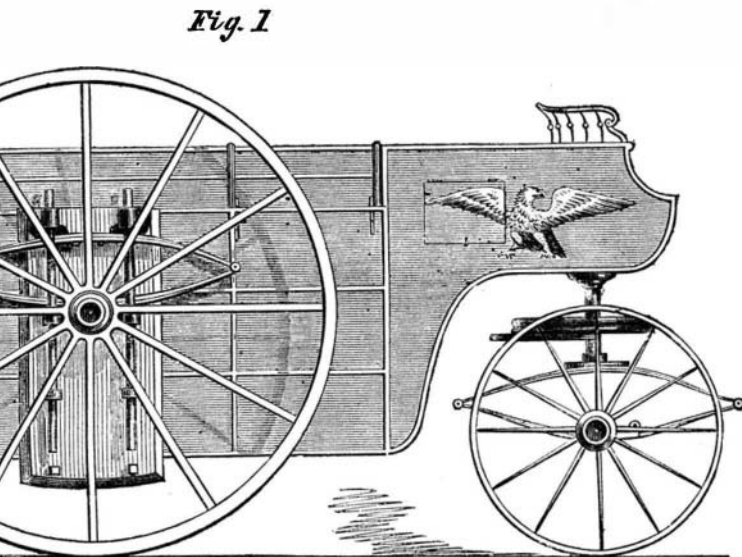
work, and to this end I employ the two plows, provided each with the teeth or prongs, as shown and described."

The perfect simplicity and efficiency of this implement seems to place it beyond the reach of improvement, unless some one can invent an attachment which will pick up the potatoes and deposit them in a basket.

The inventor of this improvement is John Bawden, of Freehold, N. J.; the patent was granted, through the

Scientific American Patent Agency, on May 8, 1860, and further information in relation to the matter may be obtained by addressing Gilbert Combs, the owner of the patent, at Freehold, N. J.

A PANORAMIC STEREOSCOPE.—A gentlemen, rejoicing in the euphonious name of S. Czugajewicz, has recently taken out a patent for some improvements in stereoscopes. The invention consists of a compound stereoscope, in which general or panoramic views of boulevards, streets, banks of rivers and coast lines, monuments, sea views, &c., may be displayed by means of the gradual unrolling of one or more endless slides or



BRADFIELD'S MODE OF HANGING WHEEL VEHICLES.

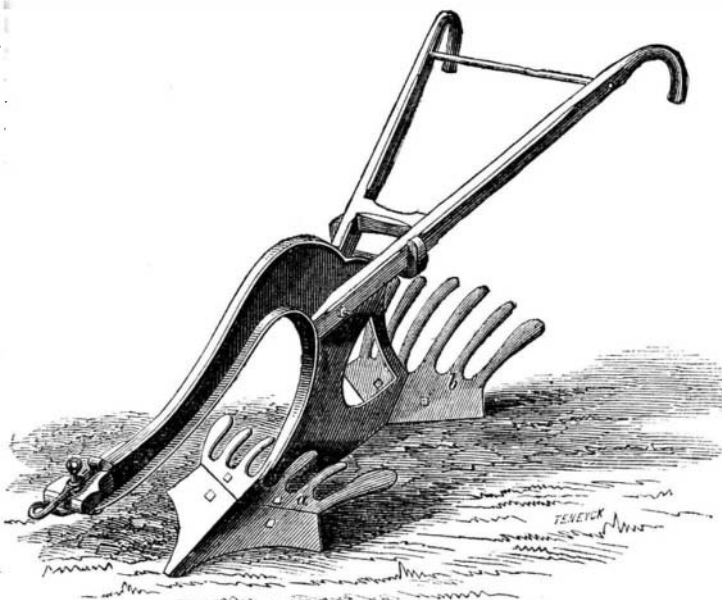
benefit upon horsemen, but will add a new article to the "stable-hold," and make money thereby. Among our hills, where buggies cannot be used, we have to suffer with the old "hog-skin" saddle, which, to a constant rider, is but little superior to a rail. I am sure that a Yankee inventor can design a saddle that will be a luxury.

A. T. H.

Montevy, Ky., August 13, 1860.

IMPROVED POTATO-DIGGER.

This improvement consists in the employment of two double moldboard plows, *a* and *b*, both on the same level at bottom, and each having teeth attached to it in the rear, as plainly shown in the engraving. The moldboards are made flat and short so as to slide under the potatoes, when the teeth lift them out; the forward plow merely loosening the ground and raising the potatoes in it somewhat, while the back plow completely throws them upon the surface.



BAWDEN'S IMPROVED POTATO-DIGGER.

The inventor says:—"It is well known that the passage of a toothed implement, such as a combined rake or screen and plow, through the ground, so as to open the hills or drills of potatoes, will cause the latter to be elevated near the surface, the earth falling more quickly. One plow and rake, however, will not completely disinter the potatoes; the operation must be repeated in order to fully and thoroughly accomplish the

bands carrying pictures. It is immaterial whether the pictures represent one side of a street, &c., or whether they are in perspective, and represent both sides thereof. The distinctive feature of this invention is the adaptation to stereoscopes of one or more symmetrical, independent, movable, endless bands, on which are right and left hand halves, or corresponding parts of a stereoscopic panorama, or succession of pictures. The following is the construction of the instrument:—The top thereof consists as usual of two lenses or eye-glasses, and the bottom thereof is mounted on a box containing rollers, on which are wound the before-mentioned endless slides or bands on which are printed, pasted, or otherwise appropriately attached the views or pictures in panoramic succession; also a train of wheelwork for setting the aforesaid bands in motion. The aforesaid bands and corresponding parts of the pictures thereon, are brought under their respective eye-glasses upon a flat stage or platform over which the bands pass, so that, when set in motion, a panoramic stereoscopic view or picture is thus obtained. The description of the instrument is not very clear, we fear, to those who are not acquainted with the effect. We have, however, seen a similar instrument, and can assure our readers that nothing can surpass the beauty and interest of a beautiful stereoscopic panorama moving before the eyes of the spectator.—*Photographic News.*

NEW AND CHEAP BLASTING POWDER.—*Le Génie Industriel* states that a patent has just been taken out in Belgium for a simple method of making blasting powder from spent tan bark. It says that while the price of this powder is less than that of gunpowder, it takes but one-seventeenth part as much to produce the same effect. It is composed of 52½ lbs. of nitrate of soda to 72½ lbs. of waste tan bark, and 20 lbs. of pulverized sulphur. The nitrate of soda is dissolved in a sufficient quantity of boiling water, and the tan bark added in a manner to completely impregnate it with the solution, after which the sulphur is added in the same way.

The mixture is taken from the fire and thoroughly dried, when it is ready for use. If it is wet, it does not permanently injure it, but on being again dried is as good as ever. If fired in the open air, it causes no explosion, but is very efficient for blasting when confined in the usual manner. It is not suitable for use in guns or cannon.