

# SCIENTIFIC AMERICAN

A WEEKLY JOURNAL OF PRACTICAL INFORMATION, ART, SCIENCE, MECHANICS, CHEMISTRY, AND MANUFACTURES.

Vol. XVII.—No. 1.  
[NEW SERIES.]

NEW YORK, JULY 6, 1867.

{ \$3 per Annum  
[IN ADVANCE.]

## Improved Portable Photographic Apparatus.

The difficulty experienced by photographers in carrying, for outdoor work, a sufficient number of sensitized plates without exposure, has led the inventor to the contrivance of the apparatus represented in the annexed engravings. It seems to combine portability, convenience, and ease of manipulation.

Fig. 1 is a perspective view of the apparatus. A is the camera proper, and B the box for carrying the prepared plates, the two forming one compact contrivance which may be carried by the cords affixed to each side of the box. In Fig. 2 the apparatus is shown in longitudinal section. C represents the eye holes, which may be covered or uncovered by the dia-

phragm, D, turned by the thumb-knob, E. F is the slide for the lenses. At G, Fig. 3, is the ground glass plate on which the object is focused. This plate is movable for a purpose to be stated hereafter. The box or frame, B, on the top of the camera has on its sides a series of perpendicular grooves for holding the prepared plates, each one of which is secured in position by a thin strip of metal, like a spring, compressed against the edge of the plate by the screws, the heads of which are seen at the side of the holder in Fig. 1. Each one of these screws holds a plate ready prepared, and the only limit to the number is the size of the apparatus. Across the lid of the camera is a slit sufficiently wide to admit the passage of one of the sensitized plates from the holder to the camera. When it is desired to bring one of these plates into position the focusing plate, G, is retired from the snugs or supports in the camera, enough to allow the prepared plate to drop between the supports and the ground glass. This is done by means of a lever, H, which pulls back the spring, I, Fig. 2, and with it the ground glass plate. When the pressure is removed from the lever, the spring forces the plate, G, against the sensitive plate and holds it firmly in place until the image is formed.

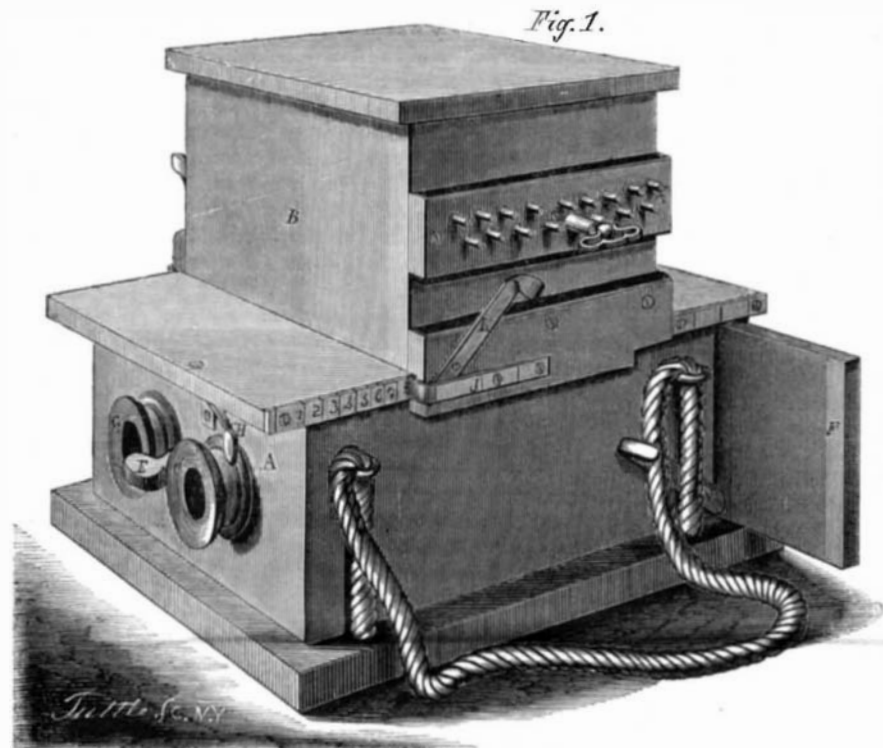


Fig. 1.

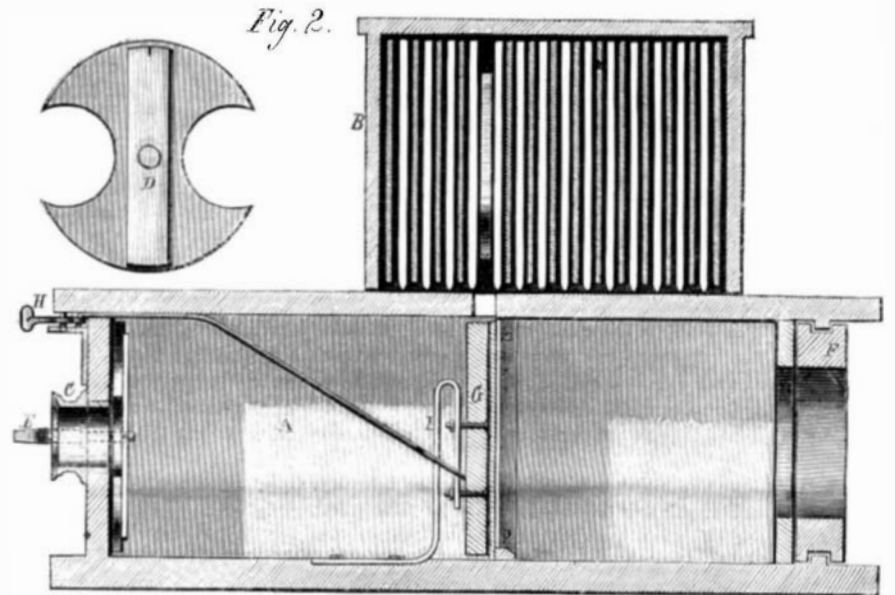


Fig. 2.

## HOUSTON'S PORTABLE PHOTOGRAPHIC CAMERA.

phragm, D, turned by the thumb-knob, E. F is the slide for the lenses. At G, Fig. 3, is the ground glass plate on which the object is focused. This plate is movable for a purpose to be stated hereafter. The box or frame, B, on the top of the camera has on its sides a series of perpendicular grooves for holding the prepared plates, each one of which is secured in position by a thin strip of metal, like a spring, compressed against the edge of the plate by the screws, the heads of which are seen at the side of the holder in Fig. 1. Each one of these screws holds a plate ready prepared, and the only limit to the number is the size of the apparatus. Across the lid of the camera is a slit sufficiently wide to admit the passage of one of the sensitized plates from the holder to the camera. When it is desired to bring one of these plates into position the focusing plate, G, is retired from the snugs or supports in the camera, enough to allow the prepared plate to drop between the supports and the ground glass. This is done by means of a lever, H, which pulls back the spring, I, Fig. 2, and with it the ground glass plate. When the pressure is removed from the lever, the spring forces the plate, G, against the sensitive plate and holds it firmly in place until the image is formed.

In order to bring the prepared plates into position to drop into the camera, the holder, B, is made to slide upon the lid of the camera and is held to any point by the spring catches, J, Fig. 1, which engage with notches in metal strips on the edges of the lid, which are numbered, as in the engraving, to correspond with similar numbers on the heads of the screws in the side of the holder. The catches, J, are disengaged from the notches by the wedge shaped levers, K, so that the plate holder may be moved one notch. When the image has been fixed on the plate, the plate is returned to its compartment in the holder by simply reversing the apparatus, and retained by setting up the screw.

Practical photographers who practice out-door business as well as those confined to studio work will at once recognize the advantages of this combination. Application for a patent is pending through the Scientific American Patent Agency by David H. Houston of Cambria, Columbia Co., Wis., who will furnish any additional information desired.

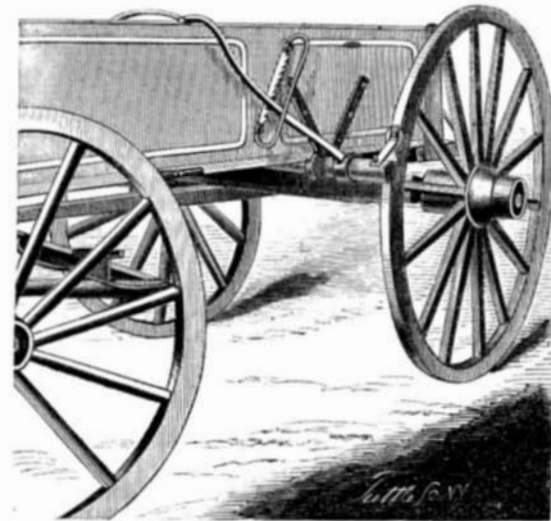
## THE CENTRIFUGAL GUN.

This gun was tried in our late war, failed as a moment's thought would have shown that it must, and is now having its day over again in Europe, and attracting considerable notice. It proposes by the turning of a crank, to hurl sixty to one

hundred death-dealing bullets a minute. The question is, where is the power to come from? It seems to be supposed to reside somewhere in the crank, the gearing, or the balance wheel. It is the old inextinguishable dream of creating power out of leverage. If the machinery concentrates muscular power so as to enable a man to throw bullets with deadly force, it must more than proportionally diminish the number thrown. If he can throw twenty bullets a minute by hand, with one tenth the velocity necessary for fighting, a machine, wasting not over half the power, might enable him to throw one bullet a minute with the full force required, but without aim. A powerful steam engine, though not half as economical a motor for the purpose as gunpowder, might

## SCOFIELD'S WAGON BRAKE.

The operation of "backing," even on a level, is annoying to the driver and laborious to the horses of a team. Not less discouraging, and perhaps more dangerous, is the holding back of a wagon, coach, or any other vehicle—especially if heavily loaded—in descending an incline, as a steep hill. Certainly an efficient and easily operated brake, not unsightly, and never in the way when not wanted, would seem to be desirable. Such appears to be the contrivance shown in the engraving.



It is simply a sleeve or cylinder on each side of the team, near either the front or hind wheels, and turning on a shaft fixed to the body. To this cylinder is attached a properly shaped shoe formed so as to engage with the wheel, either on a curve corresponding with the circumference of the wheel, or on a curve which gives it a cam shape, so that when the pressure is upon the wheel the resistance of the brake or shoe shall correspond.

It may be held in position when placed, as well as operated,

by the lever. It appears to be a simple device, cheap, effective, and substantial. The lever can be held by ratchet teeth, as shown, fixed on the side of the wagon. This device was patented through the Scientific American Patent Agency, March 26, 1867, by B. B. Scofield of Woodhull, Ill., who may be addressed for further particulars.

## TRADE MARKS—THE LETTER "G."

The law of trade marks becomes a subject of increasing importance, corresponding with the progress of invention and manufactures in the country, and is rapidly assuming the fixed status which it long since attained under older governments. For, although an invention may be secured by patents against imitation in its substantial features, deceptive imitations of its form, appearance, and title or trade mark, are still possible and doubly injurious, unless prevented by law. To render this protection more direct and certain, the growing custom of patenting designs and marks is very useful

and will often save heavy costs in litigation. A fresh illustration of this subject appears in the injunction recently granted by Judge Daly against a party who had been selling sewing machines in the form of the letter G, which form is claimed by the Wilcox & Gibbs Sewing Machine Company as a trade mark. The inventor of the first in the series of improvements constituting the Wilcox & Gibbs machine (Mr. James E. A. Gibbs) gave to the machine by accident or design, the form of his family initial "G," under which it has since become famous. As there was no mechanical utility in the mere form, it was held that there could be no motive for imitating it but to profit by the reputation of the Wilcox & Gibbs machine, to the injury of the company's trade and reputation, and the deception and detriment of purchasers. The defendant was perpetually enjoined against making or vending any machine in this form, or in connection with this letter as a symbol or trade mark.

## EDITORIAL CORRESPONDENCE.

*The Trip to Paris—Something That Travellers Should Know—Novel Railway Signal—Cost of Living, etc.*

PARIS June 1, 1867.

It was most exhilarating for us to catch the first glimpse of France after having experienced so much of the discomforts of the sea. Purgatory is defined by some religionists as a place where souls are refined after death. I think it possible that some people might derive this advantage from a voyage at sea: for my part I can think of no other. I desire to say a good word of the steamer *Pereire* of the French line, and also of Capt. Duchesne, her very skillful commander. This new line of transportation is rapidly gaining favor and, unless there are special reasons for visiting England, I should say that a voyage to Europe, making the first landing at Brest, would be generally the most comfortable; but I have such vivid recollections of the horrors of the sea that just now I feel inclined to advise Americans to stay at their comfortable homes. We made the passage in about nine and a half days, and on the morning of the 14th of May we entered the harbor of Brest, and were speedily transferred by a little steam tender, to the custom house, there to undergo the inquisitorial rummaging of trunks, satchels, etc. The distance from Brest to Paris is I think about 450 miles, and the run is made in 16 hours, in very comfortable cars, over an excellent railway, and through a country of much rural beauty—old Brittany, full of legends, and superstitions, and rude remains.

It was a charming sight to look upon the flowers in full bloom, and the crops of grain and grass which seemed to be