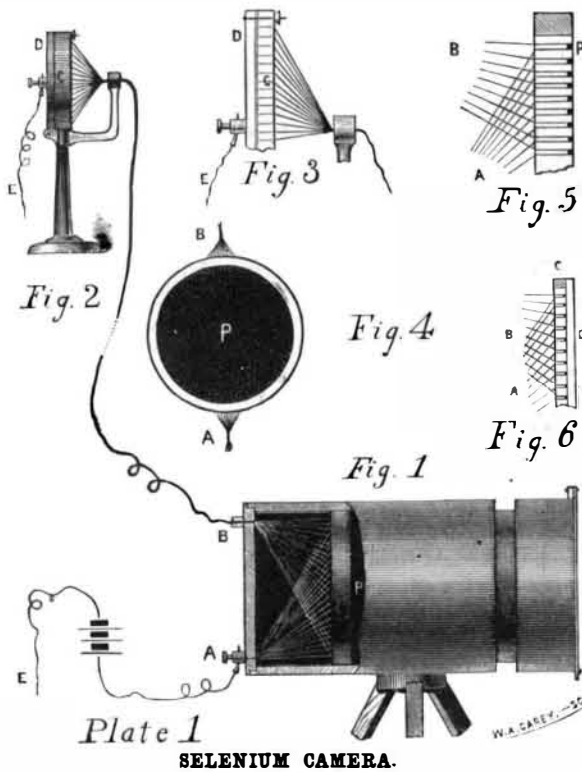


SEEING BY ELECTRICITY.

The art of transmitting images by means of electric currents is now in about the same state of advancement that the art of transmitting speech by telephone had attained in 1876, and it remains to be seen whether it will develop as rapidly and successfully as the art of telephony. Professor Bell's announcement that he had filed at the Franklin Institute a sealed description of a method of "seeing by telegraph" brings to mind an invention for a similar purpose, submitted

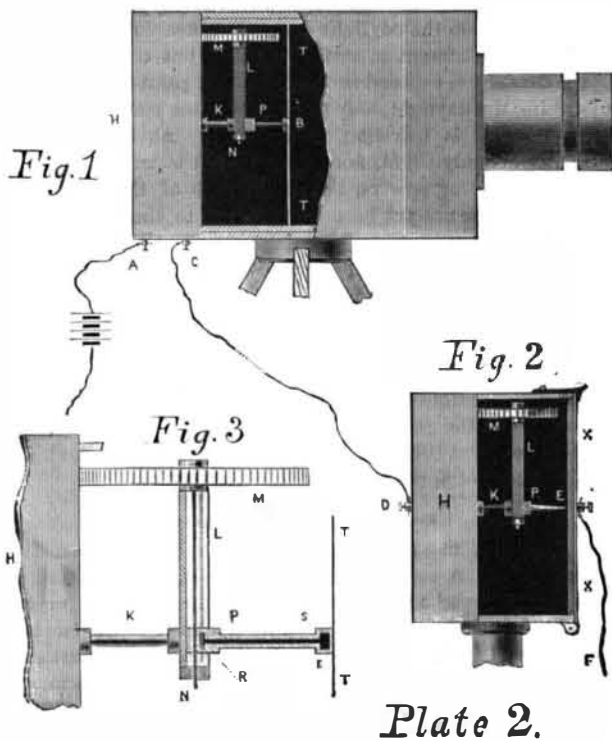


SELENIUM CAMERA.

to us some months since by the inventor, Mr. Geo. R. Carey, of the Surveyor's Office, City Hall, Boston, Mass. By consent of Mr. Carey we present herewith engravings and descriptions of his wonderful instruments.

Figs. 1 and 2, Plate 1, are instruments for transmitting and recording at long distances, permanently or otherwise, by means of electricity, the picture of any object that may be projected by the lens of camera, Fig. 1, upon its disk, P. The operation of this device depends upon the changes in electrical conductivity produced by the action of light in the metalloid selenium. The disk, P, is drilled through perpendicularly to its face, with numerous small holes, each of which is filled partly or entirely with selenium, the selenium forming part of an electrical circuit.

The wires from the disk, P, are insulated and are wound into a cable after leaving binding screw, B. These wires pass through disk, C (Fig. 2), in the receiving instrument at a distant point, and are arranged in the same relative position as in disk, P (Fig. 1).



INSTRUMENT FOR TRANSMITTING AND RECORDING IMAGES.

A chemically prepared paper is placed between disks, C and D, for the image of any object projected upon disk, P (Fig. 1), to be printed upon.

Fig. 3 is a sectional view of Fig. 2, showing wires and the chemically prepared paper.

Fig. 5 is a sectional view of disk, P (Fig. 1), showing selenium points and conducting wires.

Fig. 6 is a sectional view of another receiving instrument with platinum or carbon points, covered with a glass cap, there being a vacuum between glass cap, D, and insulating plate or disk, C.

These points are rendered incandescent by the passage of

the electrical current, thereby giving a luminous image instead of printing the same. These platinum or carbon points are arranged relatively the same as the selenium points in Plate P (Figs. 1 and 4); each platinum or carbon point is connected with one of the wires from selenium point in disk, P (Fig. 1), and forms part of an electrical circuit.

The operation of the apparatus is as follows: If a white letter, A, upon a black ground be projected upon disk, P (Fig. 1), all parts of disk will be dark, excepting where the letter, A, is, when it will be light; and the selenium points in the light will allow the electric current to pass, and if the wires leading from disk, P (Fig. 1), are arranged in the same relative position when passing through disk, C (Fig. 2), the electricity will print upon the chemically prepared paper between C and D (Fig. 2), a copy of the letter, A, as projected upon disk, P (Fig. 1). By this means any object so projected and so transmitted will be reproduced in a manner similar to that by which the letter, A, was reproduced.

Figs. 1 and 2, Plate 2, are instruments for transmitting and recording by means of electricity the picture of any object that may be projected upon the glass plate at T T (Fig. 1), by the camera lens. The operation of these instruments depends upon the changes in electrical conductivity produced by the action of light on the metalloid selenium.

The clock-work revolves the shaft, K, causing the arm, L, and wheel, M, to describe a circle of revolution. The screw, N, being fastened firmly to wheel, M, turns as wheel, M, revolves on its axis, thus drawing the sliding piece, P, and selenium point, disk, or ring, B, towards the wheel, M—see Fig. 3. These two motions cause the point, disk, or ring, B, to describe a spiral line upon the glass, T T, thus passing over every part of the picture projected upon glass, T T.

The selenium point, disk, or ring will allow the electrical current to flow through it in proportion to the intensity of the lights and shades of the picture projected upon glass plate, T T.

The electric currents enter camera at A, and pass directly to the selenium point, disk, or ring, B; thence through the sliding piece, P, and shaft, K, by an insulated wire to binding screw, D (Fig. 2), through shaft, K, and sliding piece, P, to point, E (Fig. 2); then through the chemically prepared paper placed against the inner surface of the metallic plate, X X, by wire, F, to the ground, thus completing the circuit and leaving upon the above mentioned chemically prepared paper an image or permanent impression of any object projected upon the glass plate, T T, by the camera lens.

Fig. 2 is the receiving instrument, which has a clock movement similar to that of Fig. 1, with the exception of the metallic point, E, in place of the selenium point, disk, or ring (Fig. 1), at B.

Fig. 3 is an enlarged view of clock-work and machinery shown in Figs. 1 and 2.

Oil in Allegany County, New York.

The Albany Journal, of April 22, reports that oil in paying quantities is being developed near Wellsville, in Allegany County, about forty miles to the northeast of what is known as the Bradford district in Pennsylvania. On Monday, April 19, an undoubted forty-barrel well was struck at a point less than three miles from Wellsville. It is near the Triangle Well, which has been flowing moderately for two or three months, and about six miles from the Pennsylvania line. The event causes great excitement in that locality, as the fact is now placed beyond doubt that the Bradford belt, as it is called, extends indefinitely in a northeasterly direction into New York State. The region between Olean and Wellsville is now in fair way of being developed into first class oil territory.

NOVEL ANIMAL MOTOR.

Animals have always been used as a source of motive power, but the machinery for utilizing this power has generally been of such clumsy and imperfect construction that

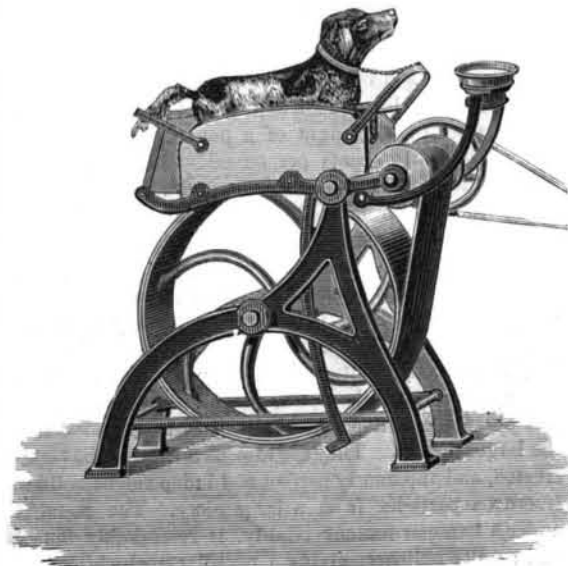


Fig. 1.—NEW ANIMAL MOTOR.

but a small percentage of the actual power was realized, besides making it extremely uncomfortable for an animal.

Mr. Richard, of Paris, has invented a very neat, practical, and useful motor, which was exhibited at the last Agricultu-

ral Exhibition and at the Exhibition of Sciences Applied to Industries. The annexed cuts—for which we are indebted to *La Nature*—give a very good illustration of this novel motor. The animal, in this case a dog, is placed in a box or crib resting upon a shaft supporting the entire upper part of the machine. In Fig. 1 the animal is represented at rest, and the weight of the animal, maintaining its center of gravity, does not act upon the main driving wheel. But as soon as the box is in the position indicated by dotted lines in Fig. 2, that is, as soon as the tangent forms an acute angle with the vertical, the weight of the animal is sufficient to turn the wheel in the direction indicated by the arrows. The animal will naturally try to advance up the inclined surface, and will rotate the wheel by this action, as its weight continually acts upon the wheel. A fixed platform, E, is arranged below

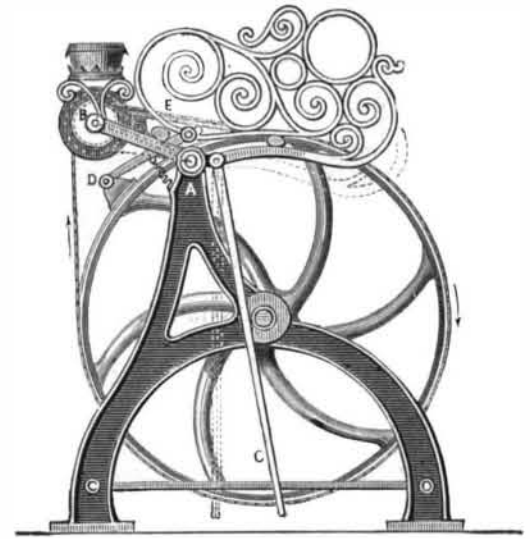
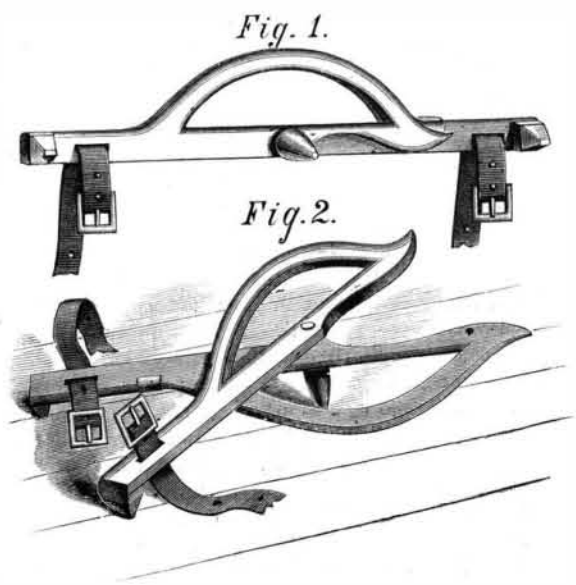


Fig. 2.—VERTICAL SECTION OF MOTOR.

at the side of the endless belt as a resting place for the animal, and a cup containing water is arranged in front of the box, so that the animal can drink while resting. Mr. Richard is a manufacturer of military uniforms, and runs a large number of sewing machines with his improved quadruped motor.

A NOVEL COMBINATION.

Americans are famous for making novel combinations, and it would seem that the last combination that would naturally suggest itself would be a shawl strap handle and a bootjack. Nevertheless we are able to present our readers with an engraving of an exceedingly simple and practical device that is peculiarly adapted to the double duty it is intended to perform. The device will be understood by reference to the engraving. Two similar castings are pivoted together, so that they may be arranged as shown in Fig. 1, when the device answers as a shawl strap handle. By turning the parts on these pivots, as shown in Fig. 2, the device forms a complete bootjack.



MARDEN'S STRAP HANDLE AND BOOTJACK.

This novel combination is the invention of Mr. Mark W. Marsden, of Connersville, Pa.

New Brunswick Red Granite.

An inexhaustible supply of fine red granite, equal if not superior in quality to the famous "Scotch" granite of Aberdeen, exists in Charlotte County, New Brunswick. Several attempts to develop quarries have been made during the past decade, but, owing to lack of transportation facilities and other hinderances, they have generally resulted in failure. Latterly there has been a considerable revival of effort in the work of getting out and cutting the granite, and a still greater impetus is expected from the completion this summer of the railway from St. Johns to the frontier at St. Stephen and Calais, Maine.