

(No Model.)

2 Sheets—Sheet 1.

G. DEMENY.

PROCESS OF PRODUCING POSITIVE PHONOSCOPIC PLATES.

No. 521,705.

Patented June 19, 1894.

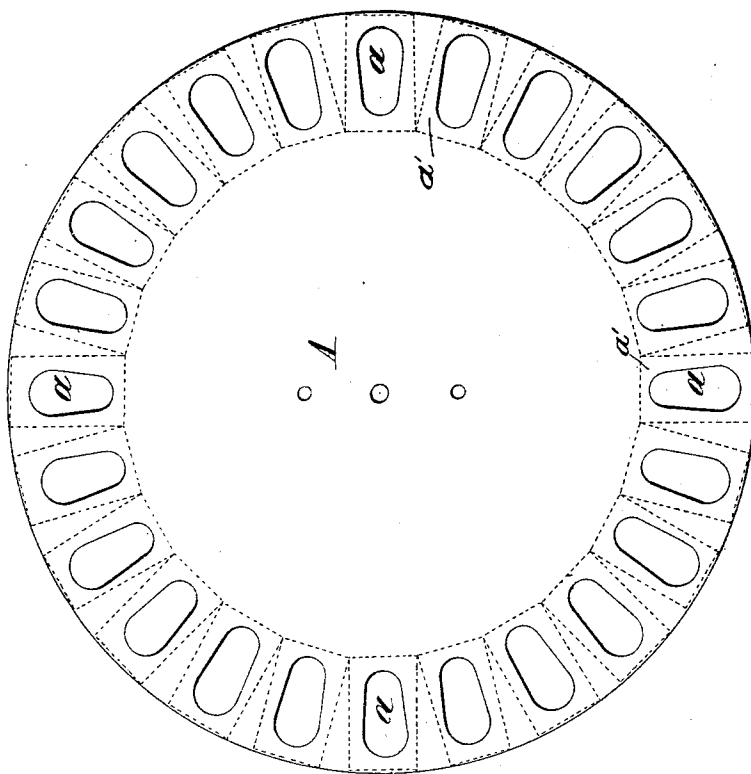


FIG 1

Attest.
Arthur A. Erb.
Edward Lewis

Inventor:
George Demeny
by Paulmann
his attorney

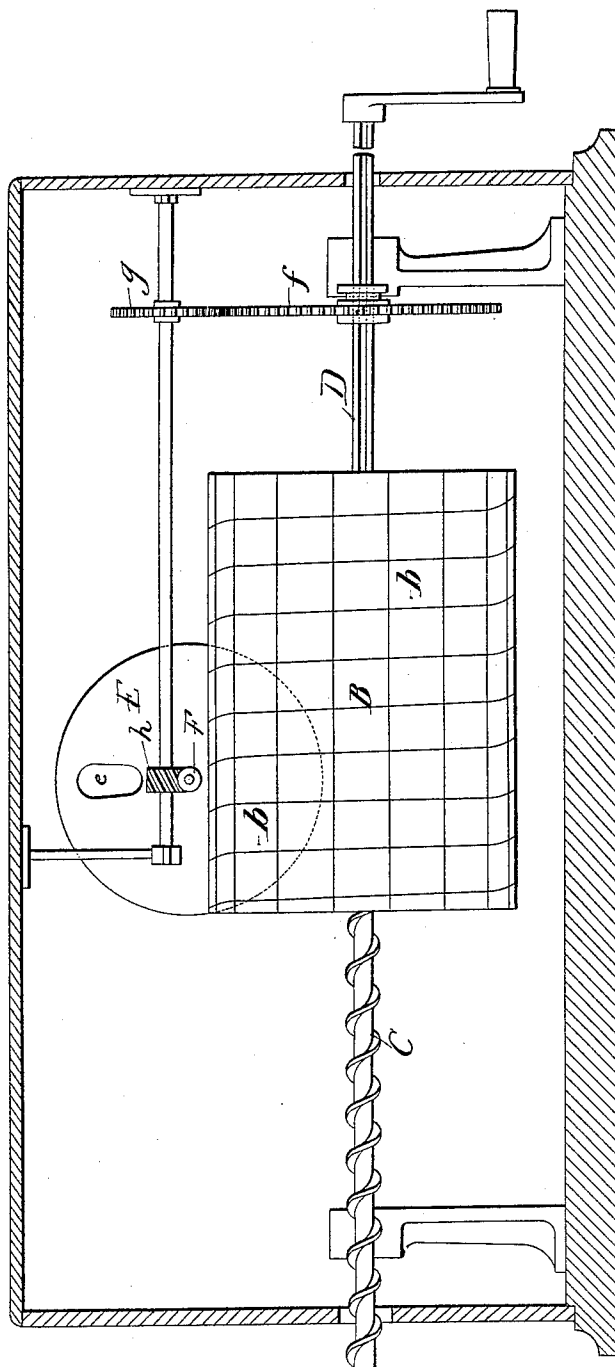
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No. 521,705.

Patented June 19, 1894.

FIG. 2.



Attest.
Arthur H. Erb
Per Lewis

Inventor:
Georg Demeny
by J. H. Manno
his attorney

UNITED STATES PATENT OFFICE.

GEORGES DEMENY, OF PARIS, FRANCE.

PROCESS OF PRODUCING POSITIVE PHONOSCOPIC PLATES.

SPECIFICATION forming part of Letters Patent No. 521,705, dated June 19, 1894.

Application filed July 18, 1893. Serial No. 480,870. (No specimens.)

To all whom it may concern:

Be it known that I, GEORGES DEMENY, of Paris, France, have invented certain new and useful Improvements in Processes of Producing Exhibition-Plates for Phonoscopes, which is fully described in the following specification.

The apparatus called the "phonoscope" reproduces, as is known, the illusion of movements of speech and of physiognomy, either by direct vision, or by projection by means of light against a screen. This apparatus is designed to afford successive observations of different photographic images, taken at very short intervals, of a person in the act of speaking; the observation being made as much as possible, in the same total time as that which has served for the taking of the photographic proofs.

In order that phonoscopes may be employed for direct observation or for projection, the positive images are generally arranged on the circumference of a disk which is moved with a rotary motion so calculated that these images may be successively perceived by the observer or projected on a screen at each passage before the objective, by an opening made in an illuminating disk turning at high speed. The position for each successive picture must be calculated and laid out on the disk image-holders, so that all occupy relatively to each other, such positions that during the rotation of the disk picture-holder, they register exactly for the eye of the observer, and give the illusion of a living face or figure. This measuring and calculation for the successive images, which is very tedious and very minute, increases greatly the cost of the apparatus and constitutes a serious obstacle to the industrial development of which the apparatus is susceptible. It is with the object of surmounting this obstacle by diminishing the cost of these positive disk picture holders, that I have contrived to prepare them in the following way: The different negatives of the animated faces are obtained on a band of sensitive film which unrolls in photochronographic apparatus. I develop the negatives thus obtained by submitting them to the manipulations practiced daily in photography. I thus obtain a series of negatives which I cut so as to separate

them one from another, then I fix them separately by any means on the circumference of a disk serving as a support, usually on an opaque disk pierced with openings, one against each of the openings formed near the exterior circumference of the opaque disk taking care to arrange them in the order following that in which they were obtained during the sitting. This operation necessitates evidently a very long and very minute marking, but once ended, I have a negative which serves for taking as many positive prints as may be required, without the need of determining for each one of these positives the bench-marks or indications that have been necessary heretofore.

In certain cases as more particularly explained hereinafter, the support for the series of negatives may be in the form of a strip or band.

The accompanying drawings will serve to illustrate the manner of carrying out my invention, Figure 1 being a plan view showing the disposition of the negative images upon a disk-shaped holder, and Fig. 2 showing in elevation the arrangement of an exhibition apparatus in which the images are produced upon a band wound spirally upon a drum.

In Fig. 1, A represents a disk-shaped holder of ordinary construction, having near the periphery a series of oblong apertures *a*. The rectangular figures *a'* in dotted lines, show the disposition of the negative images, which has been determined as above explained, the whole constituting what may be termed a phonoscopic negative plate, from which any desired number of positives may be readily produced by ordinary photographic processes. If the period of movement of the face or other object extends over a period of time too large to admit of exhibition upon a disk of moderate diameter, I substitute for the disk A, a strip or band upon which the successive negative images separated from one another, as already described, are placed in their proper positions, determined in the same manner as when a disk-shaped support is used. This band then constitutes the negative plate, from which any number of positives can be taken in the ordinary way. Such positive is represented by the letter *b* in Fig. 2, wound

spirally upon a drum B, which serves as its support during the exhibition.

The apparatus must be so constructed that the successive images will register accurately with an opening through which the observer looks. In the apparatus shown the drum B is adapted to be moved by a feed-screw C lengthwise of its shaft D, the pitch of the feed-screw being such that, at each revolution, the drum moves lengthwise a distance equal to the width of band *b*. E represents a disk having a slot *e*, for purposes of observation, disk E being on a shaft F, rotated at a high speed by means of gearing *f, g, h*. The eye of the observer being in a fixed position, he sees a different image each time the slot *e* crosses his line of vision; and it will be readily understood that to secure exact correspondence between the moving observation-slot and the successive images with which it must register accurately, requires a very careful calculation and disposition of the positive images upon the band *b*. By my invention, however, these dispositions are determined once for all, and by placing the negative images in the determined positions upon the

support (which in this case is a band) active positive images can be produced with great facility and economy.

The term "phonoscopic plate" as herein used will apply to a disk, band or other form in which the exhibition devices are made.

I claim as my invention—

The process herein described of producing exhibition plates for phonoscopes by first preparing upon a band or film a series of negative images representing consecutively the transitions of movement of an animated object; secondly, severing the strip or film to separate the different images; thirdly, fixing the separated negative images in proper order and position upon a support or holder, and finally obtaining positives by photography, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

GEORGES DEMENY.

Witnesses:

ROBT. M. HOOPER,
JOSEPH LACOSTE.