(No Model.)

J. R. DAKE.

PHOTOGRAPHIC RETOUCHER.

No. 509,721. Patented Nov. 28, 1893.

Fig. 1.

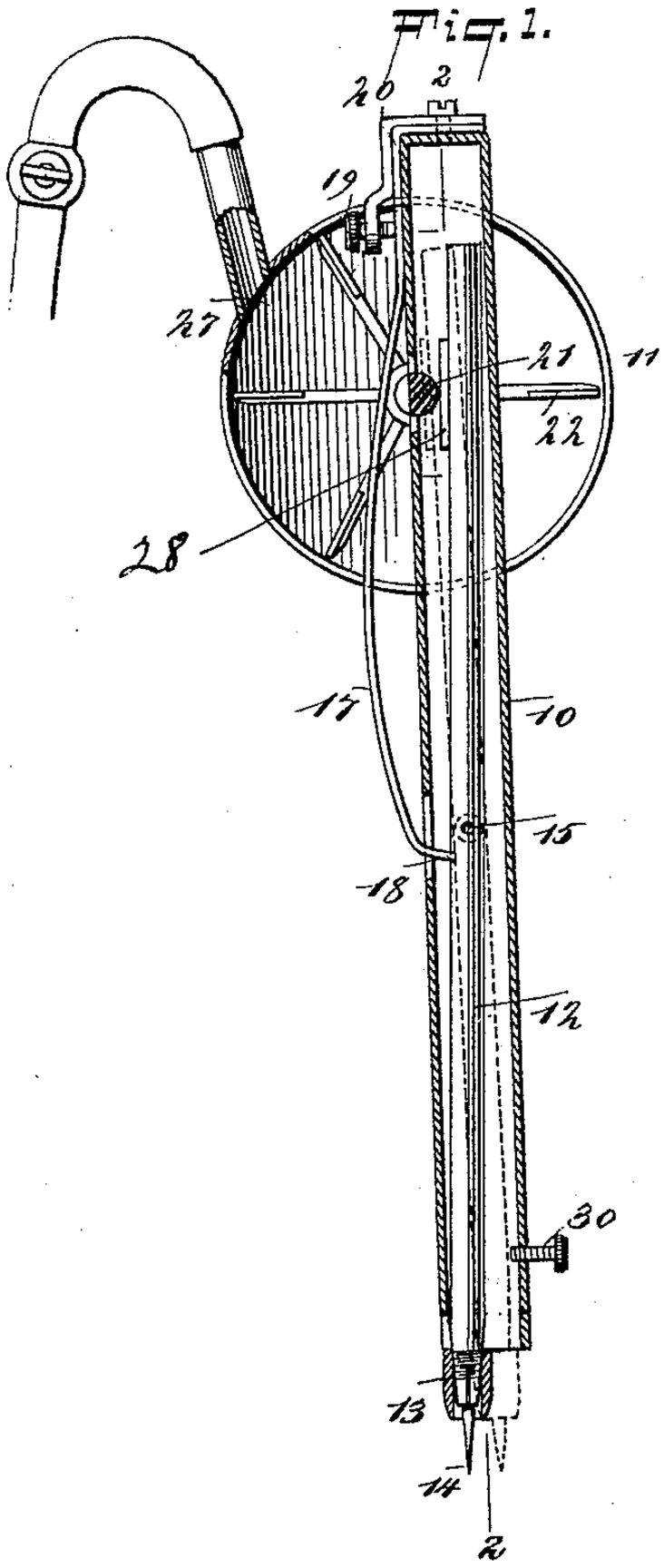


Fig. 2.

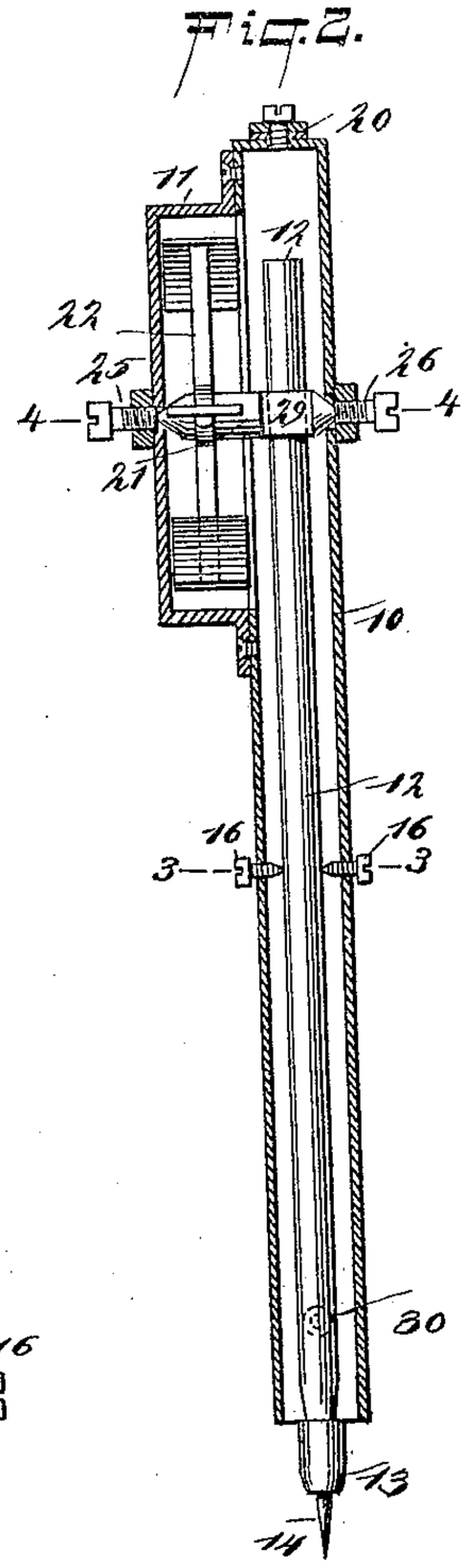


Fig. 3.

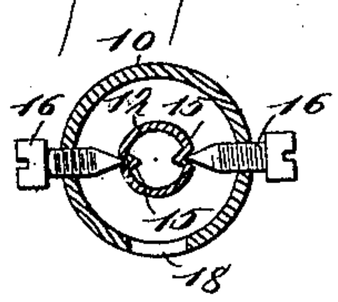
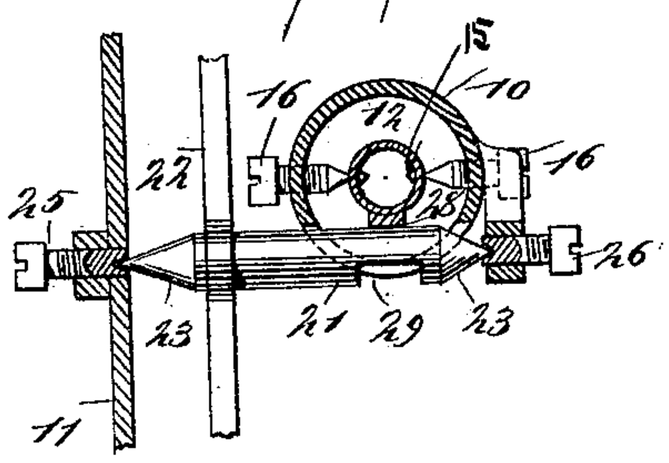


Fig. 4.



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PHOTOGRAPHIC RETOUCHER.

SPECIFICATION forming part of Letters Patent No. 509,721, dated November 28, 1893.

Application filed June 30, 1893. Serial No. 479,233. (No model.)

To all whom it may concern:

Be it known that I, JAMES RILEY DAKE, of Medford, in the county of Taylor and State of Wisconsin, have invented a new and useful Retouching-Machine, of which the following is a full, clear, and exact description.

My invention relates to a retouching machine, and it has for its object to provide such a machine which will be exceedingly simple, durable and economic, and which may be conveniently used by any operator, said machine being capable of softening a line, stopping a pin hole, raising a shadow, sharpening an eye, or raising a light in the eye or in the drapery, as well as it can be accomplished by hand and in a far more expeditious manner.

A further object of the invention is to provide a retouching machine capable of being driven by compressed air or an equivalent factor.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth and pointed out in the claim.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a central longitudinal section through the machine. Fig. 2 is a similar section taken at a right angle to the section shown in Fig. 1, and essentially on the line 2—2 of Fig. 1. Fig. 3 is a transverse section taken at or about the center of the machine, practically on the line 3—3 of Fig. 2; and Fig. 4 is a transverse section taken essentially on the line 4—4 of Fig. 2, illustrating the driving mechanism of the machine in substantially plan view.

In carrying out the invention the body of the device consists of a tube 10 of any desired material, and upon one side of the tube a casing 11, preferably of a circular formation is located, the casing being closed at its periphery and at its back or outer face; usually the face of the casing opposite the tube is open, but it may be closed to a greater or less extent if in practice it is found advisable. Within the tube 10 a pencil holder 12 is located, and the said pencil holder is of considerably less diameter than the diameter of the tube or casing. The pencil holder may be made tubular or solid, and extends at one end below the lower end of the casing, the lower extremity of the pencil holder being provided with a chuck 13 of any well known form, capable of gripping and holding in position a lead or crayon 14, or a portion of a lead pencil, as shown in Figs. 1 and 2. The pencil holder does not usually extend to the top of the casing, and the upper end of the casing is closed, as shown in Figs. 1 and 2. The pencil holder is pivotally located within the casing, being adapted to vibrate or laterally reciprocate therein, and the pivot point of the pencil holder is at a point about midway between its ends.

In order that the pencil holder may be rendered as sensitive as possible to the action of the driving mechanism, the holder is provided in opposite sides with conical or angular cavities or recesses 15, as shown best in Fig. 3; and the conical ends of set screws 16, are made to enter these recesses, the said screws being held to turn in the casing, as shown in Figs. 2, 3 and 4, whereby any lost motion may be readily taken up when occasion may demand. The pencil holder is normally held against one side wall of the casing at the lower end of the latter, as shown in dotted lines in Fig. 1, through the medium of a spring 17. This spring is usually attached to the upper portion of the casing, and extends longitudinally along the exterior of the casing, the free end of the spring entering an aperture 18 in the casing, and it engages with the pencil holder below its pivot point, as is clearly shown in Fig. 1. The spring may be made to exert more or less tension upon the pencil holder, and thereby hold it more or less firmly against the side of the casing with which it is to contact through the medium of the set screw 19, which has bearing upon the upper portion of the spring, and the said screw is usually carried on the casing, or a bracket 20 secured to the latter.

A lateral vibratory movement is imparted to the pencil holder through the medium of a shaft 21 and a wind wheel 22, the wind wheel being secured upon the shaft. The shaft is conical at its ends, as shown at 23 in Fig. 4, and one end of the shaft is journaled

in a conical recess formed in the inner end of a set screw 25 located at the center of the casing 11, while the opposite end of the shaft is journaled in like manner in a conical recess formed in a second set screw 26, located in the body tube 10, diametrically opposite the set screw 25. Thus the shaft 21, is transversely located within the casing, and extends across its wider portion, and any lost motion may be taken up by adjusting the screws 25 and 26. The wind wheel 22, is rotated within the casing 11, through the medium of compressed air, or an equivalent agent introduced in the casing through an inlet 27, as shown in Fig. 1, the inlet being so located that the air upon entering the casing will strike fairly upon the paddles of the wheel. Movement is imparted to the pencil holder through the medium of the shaft by causing the cylindrical surface of the shaft to engage with the upper portion of the pencil holder 12, as shown best in Figs. 1 and 4, the said holder being ordinarily provided at its point of contact with the shaft with an extension 28. Where the shaft strikes the pencil holder it is provided in one side with a recess 29, and in operation, as the wind wheel is turned and the shaft is rotated, when the cylindrical portion of the shaft engages with the pencil holder it will force it in direction of one side of the casing at its upper end, as shown in positive lines, Fig. 1, the pencil point being carried in contact with the opposite side of the body at the lower end thereof; and at this time the spring 17 is placed under tension; therefore, as soon as the shaft revolves sufficiently to bring its recess 29 opposite the pencil holder, the spring will reverse the position of the ends of the holder, restoring it to its normal position, as shown in Fig. 1, and thus by the rapid alternate action of the driving shaft 21 and the spring 17 upon the pencil holder, the latter is kept in constant vibration, and the pencil, when employed for retouching will produce such a stroke as is produced by hand, and the work which it will perform will be quite as satisfactory and may be executed in a much more expeditious manner. The length of the stroke of the pencil holder is limited by placing the adjusting screw 30 in the body tube preferably near its lower end and upon that side against which the said pencil holder is pressed by the spring 17.

It will be understood that the position of the spring 17 may be changed, as for example it may be made to work on the rear under side of the pencil holder and inside of the tube 10. A stop cock may also be placed in the air supply tube, and a guide of any desired character is placed at the front or rear of the pencil holder to take up side motion of the pencil.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

A retoucher consisting in the tubular body or hand piece provided between its ends with an opening 18 and having a circular case at its upper end, the vibratory pencil holder pivoted between its ends within the body, a pneumatic wheel within the casing with its shaft or axle crossing the upper end of the holder and provided with a cam or eccentric portion engaging said holder to move it in one direction, a bracket on the upper end of the holder and provided with a set screw, a spring secured at one end beneath the bracket and extending thence under the set screw and through the opening 18 into engagement with the holder below its axis, substantially as set forth.

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Witnesses:
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