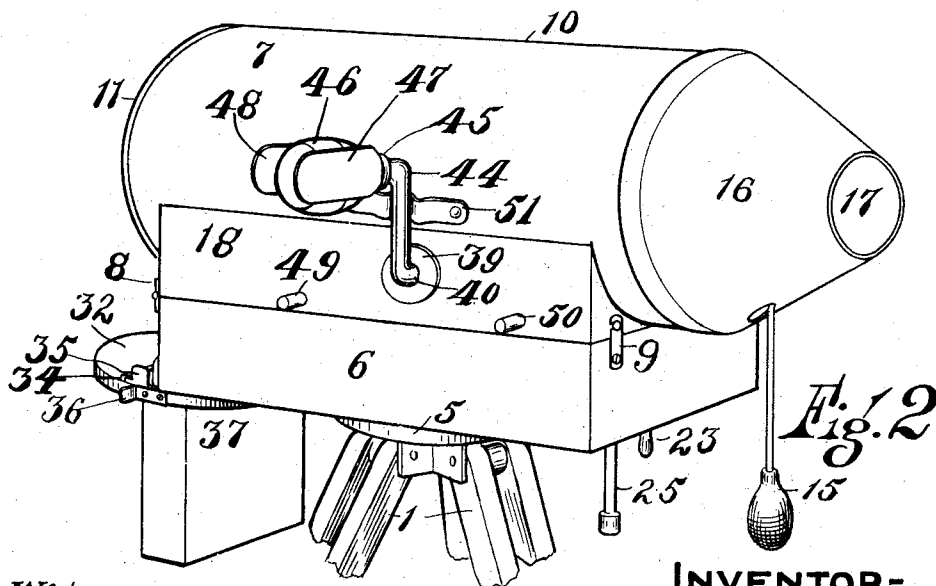
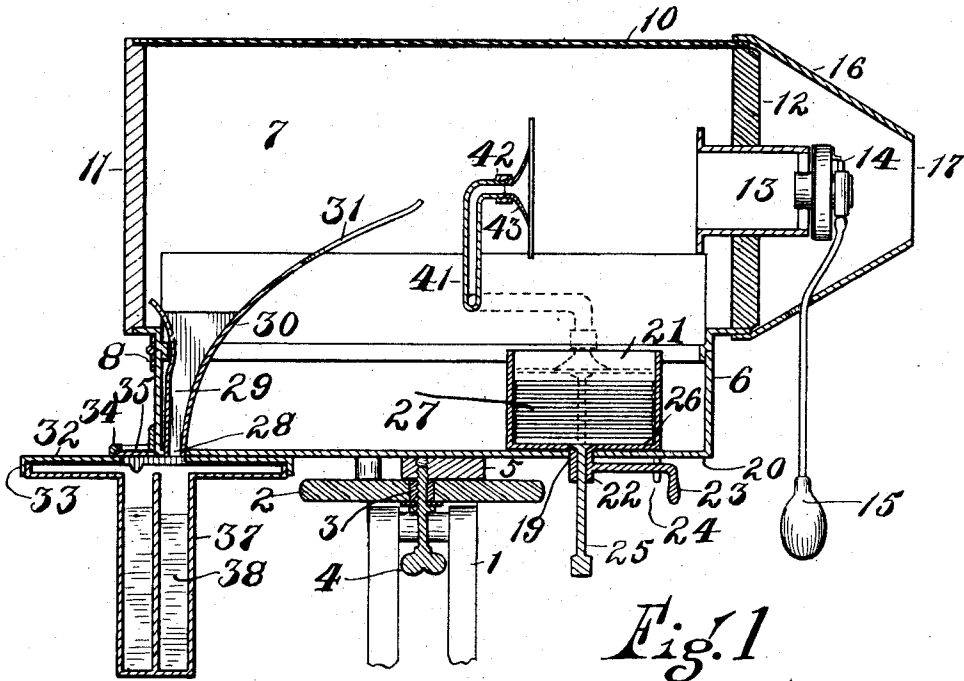


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CAMERA.
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CAMERA.

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To all whom it may concern:

Be it known that I, DANIEL J. GALLAGHER, a citizen of the United States, residing at Akron, in the county of Summit and State of Ohio, have invented new and useful Improvements in Cameras, of which the following is a specification.

This invention relates to improvements in cameras, more especially those of the magazine type containing a supply of sensitized plates or cards which are successively raised from a source of supply into a position for exposure and from thence carried to a developing bath. In practice, these cameras are usually used for making tintypes or daguerreotypes in which the plates are of sensitized metal and are raised into a position for exposure by means of a temporarily-energized magnet and stripped therefrom by a stripping-plate in such a manner as to cause them to slide into a developing and fixing bath.

The objections to the use of a magnet for raising the plates is that the strength of the magnet can not be adjusted and hence it frequently picks up two or more plates at each movement, thereby causing the loss of those plates which are not exposed. Another objection is that the magnet, if weak, does not hold the plate firmly in position, so that the picture made thereon is inaccurately placed; again, the employment of a magnet necessitates the carrying of heavy batteries with the outfit and as these outfits are usually transported from place to place, such as county fairs, street-corners, etc., the weight of the batteries becomes a serious drawback to the use of cameras involving a magnet, and experience has demonstrated that the deterioration of these batteries is very rapid and it frequently happens that while in use, the batteries become too exhausted to raise the plates, thus causing considerable loss to the user of the same.

A still further and important objection to the use of a magnet for raising plates is that the magnet will only pick up sensitized metallic plates and is inoperative when used in connection with paper cards or glass plates, thus limiting the use of a device in-

volving the magnet to sensitized metallic plates.

In view of the foregoing, this invention contemplates providing a vacuum pick-up for raising the plates from a source of supply into a position for exposure and conveying them to a stripping-plate for removal to the developing-tank; and among other advantages obtained by the use of this device is the certain knowledge conveyed to the operator that a plate has been picked up; further, the device is operative with respect to metallic and glass plates, as well as with paper cards.

A still further object obtained by the use of my improved device is that the weight thereof is greatly reduced and the only expense connected with the operation thereof is in supplying the sensitized plates to the camera.

My invention contemplates providing a pick-up with a mouth-piece of flexible material positioned on a rotating arm so mounted that the mouth-piece will accurately engage the plates and hold them secure until removed therefrom by the ordinary-stripping plate, and by employing a collapsible bulb for producing a partial vacuum on the arm carrying the mouth-piece, the condition of the bulb indicates whether or not the open end of the mouth-piece is covered by a plate which is adherent thereto, due to atmospheric pressure.

With the foregoing and other objects in view, the invention consists in the novel construction, combination and arrangement of parts constituting the invention to be hereinafter specifically described and illustrated in the accompanying drawings which form a part hereof wherein is shown the preferred embodiment of the invention, but it is to be understood that changes, variations and modifications can be resorted to which come within the scope of the claims hereunto appended.

In the drawings, in which similar reference numerals indicate like parts in the different figures: Figure 1 is a vertical, central, longitudinal, sectional view of a device embodying this invention; and, Fig. 2 is a

perspective view of the device shown in Fig. 1.

Referring to the drawings in detail, the reference numeral 1 denotes a tripod on which the device is customarily mounted. Mounted on the tripod is a head 2 provided with an approximately central opening containing a sleeve 3 provided with an interiorly-threaded opening in which is mounted a thumb-screw 4. Mounted on the head 2 is the body portion of the camera proper provided on its under face with a block 5 having a threaded opening to receive the upper end of the thumb-screw 4. The body portion of the camera embodies a lower section 6 constituting a containing receptacle, and an upper section 7 pivotally-connected to the lower section 6 by means of hinges 8 and secured at its opposite end by means of a latch 9. The body portion of the camera is of course formed of an opaque material to prevent the entrance of light to the interior of the camera, and the upper section 7 is preferably provided with a cylindrical wall 10 having the rear end thereof closed by means of an end piece 11. The front part of the upper section 7 of the body portion is closed by a diaphragm 12 provided with a central opening in which is mounted a tubular member 13. Mounted in the front end of the tubular member 13 is a lens adapted to be closed by a shutter 14 operated by means of a bulb 15 in the ordinary manner. Mounted on the cylindrical wall 10 of the section 7 is a conical front piece 16 provided with an opening 17 in alignment with the lens supported by the tubular member 13. Depending from the cylindrical wall 10 is an approximately rectangularly-formed element 18.

The lower section 6 of the body portion of the camera is preferably rectangular and conforms to the outlines of the element 18 and is provided in the floor thereof near the front end with an opening 19. Mounted on the upper face of the floor 20 of the section 6 is a plate-carrier 21 comprising a rectangular box having depending therefrom a sleeve 22 revolubly-mounted in the opening 19. Extending laterally from the sleeve 22 is a manipulating handle 23 by which the plate-carrier 21 may be given one quarter revolution, the limit of motion being determined by means of a pair of stops 24, one only of which is shown in Fig. 1. Mounted in the opening in the sleeve 22 is a longitudinally-shiftable headed-pin 25, the upper end of which is provided with a follower-plate 26, by which a supply of plates 27 in the plate-carrier 21 is supported. The rear portion of the floor 20 of the section 6 is provided with an opening 28 communicating

with which is a chute 29 having one of its walls 30 projecting upwardly on curvilinear lines into the cavity of the section 7. This wall 30 is provided with a longitudinally-extending slot or notch 31 and constitutes a stripping-plate for a purpose to be later described. Positioned on the under face of the floor of the section 6 below the opening 28 is a cover 32 provided with a downwardly-turned marginal flange 33. This cover is provided with a transversely-extending opening along the edges of which are grooved ridges 34 to constitute ways for a laterally-shiftable gate 35. Detachably-secured by means of a lock 36 to the marginal flange 33 is a developing-tank 37 containing a transverse partition, if desired and with a supply of developing and fixing fluid 38. The developing-tank 37 is preferably arranged immediately below the opening 28 to receive the printed plates from the stripping-plate 30. The lock 36 provides means whereby the developing-tank 37 may be removed from the camera proper for cleansing thereof and removal of the used developing fluid 38 and its replenishment as often as the exigencies of the case may demand. Mounted in one of the side walls of the element 18 is a bearing 39 in which is mounted a transversely-extending tube 40 rotatable therein and with the inner end thereof terminating approximately at the transverse medial line of the cylindrical portion of the section 7. The inner end of the tube 40 is provided with a preferably integral tubular arm 41, the interior of which is in open communication with the interior of the tube 40. This tubular arm 41 is preferably arranged at right angles with respect to the tube 40 and terminates in a socket 42 to receive a flexible pick-up or mouth-piece 43. This pick-up is preferably frusto-conically-formed with an open end and with its smaller end adapted to be mounted in the socket 42 and is usually constructed of vulcanized rubber of considerable softness and resiliency in order to adapt itself to form an air-tight union with the rear face of the plates 27. The outer end of the tube 40 is provided with an arm 44 arranged approximately parallel with the arm 41 and with the interior thereof in open communication with the interior of the tube 40. The free end of the arm 44 is provided with a socket 45 in which is seated a collapsible rubber bulb 46 by which air in the tubes 40, 41 and 44 may be substantially exhausted.

Secured to the socket 45 is a fixed plate 47 extending outwardly slightly beyond the end of the bulb 46 and having a considerable transverse width. Pivotaly-mounted on the socket 45 is a hinged plate 48 ar-

ranged on the opposite side of the bulb from the fixed plate 47 and conforming in general contour therewith, so that by applying pressure to the plate 48 the bulb is compressed 5 or collapsed between the plates 47 and 48 for exhausting the air in the tubes 40, 41 and 44 and the pickup 43. The tube 40 is adapted to be rotated in the bearing 39 by means of manual pressure applied to the 10 fixed plate 47, thereby swinging the pick-up 43 in unison therewith. In order to limit the rotation of the arm 44 and consequently the pick-up 43, there is placed on the outer face of the element 18 a pair of stops 49 and 50 projecting sufficiently from the side wall of the element 18 to engage the pipe 44. In order to hold the members in the position shown in the drawings, there is placed on the side wall below the section 7 adjacent to the bearing 39 a clip 51 preferably 20 composed of spring material provided with a notch into which the arm 44 will engage for temporarily holding it in a fixed position, from which notch the arm may be forced to cause the swinging thereof in 25 either direction to engage either of the stops 49 or 50.

The operation of the device is as follows: The shutter 14 is closed by means of the 30 bulb 15 and a suitable subject is placed in front of the opening 17, previous to which of course, a supply of plates 27 of any character are placed in the carrier 21 and a developing fluid 38 is placed in the tank 37. 35 The operator then swings the arm 44 forward until it engages the stop 50 and at the same time compresses the bulb 46 by means of the plates 47 and 48. He then raises the uppermost plate 27 in the carrier 21 by means of the pin 25 and at the time that the uppermost plate engages the pick-up 43 he releases his grasp upon the plates 47 and 48 to permit the bulb 46 to expand, thereby 40 partially exhausting the air in the pick-up 43 which causes the pick-up to engage the rear unsensitized face of the plate 27 and hold it securely during the successive operations. It will be apparent to the operator that if the bulb does not expand the 50 pick-up 43 has picked up a plate and holds the same in proper position for exposure; but if the bulb expands, the operator will be immediately informed that the pick-up has failed in its duty and no plate has been raised, thereby furnishing a perfect tell-tale 55 to the operator of the condition inside the camera without the necessity of opening the same, which latter operation frequently involves the ruination of the unused plates, 60 due to the admission of light thereto. Assuming that the pick-up has successfully picked up the uppermost plate 27 in the

plate-carrier 21, the operator then swings the arm 44 to the position shown in Fig. 2 to cause it to engage the notch in the clip 51, which latter holds it fixedly in a desired 65 position to bring the plate carried by the pick-up 43 into a position to be acted upon by the light admitted through the lens and as soon as this position has been effected the shutter 14 is operated through the medium 70 of the bulb 15, after which the arm 44 is swung rearwardly causing the pick-up 43 to pass through the open slot or notch 31 which is of sufficient width to permit the 75 sides of the plate bordering on the notch 31 to strip the printed plate from the pick-up 43, after which the plate slides down the wall 30 into the developing-tank 37 and is duly developed and fixed by the fluid 38, 80 from which it may be removed in the ordinary manner.

From the foregoing it will be seen that the device may be constructed of comparatively light material and may be used without the necessity of a magnet, and that no 85 loss excepting that of plates occurs in the use of the same and that the operation of raising the plates, printing and conveying them to the developing-tank is under the control of the operator at all times and he 90 is informed by the condition of the flexible bulb 46 as to whether or not the camera is operating properly.

It will be further stated that the plate-carrier 21 may be made oblong so as to receive oblong plates and they may be so 95 picked up as to present them in either of two positions by rotating the plate-carrier 21 by means of the handle 23, so that a picture may be taken on a plate either longitudinally or transversely, thus giving the operator the option of furnishing them either 100 way on certain sized plates, and it is also obvious that the carrier 21 may be made of any configuration, size or shape and may be changed for various requirements to give as universality of operation as possible to a camera embodying this invention. 105

I claim: 110

1. The combination in a magazine camera, of a body portion provided with an opening and a lens, a swinging arm provided with a flexible mouth-piece, means for exhausting the air in said arm and mouthpiece to cause 115 said mouth-piece to pick up sensitized plates from a source of supply and convey them to a developing-tank.

2. The combination in a magazine camera, of a hollow body portion provided with an opening and a lens, a transversely-extending tubular member provided with a pair 120 of hollow arms the interiors of which communicate with said tubular member, one of

said arms positioned within said camera and the other on the outside thereof, the arm positioned within said camera provided with a flexible mouthpiece for picking up
5 sensitized plates and conveying them into a position to be acted upon by the light from said lens, the other arm positioned outside of said camera provided with a collapsible bulb adapted to exhaust the air in said
10 mouth-piece for picking up said plates and

a developing-tank for receiving said plates successively from said mouthpiece, substantially as shown.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses. 15

DANIEL J. GALLAGHER.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
