

## 1: List of inventors

*Jacob Rabinow () was born in Kharkov, Russia and emigrated with his family during the Revolution and arrived via China to New York in In due time, earned a bachelor's degree in Engineering () and graduate degree in Electrical Engineering from City College of New York.*

The Russian Revolution forced his family out of Russia and into China, where his father died. In Rabinow, with his mother and brother, settled in Brooklyn, New York. Rabinow received a B. He left the Bureau of Standards in and started the to develop his reading machines. In he returned to the government Bureau of Standards, where he is still employed. Rabinow has received numerous awards and honors, including a Certificate of Merit from President Truman in for his war-time efforts. In he was named Scientist of the Year by the editors of Industrial Research and Development magazine. A prolific inventor, Rabinow holds patents on over inventions. He has, by his own estimate, thousands of unpatented "inventions in progress" filling a shelf full of notebooks in his Bethesda, Maryland home. His first patent--for a camera designed to record airplane flight paths--was granted in and was a direct result of his ordnance work. That is, they take strings of numbers--even badly smudged or marred ones--and compare them to a set of "best guess" samples. Variants of these optical scanners are widely used in business, industry and by the U. Rabinow often invents things on a dare such as his pick-proof lock or his self-justifying typewriter or merely for the challenge tired of constantly adjusting mechanical watches, he invented the self-regulating clock. He holds patents in a wide range of technological areas: He has also patented roadway reflectors that lie flush with the road, a pressurized can to keep tennis balls bouncy, the first magnetic disk file for computers, an auto-focusing camera, a device to indicate whether the owner of a telephone has received a call in his absence, a camera tripod with legs that can be adjusted from a single point, and a sophisticated automatic automobile headlight dimmer. It is the result of nearly a half-century of pondering and tinkering with various models. Inspired by the remark of a lock company engineer who claimed it could not be done, Rabinow blended the mechanisms of both the combination lock and a standard key mechanism to create his pick-proof model. Rabinow is quoted as having said: It was announced that Rabinow will be inducted into the National Inventors Hall of Fame in recognition of his invention of the optical character recognition scanner. His induction will take place at a ceremony held in Akron, Ohio, in May of The National Inventors Hall of Fame honors individuals, both living and dead, whose work has changed society and improved the way we live. Comment about this article, ask questions, or add new information about this topic:

### 2: Magnetic particle clutch, Magnetic particle clutch inventors | [www.enganchecubano.com](http://www.enganchecubano.com)

*Jacob Rabinow (January 8, - September 11, ) was an engineer and inventor. He earned a total of U.S. patents on a variety of mechanical, optical and electrical devices.*

This newsletter and previous ones are available on-line as web pages at: I hope you are finding these of interest and value. I am certainly having a wonderful time learning more about Mr. Burke through the process of doing research on him and his materials. First, I would like to thank all of you out there who have taken an interest in Mr. Secondly, I have received several fascinating tales from subscribers who have shared their personal moments of enlightenment after being exposed to "Connections" or "The Day The Universe Changed". Thanks much for those. Please be advised that James Burke does NOT necessarily endorse or associate himself with the information or organizations mentioned in the James Burke Connection website and periodic e-mail news updates. Likewise, the information contained in this publication does NOT necessarily represent the views and opinions of Mr. At least my aching fingers tell me a lot has been done. During the month of February, I have started to build my Burke Resource Center for fans, teachers and researchers. In addition there are also links to science museums and history of science webpages. Over time, I plan to add several more lists containing all of the people and important historic items featured in the indexes of Mr. This may take a while. Also new to the James Burke Connection site is an offshoot area featuring books and materials by other well-known presenters and authorities that may be of interest to you. However, as with most projects, this section will expand over time. Burke I came across a couple of important web destinations: Burke which you all seem to like to do , please let me encourage you to take full advantage of these channels to "connect" with one another. I have posted a number of messages there for you to read and think about. Burke who might have an interest in news source links, I have created a new personal website listing a moderate number of international news sources. I think you might find these interesting, if not useful.

## 3: List of National Inventors Hall of Fame inductees - Wikipedia

*Jacob Rabinow was born in the Russian Ukraine as Yakov Aaronovich Rabinovichin The Russian Revolution forced his family out of Russia and into China, where his father died. In Rabinow, with his mother and brother, settled in Brooklyn, New York.*

The invention described herein may be manufactured and used by or for the Government for governmental purposes without the payment to me of any royalty thereon. An object of this invention is to provide an accelerating integrator whereby no external time measuring equipment is necessary, and the operation of the device is independent of the motor speed as long as that speed is held substantially constant during the cycle of operation. Another object of this invention is to provide such a device which is essentially a self-setting integrator whereby the setting operation is performed during the straight forward movement of the aircraft which carries the device, and prior to the pull-up of the aircraft. These and various other objects and advantages are attained with this invention, as will become apparent from the following description, taken in connection with the accompanying drawings wherein the invention is shown in its preferred form, it being evident that other arrangements and forms of construction may be resorted to in carrying out the objects and purposes of this invention. This invention, in the form disclosed in the drawings, comprises a driving member I which is preferably a direct current motor mounted on a frame II including a vertically extending plate I2 whereon the motor is secured. This plate is pivotally supported adjacent one end by bearing means I3 carried on legs I4 depending from a horizontal plate I5 of a. Said cage is mounted stationary on the aircraft with which this device is utilized. The driving motor I0 carries on its shaft I8 a pinion I9 which drives a train of reducing gears and thereby drives a shaft 2 carrying a disc 22 which rotates in a vertical plane, said shafts and gears being supported in plates 23 extending laterally from the plate I2. The wheel 31 normally engages the face of disc 22 radially outward from the axis of rotation of the disc; and thus, by vertical movement of plate I2 relative to cage I6, due to upward acceleration force applied to said cage, said Wheel is adapted to shift radially of the face of the disc While being driven, thereby providing a variable speed friction drive. Mounted integrally on shaft 32 is a pinion 36 which meshes with a large timing gear 31 and also with a small gear Said gear 38 has another pinion 39 integral therewith which drives a large timing gear 42, similar to timing gear 31 and spaced thereabove but rotary in a reverse direction. Secured to the timing gears 31 and 42 are two electromagnetic clutches 43 and 44, respectively. The current to the clutches is supplied through suitable slip rings and 46 provided with the usual wiping contacts or other suitable current conveying means. Mounted freely or floatingly between the two clutches 43 and 44 is a disc of magnetic The clutches are rotatable v 3 material or core 5 having a contact making element or linger 52 projecting therefrom which is operable for bringing together the contact elements 53 and 54 of the timing switch, thereby closing said switch and the circuit 55 for actuating the bomb release mechanism or other mechanism timed by this device. V It should be noted that the two clutches 43 and 44 will revolve in opposite directions and at a ratio of speed determined by the pinions and gears 36 to The switch contacts 53 and 54 are carried by an adjustable arm 56 which is mounted on cage I6 and its position and angular adjustment is controlled by a control dial 51 connected to the arm 5E and adjustable on the cage I5, said dial being held frictionally in position by screws The operation of the device as a clock and acceleration integrator is substantially as follows: When the motor circuit is closed by the pilot or operator and its speed becomes excessive, then governor 24 moves contact element 25 over to element 26 to close circuit 21 and operate relay 28 to open switch 29 of the motor circuit At the beginning of this action, the finger 52 of magnetic core 5 is adjacent to the switch contacts 53 and 5. As long as the operator continues to keep lthe switch 6 closed, this action continues and the nger 52 separates from contact 53 by a constantly growing arc. Where this device is used for timing the bomb release, and when the pilot continues his plane on a straight course, the bomb releasing switch I would be closed just as the pilot collides with the target. These contacts and the finger 52 on core 5 therefore, are especially positioned and adjusted to close the circuit 5 5 for releasing the bomb, and the relative speed of the clutches are set, so as to provide the proper bomb releasing result. During such a night, if the second switch 52 is closed when the pilot is one-third

of the distance to the target, the relative speed of the clutches 43 and 44 should be two to one. As the pilot pulls up after actuating the second switch, the acceleration perpendicular to the line of flight will cause the frame to swing downward, thereby moving the center of disc 22 downwardly 75 away from the periphery of wheel II, thus increasing the radius of the frictional contact the wheel 2 upon disc 22 and increasing relatively the speed of the wheel 3. This act decreases the time required for finger 52 to click the release switch 53. The mechanism moreover can be arranged by the use of the springs to give a time function of this action to approach. It may be noted that under the conditions vertical acceleration. It is thus apparent that this device performs the function of a clock: An acceleration integrating and timing device comprising means providing rotation at substantially constant velocity, a movable element means for interconnecting said first means and said element to initiate movement of the latter in one direction at a selected instant, interconnecting means for reversing the movement of said element at a later selected instant, acceleration responsive means for modifying the velocity transmitted to said element by said first means: In an acceleration responsive device of the character described, a support, a. An acceleration integrating and timing device comprising a support carrying thereon a switch and means for controlling the position of the switch, a frame pivotally mounted on said support for vertical movement, spring means proportioned to hold the frame in proper elevated position on the support while forces of acceleration are zero, a wheel mounted on the support, a motor driven disc on the frame having its face drivingly engaging the periphery of said wheel and being shiftable vertically thereof due to acceleration forces, thus forming a variable speed driving transmission the ratio. An integrating accelerometer and timing device comprising a supporting cage having a control dial and associated means thereon carrying a timing switch adjustable by said dial, a frame having one end pivotally supported for vertical swinging movement on said cage, spring means at the other end of the frame being proportioned to retain the frame in retracted position while the cage is moving in a horizontal plane, a disc mounted in a vertical plane on the frame and means for driving said disc at a substantially constant speed, a wheel carried by the cage and.

## 4: List of inventors - Wikipedia

*Among them are the first disc-shaped magnetic storage media for computers (), the magnetic particle clutch (), the first straight-line phonograph (), the first self-regulating clock () and his famous "reading machine" () which was the first to use the "best match" principle and was the basis for the reading, sorting and.*

Application October 14, , Serial No. The reflected light causes dimming of the headlights, and very frequently the dimmed lights no longer strike the reflecting" surface with sufficient intensity to cause the automatic dimmer to remain actuated, and, as a result, the dimmer again raises the headlights. Since the power supply is conventional, and its design for any specific circuit is a matter within the skill of any electronics circuit designer, it is not shown. Light which passes through the perforation will, if it is of sufficient intensity, actuate the photocell 10, producing an output signal on lead 11, which is amplified by amplifier 12 which will now be described. The amplifier described has been found very satisfactory, but it will. Release of the relay 20 moves both of its switches over from the position shown to the opposite position. At the same time, switch 32 of the relay changes from its Bright position to its Dim position. In the Bright position shown in Fig. I therefore provide a condenser 42 across resistance Now, when the relay circuit is reenergized and resumes the initial bright position as shown in Fig. This continues until the condenser is sufficiently discharged so that normal operation is resumed. The operation accomplished by the above described circuit elements is as follows: When the lights are dimmed by a reflection, they go down promptly and as the reflected light is no longer seen by the photocell, relay 20 is reenergized promptly and the lights return quickly to bright. If the car is in motion as is normally the case, by the time one or two flicks have occurred, the reflector has been passed. If another car comes in sight of the photo-multiplier cell at this time and is sufficiently far away, the sensitivity of the system may be sufficiently reduced for a fraction of a second so that dimming would be delayed, but since the system need be set so as to be less sensitive only to the relatively weak reflected signal to accomplish the above anti-reflection action, a bright headlight, such as is due to a car rounding a curve or topping a hill nearby, V will overcome the slight inhibiting potential due to condenser 42 and cause immediate dimming in any case. Furthermore, as the decay of the condenser is logarithmic, its initial decay is quite rapid, so that the maximum loss of sensitivity is only for a fraction of a second, during which time a distant vehicle is relatively little annoyed by the bright headlights. In practice, this system can be readily adjusted so that a very satisfactory compromise between the reduced sensitivity to oncoming cars and good antireflection action is achieved. One objection to the above described system is that if the dimming is due not to a reflection, but to an oncoming vehicle, as soon as that vehicle is passed there is a short period of low sensitivity, due to the above described action of condenser This I eliminate by providing additional means whereby condenser 42 is effective only if the down flick is of short duration, as happens when it is caused by a reflection, but not when the down beam remains down for a substantial period, as is normally the case when the relay 2! For this purpose I provide a second relay 50 which is actuated by the dimming switch 22 when it engages contact 30 to dim the headlight. It will be seen that relay 50 has no effect on the action of condenser 42 if the headlights are dimmed by reflection, because in that event, as soon as the lights dim, there is no longer a reflection and relay 20 is immediately reenergized so that there is only a brief down flick which does not give the second relay 50 time to close its contacts, due to the time delay of the R-C combination 52, Thus, the R-C combination 36, 42 is effective to produce the antireflection action previously described. On the other hand, if the dimming is due to an oncoming headlight, the dim beam is practically always maintained for at least a second, which gives relay 50 time to close switch 48 and inhibit the delay action of R-C combination 36, Thus, as soon as the oncoming vehicle is passed, the system is immediately at full sensitivity and ready to operate normally if another vehicle should at this moment appear. The action is shown by the graph of Fig. The initial condition stage A is shown in Fig. In stage B, an oncoming headlight is detected and the beam dims, while the sensitivity is increased. In stage C, the oncoming headlight is passed and the beam again brightens. In stage D, a reflection is seen and the beam dims, then immediately comes up again as the reflection is lost; however, at this time the sensitivity does not go back to its initial level C as before, but due to the action of 36, 42 goes

down to a lower level than originally, and gradually resumes its original sensitivity as condenser 42 discharges. During the first part of stage E, it will therefore require a stronger signal than normal to cause dimming. This can be provided by an oncoming headlight at a reduced distance, but not by the relatively weak reflection. The times when reflection causes dimming are normally quite infrequent as normal reflectors on the side of the road can be avoided by the directivity of lens 2, and it is only when the road curves to the left, or at a dead-end sign, or some similar condition, that reflection will occur at all; and since the times when an oncoming headlight will appear in the field of view immediately after a stage E type of action are still less frequent, it will be evident that this represents a relatively rare condition, and even then, if the oncoming headlight is close, when immediate dimming is important, such immediate dimming will occur due to the strong signal received from the nearby headlight. In practice, the above action has been found to produce a very satisfactory solution to the problem. Instead of the R-C type delay shown at 52, 54, any known type of slow acting relay could, of course, be employed, such as a relay provided with a copper slug, or a dashpot or other mechanical type delay could be used. While I have shown the above anti-reflection circuit in connection with a scanning-type dimmer such as is discussed in my prior patent, it will be evident that it is by no means restricted to this type of automatic dimmer, but will be equally effective in conjunction with any conventional type of automatic dimmer using a photosensitive element to actuate a relay through an amplifier, as the R-C delay caused by 36, 42 could be applied to the grid of a suitable stage of the amplifier to cause the above described action no matter what type of automatic dimming circuit is used. It will also be apparent that instead of an R-C delay an R-L delay, thermal delay or mechanical delay could be used in carrying out the principle which is illustrated by the above circuit, which is shown by way of example only. It often occurs that the driver of the oncoming vehicle if he does not have an automatic headlight dimmer but relies upon. Thus, if the beam is bright, as shown in Fig. When it is desired to resume automatic operation, the foot switch is again depressed. However, if the foot button is heavily pressed, switch will be actuated to dim position regardless of the automatic system-as above explained. It will thus be seen that the operator has full control and can at will put the automatic system into operation, override it to fixed dim position which he may be required. Instead of contacting the button 60, it will be apparent that switch 61 could be grounded on any convenient spring-mounted ground contact, and instead of being directly over: Since switch 62 is at a fairly high voltage, it should, of course, be well insulated. Referring now to Figs. Motor 6 drives the drum by means of a belt 78 which fits an annular grooved portion 80 on the drum. The drum is provided with a rigid shaft 82 coaxial therewith which is supported for rotation by any suitable bearing 84, such. The apertures 76 may be circular as shown, or may be square or even in some cases in the form of narrow slits, the essential thing being that a small area of the image is observed through the aperture at any one time. Lens 2 is mounted in the front of the casing. A light shield 86 may be provided if desired to define the desired field of view. The interior of the casing and all components should be coated with dark non-reflecting paint to prevent optical interference with the desired light signals. Due to the curvature of the drum, its surface will not coincide exactly with the focal plane of the lens, but with suitably chosen dimensions this effect is negligible for practical purposes, as the circumferential. The remaining circuit elements should be selected for reasonably small dimensions and can easily be housed in a very small space. The power supply not shown is preferably. One particular advantage of the drum shown in Figs. In a headlight dimmer, sensing means to detect light in a selected field of view, said sensing means cooperatively arranged with headlight dimming means to dim the headlights of a vehicle when said light exceeds a predetermined first value, means to brighten the lights when said light decreases below a second predetermined value, and desensitizing means to reduce the sensitivity of said dimming means for a short period of time immediately following the brightening of the lights whereby the dimmer is made responsive only to light of a higher intensity than a third predetermined value higher than the said first value for the said short period. An automatic headlight dimmer comprising headlights having a bright and a dim condition, a light sensitive element, means associated therewith for producing an electrical output related to the intensity of a light signal affecting said element, a headlight dimming circuit actuated by said output to produce said dim condition of the headlights when said light signal exceeds a predetermined first value, means for restoring said headlights to the bright condition when said light signal decreases below a second

predetermined value, and a desensitizing means operative to reduce the sensitivity of the dimming circuit for a short period of time immediately following the resumption of bright condition of the headlights, whereby the dimmer is made responsive during said short period only to a light signal of a level higher than a third predetermined value, said third value being higher than said first value. The invention according to claim 2, and further means arranged to render ineffective said desensitizing means when the time interval between the dimming action and the subsequent brightening action is greater than a predetermined duration. The invention according to claim 3 and further means arranged to render inoperative said desensitizing means after the duration of said short period of time. An automobile headlight dimmer comprising a light sensitive element, circuit means associated therewith for producing an electric output related to the intensity of a light signal affecting said element, a headlight dimming circuit electrically biased to a normal level of sensitivity and actuated by said output to cause headlight dimming when said intensity is greater than a definite value and to discontinue said dimming when the intensity of the light signal is reduced below a definite level, means for increasing the sensitivity of the system during dimming and desensitizing means actuated for a definite short time period immediately after discontinuance of said dimming to change the electrical bias of said dimming circuit to reduce the sensitivity of said system to a light signal. The invention according to claim 5, said last means comprising time delay means effective for said definite short period, said dimming circuit comprising a dimmer relay having a first position corresponding to bright headlight condition and a second position corresponding to dim headlight condition, means connecting said time delay means into said dimming circuit in said first position of the relay, and bias changing means under control of said time delay means to reduce the sensitivity of said system to a light signal while said time delay means is effective. The invention according to claim 6, said time delay means comprising a condenser-resistor circuit having a time constant corresponding to the definite short period, means for charging said condenser-resistor circuit in the second position of said relay, and means for connecting said charged condenser to said dimming circuit to produce said bias change in the first position of said relay. The invention according to claim 7, and means for rendering ineffective said desensitizing means at a definite short time period subsequent to dimming, whereby said desensitizing action occurs only when said dimming is of brief duration. The invention according to claim 8, said last means comprising means for discharging said condenser in the second position of said relay, and further time delay means for delaying the operation of said discharging means for a definite short period after the relay changes from the first to the second position. An automatic headlight dimmer comprising a lightconcentrating device arranged to concentrate light from a field of view in advance of a vehicle, a photo-sensitive electric cell having a photo-sensitive surface near the focus of said light-concentrating device so that light from said field of view is concentrated upon said surface, said photocell having a cylindrical exterior configuration, a cylindrical scanning drum mounted coaxially with said photocell for rotation thereabout, and having scanning apertures arranged to successively traverse contiguous portions of said surface as said drum is rotated; means for rotating said drum; and automatic headlight dimming means actuated by the response of said photo-sensitive cell to light from said field of view which passes through said apertures. The invention according to claim 10 and a housing enclosing said photo-sensitive cell, drum and driving means, said light-condensing device being a lens mounted in said housing. The invention according to claim 10, said lightconcentrating device being formed by a reflecting surface of said housing. The invention according to claim 10, and a peak detector responsive to the output of said photo-sensitive device, said automatic headlight dimmer being controlled by the output of said peak detector. The invention according to claim 13, and a cathode follower between said photo-sensitive device and said peak detector.

5: Jacob Rabinow biography, list of Jacob Rabinow inventions | [www.enganchecubano.com](http://www.enganchecubano.com)

*Jacob Rabinow was born Jacob Rabinovich in the Kharkov, Ukraine in and moved with his family to Siberia in during the Bolshevik Revolution. In , the Rabinow Family moved to China, where his father died.*

6: List of National Inventors Hall of Fame inductees - Infogalactic: the planetary knowledge core

## JACOB RABINOW: SELF-REGULATING CLOCK (1954 74 pdf)

*Jacob Rabinow, American Electrical engineer, consultant. Patentee in field Fellow Institute of Electrical and Electronics Engineers (Harry Diamond award ), American Association for the Advancement of Science; member National Academy Engineering, Philosophical Society Washington, Audio Engineering Society, Sigma Xi.*

### 7: USA - Automatic headlight dimmer with antioscillation circuit - Google Patents

*Inventing modern America by Brown, David E, , MIT Press edition, in English.*

### 8: Palmer's James Burke Fan Companion

*straight track rather than at the end of a swinging arm (); first self-regulating clock (); and his best known invention, a Reading Machine (). Rabinow was honored for his scientific work with.*

### 9: Jacob Rabinow : Wikis (The Full Wiki)

*Jacob Rabinow invents. in , he landed a slot in the Washington offices of the Bureau of Standards. In , he left to start his own consulting firm, Rabinow Engineering, which by the time.*

*Bolingbroke and Harley. Materials for Electrochemical Energy Storage and Conversion-Batteries, Capacitors, and Fuel Cells Eagle scout project workbook 2018 Semiconductor Memory Design and Application (Texas Instruments electronics series) Washington Park Wilderness Act of 1988 Easy laser printer maintenance and repair Bulletproof home defense Structure of the education training systems in the Sahel Essentially self-adjoint, and self-adjoint, operators Life of Edmund Burke. Prehistoric painted pottery of southeastern Arizona The Benefits of Exercise on the Human Body Eric Knowles Antiques Little-folk songs Hind swaraj book Everybody tells me to be myself, but I dont know who I am! Myths of the Underworld Journey 4: Cantometrics and cultural equity: the academic years Mobile data communications systems The Legend of the Mountain Possessed by demons, by C. Crowe. The Prologue of the Gospel of St. John The paradigm shift in elementary and secondary education Tribal development programmes in india Oxford handbook of public history Campo Aleman, the first ten years of Anaheim Nietzsche and the objectivity of morals 2016 it skills and salary report Ancient and accepted Exploring Russias past English at your fingertips Heart as metaphor Adulting by kelly williams brown Kaptest asvab book V. 1]. Americas industrial revolution and the people who delivered the goods Selenium testing tools cookbook second edition Models in Our Midst Dinakaran news paper in tamil today chennai 2 anmol khazanay Applications of supramolecular chemistry*