



Hollywood: Her Story November 2020 ENewsletter Inventions and Patents

Inventions – and, in many cases, associated patents – have been key to the maturation of the film industry. Women have contributed in this area, just like they have contributed in every other area of the movie business. Patents have been awarded to women for advances in lighting, animation, non-reflective glass, 3D imaging and more. Director Dorothy Arzner invented the boom microphone, although she did not apply for a patent. Cinematographer Brienne Murphy shared a 1982 Academy Award of Merit for her invention of the MISI Camera Insert Car and Process Trailer. This specially designed car has many safety features that help protect the technicians who are shooting close-ups of moving cars during action sequences. The patent of actress and sex siren Hedy Lamarr, although not related to the film industry, still deserves mention since it forms the basis of Bluetooth technology and resulted in her induction into the National Inventors Hall of Fame. Let's learn more about other inventive women.



Actress **Maude Adams** had a career in the theater industry in the late 1800s and early 1900s – possibly most remembered for her role as Peter Pan. After a severe case of the flu, she worked with General Electric on lighting for the stage and the Eastman Company to develop color photography (Kodachrome). She has four patents in the 1931-1932 time frame related to high-powered incandescent lighting.



Pioneering animator and engineer (a graduate of the Massachusetts Institute of Technology), **Claire Parker** received a patent in 1935 for the Pinscreen, patented in France. The Pinscreen is a grid of 240,000 metal rods that are pushed into position by hand thereby creating shaded and lit areas that are filmed frame by frame. The elements were later called pixels. She and her husband produced two movies using this technique – *Night on Bald Mountain* (1933) and *The Nose* (1963). In addition, the Pinscreen was used in the opening title sequence of the 1962 Orson Welles' movie *The Trail*. In the early 2010s, The National Film Board of Canada was still using an original Pinscreen on its main campus.



Physicist **Katharine Blodgett** was not only the first female scientist at General Electric, she was also the first woman to earn a PhD at Cambridge University. Among her inventions and patents is her 1938 patent for non-reflective glass or so-called invisible glass. This glass was first used in the movie industry in the cameras that filmed *Gone with the Wind*. Within a short time all projectors and cameras in the film industry used her glass which is now utilized in automobile windows, showcases, eyeglasses, picture frames, and submarine periscopes, in addition to cameras and optical equipment. Blodgett has been inducted into the National Inventors Hall of Fame and was the first industrial scientist to receive the Francis P. Garvan Medal given by the American Chemical Society to honor American women for distinguished service in chemistry.

Engineer **Kristina Johnson's** work on polarization-control technology, for which she received one of her more than 40 patents, is integrated into RealD 3D imaging. Used for the first time in the 2009 movie *Avatar*, today RealD 3D is the primary technology used for 3D animated movies. Johnson is an electrical



engineer recognized as a pioneer in optoelectronic processing systems, 3D imaging, and color management systems. In addition to 3D films, her work has formed the basis for rear projection systems for televisions, digital mammograms, faster screening of pap smears for cervical cancer, and foundational work that has resulted in near-to-the-eye displays. Johnson has been inducted into the National Inventors Hall of Fame for her work on RealD 3D and has received many other honors. She is now serving as President of The Ohio State University after serving as Chancellor of the State University of New York system.

Women in front of and behind the camera make the movies that we all welcome into our hearts and homes. Women across all the areas of moviemaking from actress to animator, editor to stuntwoman, costume designer to screenwriter, producer to director have contributed to the success of the movie industry since its founding in the 1890s. Help us celebrate these women who are written into movie history in *Hollywood: Her Story*.

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