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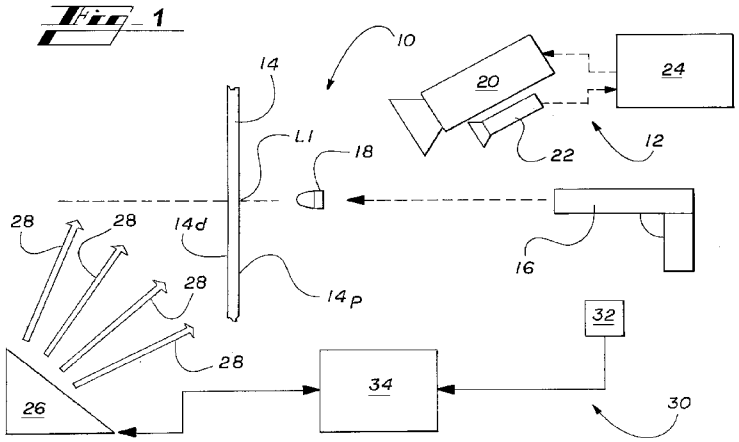
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(54) Title: LIGHT BASED PROJECTILE DETECTION SYSTEM FOR A VIRTUAL FIREARMS TRAINING SIMULATOR



(57) Abstract: A light based projectile detection system for use with a firearm and a virtual firearms training simulator includes a self-sealing screen having a proximal side and a distal side. A scenario projector transmits a simulation onto the proximal side, and a light source faces the distal side. The light source selectively projects light onto the distal side of the screen when the firearm is shot, such that light from the source traverses the screen after contact by a projectile. A camera monitors the light traversing the aperture created by the projectile to determine and associate the position of impact and transmit that information to a scenario computer. The system may include an audio detection circuit to monitor the sound generated by the firearm and transmit a signal to a flash controller to cause the light source to illuminate. The screen will then re-seal around the hole so that the light no longer traverses the screen.

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