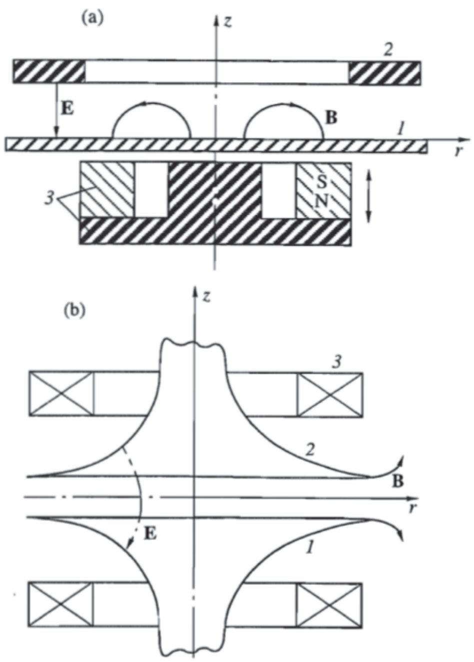
EXHIBIT A.04
U.S. Patent No. 7,147,759

References cited herein:

- U.S. Patent No. 7,147,759 ("'759 Patent")
- D.V. Mozgrin, *et al*, High-Current Low-Pressure Quasi-Stationary Discharge in a Magnetic Field: Experimental Research, Plasma Physics Reports, Vol. 21, No. 5, 1995 ("Mozgrin")
- A. A. Kudryavtsev, *et al*, Ionization relaxation in a plasma produced by a pulsed inert-gas discharge, Sov. Phys. Tech. Phys. 28(1), January 1983 ("Kudryavtsev")
- U.S. Pat. No. 5,247,531 ("Muller-Horsche")

Claims 17 and 39	**Mozgrin in view of Kudryavtsev and Muller-Horsche**
[1pre.] A magnetically enhanced sputtering source comprising:	The combination of Mozgrin with Kudryavtsev discloses a magnetically enhanced sputtering source. Mozgrin 403, right col, ¶4 ("Regime 2 was characterized by intense cathode sputtering…") Mozgrin at Fig. 1  **Fig. 1.** Discharge device configurations: (a) planar magnetron; (b) shaped-electrode configuration. (*1*) Cathode; (*2*) anode; (*3*) magnetic system.
[1a.] an anode;	The combination of Mozgrin with Kudryavtsev discloses an anode. '759 Patent at Fig. 1

<table>
<tr><th>Claims 17 and 39</th><th>Mozgrin in view of Kudryavtsev and Muller-Horsche</th></tr>
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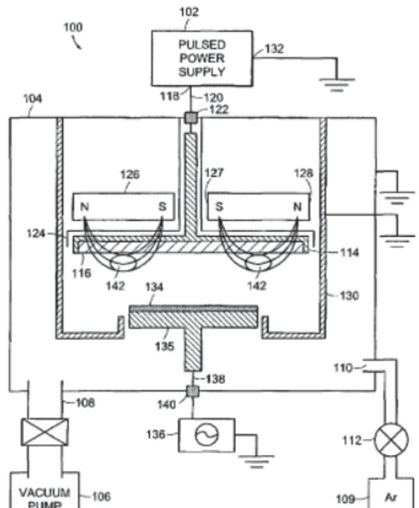

PRIOR ART
FIG. 1

‘759 Patent at Fig. 1 (“FIG. 1 illustrates a cross-sectional view of a known magnetron sputtering apparatus having a pulsed power source.”)

‘759 Patent at 3:40-41 (“an anode 130 is positioned in the vacuum chamber 104 proximate to the cathode assembly.”)

Mozgrin at Fig. 1

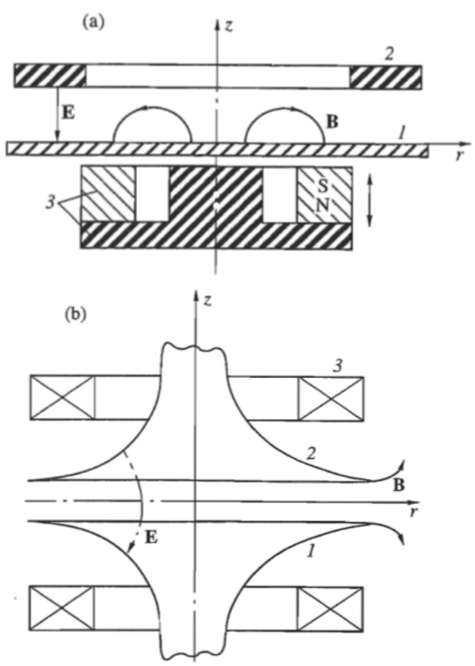

Fig. 1. Discharge device configurations: (a) planar magnetron; (b) shaped-electrode configuration. (*1*) Cathode; (*2*) anode; (*3*) magnetic system.
</td></tr>
<tr><td>[1b.] a cathode</td><td>The combination of Mozgrin with Kudryavtsev discloses a cathode</td></tr>
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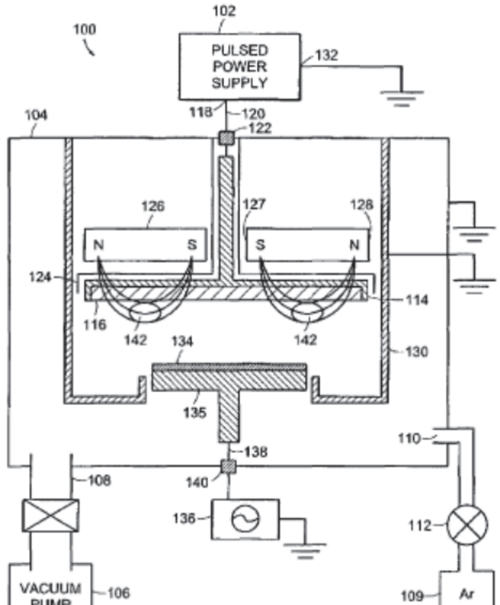
<tr><th>Claims 17 and 39</th><th>Mozgrin in view of Kudryavtsev and Muller-Horsche</th></tr>
<tr><td>assembly that is positioned adjacent to the anode, the cathode assembly including a sputtering target;</td><td>

assembly that is positioned adjacent to the anode, the cathode assembly including a sputtering target.

‘759 Patent at Fig. 1



PRIOR ART
FIG. 1

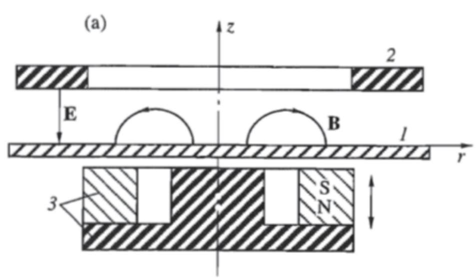
‘759 Patent at 3:10-12 (“FIG. 1 illustrates a cross-sectional view of a known magnetron sputtering apparatus having a pulsed power source.”)

‘759 Patent at 3:23-24 (“magnetron sputtering apparatus 100 also includes a cathode assembly 114 having a target material 116.”)

Mozgrin at 403, right col, ¶ 4 (“Regime 2 was characterized by intense cathode sputtering…”).

Mozgrin at 403, right col, ¶ 4 (“…The pulsed deposition rate of the cathode material…”).

Mozgrin at Fig. 1



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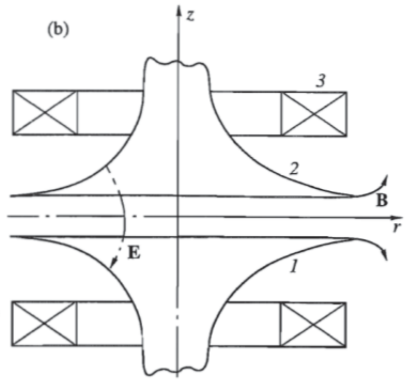
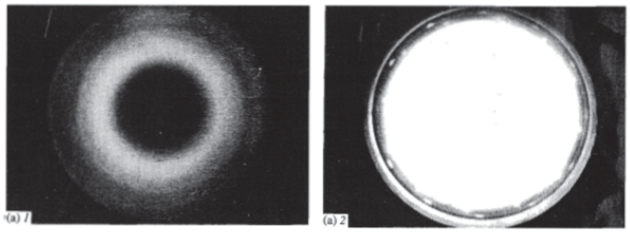
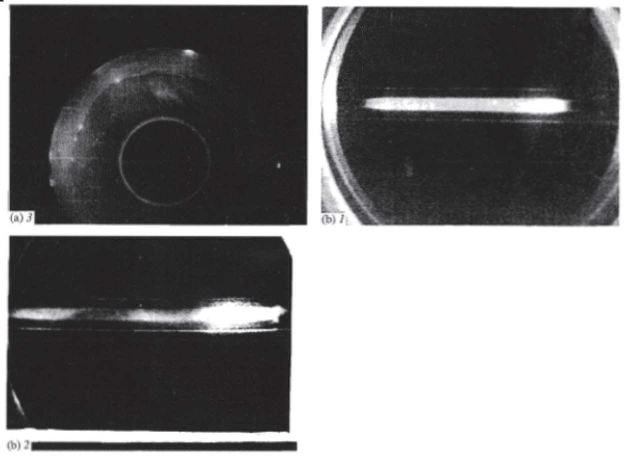
Claims 17 and 39	Mozgrin in view of Kudryavtsev and Muller-Horsche
	 **Fig. 1.** Discharge device configurations: (a) planar magnetron; (b) shaped-electrode configuration. (*1*) Cathode; (*2*) anode; (*3*) magnetic system.
[1c.] an ionization source that generates a weakly-ionized plasma proximate to the anode and the cathode assembly;	The combination of Mozgrin with Kudryavtsev discloses an ionization source that generates a weakly-ionized plasma proximate to the anode and the cathode assembly. '759 Patent at 6:30-32 ("The weakly-ionized plasma is also referred to as a pre-ionized plasma.") '759 Patent at claim 32 ("wherein the peak plasma density of the weakly-ionized plasma is less than about 10^{12} cm^{-3}"). Mozgrin at 401, right col, ¶2 ("For pre-ionization, we used a stationary magnetron discharge; the discharge current ranged up to 300 mA…. We found out that only the regimes with magnetic field strength not lower than 400 G provided the initial plasma density in the $10^9 – 10^{11}$ cm^{-3} range."). (emphasis added). Mozgrin at 401, left col, ¶ 1 ("The [plasma] discharge had an annular shape and was adjacent to the cathode."). (emphasis added) Mozgrin at 402, right col, ¶2 ("Figure 3 shows typical voltage and current oscillograms…. Part I in the voltage oscillogram represents the voltage of the stationary discharge (pre-ionization stage)."). Mozgrin at Fig. 6 

Claims 17 and 39	Mozgrin in view of Kudryavtsev and Muller-Horsche
	 **Fig. 6.** High-current quasi-stationary discharge regimes. (a) planar magnetron: (*1*) high-current magnetron regime (*p* Ar, $I_d = 70$ A, $U_d = 900$ V); (2) high-current diffuse regime ($p = 10^{-1}$ torr, Ar, $I_d = 700$ A, $U_d = 80$ V); (*3*) arc regim Ar, $I_d = 1000$ A, $U_d = 45$ V). (b) Shaped-electrode system: (*1*) high-current diffuse regime ($p = 10^{-1}$ torr, Ar, $I_d = 100$ (2) contracted arc regime ($p = 10^{-1}$ torr, Ar, $I_d = 1500$ A, $U_d = 50$ V).
[1d.] a magnet that is positioned to generate a magnetic field proximate to the weakly-ionized plasma, the magnetic field substantially trapping electrons in the weakly-ionized plasma proximate to the sputtering target; and	The combination of Mozgrin with Kudryavtsev discloses a magnet that is positioned to generate a magnetic field proximate to the weakly-ionized plasma, the magnetic field substantially trapping electrons in the weakly-ionized plasma proximate to the sputtering target. '759 Patent at 3:10-12 ("FIG. 1 shows a cross-sectional view of a known magnetron sputtering apparatus 100…" that has a magnet 126.") '759 Patent at 4:4-10 [*describing the prior art Fig. 1*] ("The electrons, which cause ionization, are generally confined by the magnetic fields produced by the magnet 126. The magnetic confinement is strongest in a confinement region 142….") Mozgrin at 401, left col, ¶ 1 ("The electrodes were immersed in a magnetic field of annular permanent magnets."). Mozgrin at 401, right col, ¶2 ("We found out that only the regimes with magnetic field strength not lower than 400 G provided the initial plasma density in the 10^9-10^{11} cm^{-3} range."). Mozgrin at 407, left col, ¶ 3 ("The action of the magnetic field serves only to limit the electron thermal conductivity and to provide collisions sufficient for efficient energy transfer from electrons to heavy particles."). Mozgrin at Fig. 1

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