WHAT IS CLAIMED IS:

1. A light transmitting member comprising:

two bottom surfaces;

a side surface between the two bottom surfaces; and

a screw thread formed on the side surface thereof,

wherein the formed screw thread on the side surface of the light transmitting member is detachably attached to a polishing pad of a polishing apparatus, the light transmitting member is capable of measuring a progress of polishing of a substrate while polishing the substrate, and

the light transmitting member is configured to transmit incident light for measuring the progress of the polishing of the substrate and reflected light generated by reflection of the incident light on a polished surface of the substrate;

wherein at least one of the bottom surfaces of the light transmitting member is formed with a recess to insert a tip end of a tool for attaching the light transmitting member; and

wherein a distance between the recess and a center axis of the light transmitting member is longer than a half of a radius of the light transmitting member.

2. The light transmitting member according to claim 1, wherein the light transmitting member has a cylindrical or truncated conical shape.

3. A polishing pad for a substrate polishing apparatus, the polishing pad comprising:

the light transmitting member according to claim 1 or 2; and

a screw hole corresponding to the screw thread of the light transmitting member.

4. A substrate polishing apparatus comprising:

the polishing pad according to claim 3;

a polishing table to which the polishing pad is attached; and

a polishing head corresponding to the polishing table for attaching the substrate.

5. A light transmitting member comprising a surface facing a substrate, wherein a screw thread formed on the side surface of the light transmitting member is detachably attached to a polishing pad of a polishing apparatus, the light transmitting member is capable of measuring a progress of polishing of the substrate while polishing the substrate,

the light transmitting member is configured to transmit incident light for measuring the progress of the polishing of the substrate and reflected light generated by reflection of the incident light on a polished surface of the substrate, and

the light transmitting member has a shape in which a cross-sectional area thereof in a plane parallel to the surface facing the substrate increases towards the surface facing the substrate;

wherein the surface facing the substrate is formed with a recess to insert a tip of a tool for attaching the light transmitting member; and

wherein a distance between the recess and a center axis of the light transmitting member is longer than a half of a radius of the light transmitting member.

6. A polishing pad for a substrate polishing apparatus, the polishing pad comprising:

the light transmitting member according to claim 5; and

a hole corresponding to a shape of the light transmitting member,

wherein the hole is shaped such that an area of the hole in a plane parallel to a polishing surface of the polishing pad increases towards the polishing surface of the polishing pad.

7. A substrate polishing apparatus comprising:

the polishing pad according to claim 6;

a polishing table to which the polishing pad is attached; and

a polishing head provided to face the polishing table for attaching the substrate.