What is claimed is:

1. A non-transitory computer-readable storage medium storing a program of a stretching operation of an elastic membrane in a substrate holding apparatus, the program for causing a computer to perform steps comprising:

performing a stretching operation of supplying a pressurized fluid to a pressure chamber formed by the elastic membrane and allowing the pressure chamber to be open to the atmosphere a predetermined number of times by a pressure regulating device in a state where the substrate holding apparatus is positioned above a polishing table while a substrate is not held by the substrate holding apparatus during a standby operation of a polishing apparatus.

2. The storage medium according to claim 1, the program for causing the computer to perform steps further comprising:

performing an operation of moving the substrate holding apparatus coupled to a swingable head arm from a standby position to a position above the polishing table by a swing device;

performing an operation of lowering the substrate holding apparatus attached to a vertically movable head shaft to a predetermined lower position by a vertically moving device;

performing the stretching operation by the pressure regulating device;

performing an operation of elevating the substrate holding apparatus by the vertically moving device after completion of the stretching operation; and

performing an operation of moving the substrate holding apparatus to the standby position of the substrate holding apparatus by the swing device.

3. The storage medium according to claim 2, wherein the predetermined lower position is a position where the elastic membrane is brought into contact with a polishing

pad supported by the polishing table at the time of supplying the pressurized fluid to the pressure chamber formed by the elastic membrane.

4. The storage medium according to claim 1, the program for causing the computer to perform steps further comprising:

performing a cleaning process for cleaning a processing liquid supply line by a flushing device; and

performing the stretching operation by the pressure regulating device before and/or after the cleaning process.

5. A method of stretching operation of an elastic membrane in a substrate holding apparatus, comprising:

performing a stretching operation of supplying a pressurized fluid to a pressure chamber formed by the elastic membrane and allowing the pressure chamber to be open to the atmosphere a predetermined number of times in a state where the substrate holding apparatus is positioned above a polishing table while a substrate is not held by the substrate holding apparatus during a standby operation of a polishing apparatus.

6. The method according to claim 5, further comprising:

moving the substrate holding apparatus coupled to a swingable head arm from a standby position to a position above the polishing table;

lowering the substrate holding apparatus attached to a vertically movable head shaft to a predetermined lower position;

performing the stretching operation;

elevating the substrate holding apparatus by the head shaft after completion of the stretching operation; and

moving the substrate holding apparatus to the standby position by the head arm.

7. The method according to claim 6, wherein the predetermined lower position is a position where the elastic membrane is brought into contact with a polishing pad supported by the polishing table at the time of supplying the pressurized fluid to the pressure chamber formed by the elastic membrane.

8. The method according to claim 5, further comprising:

performing a cleaning process for cleaning a processing liquid supply line; and

performing the stretching operation before and/or after the cleaning process.

9. The storage medium according to claim 1, the program for causing the computer to perform steps further comprising: performing the stretching operation when replacing the elastic membrane.

10. The storage medium according to claim 1, the program for causing the computer to perform steps further comprising: performing an operation of supplying a cleaning liquid onto a polishing pad by opening a processing liquid supply valve at the time of stretching operation.

11. The storage medium according to claim 1, the program for causing the computer to perform steps further comprising: performing an operation of monitoring an abnormality of a pressure of the pressurized fluid supplied to the pressure chamber based on a detected pressure value by a pressure detector.

12. The method according to claim 5, further comprising: performing the stretching operation when replacing the elastic membrane.

13. The method according to claim 5, further comprising: supplying a cleaning

liquid onto a polishing pad by opening a processing liquid supply valve at the time of stretching operation.

14. The method according to claim 5, further comprising: monitoring an abnormality of a pressure of the pressurized fluid supplied to the pressure chamber based on a detected pressure value by a pressure detector.