What is claimed is:

1. A clamping mechanism for fixing an assembly to a bicycle, the clamping mechanism comprising:

a plurality of clamps;

a tensioning conduit corresponding to each of the plurality of clamps; and

an actuator for simultaneously tensioning the plurality of clamps by way of the tensioning conduits,

wherein each clamp has a bracing element and a gripping segment, and wherein when the clamps are tensioned along the tensioning conduits, the gripping segment of each clamp is drawn towards the corresponding bracing element.

2. The clamping mechanism of claim I wherein the bracing element of each clamp has a substantially arcuate cross section along parallel planes and is configured to grip substantially parallel posts.
3. The clamping mechanism of claim I wherein the clamps are spaced apart at fixed locations relative to each other, and wherein the clamps are rigidly located by their respective tensioning conduits or housings for the respective tensioning conduits.
4. The clamping mechanism of claim 3, wherein a space between the clamps is sufficient for a bicycle wheel to pass therebetween.
5. The clamping mechanism of claim I wherein the actuator is a lever that manually tensions two tensioning cables within corresponding tensioning conduits simultaneously.
6. The clamping mechanism of claim I wherein each tensioning conduit houses a rigid shaft, and wherein the rigid shaft has a pin extending radially therefrom, and wherein the tensioning conduit comprises a path that travels about a circumference of the conduit as it extends axially, such that when the pin travels along the path, the shaft rotates axially.
7. The clamping mechanism of claim 6 further comprising a spring opposing tensioning force within each tensioning conduit, such that when tensioning force

is applied by the actuator, the rigid shaft is drawn in a first axial direction and rotates from an untensioned position and orientation to a tensioned position and orientation, and wherein when the tensioning force is released, the spring returns the shaft to the untensioned position and orientation.

8. The clamping mechanism of claim 6, wherein the rigid shaft ends in the gripping segment, and wherein the gripping segment extends radially from the shaft, such that in the tensioned orientation the gripping segment passes across the bracing element, and such that in the untensioned orientation, the gripping segment does not interfere with the bracing element when the bracing elements are applied to supports.
9. The clamping mechanism of claim 6, wherein each tensioning conduit further comprises a constant force spring mounted on a carriage, and wherein the path in each tensioning conduit has a first segment that travels about the circumference of the conduit and a second segment that is linear, and wherein after the pin reaches the linear segment of the path, additional force from the actuator may be applied to the carriage against the resistance of the constant force spring.
10. The clamping mechanism of claim 9, wherein upon tensioning the clamps along the tensioning conduit, the gripping segment of each clamp is rotated by the corresponding path in a first segment of travel and is then drawn towards the corresponding bracing element during a second segment of travel, and wherein, after clamping onto an object to be clamped, any additional force from the actuator is applied to the carriage.
11. The clamping mechanism of claim 1, wherein each tensioning conduit comprises a constant force spring, and wherein when the gripping segment of each clamp is drawn towards the corresponding bracing element, a final segment of tensioning for the gripping segment is against the force of the constant force spring.
12. The clamping mechanism of claim 11, wherein for each tensioning conduit, the constant force spring is mounted on a carriage, and wherein during a first segment

of travel, the gripping segment moves towards the bracing element, and during the final segment of travel, the gripping segment is stationary relative to the bracing element and the carriage moves relative to the gripping segment.

13. A bicycle drive assembly comprising:

at least one clamp for fixing to a bicycle;

a drive mechanism for driving a bicycle wheel; and

a plurality of elongate supports extending from the drive mechanism to the at least one clamp,

wherein when applied to a bicycle, a wheel of the bicycle passes partially between the elongate supports.

14. The bicycle drive assembly of claim 13, wherein the at least one clamp is a plurality of clamps for independently engaging legs of a bicycle fork on opposite sides of the wheel of the bicycle.

15. The bicycle drive assembly of claim 14, wherein each clamp corresponds to one of the plurality of elongate supports, and wherein the elongate supports each contain a tensioning mechanism for tensioning the corresponding clamp.

16. The bicycle drive assembly of claim 15 further comprising a clamp actuator adjacent the drive mechanism for actuating the plurality of clamps by way of the tensioning mechanisms in the corresponding elongate supports.

17. The bicycle drive assembly of claim 13, wherein the drive mechanism is a friction drive.

18. The bicycle drive assembly of claim 17, wherein the friction drive comprises a roller applied to a radially outer surface of the bicycle wheel, and the roller has a stone outer layer.

19. The bicycle drive assembly of claim 17, wherein the friction drive comprises a roller, and wherein the roller surface has a convex profile for maintaining an outer surface of the bicycle wheel at a center of the profile during use.

20. The bicycle drive assembly of claim 17, wherein the friction drive comprises a roller applied to a radially outer surface of the bicycle wheel, and the at least one clamp is rigidly fixed to the bicycle, such that the plurality of elongate supports generate a force directed towards the clamp, thereby providing an application force from the roller to the outer surface of the bicycle wheel greater than a weight of the bicycle drive assembly.
21. The bicycle drive assembly of claim 13, wherein the plurality of elongate supports comprise housings, and wherein batteries and electronic control systems are contained within the housings.
22. The bicycle drive assembly of claim 13 further comprising a motor in the drive assembly and an electronic controller for controlling the motor, and wherein the motor includes a Hall Effect sensor for determining a speed of the motor.
23. A clamping mechanism for fixing an assembly to a bicycle, the clamping mechanism comprising:

a plurality of clamps configured to selectively clamp a bicycle fork of the bicycle;

a tensioning conduit corresponding to each of the plurality of clamps; and

an actuator for simultaneously tensioning the plurality of clamps by way of the tensioning conduits,

wherein each clamp has a bracing element and a gripping segment, and wherein when the clamps are tensioned along the tensioning conduits, the gripping segment of each clamp is drawn towards the corresponding bracing element to clamp the bicycle fork.

24. A bicycle drive assembly comprising:

at least one clamp for releasably fixing to a bicycle having a bicycle fork on opposite sides of a wheel of the bicycle, wherein the at least one clamp engages the fork,

a friction drive for driving the bicycle wheel; and

a plurality of elongate supports extending from the friction drive to the at least one clamp,

wherein the wheel of the bicycle passes partially between the elongate supports, and wherein the at least one clamp is readily removable from the bicycle.

25. A system for releasably attaching a drive assembly to a bicycle having a bicycle fork on opposite sides of a wheel of the bicycle, the system comprising:

a drive assembly comprising a plurality of clamps, an actuator, and a motor configured to drive a friction roller,

wherein the plurality of clamps are configured to engage the bicycle fork of the bicycle, and wherein the actuator is configured to simultaneously tension the plurality of clamps to releasably clip-on the drive assembly to the bicycle fork such that the friction roller engages the wheel of the bicycle.

26. A method for driving a bicycle wheel using a bicycle drive assembly comprising:

providing a drive motor driving a friction roller;

monitoring a speed of the motor to determine a speed of a driven wheel of a bicycle;

determining if the speed of the driven wheel is above a throttle enabling threshold;

receiving an indication from a user that to activate an assist function of the drive motor; and

applying a driving force to the driven wheel of the bicycle only while the assist function is activated by the user and the speed of the driven wheel is above the throttle enabling threshold.