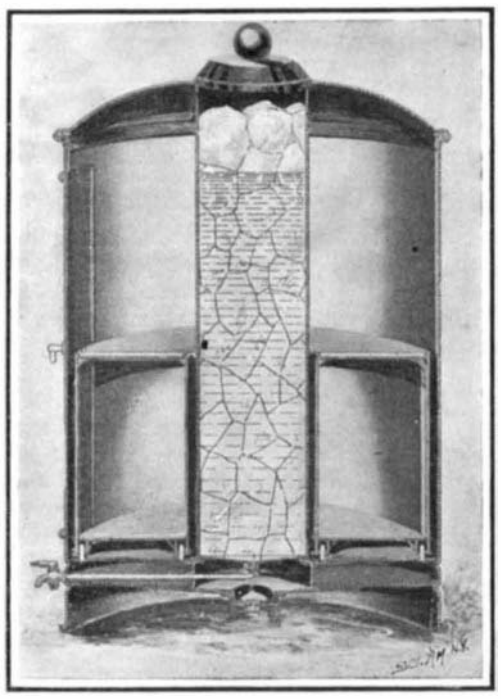
Patent Department

WATER COOLER AND REFRIGERATOR.

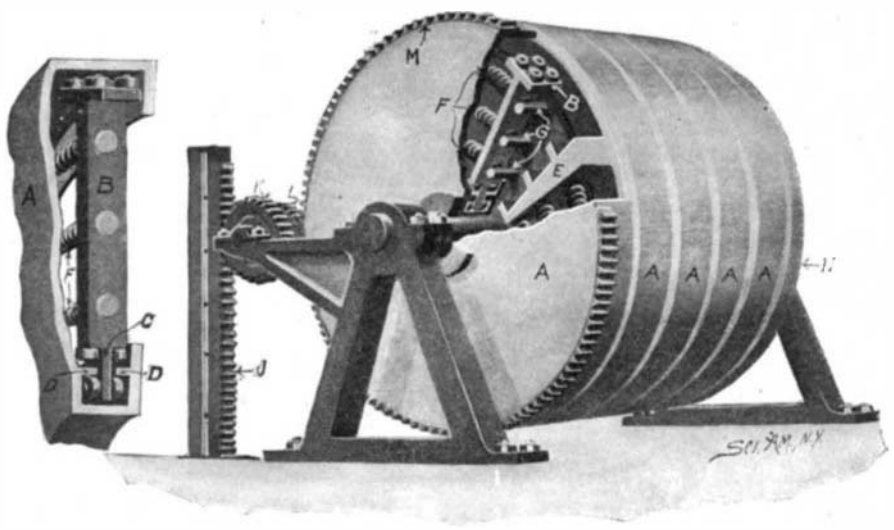
A recent invention provides a water cooler formed with a casing, in which various articles may be stored and kept cool by the ice of the water cooler. This combined water cooler and refrigerator occupies comparatively little space, and is thus particularly adapted for use in dining cars, restaurants, sample rooms, and the like. The construction of the device is very simple, and is clearly shown in the accompanying section view. The water cooler consists of a vertical cylinder, which is centrally supported in a large drum. The latter serves as the refrigerator, and is provided with a door at one side, through which access may be had to the interior. A pipe leading from the water cooler to the faucet on the outside of the refrigerator passes between the bottom of the drum and a false bottom consisting of a perforated plate. This plate supports a rack, which is designed to rotate around the water cooler. In order to permit easy movements of this rack, it is provided with rollers which fit into channels formed in the false bottom, as shown. The rack consists of two ring-like plates supported by a number of posts. The various articles to be cooled are laid on these plates, and as the rack can be rotated about the cooler, any desired part of it can be brought within easy reach. The water of condensation will pass through the perforated false bottom to the concaved bottom of the drum. At the center of this bottom wall is a large opening normally closed by a cap, in which there is a trap. The trap may be opened to drain out any water which has collected in the drum. When it is desired to clean the water cooler the cap is removed, giving access to the coupling between the water pipe and the cooler. When this coupling is released, the water cooler may be lifted bodily out of the drum casing. The inventor of this combined water cooler and refrigerator is Mr. John W. Brown, of Knoxville, Tenn., P. O. Box 23, Station A.



WATER COOLER AND REFRIGERATOR.

TRANSMITTING DEVICE.

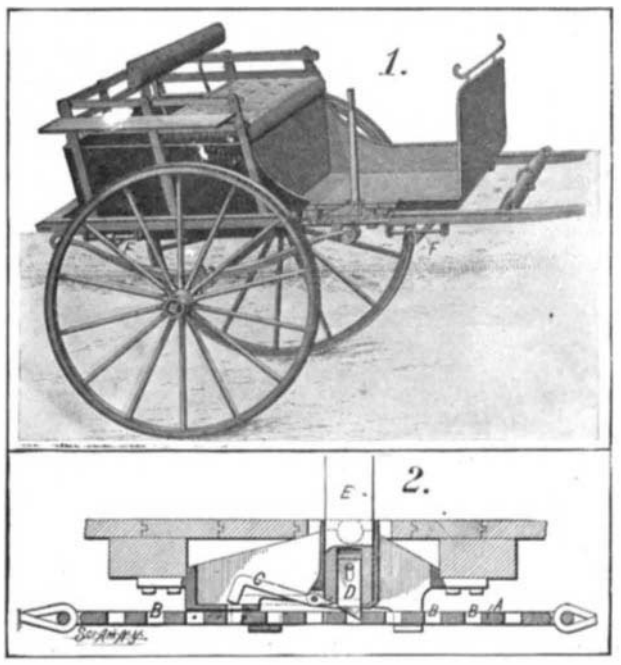
There are certain sources of power which have a very limited value, chiefly because of their intermittent or irregular character. Windmills, for example, vary with every gust of air, and wave motors must obey the whims of the ocean. The value of the power developed would be greatly increased, were some intermediary mechanism provided between the source of power and the work, which would absorb sudden variations, shocks, etc. This intermediary would also permit the coupling together of a number of these variable prime movers without loss of power. The power of several windmills, for instance, could be combined to operate a single machine. Such an intermediary mechanism has just been invented by Mr. Frederick S. Keyes, of Warren, Mass. As illustrated in the accompanying engraving the device comprises a series of wheels, mounted to turn freely on the driving shaft, and connected by spiral springs. Each wheel consists of a shallow drum, *A*, open at one side, and within which a series of movable abutments, *B*, are mounted. These abutments are radially disposed, and are provided with rollers at each end, adapted to bear against the side walls of the drum. At its inner end the abutment is formed with an extension, *C*, carrying rollers which bear either on the hub of the wheel or on a pair of annular flanges, *D*, projecting inwardly from the side walls. Aside from the movable abutments, each wheel is formed with a relatively stationary abutment, *E*. The movable abutments serve as connecting members between the sections of circularly arranged spiral springs, *F*, which lie concentric to the hub. On the outer face of each wheel a series of lugs, *G*, are formed, which project into the next adjacent wheel. The last movable abutment, or that at the end of the springs, bears against these lugs, as shown in the illustration, so that when one wheel is rotated, it acts upon the next through a cushion of springs, and the second wheel in turn transmits the power through a cushion of springs to the third wheel, and so on through the entire series. The purpose of dividing the springs into short sections by means of the abutments will be apparent. Buckling is entirely prevented, and friction of the springs against the sides of the wheels is thus obviated, while owing to their roller bearings the abutments are given perfect freedom of motion. In our illustration the mechanism is shown as applied to a wave motor. The rack, *J*, which is attached to a float, receives vertical reciprocating motion from the action of the waves, and imparts this to the pinion, *K*. This pinion is connected to pinion, *L*, by a ratchet clutch, which transmits motion in one direction only. The pinion, *L*, meshes with teeth, *M*, on the first wheel, *A*, causing the same to turn intermittently, but in a constant direction. The last wheel of the series engages a set of lugs on the disk, *N*, which is keyed to the main shaft.



TRANSMITTING DEVICE.

BALANCE ADJUSTER FOR VEHICLES.

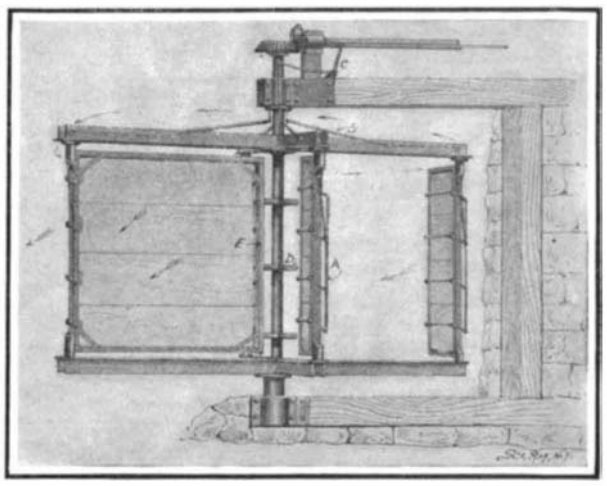
Two-wheeled vehicles, while very convenient and useful for certain purposes, yet possess the serious fault that they cannot at all times be perfectly balanced over the axle. If the forward end is overweighted an unnecessary load is imposed upon the horse, and if the rear end is overweighted the tendency will be to lift the horse off his feet. To remedy such conditions Mr. Patrick J. McGinn, of Salisburg P. O., Rhodesia, South Africa, has invented a vehicle which may be readily adjusted to the proper balance. The accompanying engraving shows this vehicle with a portion of the body broken away to reveal the adjusting mechanism. It will be noted that the body of the vehicle is not directly supported on the frame, but rests on front and rear straps which are slidably mounted on the side rails of the frame. This permits the body to be moved backward or forward with respect to the axle. Beneath the floor of the vehicle a bar, *A*, is mounted which is held in place by means of two rods anchored respectively to the forward and rear cross bars of the vehicle frame. The bar, *A*, is formed with rectangular openings, *B*, as indicated in the section view, Fig. 2. Directly above the bar, *A*, is a bracket which is bolted to the under side of the floor. A socket piece adapted to receive the lever, *E*, is formed with trunnions, which are mounted in bearings in the side walls of the bracket. A dog, *C*, is hinged to the bottom of the socket piece. The normal position of this dog is indicated by dotted lines in Fig. 2, which shows its outer end projecting through an opening in the bottom wall of the bracket and engaging one of the rectangular openings, *B*. When the lever, *E*, is inserted in the socket piece, it engages a projecting toe of the dog, *C*, lifting the latter to the position illustrated by full lines. Mounted to slide vertically in the end of lever, *E*, is a pinch-block, *D*, which projects through the socket piece and engages one of the openings, *B*. It will be observed that the lower face of the block, *D*, is inclined. Now, when it is desired to adjust the body of the vehicle, the lever, *E*, is inserted as illustrated, lifting the dog, *C*, and then when the lever is swung to the rear the pinch-block, *D*, serves as a fulcrum, so that the body of the car is moved rearwardly. When the lever is swung forward, the block, *D*, owing to its inclined face, is lifted out of engagement with the opening, *B*, and falls into the next opening to the rear. The lever, *E*, may then be operated to slide the vehicle body still further back. If it is desired to move the body forward the lever is placed in the socket in reverse position, so that the lower face of the block, *D*, inclines toward the rear. Then on moving the lever forward the body will be moved forward on the frame.



BALANCE ADJUSTER FOR VEHICLES.

AN IMPROVED WATER-CURRENT MOTOR.

A water-current motor of simple construction has recently been invented, which is provided with an efficient means for governing the speed or power developed. The motor is designed to be submerged well below the surface of a stream, so that it will not be in the path of driftwood or rubbish coming down with the current and will not be affected by the rise and fall of the current at different seasons of the year. The construction of the motor is clearly illustrated in the accompanying engraving. A pier of masonry is built out from the bank of the stream and supports an upper horizontal beam and a lower sill. A shaft is mounted to turn in bearings in the sill and beam. Rigidly secured to the shaft near its opposite bearings are a pair of blocks from each of which four arms or spokes radiate. Mounted between the upper and lower sets of spokes are four frames which, with the vanes they carry, serve as wings against which the current acts. The wings, which are indicated at *E* in the engraving, are hinged to the outer extremities of the spokes. On the main shaft of the current motor are a number of collars, *D*, formed with teeth adapted to stop the inner ends of the wings as they are swung against them by the current. It will be evident that the wings on one side of the main shaft will be forced against these stops by the weight of the current, while those on the other side will swing free from the shaft, assuming a position parallel with the direction of the current, and thus offering no appreciable resistance to the flow of the stream. The motor is thus caused to rotate, and the motion is transmitted by means of suitable gearing to any point desired. It will be noted that the vanes of the wings, *E*, are formed with trunnions which extend into the vertical posts of the frames. The trunnions at the outer ends carry cranks which are attached to connecting rods, *A*, so that when these rods are raised



AN IMPROVED WATER-CURRENT MOTOR.