73. MEASURING & TESTING.
379
BEST AVAILABLE COPY

No. 747,294. PATENTED DEC. 15, 1903.

R. W. BLAISDELL.

BICYCLIST'S STRENGTH TESTING MACHINE.

APPLICATION FILED FEB. 26, 1903.

NO MODEL.

Fig. 2.

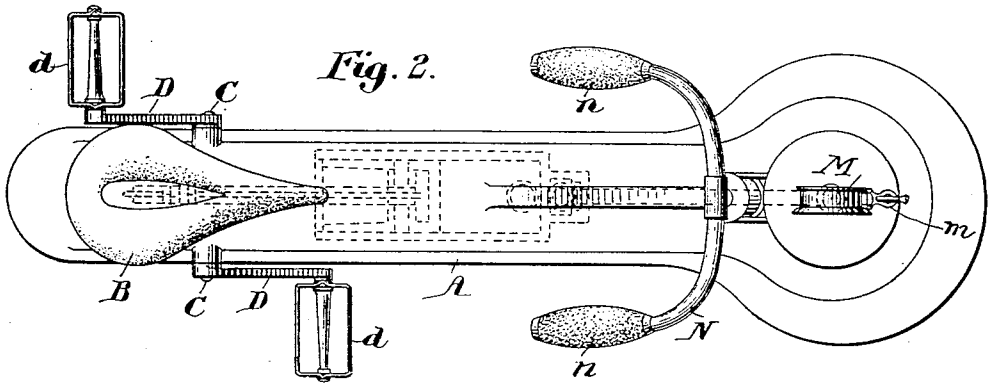
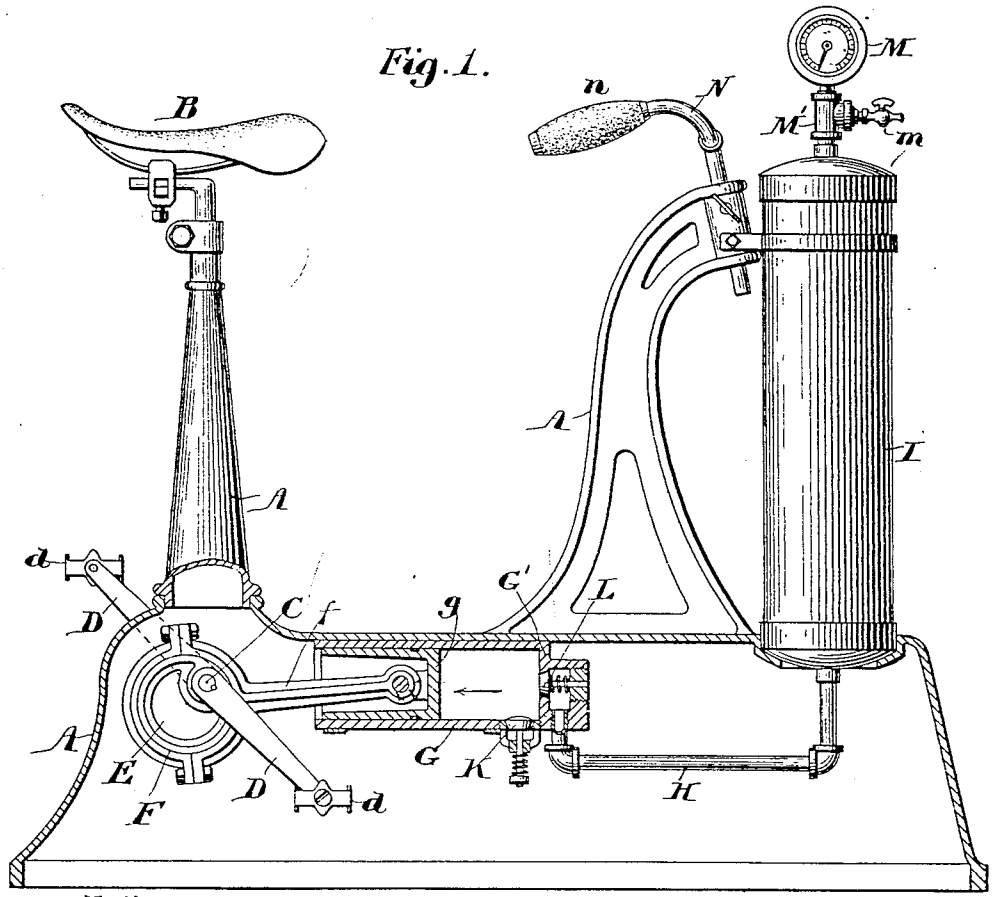


Fig. 1.



Witnesses:
Walter E. Lombard
Charles H. Smith

Inventor:
Robert W. Blaisdell,
by Albert Andrén.
Atty.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

BEST AVAILABLE COPY

ROBERT W. BLAISDELL, OF BEVERLY, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO HEZEKIAH O. WOODBURY, OF BEVERLY, MASSACHUSETTS.

Jens 597594
mer 487033
ud 582346
Aids Engineering Div.

BICYCLIST'S STRENGTH-TESTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 747,294, dated December 15, 1903.

Application filed February 26, 1903. Serial No. 145,138. (No model.)

To all whom it may concern:

Be it known that I, ROBERT W. BLAISDELL, a citizen of the United States, and a resident of Beverly, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Bicyclists' Strength-Testing Machines, of which the following is a specification.

This invention relates to improvements in bicyclists' strength-testing machines for the purpose of testing and indicating the strength of a person applying leg-power to pedals on a rotary shaft operated in a manner similar to that of riding a bicycle, and it is carried out as follows, reference being had to the accompanying drawings, where—

Figure 1 is a side elevation of my improved strength-testing machine, partly shown in section; and Fig. 2 is a top plan view of the same.

Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

In the drawings, A represents a suitable fixed stationary frame or standard, preferably made of metal and provided at one end with a vertically-adjustable bicycle-saddle B of any well-known size or pattern. Any suitable mechanism may be used for adjusting the position of said saddle as may be desired without departing from the essence of my invention. Below said saddle is journaled in the frame A the pedal-shaft C, to the ends of which are secured cranks D D, provided with pedals *d d* in a manner similar to those employed on a bicycle. To said shaft is secured an eccentric-disk E. The said eccentric-disk is surrounded by a strap F, to which is attached a rod *f*, the free end of which is pivotally connected to a piston *g*, movable in an air-pump cylinder G, which is closed in one end, as shown at G' in Fig. 1. Such closed end of the pump-cylinder is connected by means of a pipe H to a closed tank or air-chamber I, as shown.

K is an air-inlet valve at or near the closed end of the pump-cylinder, said valve being arranged, constructed, and seated in any suitable manner, so as to cause ingress of air to the pump back of its piston when the latter moves in the direction of the arrow shown in Fig. 1, and adapted to be automatically closed to prevent the air within said pump-cylinder from escaping through the said valve when the piston is moved in the opposite direction.

In the closed end of the cylinder G is arranged a self-closing check-valve L, which allows the air from the pump-cylinder G to be forced through the pipe H into the tank I whenever the piston *g* is moved in a direction opposite to that shown by arrow in Fig. 1 and caused to close against its seat when the piston *g* moves in the direction of said arrow.

To the tank I is connected a pressure-gage M of any well-known form or construction by means of a pipe M', upon which is arranged a suitable escape-valve or cock *m*, for a purpose as will hereinafter be described.

To the upper portion of the frame A in front of the saddle B is secured an adjustable handle-bar N, provided with a pair of handles *n n*, like those used on a bicycle, as shown in the drawings.

The operation of this my improved bicyclist's strength-testing machine is as follows: The person while seated on the saddle B and grasping the handles *n n* on the handle-bar N places his feet on the pedals *d d* and imparts a rotary motion to the shaft C, as is common in bicycle propulsion. During such rotation of the said shaft a reciprocating motion is imparted to the piston *g*, causing the air to be gradually compressed in the tank I, according to the strength and power exerted by the rider, which compression will be shown on the pressure-gage M. After a test has been made by one person the compressed air is allowed to escape from the tank I by opening the cock *m*, connected to said tank, after which the said cock is closed, when the apparatus is ready for use by another person, and so on.

As shown, the base A is a stationary one and is made hollow to contain and protect the air-compressor and the pedal-shaft and the connections to said air-compressor. By arranging the air-compressor, the pedal-shaft, and the connections to said air-compressor within the stationary hollow base the parts are protected from injury and are also protected against the injurious effects of dust and the like.

BEST AVAILABLE COPY

Having thus fully described the nature, construction, and operation of my invention, I desire to secure by Letters Patent and claim—

In a bicyclist's wheelless strength-testing machine, the combination with a hollow stationary base A, of a pump-cylinder G arranged within said hollow base, a seat secured to the latter, a pedal-shaft journaled in said base and provided with pedals, an eccentric on said pedal-shaft for actuating the pump-piston, an air-chamber connected to said pump-cylinder and a pressure-gage connected to said air-chamber, substantially as described.

In testimony whereof I have affixed my signature in presence of two witnesses.

ROBERT W. BLAISDELL.

Witnesses:
ALBAN ANDRÉN,
E. E. TORREY.