L. WILBER.

Carriage-Brake.

No. 37,468. Patented Jan 20, 1863.

Fig: 1

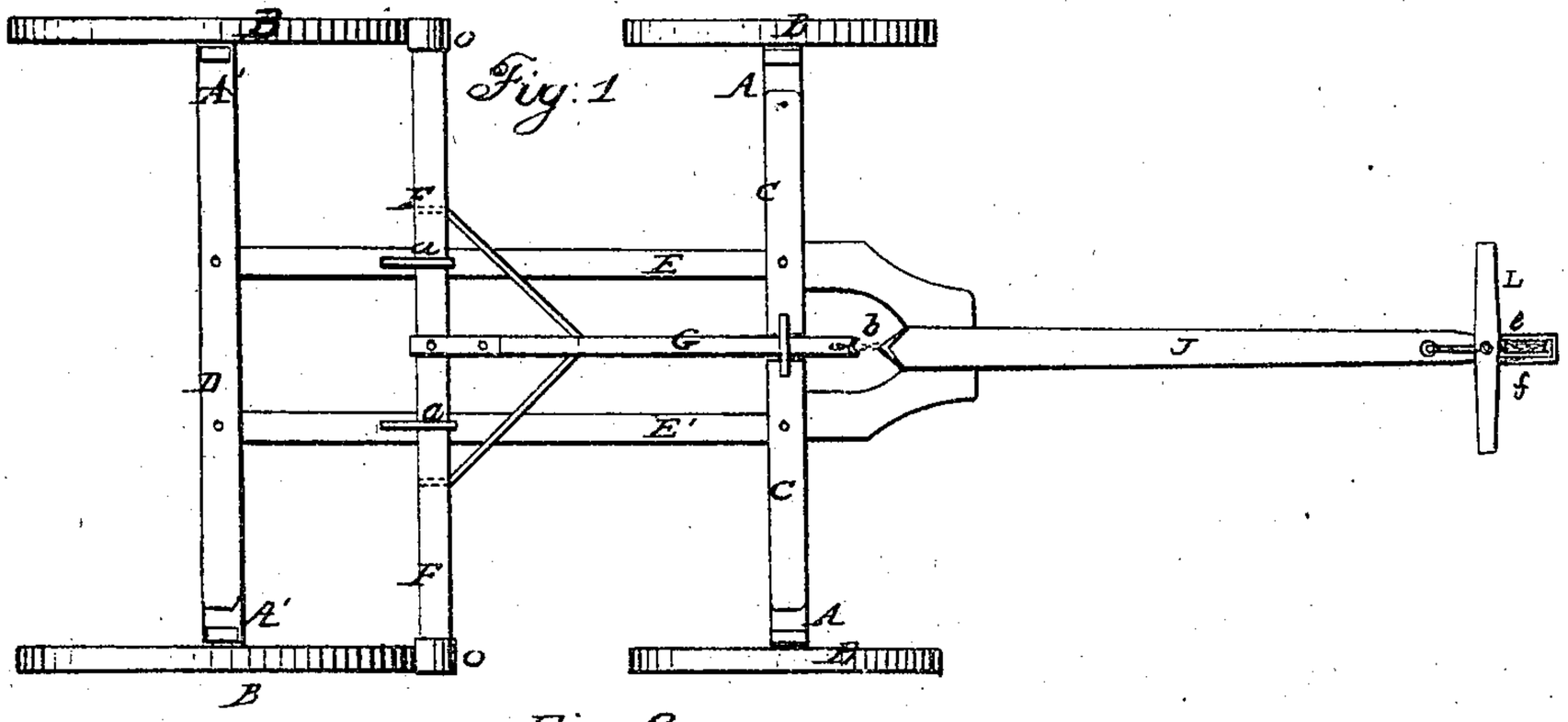


Fig. 2.

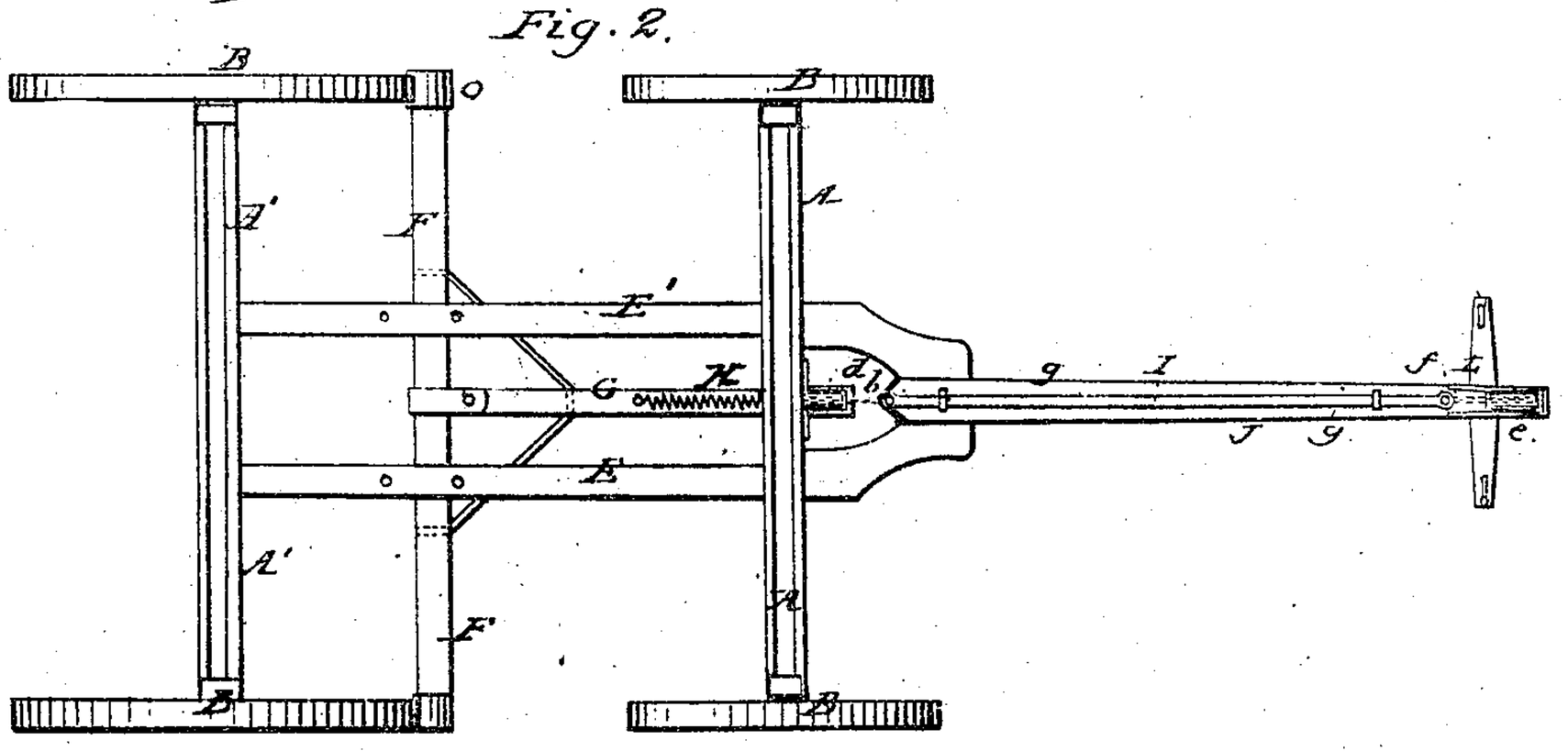
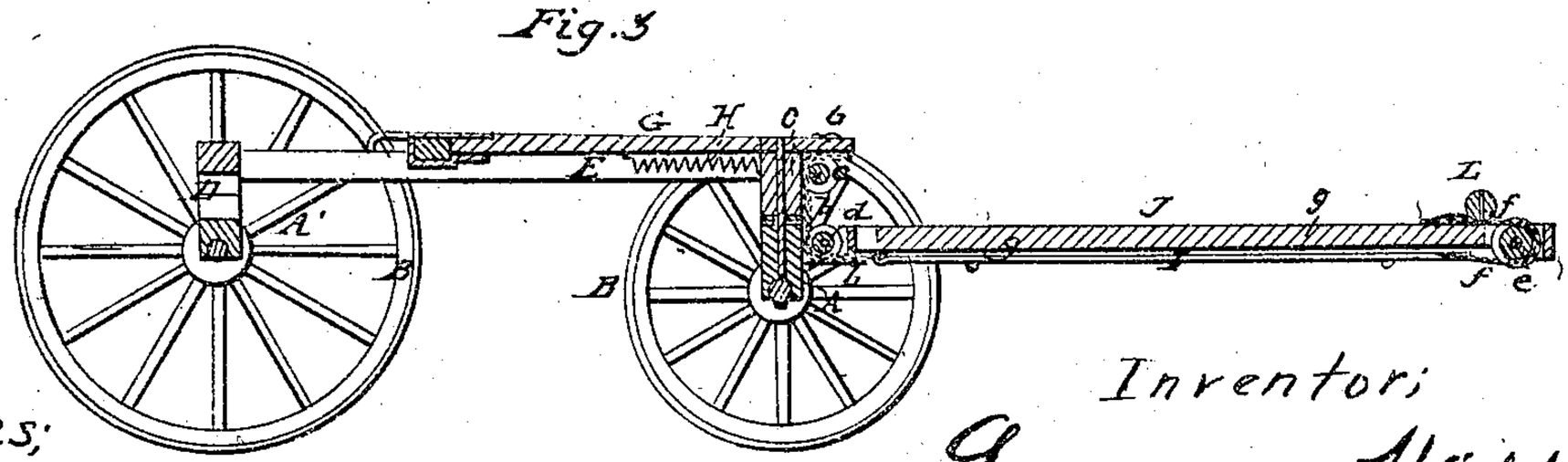


Fig. 3



Witnesses;

L. R. Hall Jr.

R. Bampton.

Inventor;

Lowell Wilber

UNITED STATES PATENT OFFICE.

LOWELL WILBER, OF PUTNEY, VERMONT.

IMPROVEMENT IN BRAKE MECHANISM FOR CARRIAGES.

Specification forming part of Letters Patent No. **37,468**, dated January 20, 1863.

To all whom it may concern:

Be it known that I, LOWELL WILBER, a citizen of the United States of America, and a resident of Putney, in the county of Windham and State of Vermont, have invented a new and useful Improvement in Brake Mechanism for Carriages, &c.; and I do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 denotes a top view, Fig. 2 a bottom view, and Fig. 3 a longitudinal and vertical section, of the "running gear" of a carriage as provided with my invention.

The nature of my said invention consists in a peculiar arrangement of mechanism with the running-gear of a carriage, whereby the brake-bar or brakes thereof, instead of being operated in the usual manner, (by manual labor,) may be perfectly controlled by the movements of the draft-animals attached to such carriage, the same being as will be hereinafter set forth.

In the drawings, A denotes the front, and A′ the rear, axle of a carriage, each of such axles being provided with two wheels, B B.

C is the rocker-bar, which is furnished with a king-bolt which passes down through a hole formed vertically through the front axle in the ordinary manner.

D is a bolster or support bar, which is arranged over and firmly secured to the rear axle, A′, and so as to stand in the same vertical plane therewith.

E E′ are two perches or bars which connect the said bolster and rocker.

F is the brake-bar, which has a rubber, *o*, (made of iron or any other suitable material,) arranged and firmly fixed upon each of its ends, as seen in Fig. 1.

G is a connection-rod or guide-bar, which, at its rear end, is firmly jointed or connected to the central part of the brake-bar F, while its other end extends forward and plays freely through a slot formed in the rocker-bar C. The said brake-bar plays freely back and forth on the said perches E E′, and is kept in place thereon by means of two staples, *a a*, disposed as shown in Fig. 1.

H is a coiled spring, which has one of its ends attached to the bar G, while its other end is connected to the rear part of the rocker-bar C, in manner as seen in Figs. 2 and 3, the object of such spring being to withdraw the brakes from their wheels when no resistance or friction of such brake is desirable.

To the front part of the slide-bar G one end of a chain or band, *b*, is attached. Such chain is next caused to pass over the front end of the said slide-bar, and from thence is carried backward and around a pulley, *c*, which is attached to the front part of the rocker-bar. From thence the said chain extends downward and is carried under another pulley, *d*, (arranged on the front part of the front axle, as seen in the drawings,) and from thence is carried forward and is fastened to a connecting-rod, I, which extends along through a groove, *g*, formed on the under side of the pole J, as seen in Fig. 2. To the opposite end of such connecting-rod one end of another band or chain, *f*, is attached, passes forward and around another sheave or pulley, *e*, arranged in the end of the pole J, and has its other end carried back and secured to the yoke L, to be attached to the draft-animals.

Having described the construction of my improved brake mechanism, I will now describe its operation:

If we suppose two horses or other draft-animals to be attached to the pole of the carriage by means of the yoke L, and the carriage to be descending a hill or declivity, the weight or momentum of the carriage will tend to force it forward with too great velocity. The horses, in endeavoring to prevent such undue speed of the carriage, will draw backward the yoke, which, being fastened to the chain *f*, draws backward the end of the chain, and, of course, advances the connecting-rod I, which in its turn draws forward that end of the chain *b* which is connected with it, and as this chain, after passing under the friction-pulley *c*, is carried vertically upward and in rear of another pulley, *d*, and from thence over the top of the pulley and some distance in advance of it, and is carried over the projecting end of the slide-bar G, a given amount of force acting upon the yoke, as described, will cause the rear portion of the chain *b* to be brought into or nearly into a vertical line, which, of course, will force forward the slide-bar G and bring the brakes against the wheels with such power as may be desirable. As soon as the horses commence to draw forward the carriage, the spring H relieves the wheels from the brakes.

A brake apparatus constructed and applied in my improved manner is not only very simple and little liable to get out of order, but is very efficient in operation. Among other advantages it possesses, I am enabled by it to employ a straight slide-bar, G, (rather than one or more levers,) in connection with the brakes or brake-bar F, and to support such bars F and G directly upon the perch and rocker-bars. By such I have no fulcrum-bolts liable to be broken or deranged under the pressure and action of the wheels. By the use of the chain *b*, operating on pulleys, arranged with respect to the bar G and the rocker and front axle as described, I am enabled to operate mostly by direct tension of all or most of the parts, except the slide, which is more favorable to durability and less liable to breakage or derangement of them.

I do not claim combining the brakes with the tongue or shafts of a carriage by such means as to cause the brakes through the action of the draft animal or animals to be borne against the wheels while the carriage may be descending a hill; nor do I claim the mechanism (for such purpose) described in the Patents No. 7,177, dated March 12, 1850, and No. 2,518, dated October 22, 1861; but

I claim—

The application or arrangement of the slide-bar G, its spring H, chain *b*, and pulleys *c d* relatively to the perches E E′ and the rocker-bar C, the front axle, A, and the tongue J, provided with a draft rod, I, operated by the chain *f*, connected with the yoke or bar L, and going around a pulley, *e*, as described.

LOWELL WILBER.

Witnesses:

F. P. HALE, Jr.,

J. B. BAMPTON.