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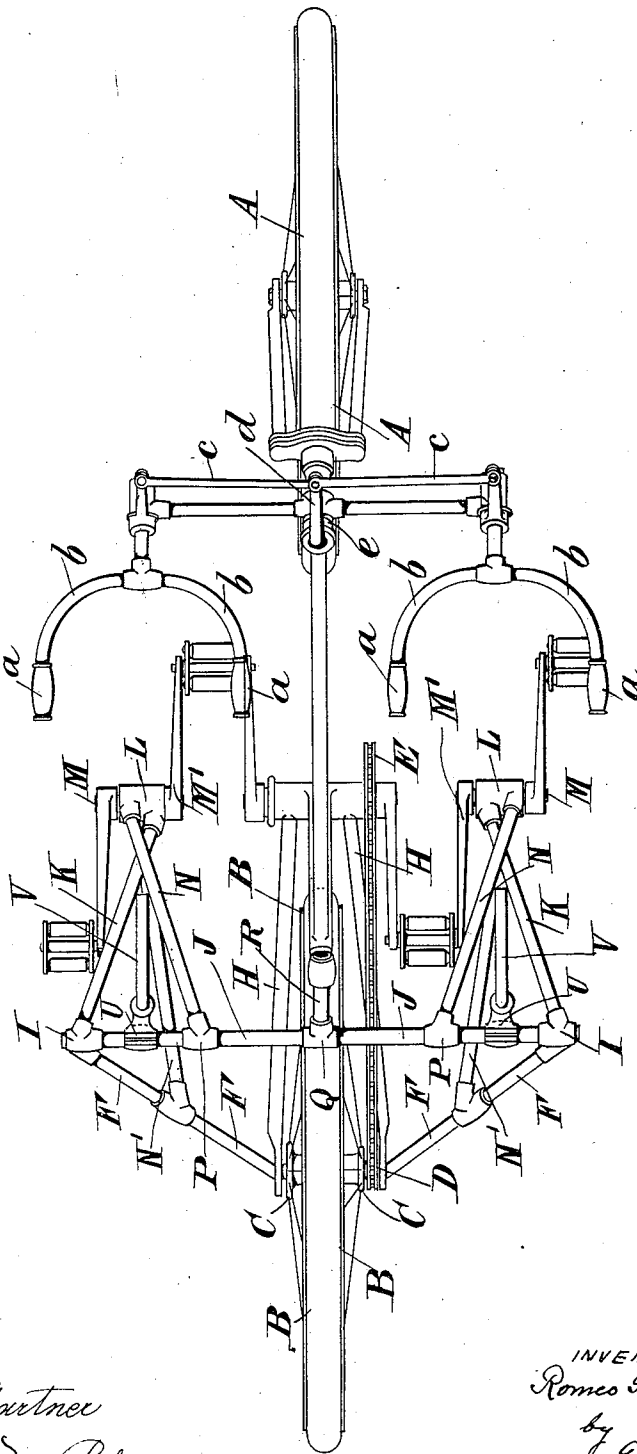
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R. GRILLI.
BICYCLE.

No. 563,958.

Patented July 14, 1896.

Fig. 1.



Witnesses:
Felicitas Gartner
Duncan M. Robertson.

INVENTOR:
Romeo Grilli
by Gartner & Co. Atty.

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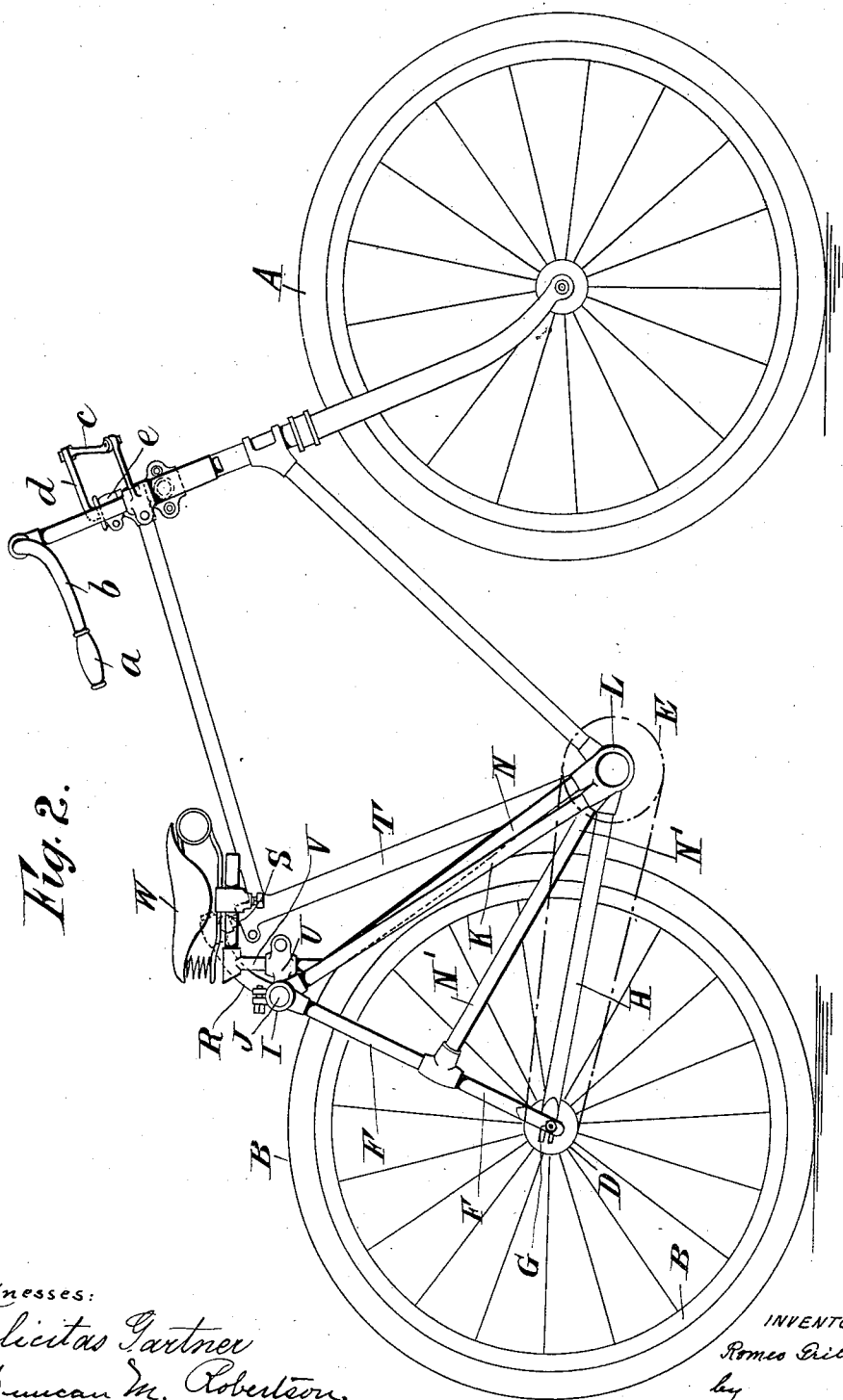


Fig. 2.

Witnesses:

Felicitas Gartner
Duncan M. Robertson.

INVENTOR:

Romeo Dilli
by
Fartner & Co
Mey

(No Model.)

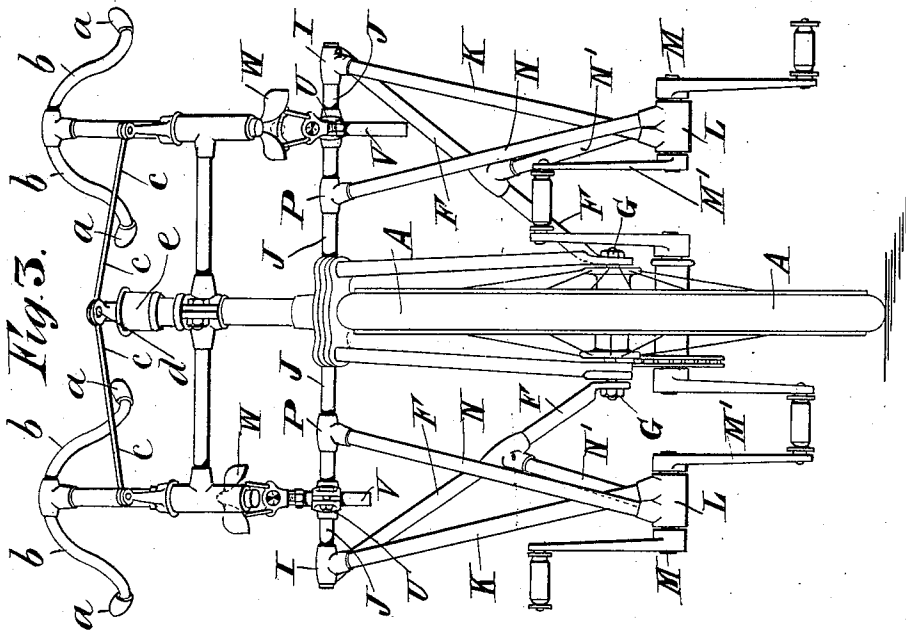
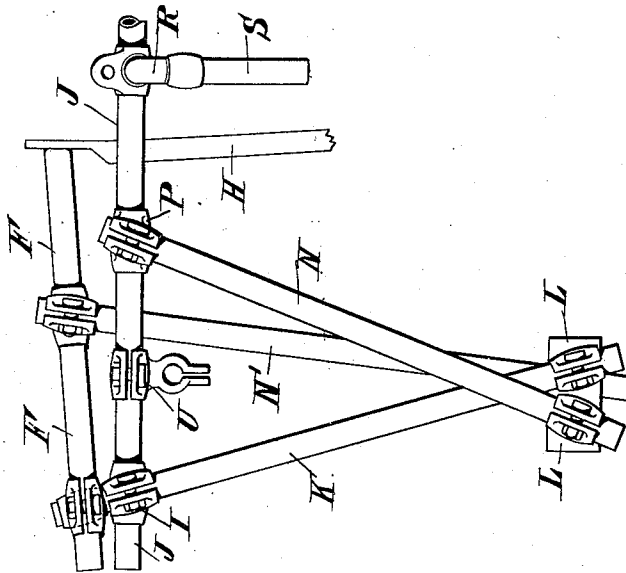
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Fig. 4.



Witnesses:
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Duncan M. Robertson.

INVENTOR:
Romeo Grilli
by
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Attys

UNITED STATES PATENT OFFICE.

ROMEO GRILLI, OF CHARKOFF, RUSSIA.

BICYCLE.

SPECIFICATION forming part of Letters Patent No. 563,958, dated July 14, 1896.

Application filed April 27, 1896. Serial No. 589,194. (No model.) Patented in England September 21, 1895, No. 17,668.

To all whom it may concern:

Be it known that I, ROMEO GRILLI, a subject of the King of Italy, residing at 15 Sum-scaia, Charkoff, Russia, have invented certain new and useful Improvements in or relating to Bicycles, (patented in Great Britain, No. 17,668, dated September 21, 1895,) of which the following is a specification.

This invention relates to special appliances affixable to bicycles in order that two persons may occupy seats on either side of the bicycle-frame, which, according to my invention, is not in any way altered if it be desired to use the bicycle in the ordinary way for a single rider sitting above the frame in the well-known manner, except perhaps the shifting of the ordinary seat for use by one of the two riders when my apparatus is affixed to the frame.

For the purpose of my invention I employ a number of tubes or rods with permanent sockets, or with clipping devices of special formation, to constitute a frame capable of attachment to either end of the axle of the hind or drive wheel and to the center stay; also to the pedal-pins, there being a series of branch tubes or rods leading to other permanent sockets or clipping devices for supporting a distinct set of cranks and pedals, the inner of which cranks on each side are readily connectable to the existing pedal-pins for duplicating the action, so that each rider has the power of exercising his or her feet for propulsion purposes, the power being communicated by the existing chain and gear, the two persons sitting abreast and having an unbroken view in front while traveling, as is not the case with what is known as tandem bicycles, in which one person sits behind the other. I provide sockets or clipping devices on a cross tube or rod for the adjustment of the saddle-pillar or L-pins and seats to accommodate varying weights of the riders for balancing purposes, and I clip on the front frame-tube a transverse bar for carrying duplicate handle-bars and handles.

My invention is represented in the accompanying drawings, in which the ordinary bicycle is shown in thin lines and my additional double-seated frame in shaded lines.

Figure 1, is a plan of a rear-driving safety-bicycle with my additional double-seated

frame attached; Fig. 2, a side elevation of same; Fig. 3, an elevation from the front of machine, and Fig. 4, a detached plan of part of my additional double frame with my adjustable clips in lieu of the fixed sockets shown on the previous figures.

A represents the front or steering wheel of a single safety rear-driver bicycle; B, rear drive-wheel, on the hub C of which wheel the chain D operates from the sprocket E, this being on the pedal-crank axle in the well-known manner.

F F are tubes or rods with flattened lower ends holed for engaging over the extremities of the hind axle, on which they are secured by lock-nuts G, and which otherwise retains the hind wheel B within the back fork H. The tubes or rods F F are set at an angle upwardly, outwardly, and forwardly, where they are secured to sockets or clipping devices I I, attached to the cross-bar J, there being other tubes or rods K K from the same sockets or clipping devices I I leading downwardly, forwardly, and inwardly, where their lower ends are connected to other sockets or clipping devices L L, within which duplicate pedal-axes M M are carried, the cranks M' M' being attached to the ordinary pedal-pins by a lock-nut.

N N N' N' are other tubes or rods from the sockets or clipping devices L L leading upwardly, rearwardly, and inwardly to other sockets or clipping devices P P on the cross-bar J and to the rods F F, respectively, the three tubes or rods K K N N N' N' of the additional frame constituting an irregular tripod for rigid connection to the axle of the hind wheel B by the stay-rods F F and the cross-bar J and additional pedal-axes M M.

The central part of the cross-bar's length has another socket or clipping device Q, with a curved spur R extending from it, the opposite forwardly-projecting end having depending piece S for entering the center stay T and from which the ordinary saddle-pillar had been removed, said depending piece S being clipped in said center stay by the same clip which otherwise fixed the saddle-pillar. The cross-bar J has also clipping devices U U adjustable thereon for carrying the two saddle-pillars V V and seats W W for the two riders, which clips can be moved along the bar J toward or from the

center of the machine to suit the different weights of the riders, and so balance them for keeping the machine upright.

With two ladies sitting abreast on my duplicated machine very little, if any, adjustment of the saddles would be required, but if very unequal weights, such as between that of a lady and gentleman, the lady being probably the lighter weight of the two, would require to be set farther from the center or the gentleman be adjusted nearer to the center of the bar for balancing purposes, there being no more trouble in doing this than in adjusting the saddle-pillar of a single-seated machine for a fresh rider.

I have shown for sake of convenience on my drawings a double set of handles *a a* and handle-bars *b b*, secured to the front frame-tube *c*, said handle-bars *b b* being jointed to short rods *c c*, leading to and connected with a spur *d*, attached to and projecting forwardly from the stalk of the steering-post *e*, the original handle-bar having been previously removed. This, however, can be affixed and employed with the machine in which my additional frame is fitted if desired, or the ordinary handles without removing them can be used by the two riders, but such arrangement forms no part of my present invention and I make no claim thereto.

What I claim, and desire to secure by Letters Patent, is—

1. An attachment for bicycles, comprising two sets of irregular tripods, a crank supported in the apex of each tripod, a pedal on the outer section of each crank, a cross-bar connecting two legs of one tripod with the two corresponding legs of the other tripod, a rod projecting downwardly and rearwardly from each end of said cross-bar and connected with the third leg of the tripod and adapted to engage with its lower free end the axle of the rear wheel, a curved spur projecting upward and forward from the center of said cross-bar and provided with a downwardly-projecting pin, adapted to engage the center stay of an ordinary bicycle, and a saddle-pillar adjustably arranged on the cross-bar and on each side of the curved spur, all said parts, substantially as and for the purposes described.

2. An attachment for bicycles, comprising two distinct yet oppositely-arranged irregular tripods, each of said tripods being connected

at its apex by a combination-socket, into which the respective legs of the tripod are adjustably arranged, a crank in each socket, a pedal on the outer section of each crank, a sleeve or clip at the outer end of each tripod-leg, a cross-bar connecting two of those clips of one tripod with the two corresponding ones of the other tripod, a rod projecting rear and downwardly from each end of said cross-bar and adjustably arranged in the respective clips, said rod penetrating the clip at the free end of the third leg, and adapted to engage with its lower portion the axle of the rear wheel of an ordinary bicycle, a curved spur adjustably arranged on the cross-bar and substantially in its center and adapted, with its downwardly-projecting forward portion, to engage the center stay of the bicycle, and a saddle-pillar adjustably arranged on the cross-bar and on each side of the curved spur, all said parts, substantially as and for the purposes described.

3. An attachment for bicycles, comprising two distinct yet oppositely-arranged irregular tripods, each of said tripods being connected at its apex by a combination sleeve or socket, a crank in each socket, a pedal on the outer section of each crank, the inner section of each crank being adapted to engage the axle-pin of the pedal of an ordinary bicycle, a cross-bar connecting two legs on one tripod with the two corresponding legs of the other tripod, a rod projecting downwardly and rearwardly from each end of the cross-bar, said rod being connected in about its middle with the third leg of the said tripod, and being adapted to engage with its lower free end the axle of the bicycle, a curved spur projecting upward and forward from the center of the cross-bar and provided at its free end with a downwardly-extending pin adapted to engage the center stay of the bicycle, a sleeve adjustably arranged on the cross-bar and on each side of the spur, and a saddle-pillar vertical adjustably arranged in each of said sleeves, all said parts substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ROMEO GRILLI.

Witnesses:

PERCY E. MATTOCKS,
EDMUND S. SNEWIN.