

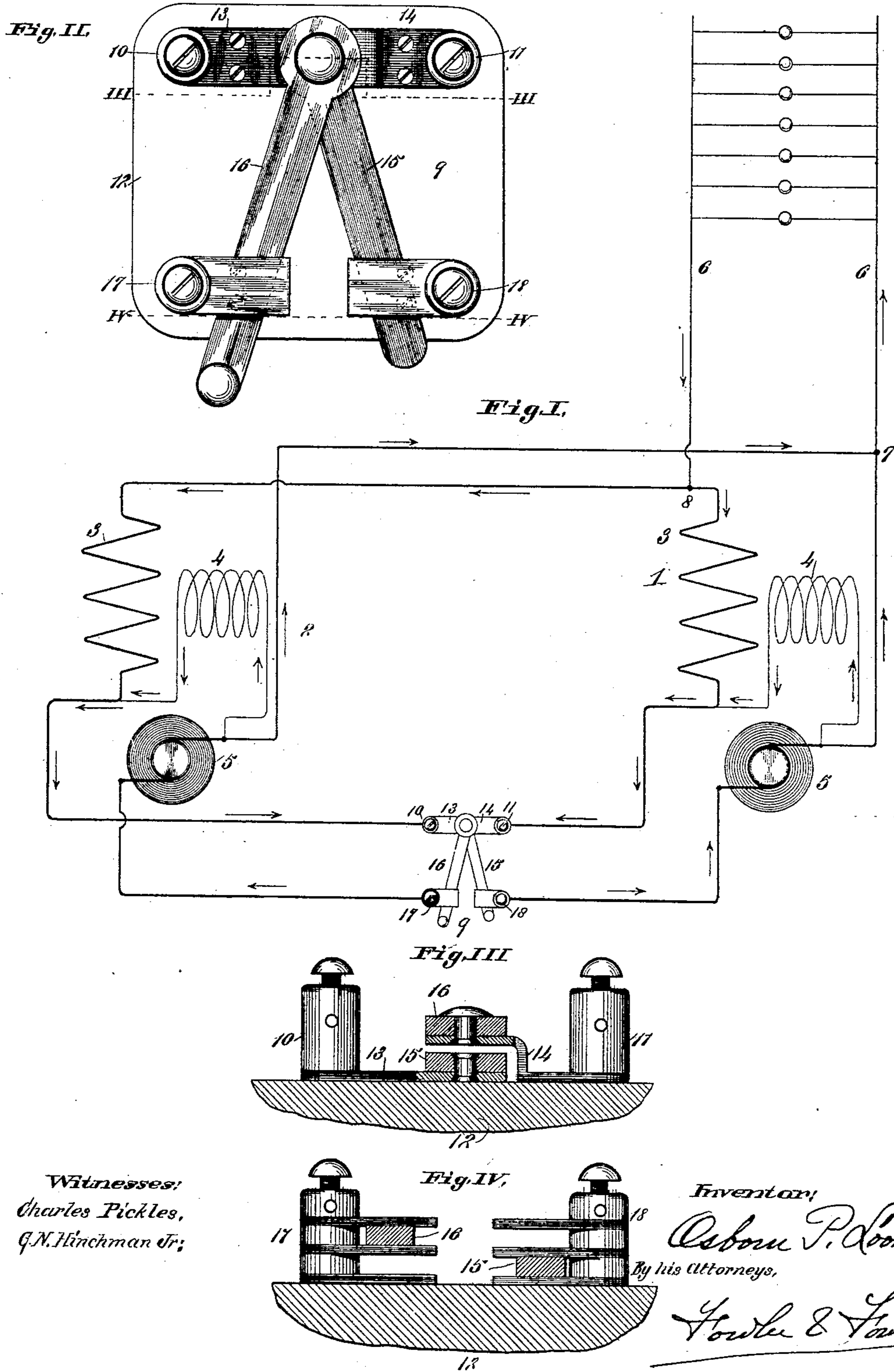
(No Model.)

O. P. LOOMIS.

COUPLING OF DYNAMOS AND MOTORS.

No. 396,581.

Patented Jan. 22, 1889.



UNITED STATES PATENT OFFICE.

OSBORN P. LOOMIS, OF SOMERVILLE, MASSACHUSETTS, ASSIGNOR TO THE
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COUPLING OF DYNAMOS AND MOTORS.

SPECIFICATION forming part of Letters Patent No. 396,581, dated January 22, 1889.

Application filed April 19, 1888. Serial No. 271,215. (No model.)

To all whom it may concern:

Be it known that I, OSBORN P. LOOMIS, a citizen of the United States, residing at Somerville, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Coupling Dynamos and Switches for the Same, of which the following is such a full, clear, and exact description as will enable any one skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

My improvements relate to coupling dynamos in multiple are to supply a working-circuit, and relate more particularly to the coupling of compound-wound dynamos.

The object of the invention is to couple such dynamos so that they will not interfere with one another.

The invention has for a further object to produce a convenient apparatus for accomplishing the above without extinction of the lights while both dynamos are running.

The invention consists in a new and useful way of connecting the coils and circuits of the dynamos together; and it consists, also, in a novel form of switch for making the aforesaid connections.

I will now set forth my invention in detail by referring to the accompanying drawings, forming a part of this specification.

Figure I is a diagrammatic view of two dynamos connected together in accordance with my invention. Fig. II is a plan of my switch for controlling the connections. Figs. III and IV are sections of the switch on the lines III III and IV IV, respectively, of Fig. II.

The same figures of reference indicate the same parts in the several views.

I have designated by 1 one of the dynamos, and by 2 the other dynamo.

3 indicates the series coils of each dynamo, and 4 the shunt-coils.

5 designates the armature of each dynamo.

6 represents the working-circuit, to which the dynamos are connected in multiple arc at the points 7 and 8.

9 is a switch, which I place in the circuit between the two dynamos. This switch is

made up of two binding-posts, 10 and 11, mounted upon an insulating-base, 12. From these binding-posts extend metal-pieces 13 14, the latter of which is bent so as to lie over the piece 13, but does not touch the same. Upon these pieces 13 and 14, respectively, are pivoted switch-levers 15 16. Arranged within the path of the forward ends of the switch-levers 15 16 are two sets of spring-terminals connected to binding-posts 17 18, respectively, carried by the insulating base-plate 12. The switch-lever 15 can be operated to connect the binding-post 10 with the binding-post 18, as represented in the drawings, or can be operated so as to connect the binding-post 10 with the binding-post 17. So, too, the switch-lever 16 can be operated so as to connect the binding-post 11 with the binding-post 17, as shown in the drawings, or to connect said binding-post 11 with the binding-post 18.

I connect the series coils of the dynamo 1 with the binding-post 11 and one of the commutator-brushes thereof with the binding-post 18. In the same manner I connect the series coils of the dynamo 2 with the binding-post 10 and the terminal of one of the commutator-brushes of the dynamo 2 with the binding-post 17. The other ends of each series coil I connect with the working-circuit 6. The remaining terminals of each dynamo I connect to the circuit 6 at the point 7. The shunt-coils 4 of each dynamo are also connected to the other dynamo the same as the series coils. When the switch-levers are in the position represented in the drawings, a terminal of the dynamo 1 is connected with the series and shunt coils of the dynamo 2, and, vice versa, the series and shunt coils of the dynamo 2 are connected with a terminal of the dynamo 1, so that if the electro-motive force of the dynamo 1 should fall this would affect the dynamo 2 in the same way, because said dynamo 2 derives its supply from dynamo 1. In the same manner, if the electro-motive force of the dynamo 1 should rise, the electro-motive force of dynamo 2 would rise for the same reason. Thus it is seen that both dynamos would equal each other in all conditions. It does not matter which dynamo rises or falls in electro-motive force, the other will be affected in equal proportion.

I have represented in the diagram by arrows the path of the currents, and shown the circuits so clearly that the above will be understood without further explanation.

5 In another application, Serial No. 249,578, filed September 13, 1887, I have set forth, briefly, the difficulties that arise in coupling two dynamos together in multiple arc, explained how the one will overpower the other, and set
10 forth means for overcoming the objections noted therein. In the present application the same object is attained in another way. Should the switch-levers 15 16 be operated and thrown in a reverse position to that
15 shown in the drawings, so as to connect the binding-post 10 with the binding-post 17 and the binding-post 11 with the binding-post 18, the dynamos would be rendered independent and could be run separately.

20 The means of regulating one dynamo by the other described above is extremely simple and effective in operation.

I do not wish to confine myself to the exact form of switch described, as any other switch-
25 ing mechanism could be used to make the connections.

Having now fully set forth my invention, what I desire to claim, and secure by Letters Patent of the United States, as my invention
30 is—

1. The combination of the dynamos 1 and 2, supplying a working-circuit in multiple arc

and having shunt and series coils, the terminal 11, connected to one end of the shunt and series coils of the dynamo 1, the terminal 10, 35 connected to one end of the shunt and series coils of the dynamo 2, switch-levers 15 and 16, pivoted one above the other to metal pieces 13 and 14 in electrical connection with said terminals, respectively, and terminals 17 and 40 18, arranged within the path of said switch-levers and connected to one of the commutator-brushes of the dynamos 2 and 1, respectively, substantially as described, whereby the shunt and series coils of each dynamo may 45 be connected to a terminal of the other dynamo for the purpose described, or may be disconnected therefrom and the dynamos worked independently.

2. The combination of the binding-posts 10 50 11, the metal pieces 13 14, arranged as described, the switch-levers 15 16, pivoted one above the other to said metal pieces, respectively, and two sets of spring-terminals connected to the binding-posts 17 18, substan- 55 tially as described.

In testimony whereof I have hereunto set my hand and affixed my seal, this 16th day of April, 1888, in the presence of the two subscribing witnesses.

OSBORN P. LOOMIS. [L. s.]

Witnesses:

N. M. ENGLE, GEO. W. DICKERMAN.