

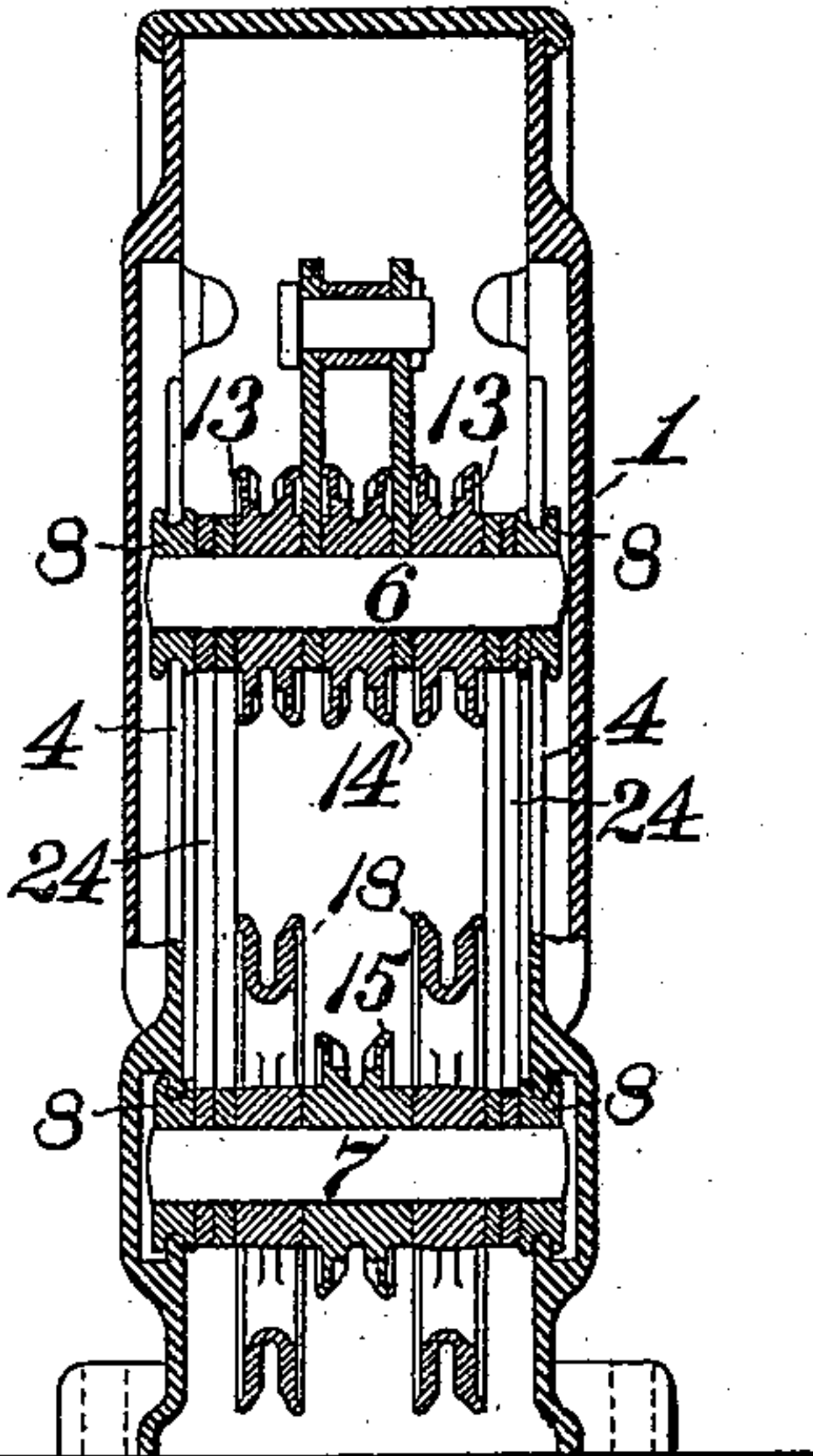
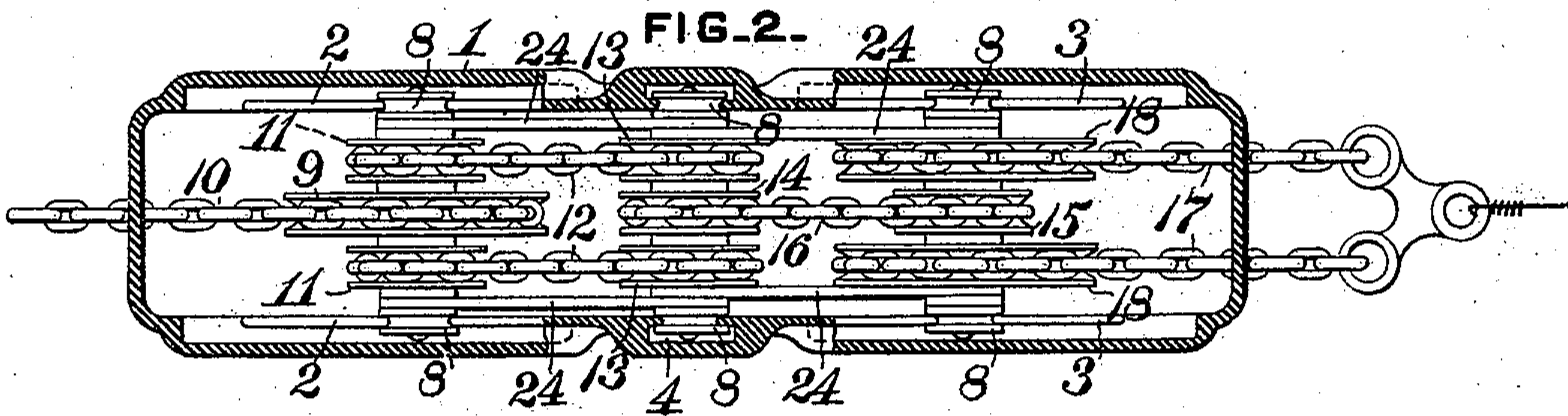
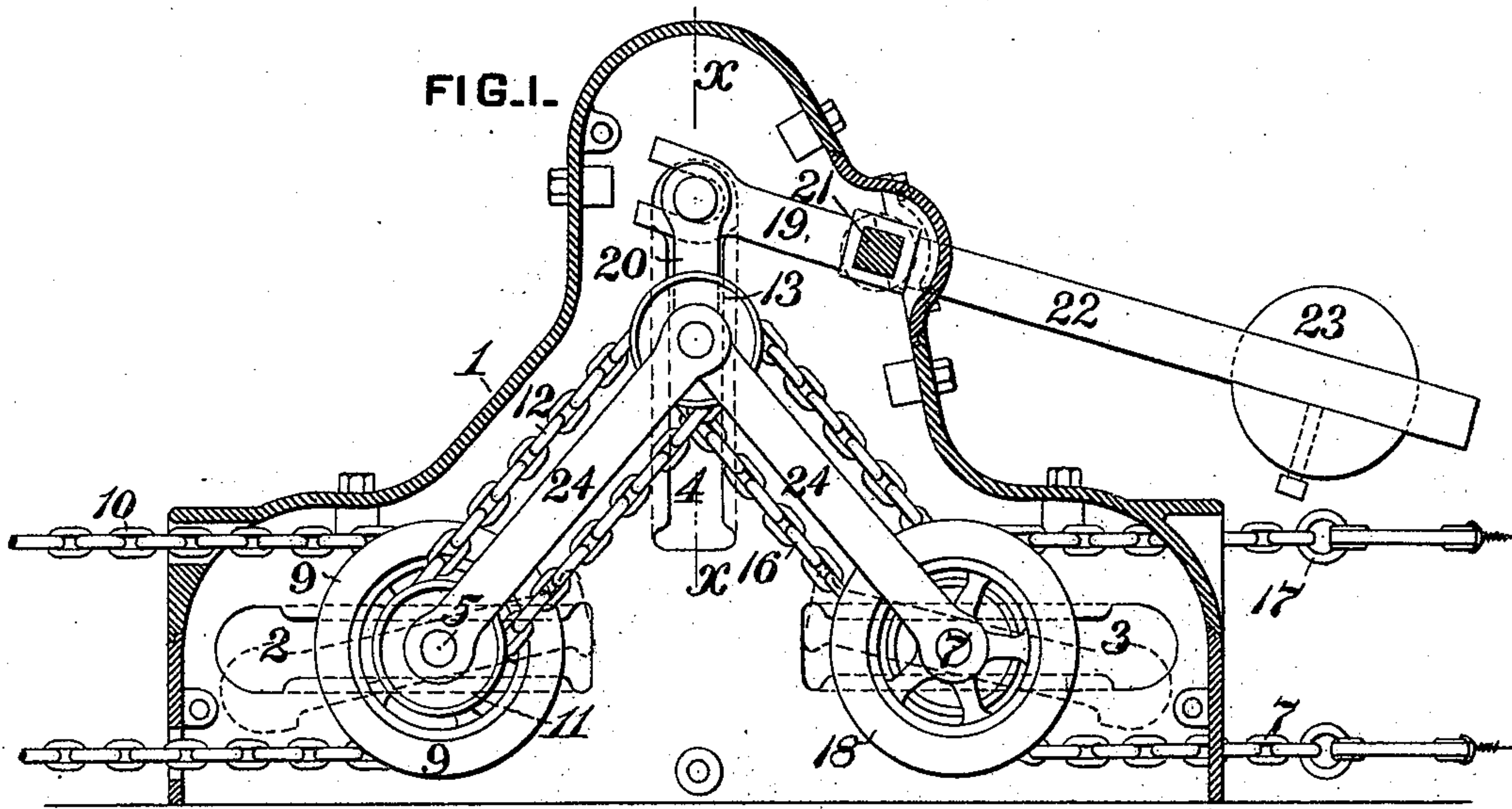
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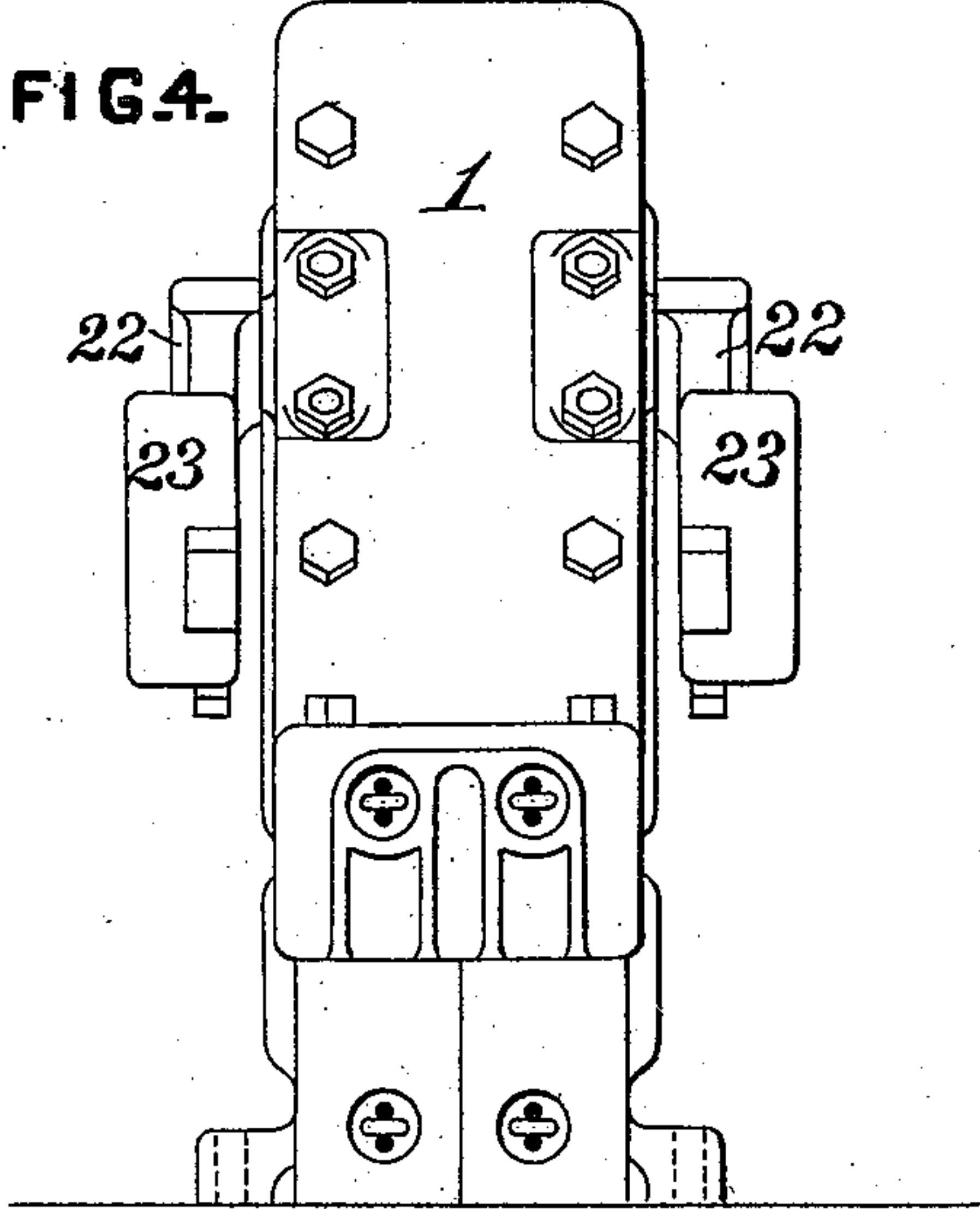
S. H. STUPAKOFF.
COMPENSATOR FOR SIGNALS.

No. 486,303.

Patented Nov. 15, 1892.



WITNESSES:



INVENTOR,

Danville B. Wolcott
F. E. Gaither

Simon H. Shepakoff
by George H. Christy
Attly.

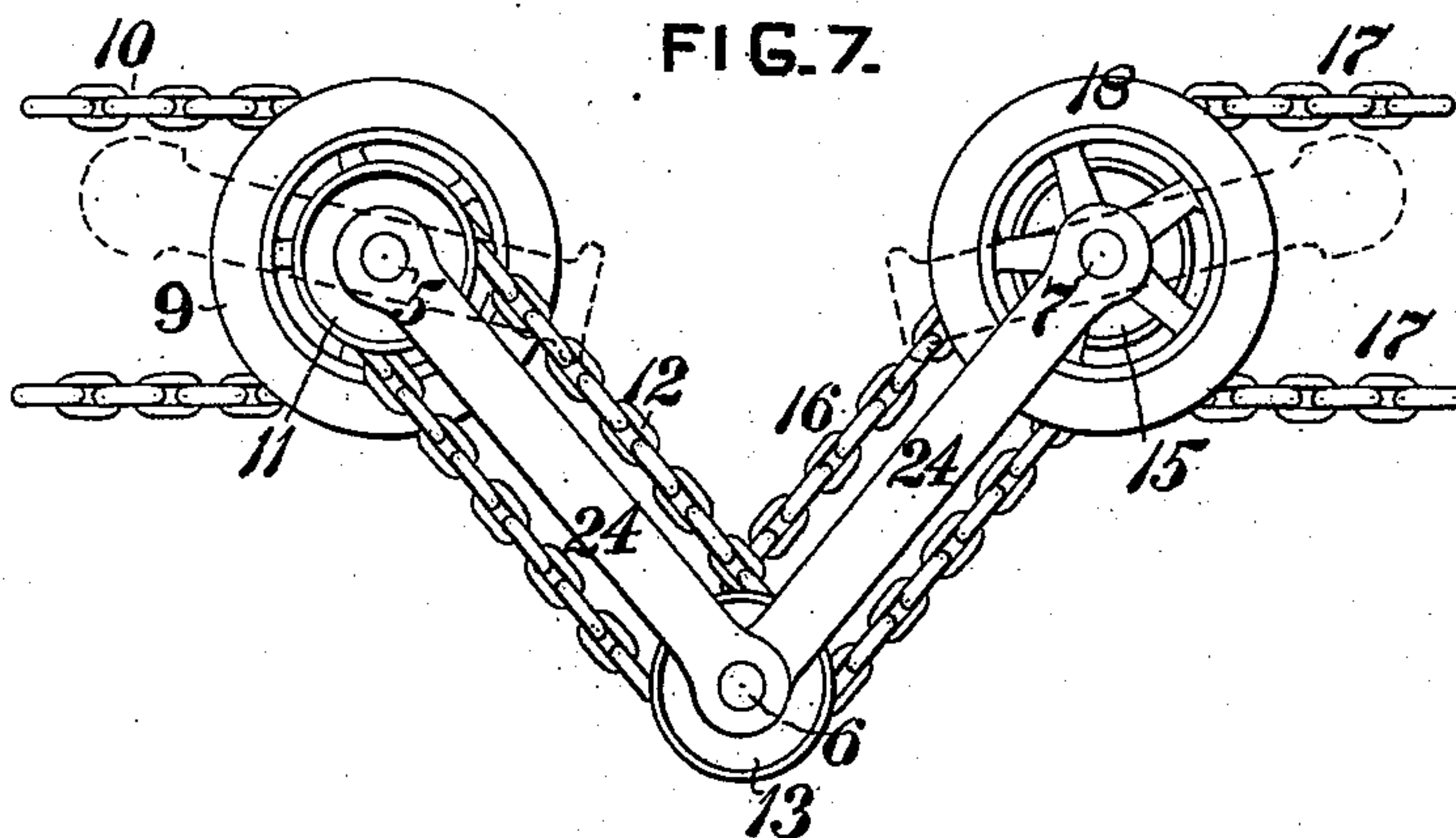
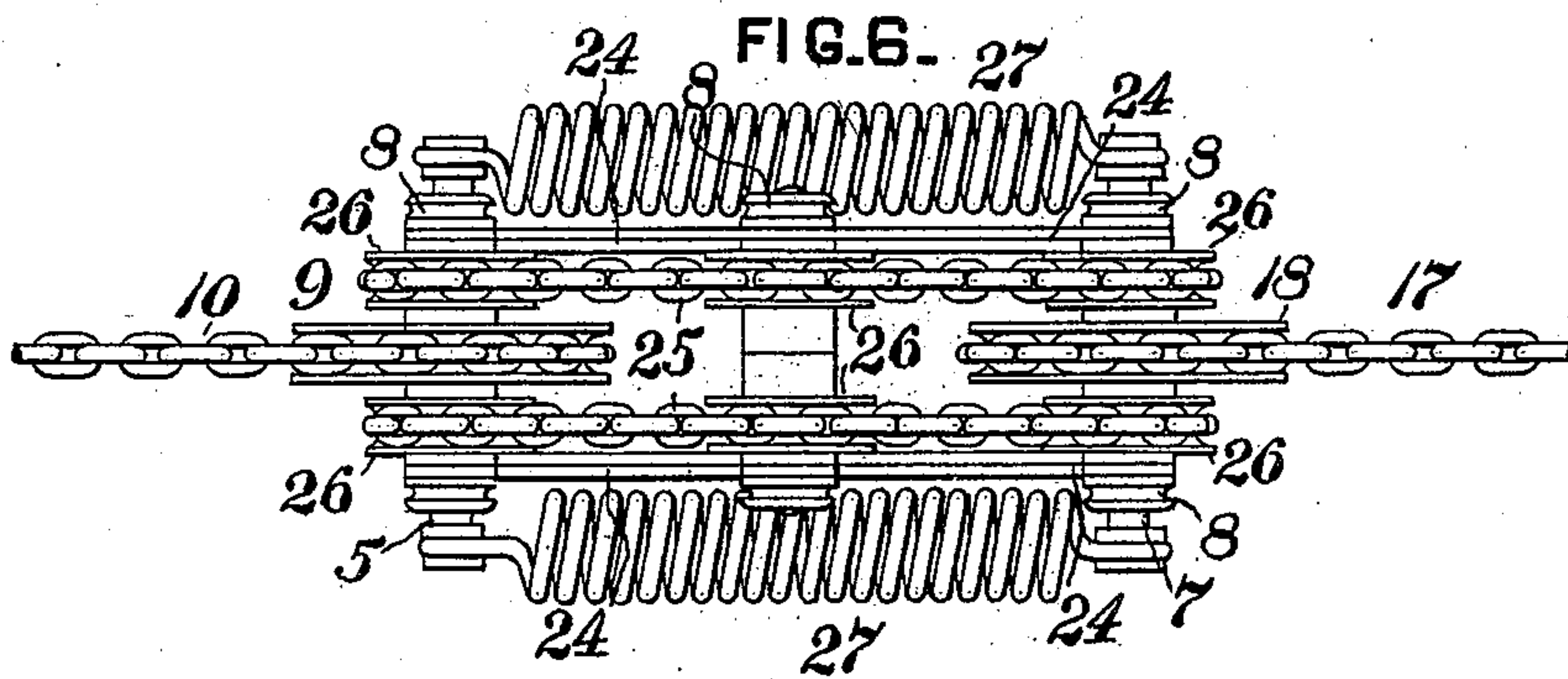
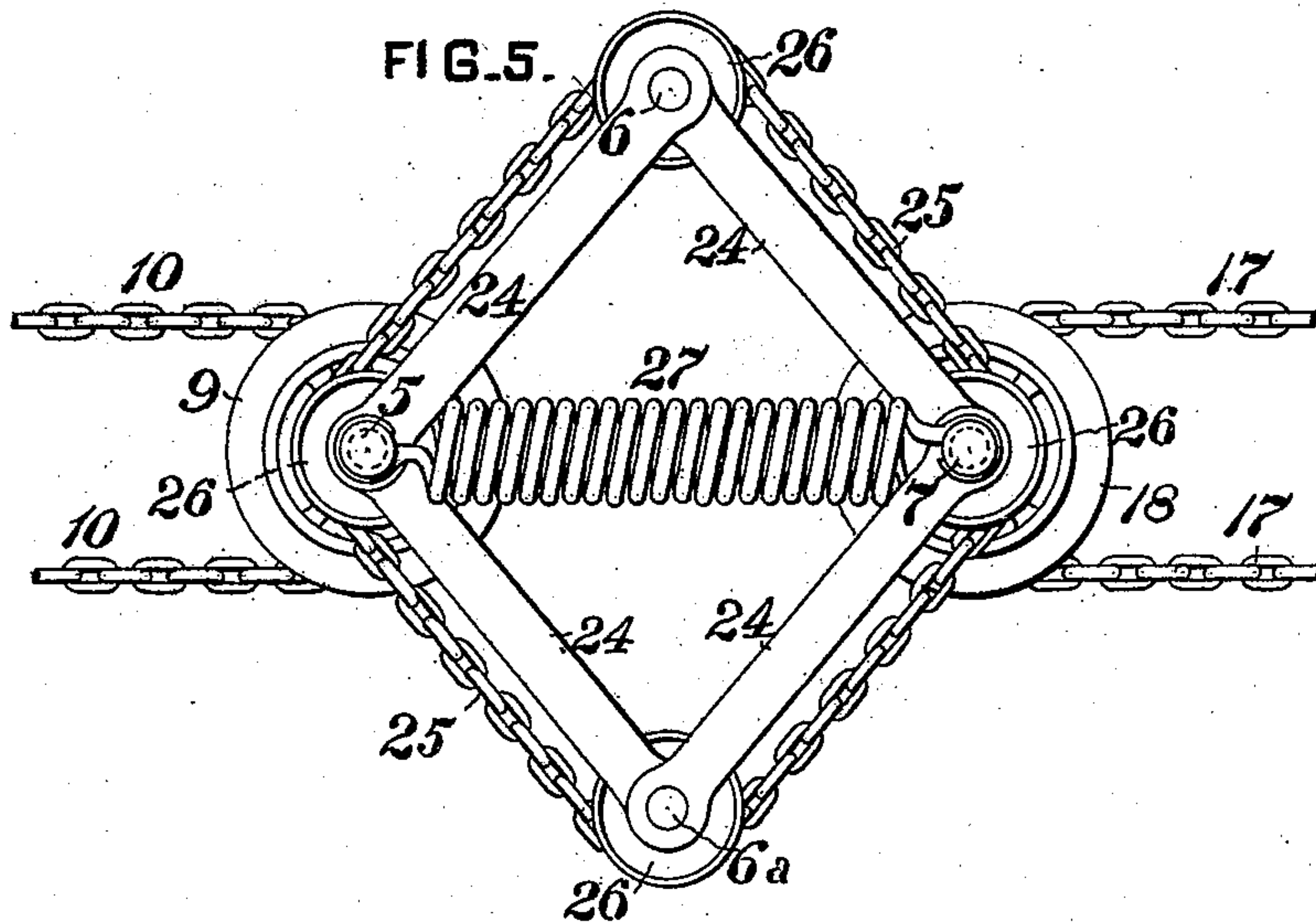
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2 Sheets—Sheet 2.

S. H. STUPAKOFF.
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WITNESSES:

Danvig S. Wylecott
J. E. Gaither.

INVENTOR,

Simeon H. Stupakoff
by George H. Christy
Att'y.

UNITED STATES PATENT OFFICE.

SIMON H. STUPAKOFF, OF PITTSBURG, ASSIGNOR TO THE UNION SWITCH
AND SIGNAL COMPANY, OF SWISSVALE, PENNSYLVANIA.

COMPENSATOR FOR SIGNALS.

SPECIFICATION forming part of Letters Patent No. 486,303, dated November 15, 1892.

Application filed August 1, 1892. Serial No. 441,832. (No model.)

To all whom it may concern:

Be it known that I, SIMON H. STUPAKOFF, a citizen of the United States, residing at Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented or discovered certain new and useful Improvements in Compensators for Signals, of which improvements the following is a specification.

The invention described herein relates to certain improvements in wire-compensators, which form the subject-matter of Letters Patent Nos. 470,148, 479,230, and 479,380, granted March 1 and July 19, 1892, respectively.

In general terms the invention consists in the construction and combination substantially as hereinafter more fully described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a sectional elevation of my improved compensator. Fig. 2 is a sectional plan of the same. Fig. 3 is a vertical section, the plane of section being indicated by the line $x\ x$, Fig. 1. Fig. 4 is an end elevation. Figs. 5 and 7 are views in elevation of modified forms of the compensator, and Fig. 6 is a plan view of the construction shown in Fig. 5.

In the practice of my invention the shell or case 1 is secured to the cross-ties of a track or any other suitable foundation. In the sides of the shell or in a plate lining the same are formed the horizontal slots 2 and 3 and the vertical slot 4, which form bearings for the ends of the shafts 5, 6, and 7. It is preferred to mount grooved antifriction-rollers 8 on the ends of the shafts, said rollers fitting in the slots, and thereby facilitating the movement of the shafts along the slots, as will be hereinafter described. On the shaft 5 is keyed a sprocket-wheel 9, over which passes a chain 10, whose ends are connected to wires leading to the operating-lever or to the signal to be operated thereby. On opposite sides of the wheel 9 similar wheels 11 are keyed to the same shaft, and around these wheels are passed chains 12, which also pass around sprocket-wheels 13 on the adjusting and transmitting shaft 6. Intermediate of the wheels 13 is keyed a similar wheel 14, and around this wheel and a sprocket-wheel 15 on the shaft 7 is passed a chain 16. Chains 17, whose ends

are connected to wires leading to the signal or the operating lever, are passed around the sprocket-wheels 18, keyed to the shaft on opposite sides of the wheel 15.

In order to maintain a constant tension on the wires leading to the signal-operating lever and signal the inner end of an arm 19 is connected by links 20 to the shaft 6, the opposite end of the arm being secured to a shaft 21, mounted in the sides of the shell 1, and on the outer ends of the shaft are secured arms 22, having weights 23 adjustably fastened thereon. This arrangement of shaft and arms forms a weighted lever normally operating to raise the shaft 6 in the slot 4, and thereby, through the medium of the chains 12 and 16 or the links 24, connecting the shaft 6 with the shafts 5 and 7 to shift the latter inwardly along the horizontal slots 2 and 3 and maintain a constant tension on the wire connections, while permitting them to expand and contract under atmospheric changes.

It will be observed that by arranging the sprocket-wheels on their respective shafts in the manner described and shown the shafts will be maintained in practical parallelism with each other whatever pull or strain may be applied to wheels 9 and 18.

As shown in Fig. 5, a second transmitting and adjusting shaft 6^a may be arranged below the shaft 6, its antifriction-rollers 8 being arranged in a prolongation of the vertical slot and its ends connected to the ends of the shafts 5 and 7 by links 24. In this form of compensator rotary motion is transmitted from the lever-operated shaft to the signal-operating shaft by chains 25, passing around sprocket-wheels 26 on each of the shafts 5, 6, 6^a, and 7, and between the sprocket-wheels on the shafts 5 and 7 are keyed the sprocket-wheels 9 and 18, respectively, only one wheel 18 being necessary on the shaft 7 in this construction.

In Fig. 7 is shown a form of compensator wherein the adjusting and transmitting shaft 6 is arranged below the shafts 5 and 7. In this form of compensator the weighted lever is connected to the shaft 6 at a point intermediate of its fulcrum and the weight; but, if desired, the weighted lever may be dispensed with and the sprocket-wheels on the shaft 6

made sufficiently heavy to effect the adjustment of the shafts 5 and 7. It will be readily understood that springs may be employed in lieu of weights, one arrangement of such springs being shown in Fig. 5, wherein springs 27 are shown connecting the shafts 5 and 7. The slots 2 and 3 may, if desired, be slightly inclined, as represented by dotted lines in Figs. 1 and 7.

10 I claim herein as my invention—

1. In a compensator for signals, the combination of a movable adjusting and transmitting shaft, two shafts movable laterally by the adjusting-shaft and connected, respectively, 15 with an operating-lever and with a signal and means for transmitting rotary movement from the lever-operated shaft to the transmitting-shaft and from the latter to the signal-operating shaft, substantially as set forth.

20 2. In a compensator, the combination of two laterally movable and rotatable shafts, sprocket-wheels keyed to said shafts, chains passing around said wheels and connected, respectively, to an operating-lever and to a signal, an adjusting and transmitting - shaft, 25

chains passing around sprocket-wheels on the adjusting and transmitting shaft and on the laterally movable shafts, and means for shifting the adjusting-shaft, substantially as set forth.

3. In a compensator for signals, the combination of two laterally movable and rotatable shafts having sprocket-wheels keyed thereto, chains passing around said wheels and connected, respectively, to an operating-lever and 30 to a signal, an adjusting and transmitting shaft, links connecting the latter with the lever-operated and signal-operating shafts, chains passing around sprocket-wheels on the transmitting-shaft and on the lever-operated 35 and signal-operating shafts, and means for shifting the adjusting-shaft, substantially as set forth. 40

In testimony whereof I have hereunto set my hand.

SIMON H. STUPAKOFF.

Witnesses:

DARWIN S. WOLCOTT,

R. H. WHITTLESEY.