

(No Model.)

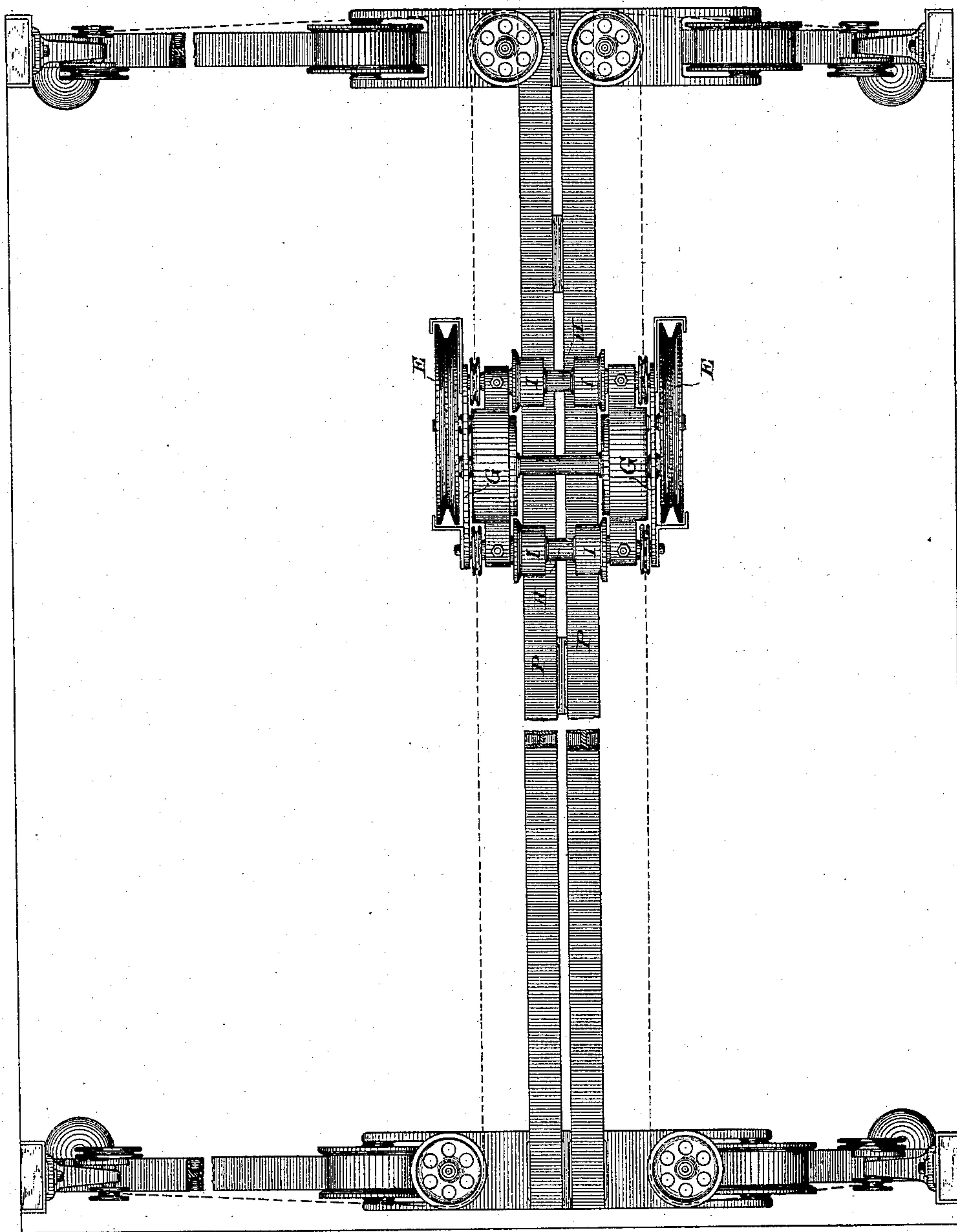
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T. W. CAPEN.  
TRAVELING CRANE.

No. 270,279.

Patented Jan. 9, 1883.

Fig. 1.



WITNESSES

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*Thomas W. Capen.*

By his Attorneys,

*Baldwin, Hopkins, & Peyton.*

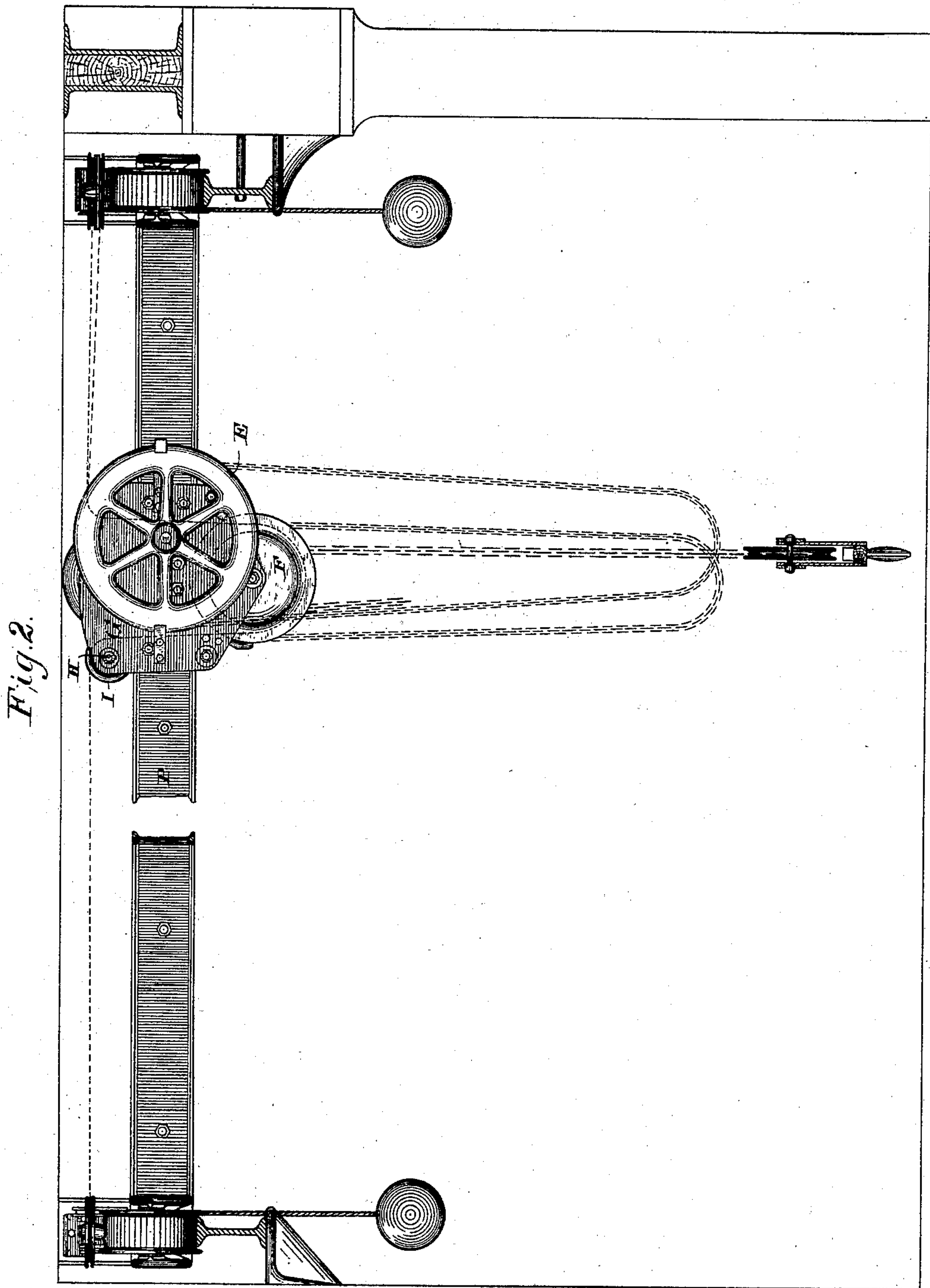
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T. W. CAPEN.  
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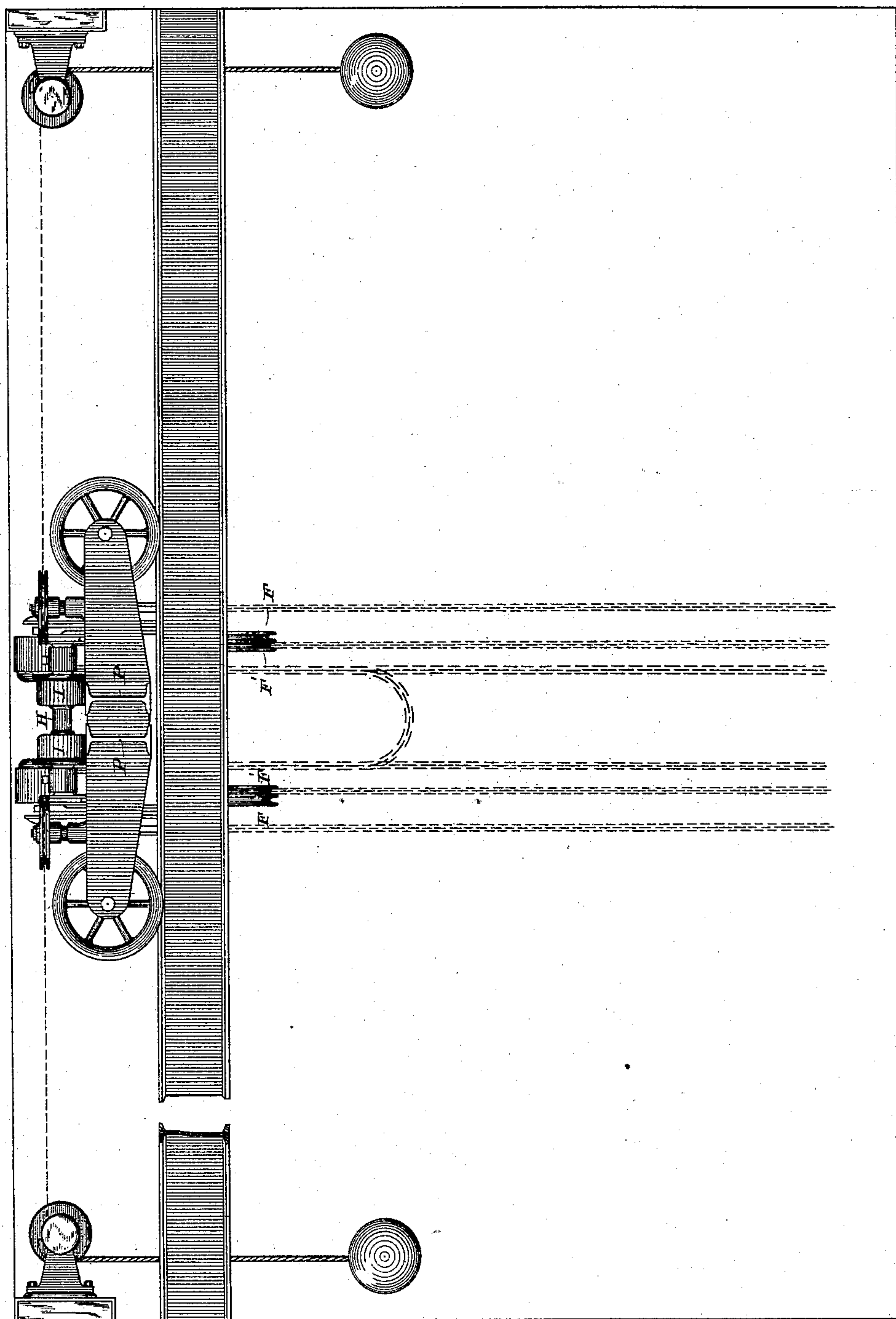
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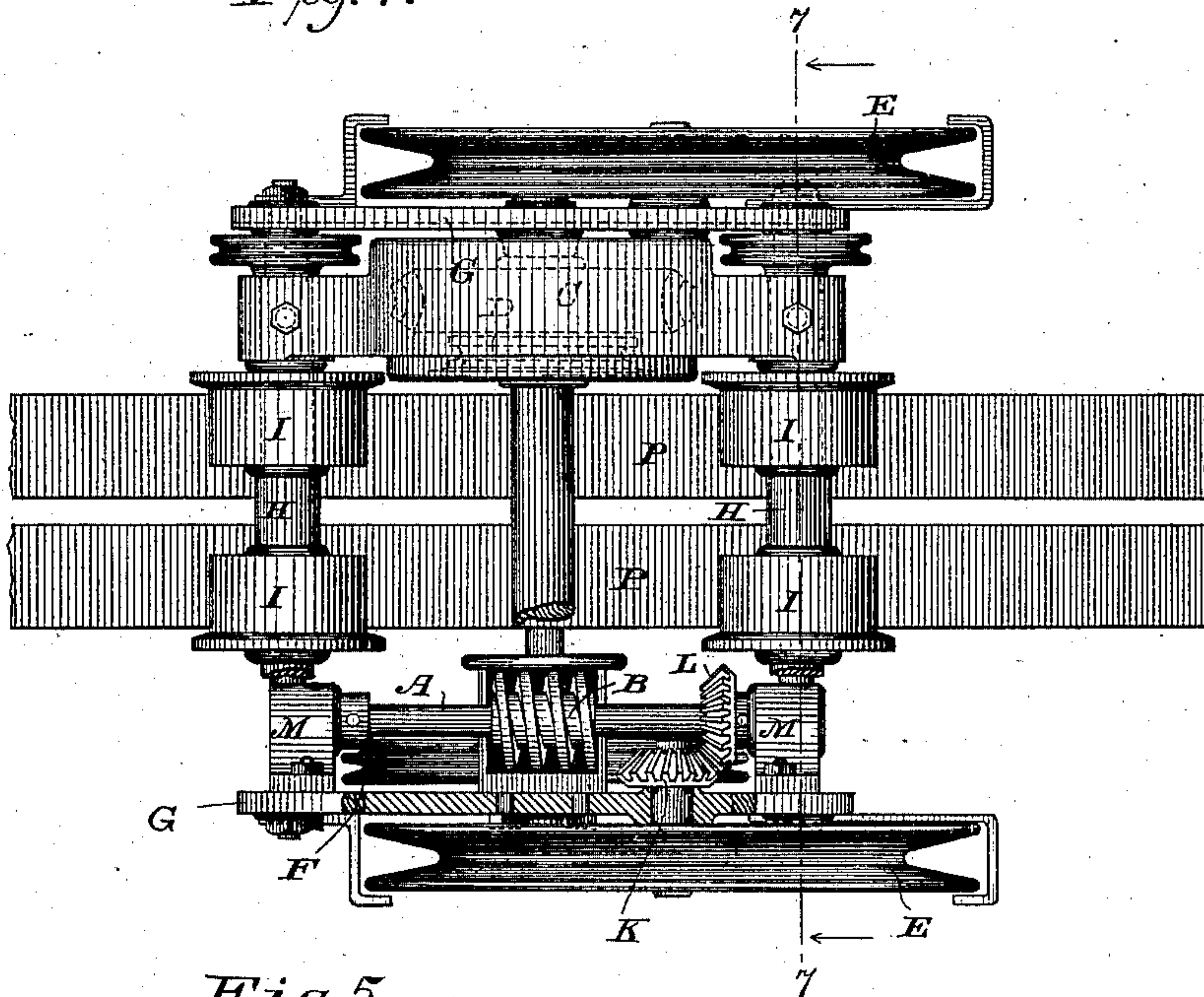
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T. W. CAPEN.  
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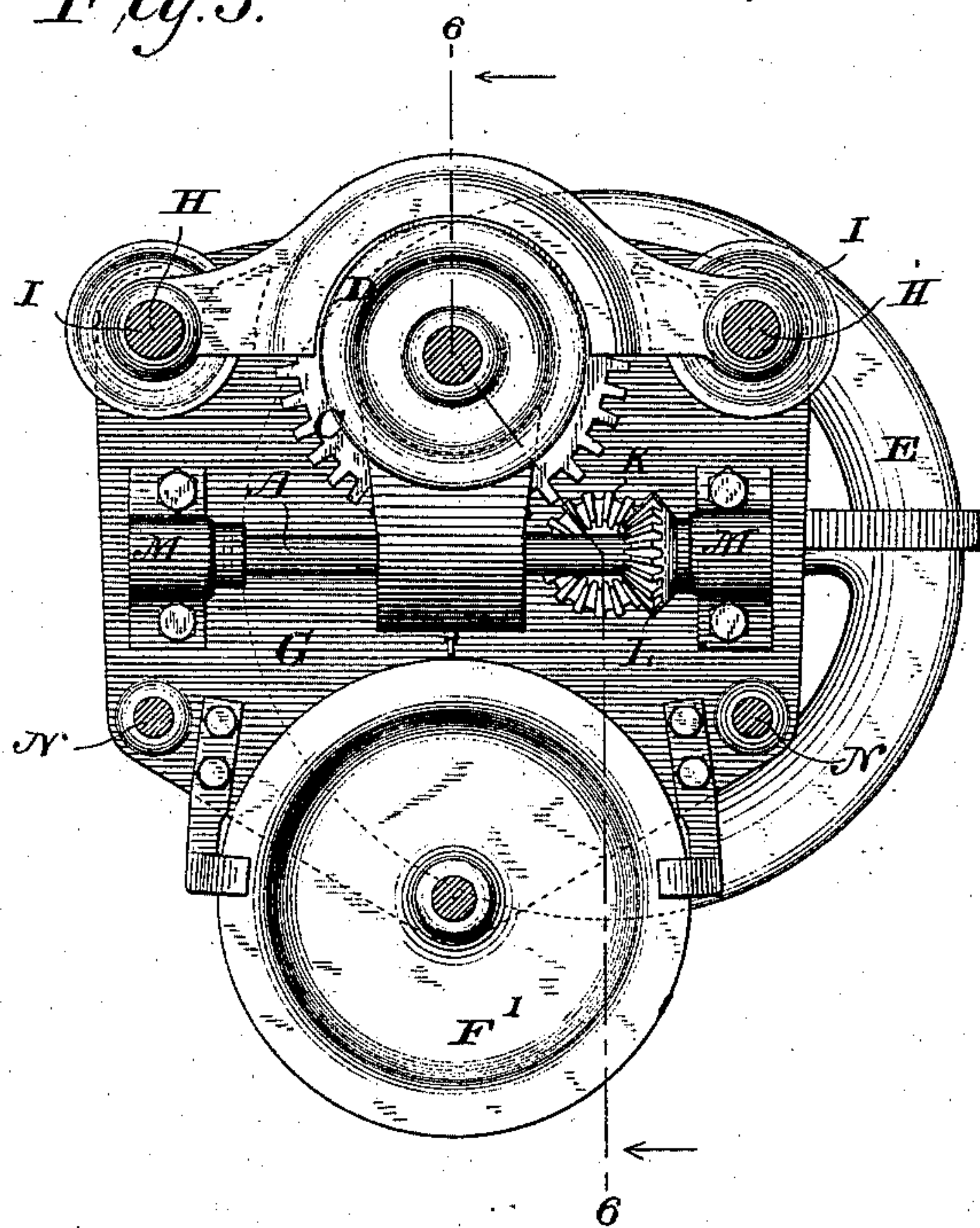
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*Fig. 4.*



*Fig. 5.*



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Fig. 6.

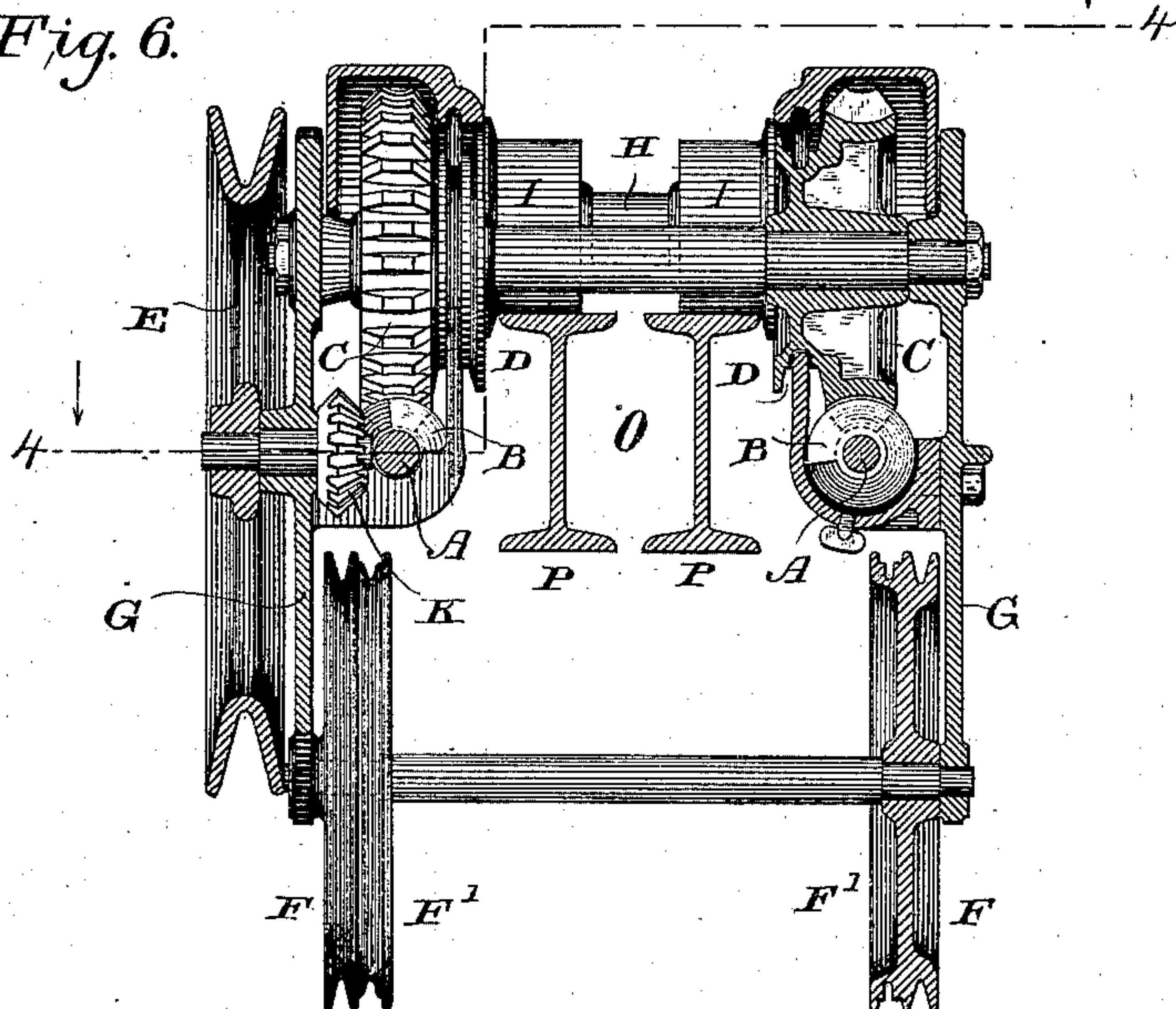
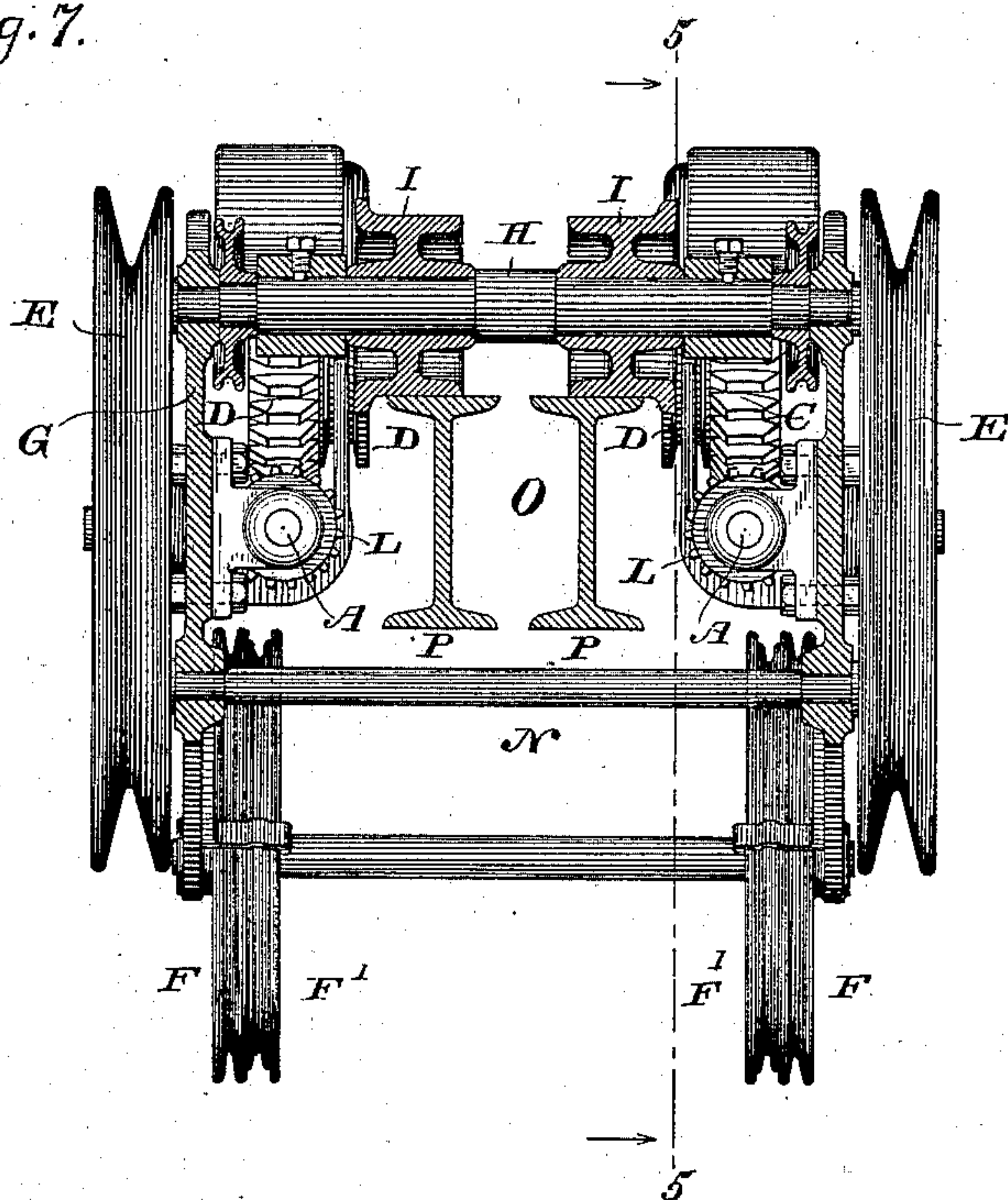


Fig. 7.



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# UNITED STATES PATENT OFFICE.

THOMAS W. CAPEN, OF STAMFORD, CONNECTICUT, ASSIGNOR TO THE  
YALE LOCK MANUFACTURING COMPANY, OF SAME PLACE.

## TRAVELING CRANE.

SPECIFICATION forming part of Letters Patent No. 270,279, dated January 9, 1883.

Application filed November 28, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS W. CAPEN, of Stamford, in the county of Fairfield and State of Connecticut, have invented certain new and  
5 useful Improvements in Traveling Cranes, of which the following is a specification, reference being had to the accompanying drawings.

My improvements relate to the crab mechanism and trolley of a traveling crane, and are  
10 illustrated in connection with a traveling crane of the kind patented in the United States to Thomas A. Weston, December 25, 1877, No. 198,718, in which are two fixed cables, each extending from one end of one main track to the  
15 opposite end of the other, crossing the space between the tracks upon the bridge which carries the crab mechanism and trolley, and together serving to impart the horizontal movements to the bridge and trolley, all of which  
20 is set forth in detail in the said patent.

The object of my present improvements is to so construct the combined crab and trolley which traverses the bridge as to bring them as low down as possible, and thus diminish the  
25 overhead-room, necessary in a building for the operation of the crane, so that the height of hoist may be greater than with crabs as heretofore made. Where the overhead-room is limited this is very desirable.

30 In the drawings, Figure 1 is a plan view of a traveling crane of the kind mentioned, having a trolley embodying my improvements. Fig. 2 is a side elevation of the bridge and trolley. Fig. 3 is an end elevation of the bridge and trolley. Fig. 4 is a view of the trolley partly in plan and partly in section on the line  
35 4 4 of Fig. 6. Fig. 5 is a vertical section on the line 5 5 of Fig. 7. Fig. 6 is a vertical section on the line 6 6 of Fig. 5. Fig. 7 is a similar section on the line 7 7 of Fig. 4.

40 Heretofore the entire crab has been above the upper line of the bridge-girders. This has of course necessitated the lowering of the bridge sufficiently below the ceiling or girders  
45 of the building to permit the crab to pass underneath when the crane is moving, and the height of hoist has been correspondingly lessened. To bring the bridge-girders nearer the ceilings or girders of the building and get in-

creased hoist, I change the position of the hoisting mechanism to the outside and below the bridge-girders, so that the space required above the bridge is but little more than is necessary for the wheels of the trolley. With this construction the center of gravity of the trolley  
50 and the mechanism it carries is brought down to or below the tops of the bridge-beams, so that with tracks of very narrow gage the trolley is entirely secure in its position upon the tracks, and the mechanism it carries is brought  
55 down to a more convenient position for operation, so that the lengths of the chains, as illustrated in Figs. 2 and 3, are materially diminished.

I employ worm-shafts A, worms B, worm-wheels C, and chain-wheels D, alike upon either side of the trolley in operation and effect, substantially as illustrated in my United States Letters Patent, No. 263,479, granted August  
60 29, 1882.

E E indicate the hoisting and lowering wheels; F F F' F', traversing-wheels, which engage with the fixed cables (indicated in dotted lines, Figs. 1, 2, and 3) for traversing the  
65 trolley.

G G indicate side castings, supported upon the shafts H H of the trolley-wheels I I I I, and furnish suitable bearings for the shafts running at right angles with the bridge.  
70

K K indicate bevel-pinions upon the shafts  
75 of the hoisting and lowering wheels E E; and L L indicate corresponding bevel-pinions upon the worm-shafts, which have their bearings in suitable brackets, M.

N indicates cross-bars or stays, firmly holding the two side castings in place.  
80

It will be observed, particularly by reference to Figs. 6 and 7, that this construction leaves a central space, O, within the trolley to accommodate the bridge-beams P P, and that the  
85 trolley and the hoisting and lowering mechanism it carries are practically suspended from the top of the bridge, so as to occupy as little space above the bridge as practicable.

Having thus described my improvements,  
90 what I claim as new, and desire to secure by Letters Patent, is—

1. In combination, with a bridge of a travel-

ing crane, the combined trolley and crab provided with a central bridge-opening, O, substantially as set forth.

2. The combination, with the side castings, 5 of the wheels E E and their shafts, the bevel-pinions K K L L, and the worm-shafts and worms, all geared with and located beneath the worm-wheels, substantially as set forth.

3. The combination, with the side castings, 10 of the trolley-wheels and axles above the bridge, and the traversing-wheels, chain-wheels, and hoisting and lowering wheels and their shafts, located below the top of the bridge, substantially as set forth.

4. In a traveling crane, the combination of 15 a bridge, a combined crab and trolley so constructed as to span and surround the bridge, and having its operating mechanism placed at the sides and below the bridge, substantially as described. 20

In testimony whereof I have hereunto subscribed my name this 24th day of November, A. D. 1882.

THOS. W. CAPEN.

Witnesses:

SCHUYLER MERRITT,  
GEO. E. WHITE.