

No. 849,497.

PATENTED APR. 9, 1907.

H. RAINEY.  
LOCOMOTIVE VALVE GEAR.  
APPLICATION FILED AUG. 20, 1906.

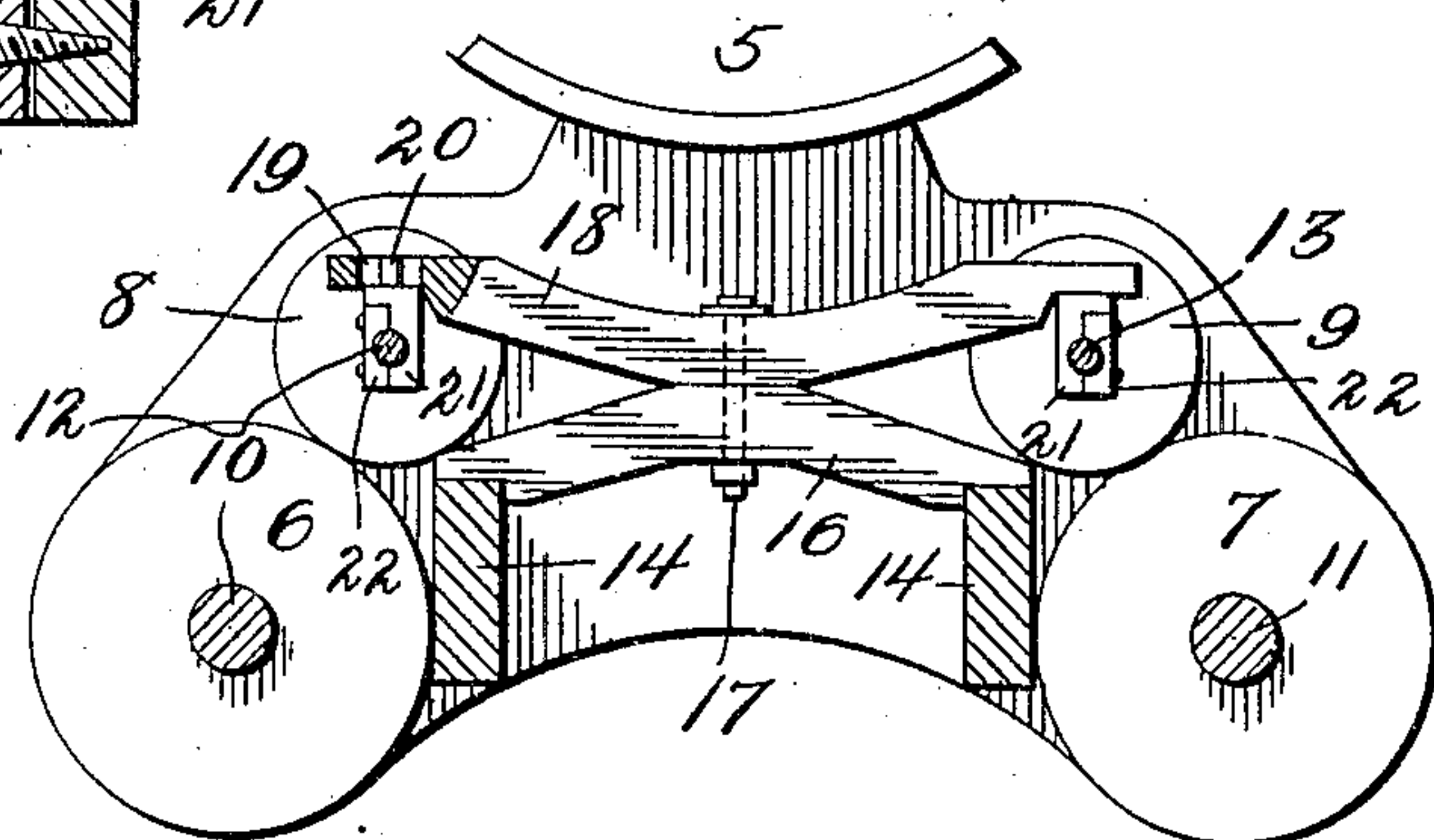
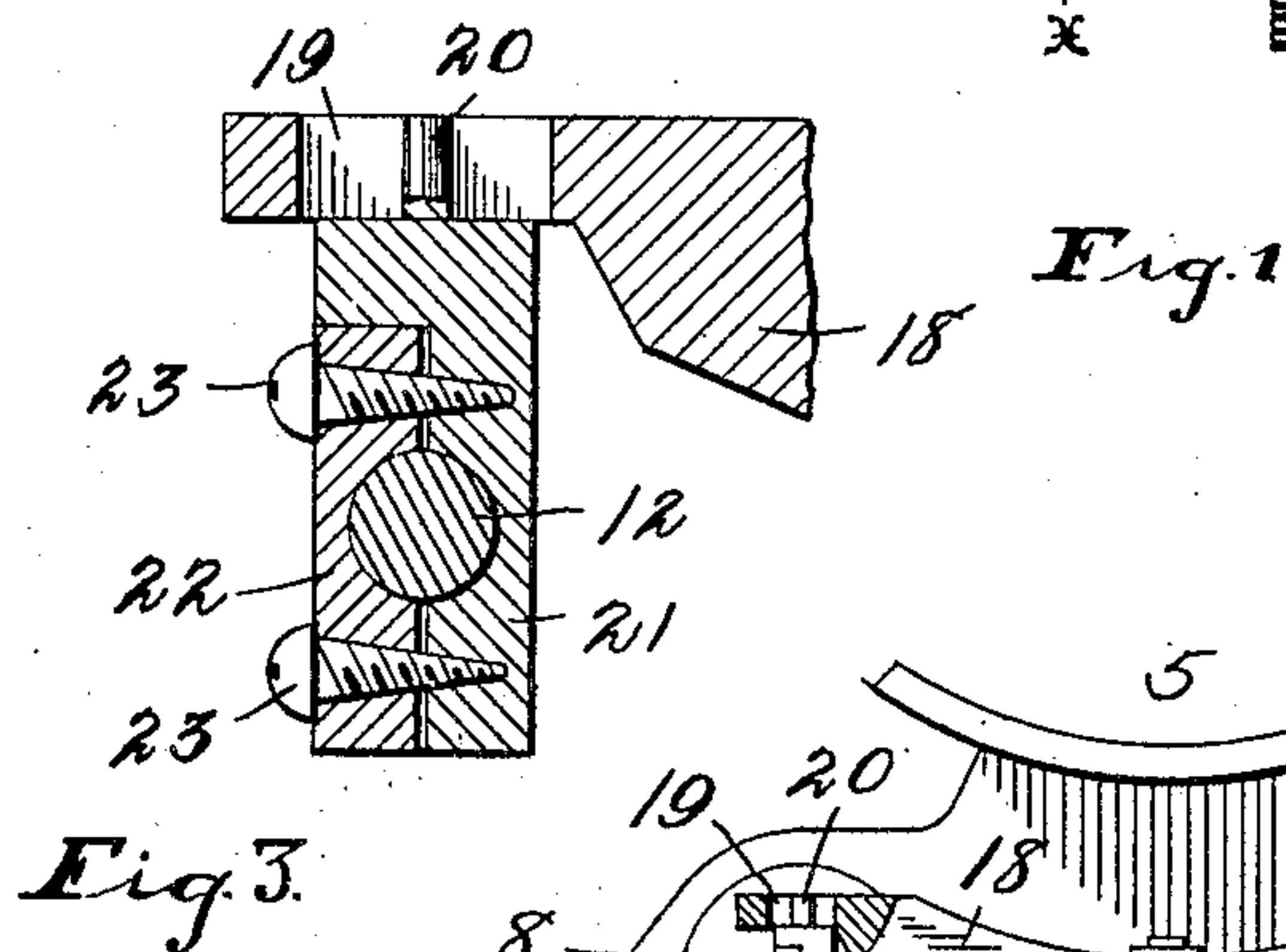
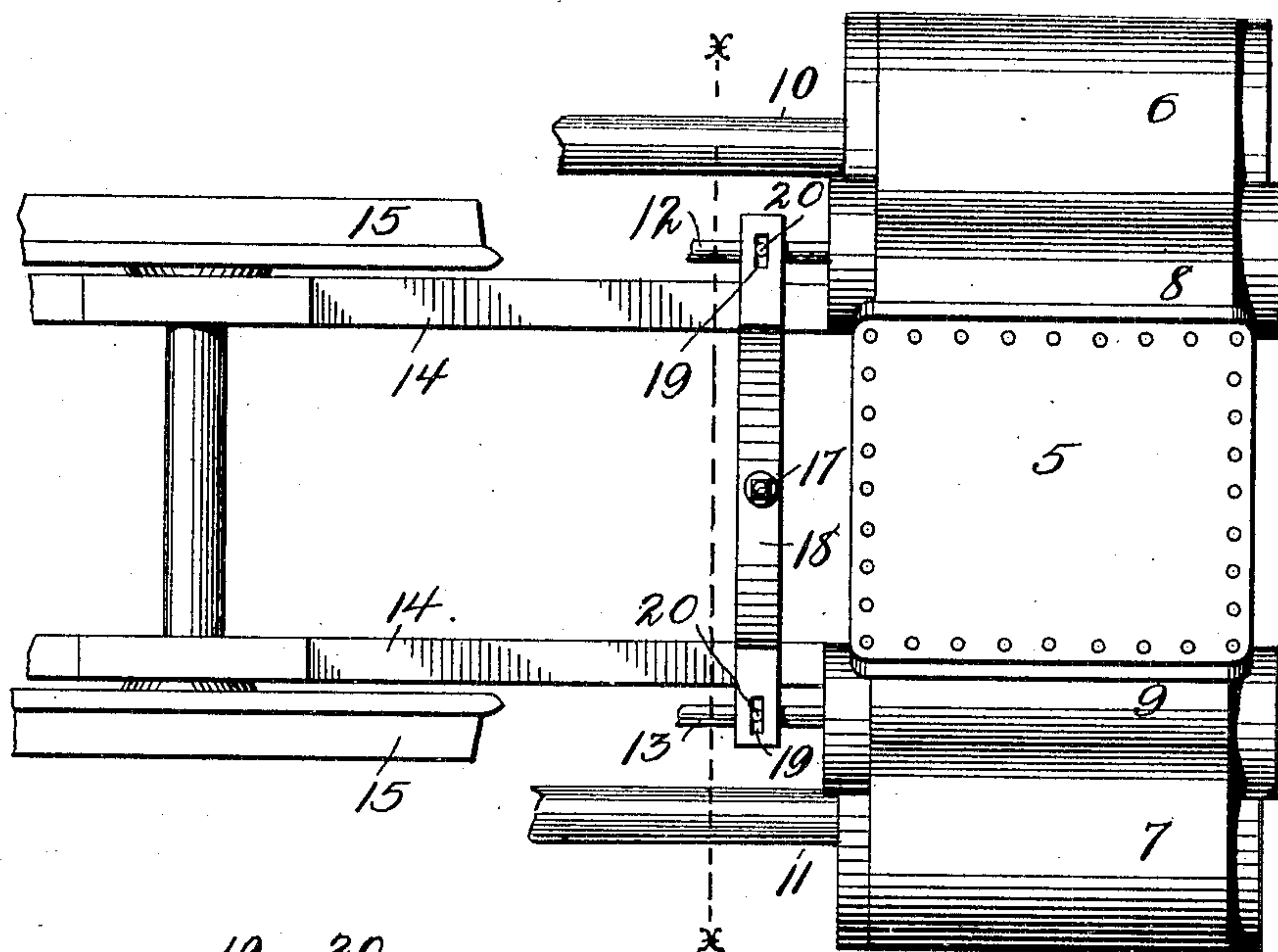


Fig. 2.

Witnesses

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# UNITED STATES PATENT OFFICE.

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## LOCOMOTIVE VALVE-GEAR.

No. 849,497.

Specification of Letters Patent.

Patented April 9, 1907.

Application filed August 20, 1906. Serial No. 331,222.

*To all whom it may concern:*

Be it known that I, HARRY RAINEY, a citizen of the United States, residing at Newark, in the county of Licking and State of Ohio, have invented certain new and useful Improvements in Emergency Attachments for Locomotive Valve-Gearing, of which the following is a specification.

My invention relates to an emergency attachment for locomotive valve-gearing, and has for its object the provision of simple means adapted to temporarily connect the valve-stem of one of the engines of a locomotive to the valve-stem of the other engine of said locomotive when the valve-actuating mechanism upon one side of the engine has been disabled by the breakage of any of the parts which actuate the valve.

Further objects and advantages of the invention will be set forth in the detailed description which now follows.

In the accompanying drawings, Figure 1 is a plan view illustrating the saddle, the cylinders, and a portion of the frame of a locomotive with certain of the parts broken away. Fig. 2 is a section upon line X X of Fig. 1 looking toward the cylinders, and Fig. 3 is a detailed sectional view through one of the clamps.

Like numerals designate corresponding parts in all the figures of the drawings.

Referring to the drawings, the numeral 5 designates the saddle of a locomotive, which supports the front end of the boiler. (Not shown.) The cylinders 6 and 7, the steam-chests 8 and 9, the piston-rods 10 and 11, the valve-stems 12 and 13, the frame 14, and the driving-wheels 15, which are mounted in frame 14, are all of the usual and well-known construction and require no further description.

Supported upon the frame 14 is a bolster 16. Pivoted by a bolt 17 to this bolster is a rocker-arm 18, the outer ends of which overlie the valve-stems 12 and 13. These ends are slotted, as at 19, for the reception of pins 20. These pins are carried by clamps, both of said clamps comprising two members 21 and 22. Screws 23 are adapted to secure these clamps upon the valve-stems 12 and 13, the pin-and-slot connection described permitting the proper movement of the rocker-arm 18.

The operation of the device is as follows: If, for instance, the eccentric which actuates the valve-stem 12 should slip or break, or if

any of the parts which transmit motion from said eccentric to said valve-stem should break, it is but necessary to connect the valve-stem 12 to the valve-stem 13, as shown in Fig. 2, at which time the proper movement will be imparted to the valve-stem 12 from the valve-stem 13, and the engine may proceed until a repair-shop is reached. It is to be understood that ordinarily the valve-stems 12 and 13 are not connected in this manner. The bolster 16 and the rocker-arm 18 are permanent fixtures upon the engine-frame; but the outer ends of the rocker-arms are only connected to the valve-stems by the clamps when a breakdown occurs.

It is well known that the disabling of the valve mechanism upon one side of a locomotive often results in tying up an entire system, for if the locomotive be connected to a heavy train it is impossible to haul said train with only one of the engines of the locomotive in working order, and even if an engine be connected to a light train the single engine of a locomotive may become centered and prevent the moving of the train. The present invention provides simple and efficient means for overcoming the annoyances and delays to which engineers and trainmen have been subjected for many years; but while the elements shown and described are well adapted to serve the purposes for which they are intended it is to be understood that the invention is not limited to the precise construction set forth, but includes within its purview such changes as may be made within the scope of the appended claims.

Having described my invention, what I claim is—

1. The combination with a locomotive of means for detachably connecting the valve-stem of one engine of said locomotive to the valve-stem of the other engine of said locomotive, the valve-stems of said engines being independently actuated.

2. The combination with a locomotive of a support carried by the frame of said locomotive, a rocker-arm pivoted upon said support, and means for detachably connecting the end of said rocker-arm to the valve mechanisms of the two engines of the locomotive, each of said valve mechanisms being independently actuated.

3. The combination with a locomotive of a rocker-arm pivoted at its center to a support, the outer ends of said rocker-arm overhanging the valve-stems of the locomotive,

and means for detachably connecting the ends of said rocker-arm to said valve-stems, said valve-stems being independently actuated.

5 4. In an emergency attachment for locomotives, the combination with a rocker-arm pivoted between the valve-stems of a locomotive, of detachable clamps adapted to be secured upon said valve-stems and to engage  
10 the ends of the rocker-arms, the said valve-stems being independently actuated.

5. In an emergency attachment for locomotives, the combination with a rocker-arm, of a support carried by the frame of the locomotive to which said rocker-arm is pivoted,  
15 the free ends of the rocker-arm overhanging

the valve-stems of the locomotive, and detachable clamps adapted to be secured to said valve-stems and to engage with the ends of the rocker-arm whereby movement may  
20 be imparted to one of said valve-stems from the other of said valve-stems when the valve-actuating mechanism of one of the engines is disabled, said valve-stems being independently actuated. 25

In testimony whereof I affix my signature in presence of two witnesses.

HARRY RAINEY.

Witnesses:

CHARLES C. FORRY,  
HOWARD W. PYLE.