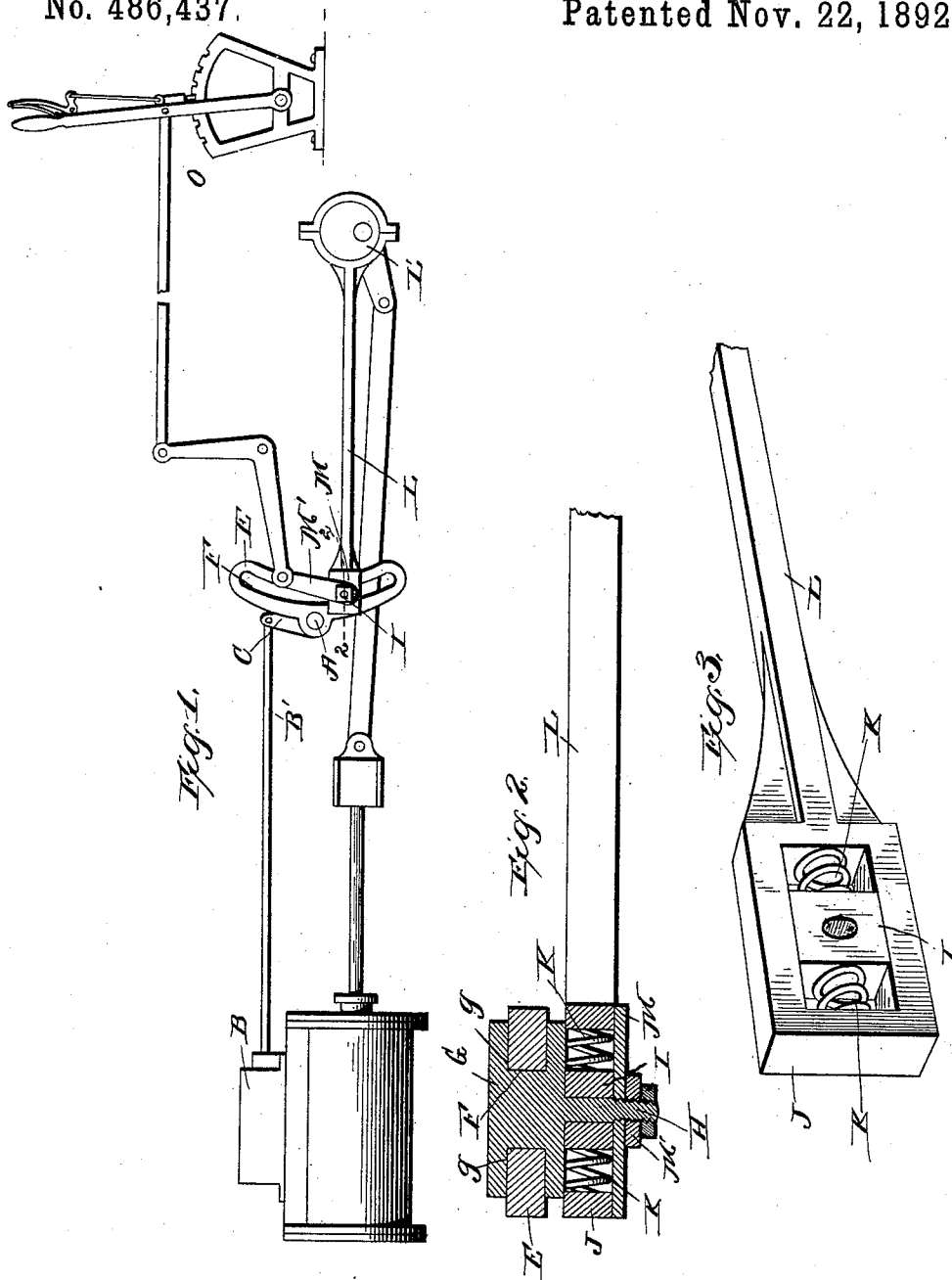


(No Model.)

F. H. A. DEVLIN.
VALVE GEAR.

No. 486,437.

Patented Nov. 22, 1892.



Witnesses

E. C. Mordeman,
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UNITED STATES PATENT OFFICE.

FRANCIS HENRY AUGUSTUS DEVLIN, OF MAUCH CHUNK, PENNSYLVANIA.

VALVE-GEAR.

SPECIFICATION forming part of Letters Patent No. 486,437, dated November 22, 1892.

Application filed July 13, 1892. Serial No. 439,899. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS HENRY AUGUSTUS DEVLIN, a citizen of the United States, residing at Mauch Chunk, in the county of Carbon and State of Pennsylvania, have invented a new and useful Valve-Gear, of which the following is a specification.

This invention relates to valve-gear for engines; and it has for its object to provide an improvement in gearing of this type whereby the motion of the engine can be almost instantly reversed or stopped at the will of the engineer and one which is so constructed as to provide for this reversal or stoppage of the engine in connection with only a single eccentric, whereas two eccentrics are generally employed for this purpose.

To this end the invention contemplates certain improvements in the link connection of such gear with the eccentric.

With these and many other objects in view, which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts hereinafter more fully described, illustrated, and claimed.

In the accompanying drawings, Figure 1 is a side elevation of my improved gearing shown as applied to the valve-stem and eccentric of an engine. Fig. 2 is an enlarged detail sectional view on the line 2 2, Fig. 1. Fig. 3 is a detail in perspective of the eccentric-rod head and the bearing plate or nut therein.

Referring to the accompanying drawings, A represents the valve rock-shaft, supported in any suitable position adjacent to the steam-chest B, and said rock-shaft carries the rock-arms C, connected to the valve-stem B', so that the same can be readily controlled through the medium of said shaft, which is regulated by the devices to be described. Fixedly secured to one end of said rock-shaft A is the shaft-controlling link E, having a curved slot F, adapted to accommodate the sliding adjusting-block G moving therein. The said sliding block G is provided with the opposite grooves g, embracing the edges of said slot, so that the same is prevented from being displaced therefrom, and with the projecting threaded stud H, which receives the bearing-nut I, arranged within the rectangu-

lar eccentric-rod head J. The said rod-head J is somewhat longer than the width of the bearing-nut I and is flexibly connected therewith by means of the spring K, arranged between the inner ends of said head and the sides of said nut, so as to provide a connection which will yield to any unevenness of motion and at the same time will allow the eccentric-rod L, carrying said head, to move even when the link is adjusted to the dead-center and the engine is moving of its own momentum, thereby allowing the valve to be motionless, while the spring or flexible connection of the eccentric-rod to the valve-gear yields sufficiently back and forth to allow the said rod to move. The eccentric-rod is connected with the ordinary eccentric L' of the engine, as will be apparent. The open head J is inclosed by the cap M, straddling the projecting stud H, and thereby holding the springs within the said head to keep the connection intact, while said cap is held in position by the lifting-arm M', clamped thereupon. The said lifting-arm M' is connected with a series of lifting levers or arms O of the usual type and provides means for moving the sliding adjusting-block G to the proper position in the slot of said link to reverse the engine or bring the same to a standstill.

It is thought that the construction, operation, and many advantages of the herein-described valve-gear are apparent without further description.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination, with a slotted valve-controlling link, of the sliding adjustable block moving in the slot of said link and provided with a projecting threaded stud, a bearing-nut mounted upon said stud, the eccentric-rod having an open rectangular head embracing said bearing-nut, and springs interposed between the inner ends of said head and side of said nut, substantially as set forth.

2. In a valve-gear for engines, the combination, with the rock-shaft connected with the valve-stem, of the slotted link fixedly secured to one end of said shaft, a sliding adjusting-block moving in the slot in said link and provided with a projecting threaded stud, a bearing-nut mounted upon said stud, the ec-

centric-rod having an open rectangular head embracing said nut, springs interposed between the inner ends of said head and the sides of said nut, a cap-plate clamped over
5 the open side of said head and the springs and nut therein, and lifting devices connected to said stud, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

FRANCIS HENRY AUGUSTUS DEVLIN.

Witnesses:

DAVID G. WATKINS,
JOHN LOOBER.