

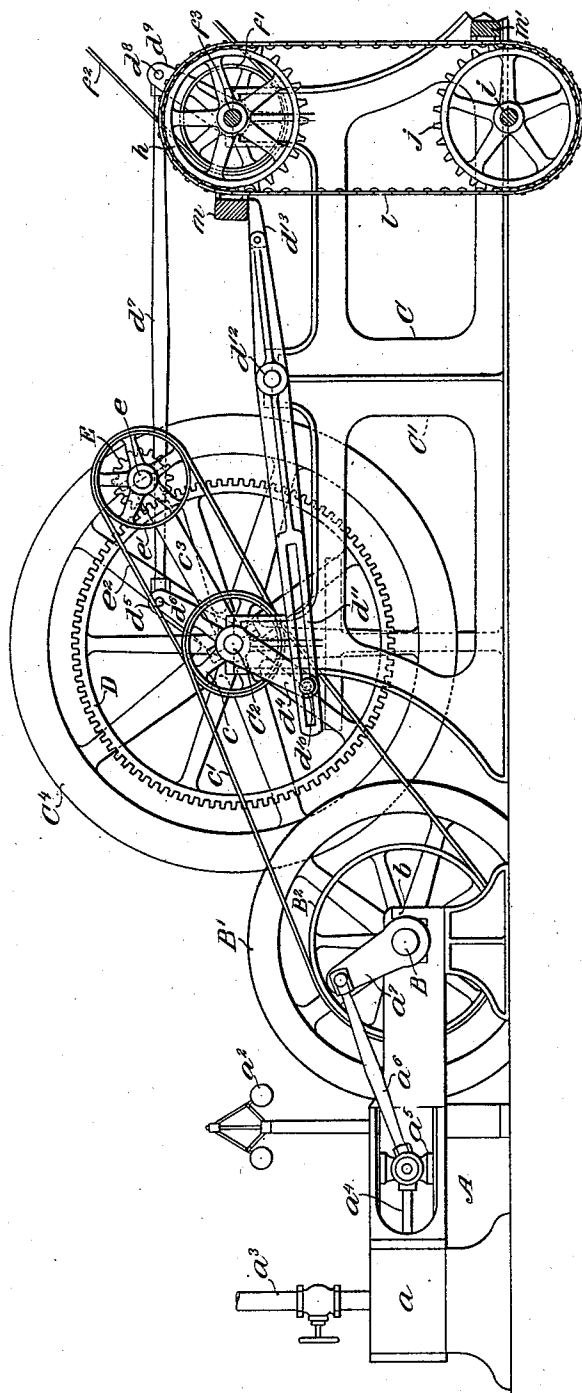
(No Model.)

2 Sheets—Sheet 1.

H. C. F. E. SNOWMAN.
MEANS FOR TRANSMITTING MOTION.

No. 530,972.

Patented Dec. 18, 1894.



Witnesses:
Thomas M. Smith.
Richard C. Maxwell.

Inventor,
Herman C. F. E. Snoman.
by J. Walter Douglas.
Attorney.

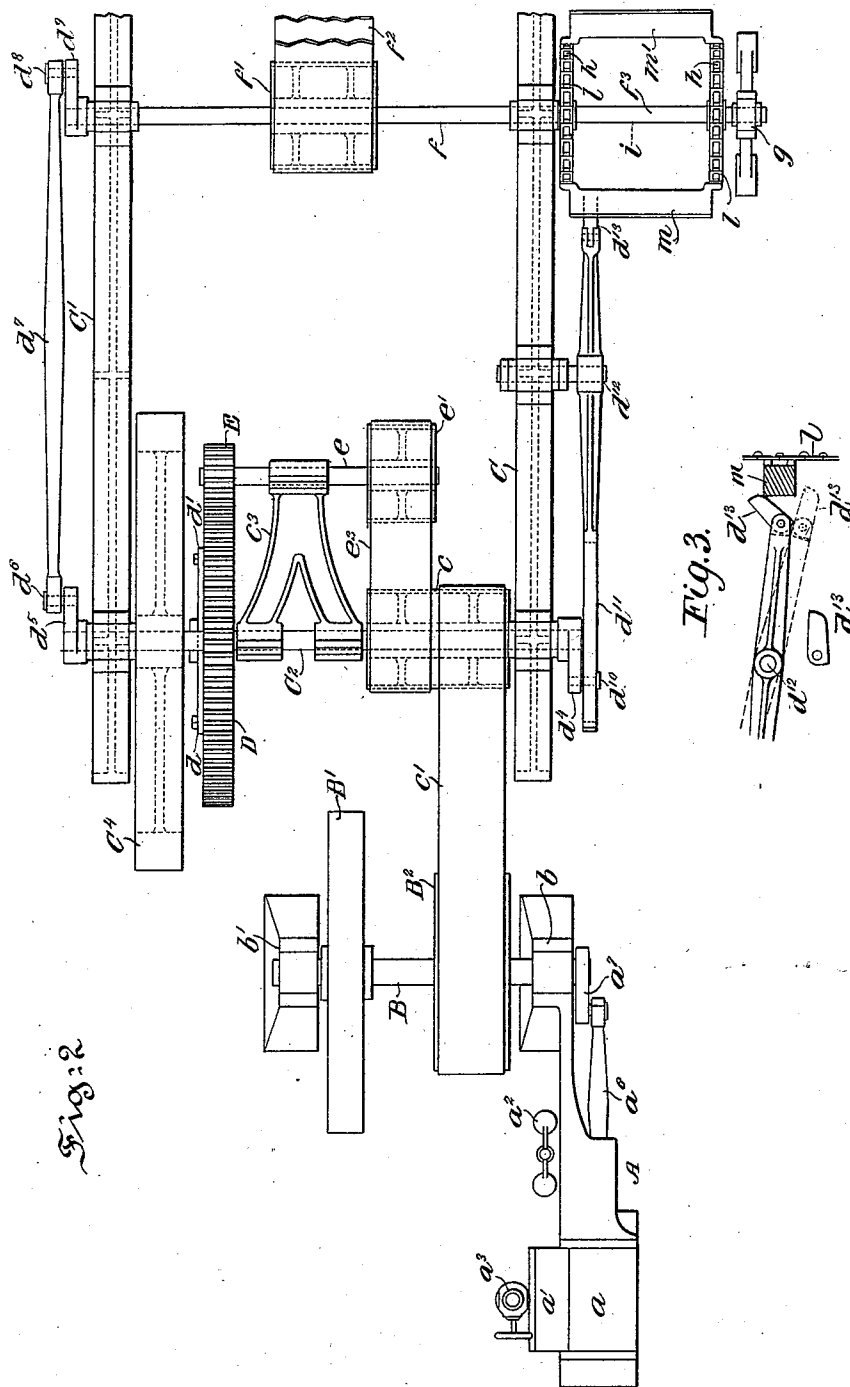
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Thomas M. Smith,
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Superior.
Norman C. F. E. Thornton,
by J. Walter Douglas.
attorneys.

UNITED STATES PATENT OFFICE.

HERMAN C. F. E. SNOWMAN, OF NEW PALTZ, NEW YORK.

MEANS FOR TRANSMITTING MOTION.

SPECIFICATION forming part of Letters Patent No. 530,972, dated December 18, 1894.

Application filed January 10, 1894. Serial No. 496,395. (No model.)

To all whom it may concern:

Be it known that I, HERMAN C. F. E. SNOWMAN, a citizen of the United States, residing at New Paltz, in the county of Ulster and State of New York, have invented certain new and useful Improvements in Means for Transmitting Motion, of which the following is a specification.

My invention has relation to improvements in engines for transmitting or converting energy for the actuation of machinery, and in such connection it relates more particularly to means employed to transmit the force generated by the engine to a transmitting shaft thereof.

My invention stated in general terms comprises an engine constructed and arranged for operation in substantially the manner hereinafter described and claimed.

The nature and scope of my invention will be more fully understood from the following description taken in connection with the accompanying drawings forming part hereof, and in which—

Figure 1, is a side view in elevation of the transmitting mechanism embodying features of my invention. Fig. 2, is a top or plan view thereof; and Fig. 3, is a view partly in side elevation and partly in section of the pawl pivotally connected with a fulcrumed lever-arm operated by a crank in the manner shown in Figs. 1 and 2, and also showing the lug or step projecting from a sprocket chain adapted to engage with and to be disengaged from said pawl.

Referring to the drawings A, is a stationary engine, comprising a piston cylinder or barrel a , with a steam chest a' , governor a^2 , a steam inlet pipe a^3 , a piston-rod a^4 , provided with a slider a^5 , a connecting rod a^6 , in pivotal connection with the slider a^5 , and a crank a^7 , mounted on the end of a transverse shaft B, which is journaled in standards b and b' , as clearly illustrated in Fig. 2.

On the shaft B, are secured a fly-wheel B' , and a pulley B^2 , which latter is rigidly secured thereto.

C and C' , as fully shown in Fig. 2, are standards. C^2 is a shaft journaled therein and provided with a double face loose pulley c .

c' , is a belt passing around the fixed pulley B^2 , and the loose pulley c , of the shaft C^2 . The shaft C^2 , carries a V-shaped traveler c^3 , which is keyed thereto and which traveler c^3 , revolves the said shaft. Concentric with the shaft C^2 , is a large stationary gear wheel D, which is provided with supports d and d' , secured to the foundation or floor and adapted to maintain the stationary gear-wheel D, in such position as to permit of the rotation around the periphery of the same of a traveler gear E, which is mounted on the shaft e , loosely held to position in the outer end of the V-shaped traveler c^3 .

The shaft e , carries a pulley e' , which is rigidly secured thereto and passing around this pulley e' and the pulley c , is a belt e^2 . On the shaft C^2 , is mounted a fly-wheel C^4 . On each end of this shaft C^2 , are applied and secured cranks d^4 and d^5 . The crank d^5 , is provided with a stud-pin d^6 , engaging one end of a connecting rod d^7 , which at its opposite end engages the stud-pin d^8 , of the crank d^9 , applied to the end of a shaft f , which is journaled in the standards C and C' .

The transmitting shaft f , carries a pulley f' , and surrounding the same is a belt f^2 , connected with a pulley mounted on a shaft, not shown, but adapted to have motion imparted thereto by means of the belt f^2 , to a pulley mounted on said shaft. The transmitting shaft f , is extended beyond the standard C, and is journaled at its outer end in a standard g , as fully illustrated in Fig. 2.

On the extension f^3 , of the transmitting shaft f , are secured sprocket-wheels h , and to a shaft i , located at the base of the standard C, are mounted sprocket-wheels j . These sprocket-wheels are engaged by sprocket chains l and l' , provided with projections or steps m and m' , as fully illustrated in Figs. 1 and 2, for a purpose to be presently more fully explained.

On the end of the shaft C^2 , provided with the crank d^4 , having a stud-pin d^{10} , is attached thereto a slotted lever-arm d^{11} , and this lever-arm d^{11} , is fulcrumed at d^{12} , to the standard C, and at its forward end it is bifurcated and has pivoted thereto in any preferred manner a latch or pawl d^{13} , which is adapted to en-

gage and disengage the steps or projections m and m' , of the sprocket chains l and l' , so as to lift in one movement of the motor the sprocket chains in engagement with the sprocket wheels to energize the transmitting shaft f . This pawl d^{13} , is arranged so that in the travel of the respective chains l and l' , one of the steps m and m' , thereof at a time will be brought into engagement therewith by one movement of the slotted arm d^{11} , as illustrated in Fig. 1, and will then disengage the same when the lever arm d^{11} , has assumed by the movement of the crank d^4 , the position illustrated in full lines in Fig. 3, and with the pawl in such position as to again engage one of the steps or projections when the lever arm d^{11} , has assumed the position illustrated in dotted lines in Fig. 3.

The operation of the motor hereinbefore described, is as follows:—Steam or other elastic fluid is introduced into the cylinder a , of the engine A , through the controlled inlet pipe a^3 , whereby the piston is set in motion, and thereby through the connecting rod a^6 , and crank a^7 , to impart motion to the transverse shaft B , counter-balanced in the speed of rotation thereof, by means of the fly-wheel B' . The motion imparted directly by the piston to the shaft B , is communicated by means of the pulley B^2 , through a belt c' , to the pulley c , and in turn from the pulley c , through a belt e^2 , to a pulley e' , in order to actuate the traveler gear E , meshing with the large stationary gear-wheel D , and thereby traveling around the periphery of said wheel D , and which traveler gear also imparts motion to the shaft C^2 , controlling the movements of the cranks d^4 , d^5 and d^9 , connecting rod d^7 , slotted lever arm d^{11} , with its pawl d^{13} , and in conjunction with the sprocket mechanism hereinbefore described and as fully illustrated in Fig. 1, to impart motion to the transmitting shaft f , which in turn communicates such imparted motion by means of the pulley f' , and belt f^2 , to a pulley, not shown, controlling the operation of certain machinery.

Having thus described the nature and objects of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. An engine provided with a shaft B , a pulley B^2 , mounted thereon, a stationary gear wheel D , a shaft C^2 , a traveler arm C^3 , secured to the shaft C^2 , a shaft e , journaled in said

traveler arm, a gear E fixed on one end of the shaft e , and adapted to revolve around the periphery of the stationary gear wheel D , a pulley e' , keyed to the other end of the shaft e , a double face pulley c , loosely mounted on the shaft C^2 , a belt connecting the pulley B^2 , with said pulley c , and a belt connecting said pulley c , with the pulley e' , cranks d^4 and d^5 , secured on the ends of the shaft C^2 , a transmitting shaft f , a crank d^9 on one end of said transmitting shaft, a rod d^7 , connecting the crank d^5 , with the crank d^9 , a slotted arm d^{11} , having the crank d^4 , engaging in said slot, a pawl d^{13} , pivotally connected to the end of said arm, sprocket wheels j , mounted on the shaft i , attached to the standard C , sprocket-wheels h , keyed to the transmitting shaft f , chains l and l' , connecting said sprockets and steps m and m' , carried by said chains, substantially as and for the purposes set forth.

2. An engine provided with a shaft B , carrying a fly-wheel B' , a pulley B^2 , mounted on said shaft, a stationary gear D , a shaft C^2 , a traveler arm C^3 , secured to the shaft C^2 , a shaft e journaled in said traveler arm, a gear E , fixed on one end of the shaft e , and adapted to revolve around the periphery of the stationary gear D , a pulley e' , keyed to the other end of the shaft e , a double face pulley c , loosely mounted on the shaft C^2 , a belt connecting the pulley B^2 , with said pulley c , and a belt connecting said pulley c , with the pulley e' , a fly wheel C^4 , mounted on the shaft C^2 , cranks d^4 and d^5 , secured to the ends of the shaft C^2 , a transmitting shaft f , a crank d^9 , on one end of said transmitting shaft, a rod d^7 , connecting the crank d^5 , with the crank d^9 , a slotted arm d^{11} , having the crank d^4 , engaging in said slot, a pawl d^{13} , pivotally connected to the end of said arm, sprocket wheels j , mounted on the shaft i , attached to the standard C , sprocket wheels h , keyed to the transmitting shaft f , and chains l and l' , connecting said sprockets and steps or projections m and m' , carried by said chains, substantially as and for the purposes set forth.

In testimony whereof I have hereunto set my signature in the presence of two subscribing witnesses.

HERMAN C. F. E. SNOWMAN.

Witnesses:

JACOB D. WURTS,
JAMES MYER.