(No Model.)

T. C. THOMAS.

ANTI DEAD CENTER CRANK.

No. 386,942. Patented July 31, 1888.

Fig. 2.

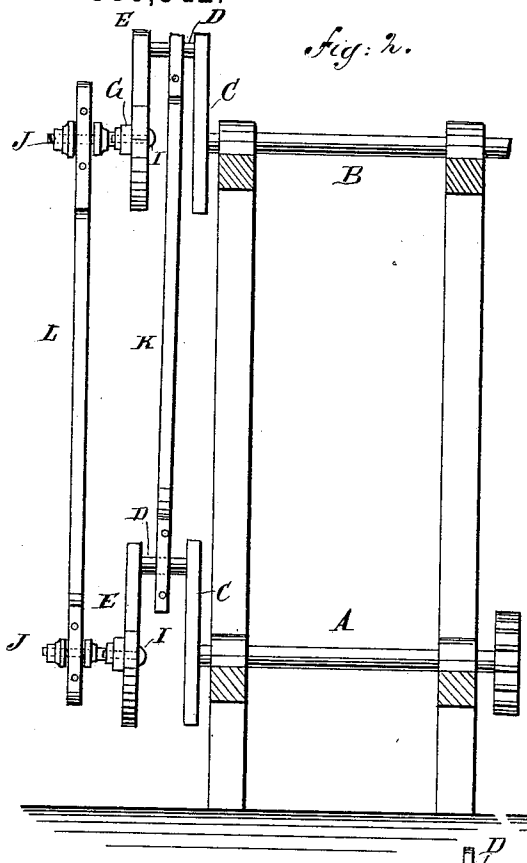


Fig. 1.

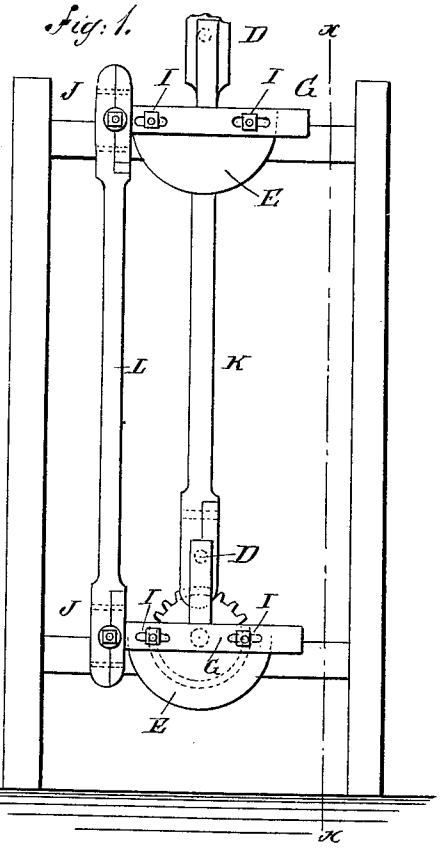


Fig. 6

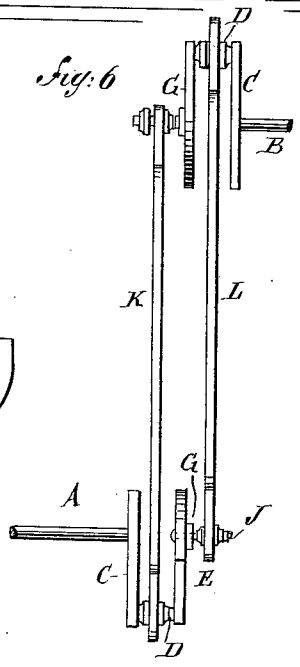


Fig. 5.

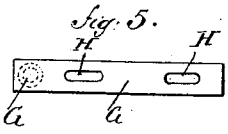


Fig. 3.

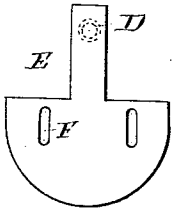
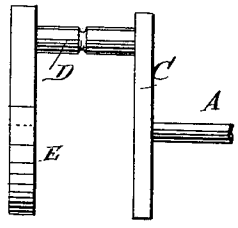


Fig. 4.



WITNESSES:

Chas. Wm. Burdett

E. Bedgwick

INVENTOR:

T. C. Thomas.

BY Munn & Co

ATTORNEYS.

N. PETERS. Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

THOMAS COSLET THOMAS, OF SALT LAKE CITY, UTAH TERRITORY, ASSIGNOR OF ONE-HALF TO GEORGE STRINGFELLOW, OF SAME PLACE.

ANTI-DEAD-CENTER CRANK.

SPECIFICATION forming part of Letters Patent No. 386,942, dated July 31, 1888.

Application filed September 7, 1887. Serial No. 249,022. (No model.)

To all whom it may concern:

Be it known that I, THOMAS COSLET THOMAS, of Salt Lake City, in the county of Salt Lake and Territory of Utah, have invented a new and Improved Anti-Dead-Center Crank, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved anti-dead-center crank for transmitting power with the least possible loss of the original force and avoiding, at the same time, any dead-centers.

The invention consists of a crank-arm connected by a crank-pin with an arm carrying an adjustable plate held at right angles to the said crank-arm and carrying a second crank-pin.

The invention also consists in the construction and arrangement of various parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of my improvement. Fig. 2 is a vertical cross-section of the same on the line *x x* of Fig. 1. Fig. 3 is a face view of one crank-arm. Fig. 4 is an end elevation of the same. Fig. 5 is a side elevation of the adjustable crank-plate. Fig. 6 is an end elevation of my improvement, showing two shafts running in opposite directions and connected with each other by my improvement.

My improved anti-dead-center crank is especially intended to be used in place of belts, chains, cog-wheels, &c., and may be used in connection with steam-engines of various designs.

As illustrated in Figs. 1 and 2, I connect with my improvement two shafts, A and B, which run in the same direction; and, as illustrated in Fig. 6, I connect with my improvement two parallel shafts, A and B, running in opposite directions. The shafts A and B may be connected in any suitable manner with the driving mechanism.

My improved anti-dead-center-crank motion is provided with a crank-arm, C, secured to each shaft A and B, and on each of the said crank-arm C is held a crank-pin, D, connected with an arm, E, extending in line with the crank-arm C, but in front of the same. The arm E is provided with the slots F, over which is held a crank-plate, G, having slots H, running in an opposite direction from the slots F in the arm E. Bolts I pass through the said slots F and H and secure the crank-plate G to the arm E. It will be seen that the said crank-plate G may be adjusted sidewise and up and down on the arm E, thus enabling me to set the crank-plate G with great accuracy in relation to the crank-arm C. The crank-plate G carries on its outer end a crank-pin, J.

As illustrated in Figs. 1 and 2, I connect the crank-pins D with each other by means of a pitman, K, and in a similar manner I connect the crank-pins J with each other by a pitman, L, so that when either shaft A or B is rotated the motion is transmitted to the other shaft by the said two anti-dead-center cranks on the shafts, which are connected with each other by the pitmen L and K.

It will be seen that by arranging the two crank-pins D and J relatively at right angles to each other I avoid all dead-centers, and at the same time I transmit the power from one shaft to the other without loss of the original force given to the said shaft. When the shafts A and B run in opposite directions, as illustrated in Fig. 6, I connect the crank-pin D of the shaft B with the crank-pin J of the shaft A by means of the pitman L, and in a similar manner I connect the crank-pin J of the shaft B with the crank-pin D of the shaft A by the pitman K. The operation in this case is precisely the same as the one above referred to in connection with Figs. 1 and 2.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with a crank-arm, C, carrying a crank-pin, of an arm, E, secured to the said crank-pin and extending parallel with the said crank-arm, a crank-plate held on the said arm, and the crank-pin secured to the said crank-plate, substantially as shown and described.

2. The combination, with a crank-arm, C, secured to a shaft, of a crank-pin fastened on the said crank-arm, an arm, E, secured to the said crank-pin and extending parallel with the said crank-arm, a crank-plate held universally adjustable on the said arm E, and a crank-pin fastened on the said crank-plate, substantially as shown and described.

3. The combination, with two shafts, of a crank-arm, C, secured to the end of each shaft, a crank-pin fastened to each crank-arm, an arm, E, secured to each crank-pin, an adjustable crank-plate held on each arm, a crank-pin secured to each crank-plate, and pitmen for connecting the said crank-pins, substantially as shown and described.

THOMAS COSLET THOMAS.

Witnesses:
WILLIAM FULLER,
ROBERT L. MCEWAN.