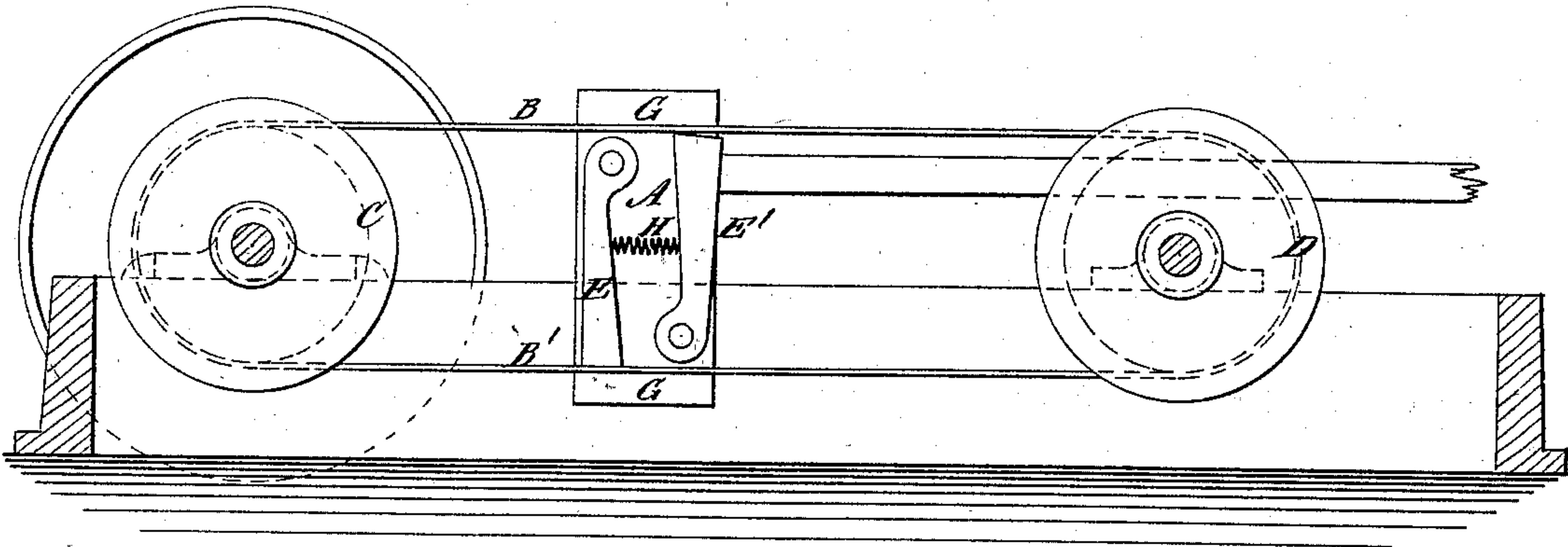


H. L. JOSLIN.  
CONVERTING MOTION.

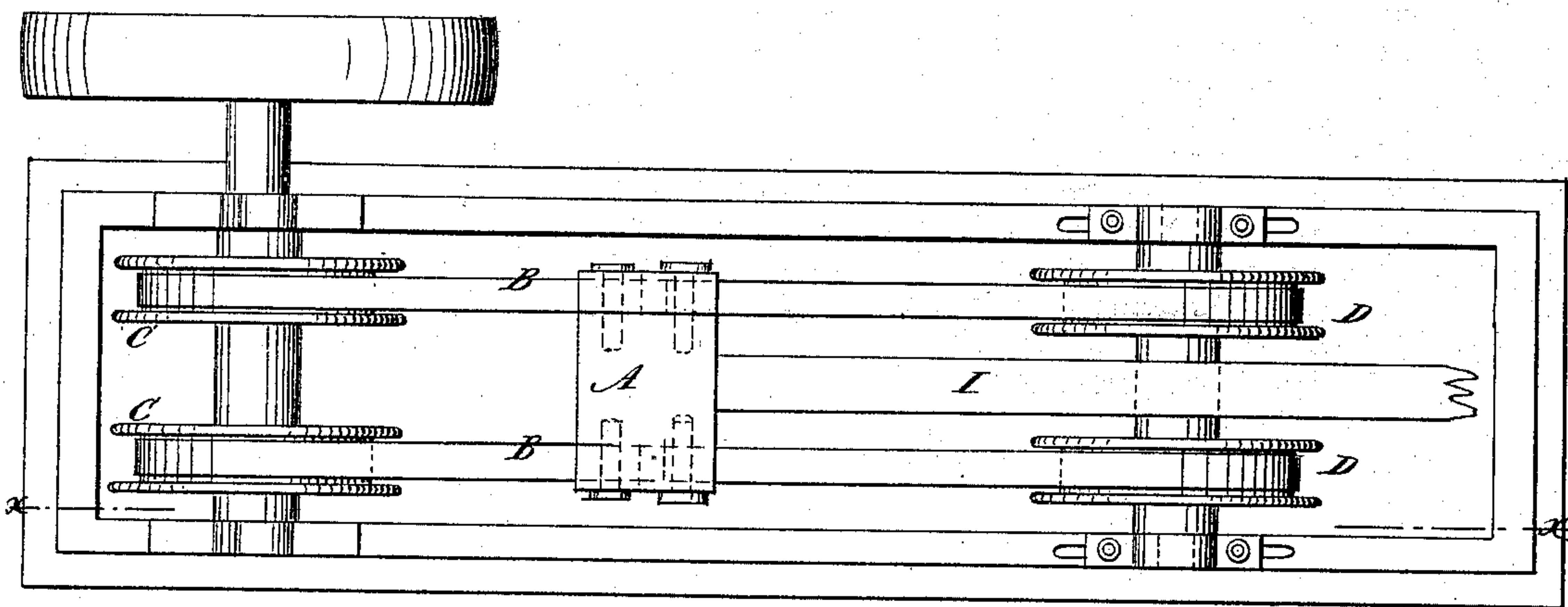
No. 182,199.

Patented Sept. 12, 1876.

*Fig. 1*



*Fig. 2*



WITNESSES:

*C. Neveu*  
*John Goethals*

INVENTOR:

*H. L. Joslin*  
BY *Mumford*  
ATTORNEYS.

# UNITED STATES PATENT OFFICE.

HIRAM L. JOSLIN, OF MANKATO, MINNESOTA, ASSIGNOR TO HIMSELF AND  
HENRY K. LEE, OF SAME PLACE.

## IMPROVEMENT IN CONVERTING MOTION.

Specification forming part of Letters Patent No. **182,199**, dated September 12, 1876; application filed  
March 6, 1876.

*To all whom it may concern:*

Be it known that I, HIRAM L. JOSLIN, of Mankato, Blue Earth county, Minnesota, have invented a new and Improved Apparatus for Converting Motion, of which the following is a specification:

The invention consists of a reciprocating head working backward and forward along belts, and having clutches or pawls contrived to take hold of one side going one way, and the other side going the other way, so as to apply the power continuously in one direction, by which it is believed that better results can be obtained than with the crank in the application of the power of a steam-engine, because in this case the engine always takes hold as advantageously as the crank does at its best, and a fly-wheel is not needed for passing the dead-centers.

Figure 1 is a front elevation of my improved apparatus, taken on line *v v*, Fig. 2; and Fig. 2 is a plan view.

Similar letters of reference indicate corresponding parts.

A represents the cross-head of the steam-engine, arranged to work forward and backward along the belts B B', working over pulleys C on a driving-shaft, also pulleys D on a rib-shaft, and provided with friction-pawls E E', one of which grips the belt when going

one way, and the other grips it when going the other way, so as to apply the power continuously. In this example two belts are represented, but one will answer if preferred.

The pawls gripe the belt against the top and bottom plate G of the cross-head. One is released by the spring H, while the other takes hold at each reverse movement of the cross-head.

For reversing the motion one of the belts will be driven in the opposite direction, and the pulley on the driving-shaft will be coupled by rose-clutches, so that one will work one way and the other the other way.

In practice, the pulleys D will be arranged on separate shafts, so that the connecting-rod I may be dropped down in the center in line with the piston-rod.

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

The combination of reciprocating-head A, having reversely-operating friction-pawls E E', with a belt, B B', and wheels C D, substantially as specified.

HIRAM L. JOSLIN.

Witnesses:

A. D. BEACH,

C. P. WILLIAMS.