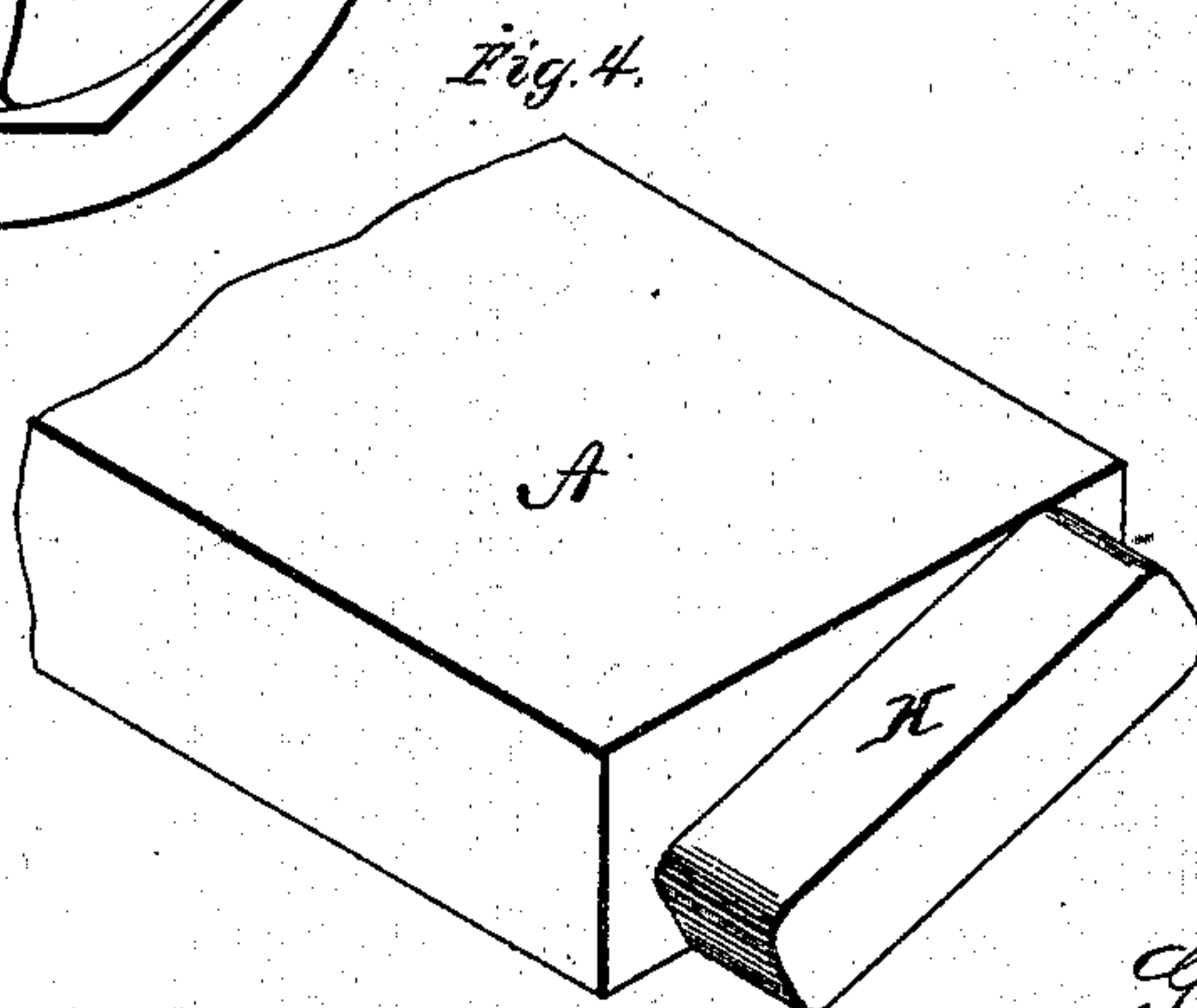
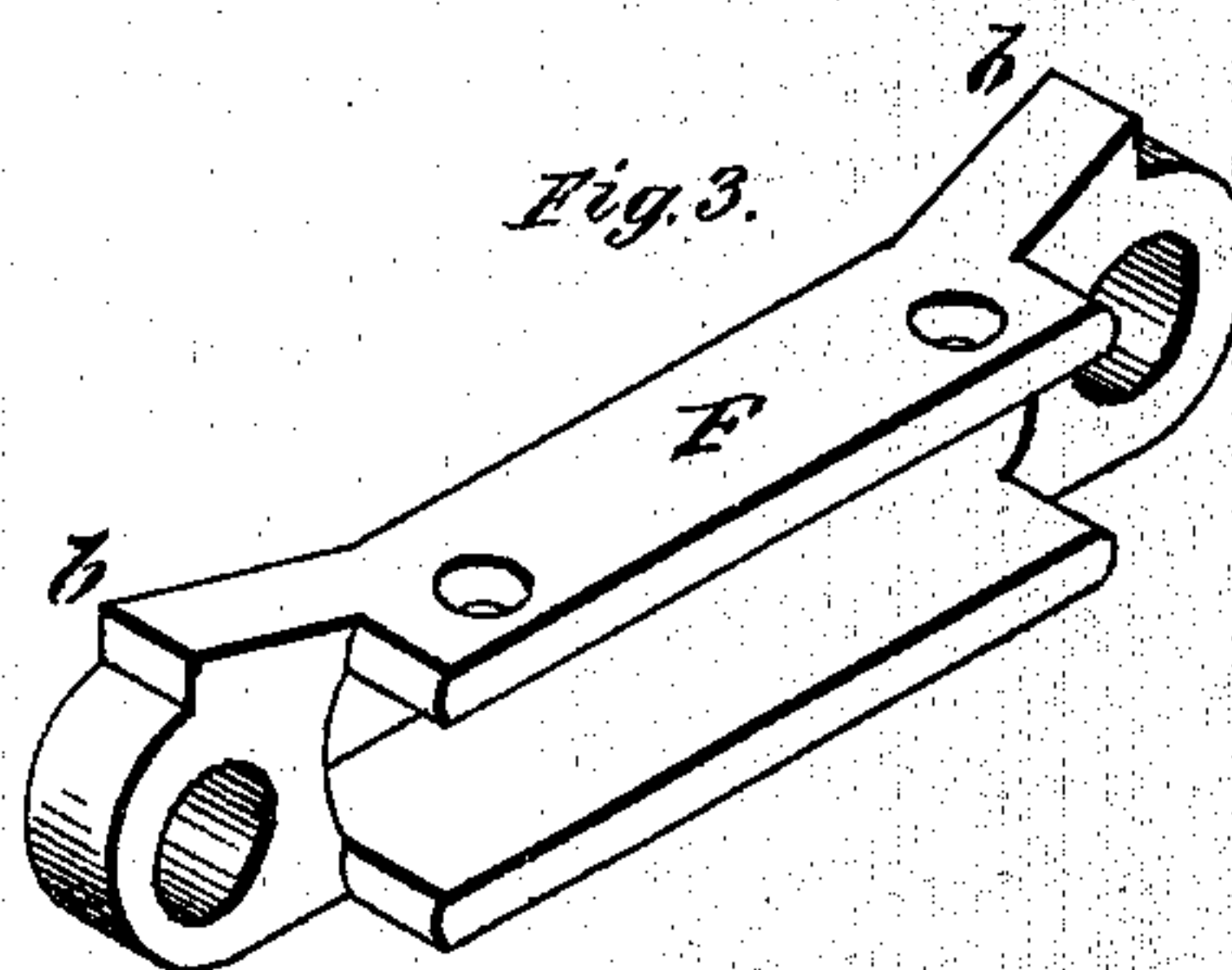
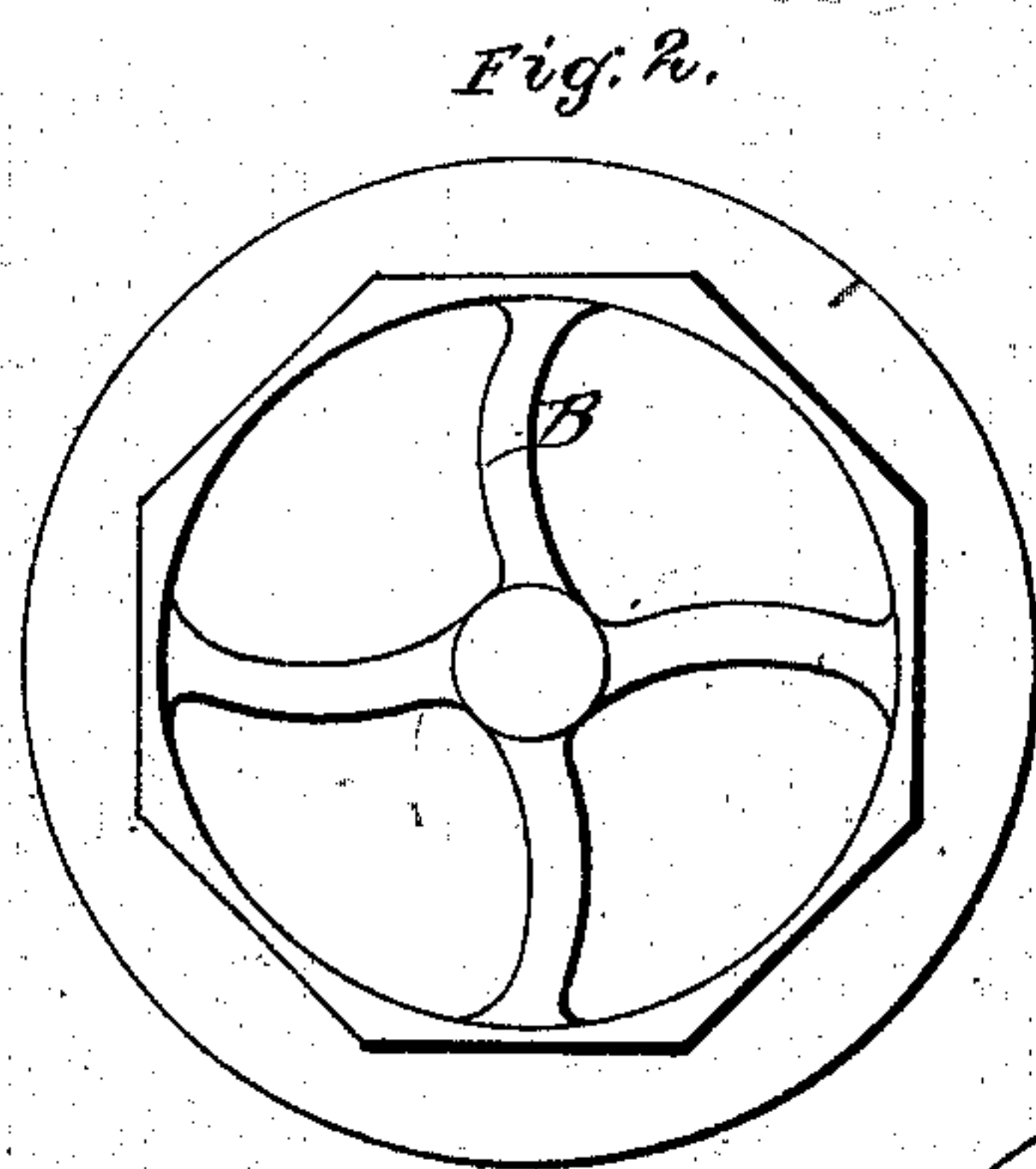
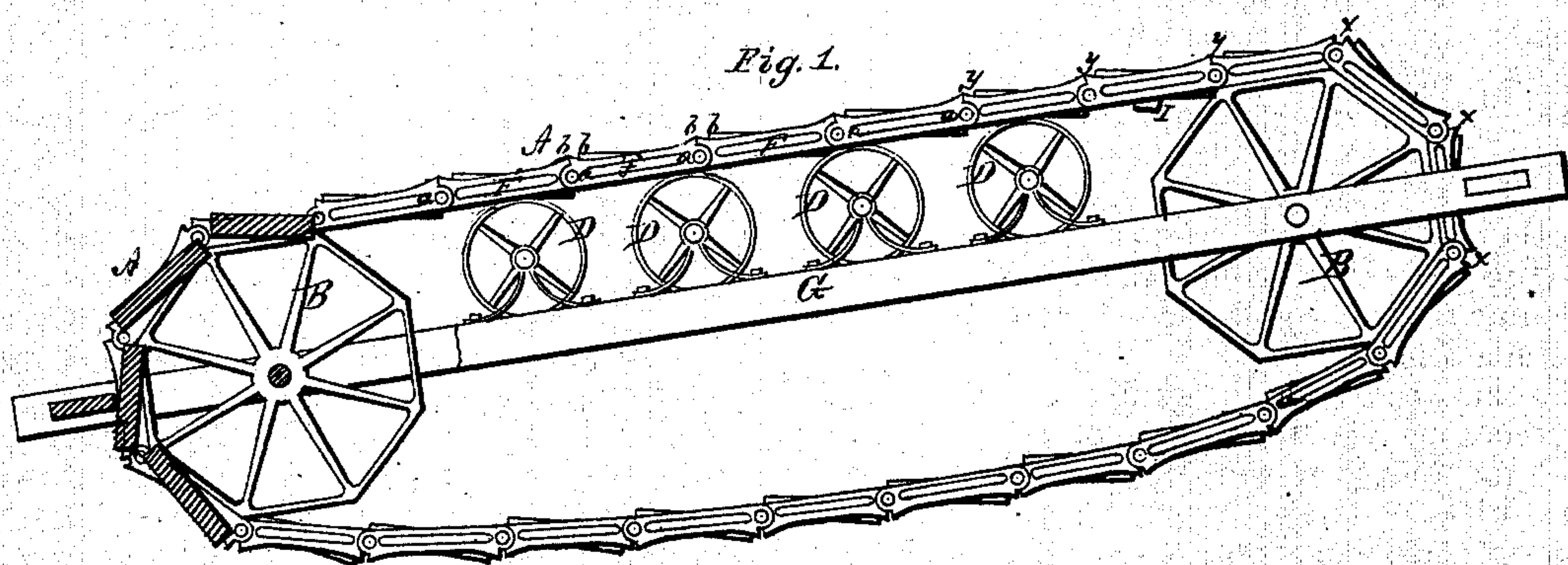


G. N. PALMER.

Endless Chains for Animal-Powers.

No. 139,604.

Patented June 3, 1873.



Witnesses
John A. Ellis
Wm. K. Ellis

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UNITED STATES PATENT OFFICE.

GEORGE N. PALMER, OF GREENE, NEW YORK, ASSIGNOR TO H. A. LYON
AND L. E. ST. JOHN, OF SAME PLACE.

IMPROVEMENT IN ENDLESS CHAINS FOR ANIMAL-POWER.

Specification forming part of Letters Patent No. 139,604, dated June 3, 1873; application filed
March 21, 1873.

To all whom it may concern:

Be it known that I, GEORGE N. PALMER, of Greene, in the county of Chenango and State of New York, have invented certain new and useful Improvements in Endless Chain for Animal-Power; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, which form a part of this specification.

The nature of my invention consists in the construction and arrangement of an endless chain for animal-powers, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a side view of my endless chain, with the frame and wheels over which it moves. Fig. 2 represents one of the wheels. Fig. 3 is a perspective view of one of the links; and Fig. 4 is a perspective view of the end of one of the treads.

G represents a part of the frame, in which, at each end, are octagon wheels B B, around which the endless chain passes. D D are friction-wheels supporting the chain where the animal is located. The endless chain is composed of links F F and treads A A. Every alternate link is cast with a pin or projection, *a*, at each end, while the other alternate links are cast with a hole at each end, as shown in Fig. 3, to receive said pins, thereby connecting the links and forming a continuous chain of any desired length. On the upper side of each link F is cast a shoulder, *b*, at each end, so that when the links are put together it forms a knuckle-joint which holds the bridge in a rigid or unyielding position while passing over the friction-wheels D D, thereby keeping the top portion of the bridge in a straight line under the animal's feet, and readily yielding to fit the octagon wheels B. The under sides

of the links F are smooth and straight, corresponding in length with the straight surfaces of the wheels B at the angles, thereby forming a gripe to carry with the chain the wheels B B in such a manner as to give to said wheels the power required. At *x x* the knuckle-joints are shown open, and at *y y* closed. By this arrangement I am enabled to dispense with two friction-wheels to each tread, also with running across from one side to the other, one to each tread, as heretofore used. On each end of the treads A is formed a tenon, H. This tenon is made diagonally across the end of the tread, and not corresponding with either surface thereof. By this diagonal position of the tenons when they are inserted in the links the tread is held in such a position as to receive the foot of the animal as if it was moving on a level plane, in step form, while the power is inclined.

The tread may be strengthened, when it is made of sufficient width for two horses abreast, by attaching a strip, I, of wood edgewise to the under side of the tread.

With this chain considerable power is gained, as the number of friction-wheels required is greatly reduced.

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

1. The treads A, having formed upon each end the diagonal tenons H, so that while the power is inclined the upper surface of the treads will be held in a level position, substantially as and for the purpose specified.

2. The links F F having shoulders *b b*, in combination with the treads A having diagonal tenons H H, all constructed and arranged for operation as and for the purpose described.

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

GEO. N. PALMER.

Witnesses:

JEROME B. WHITE,
U. S. LOWE.