T. Sharp,

Horse Power.

No. 8,779. Patented Mar. 2, 1852.

Fig. 2.

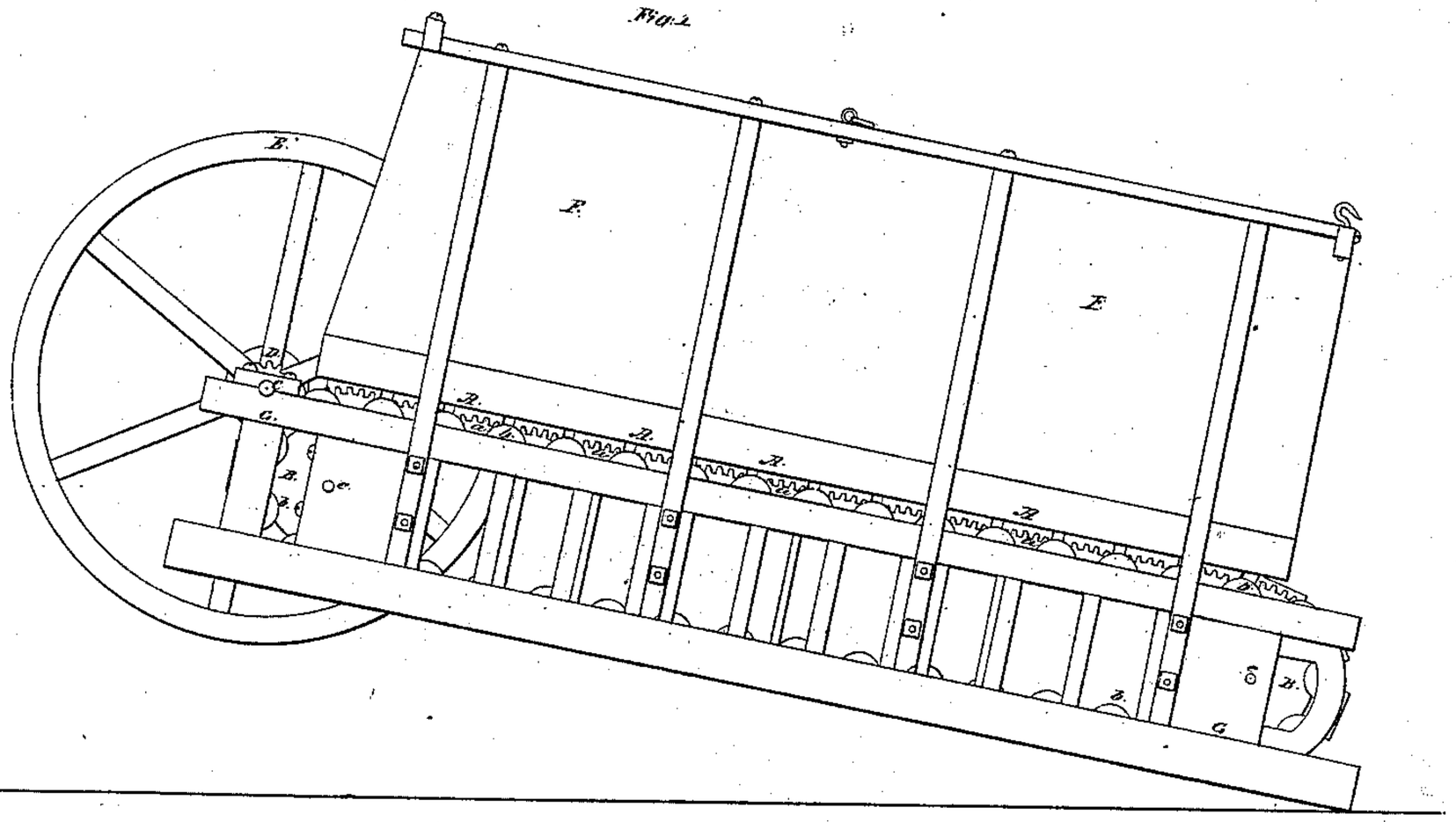


Fig. 2.

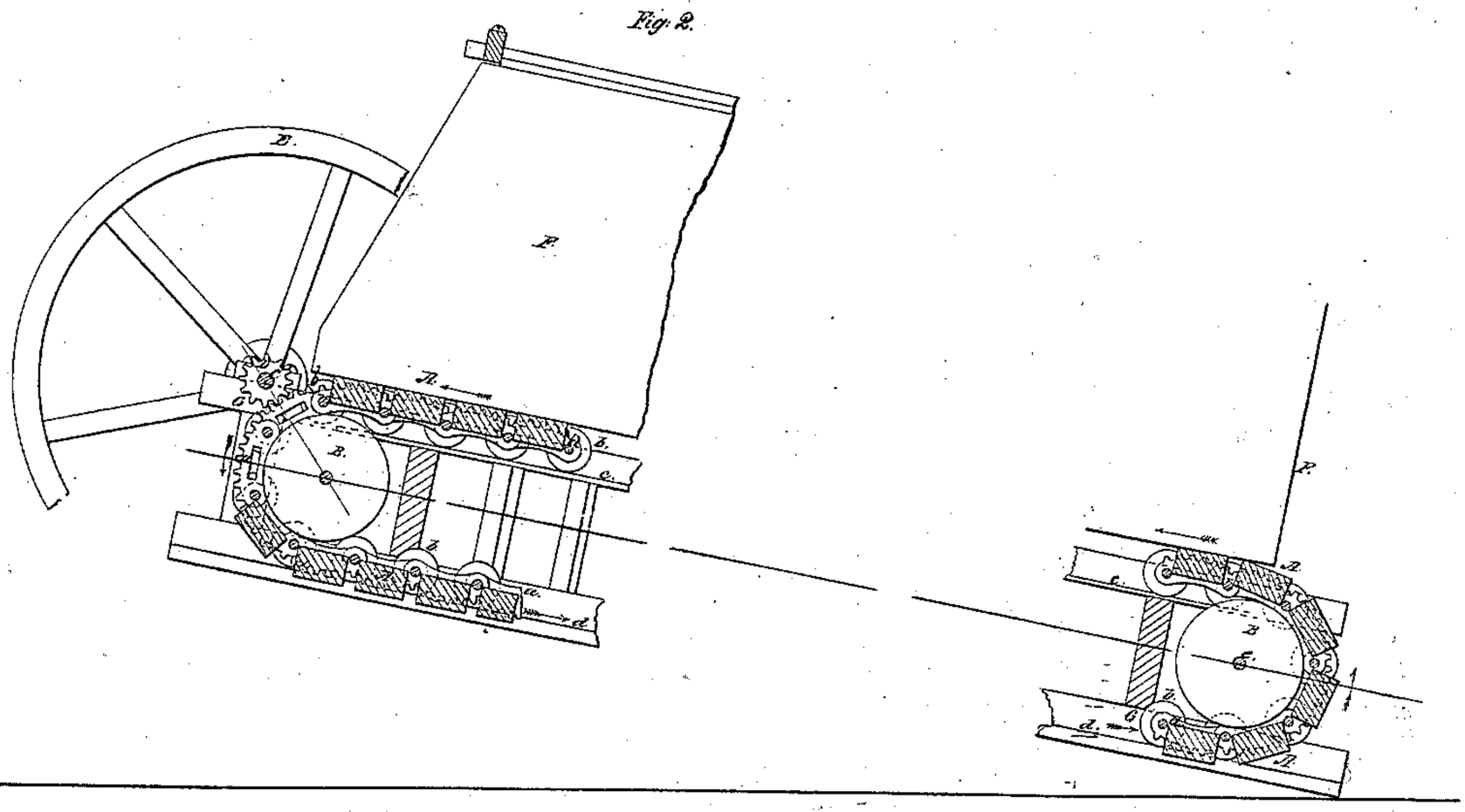
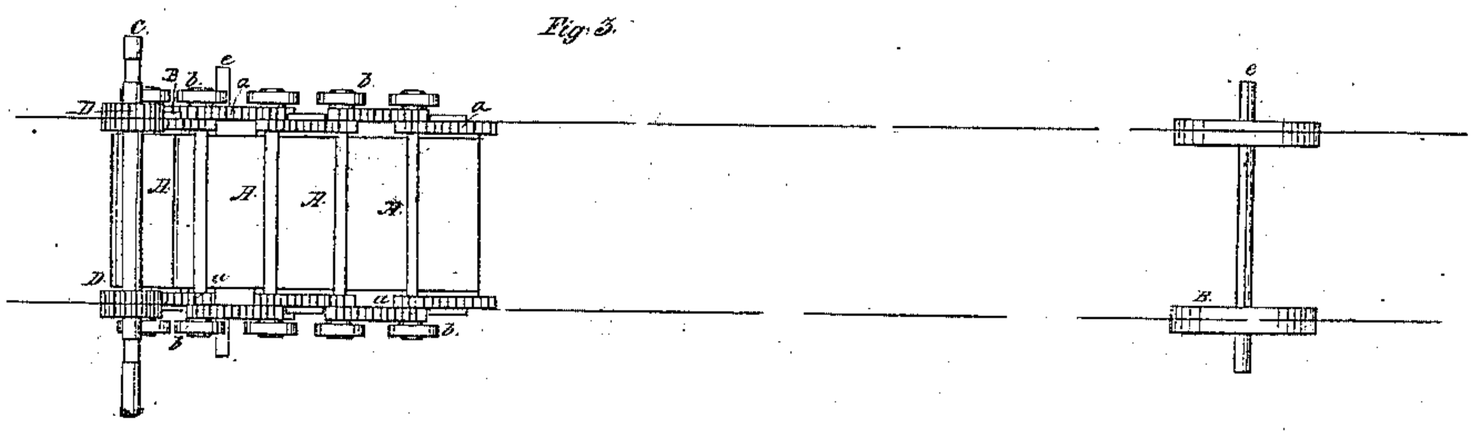


Fig. 3.



UNITED STATES PATENT OFFICE.

THEODORE SHARP, OF ALBANY, NEW YORK.

ENDLESS-CHAIN HORSE-POWER.

Specification of Letters Patent No. 8,779, dated March 2, 1852.

To all whom it may concern:

Be it known that I, T. SHARP, of the city and county of Albany and State of New York, have invented certain new and useful Improvements in Endless-Chain Horse-Powers; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation. Fig. 2 is a longitudinal section in part, represented broken, and Fig. 3 is a plan of a portion of the endless chain with parts operated by it.

The same letters of reference denote similar parts in each of the figures.

The nature of my invention consists in constructing the endless chain of curved links with teeth on the outer edge which give motion to pinions at or over the one end, the said curved links, on their inner edge, fitting on and corresponding with the peripheries of drums or pulleys at either end, so that the carrying rollers are allowed to move in space while traveling the ends where a change of motion occurs, and much friction is necessarily avoided.

To enable others skilled in the art to make and use my invention I will proceed more fully to describe it.

The horse power, in appearance, and general action, is much the same as those in ordinary use, and differs only so far as will be seen in the following description:

A, A, A, A, are the planks forming the traveling platform fitting into the links, *a*, *a*, *a*, *a*, composing the endless chain; *b*, *b*, *b*, *b*, are the running carrying rollers which travel on either side in the usual way on top and bottom rails, *c*, *c*, *d*, *d*, these rails however not being united or joined at the ends (as is customary) through provisions, rendering that unnecessary, which will be presently referred to; the links *a*, *a*, *a*, *a*, are of a curved shape in direction of their length, the inner edge of each one being struck with a sweep corresponding with the peripheries of either drum or pair of pulleys B, B, at either end, and the outer edges of the links being made with teeth thereon which as the chains are put in motion, through the tread of the horse on the planks, A, A, A, A, produce a rotary motion of the shaft, C, by means of the pinions, D, D; the drums or pulleys, B, B, which turn with their shafts, *e*, *e*, (running on fixed bearings) serve to form nesting surfaces for the links when traveling the ends, the said links as before described, fitting thereon, on their inner edge or surface.

E, is a fly and brake wheel on the driving shaft, C, and F, F, is the side covering fitted on the stationary framing, G, G, on either side of which are the rails *c*, *c*, *d*, *d*.

From this description it will be seen that the running rollers *b*, *b*, *b*, *b*, carry the traveling platform only while they (the rollers) are pursuing a straight course on either top or bottom rail, they not bearing on any surface while traveling the ends, whereby they receive time for a perfect arrest of their motion produced by their movement on the one line of rail before commencing to run upon the other line on which their motion is in a reverse direction as caused by the travel on the top and bottom lines of rail being in opposite directions; thus much friction is avoided as compared with present devices where the rollers have to carry the platform at the curved ends as well as along the straight rails thereby producing a retarding rubbing action at those points where the running rollers reverse their motion in passing from the one to the other straight line of rail, no such or similar friction being produced by my improved construction as the links being curved to fit the drums, B, B, no friction is produced on the peripheries of the drums, as they revolve and move at the same velocity with the chain, while the links by their toothed exterior edge operate the pinions D, D; the driving shaft, C, being so situated in relation to the shaft of the nearest drum, B, as that a line intersecting the two shafts will place the point of gear of the pinions D, D, and the toothed links in such a position as to give the driving link or links a good and sufficient bearing on the drum (as seen more clearly in Fig. 2) whereby the friction produced by the driving strain is thrown from the running rollers on the rails, as is usually the case, to the driving shaft, C, and that of the nearest drum, B, thereby considerably diminishing the loss of power as caused by the twisting strain on, and heavy friction of the links and carrying rollers as at present.

Having thus described my invention, I do not claim constructing the endless chains of horse powers with curved or bent links the under surface of which corresponds to the

surface of the revolving drums which support them, as that has been done before, but

What I do claim as my invention and desire to secure by Letters Patent, is—

The combination of the bent links *a*, *a*, the revolving drums B, and the pinions D, constructed and operating in the manner and for the purpose substantially as described.

THEODORE SHARP.

Witnesses:
S. H. WALES,
A. R. HAIGHT.