

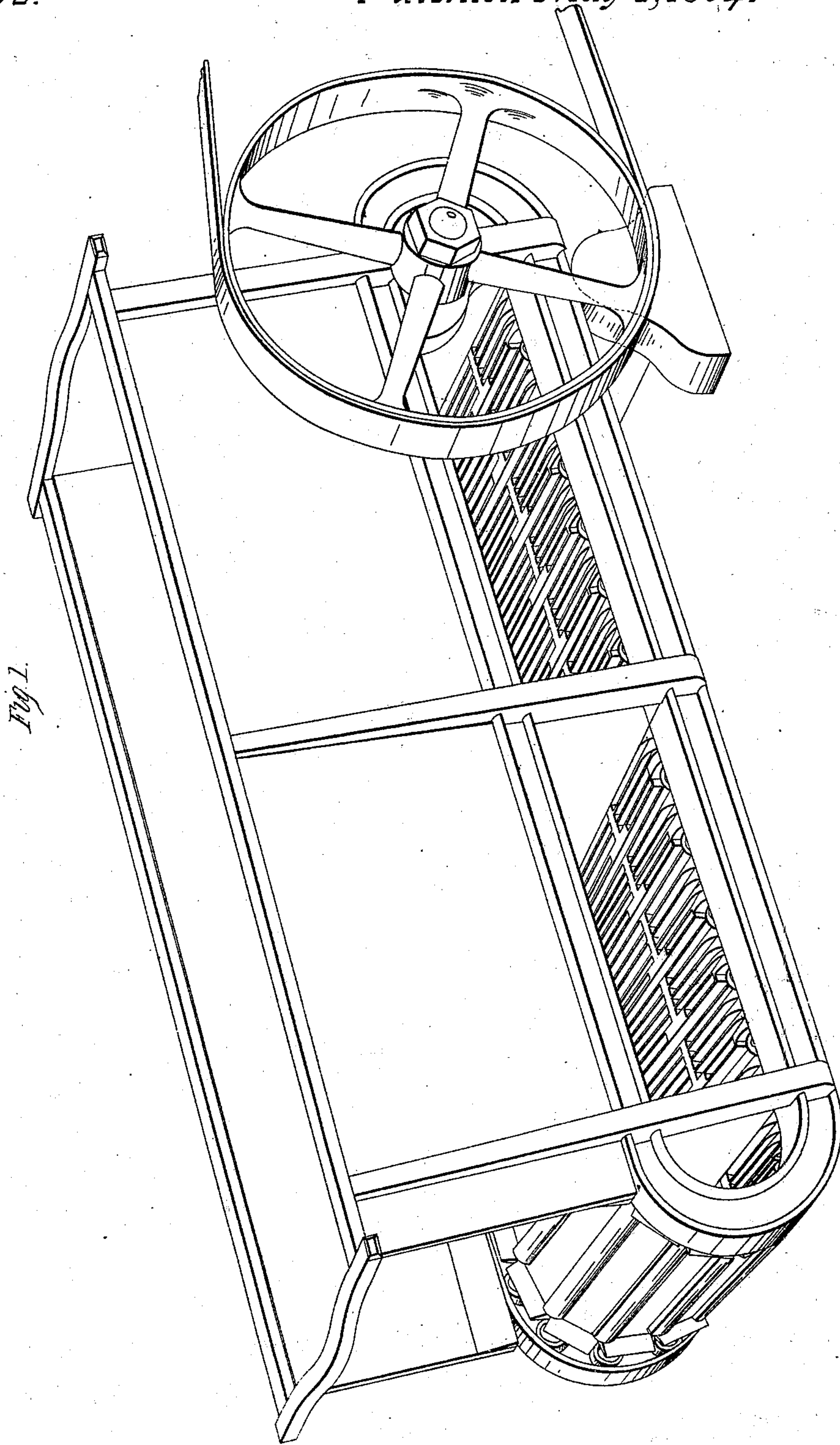
W. E. Arnold,

2 Sheets, Sheet 1.

Horse Power.

N<sup>o</sup> 10,852.

Patented May 2, 1854.

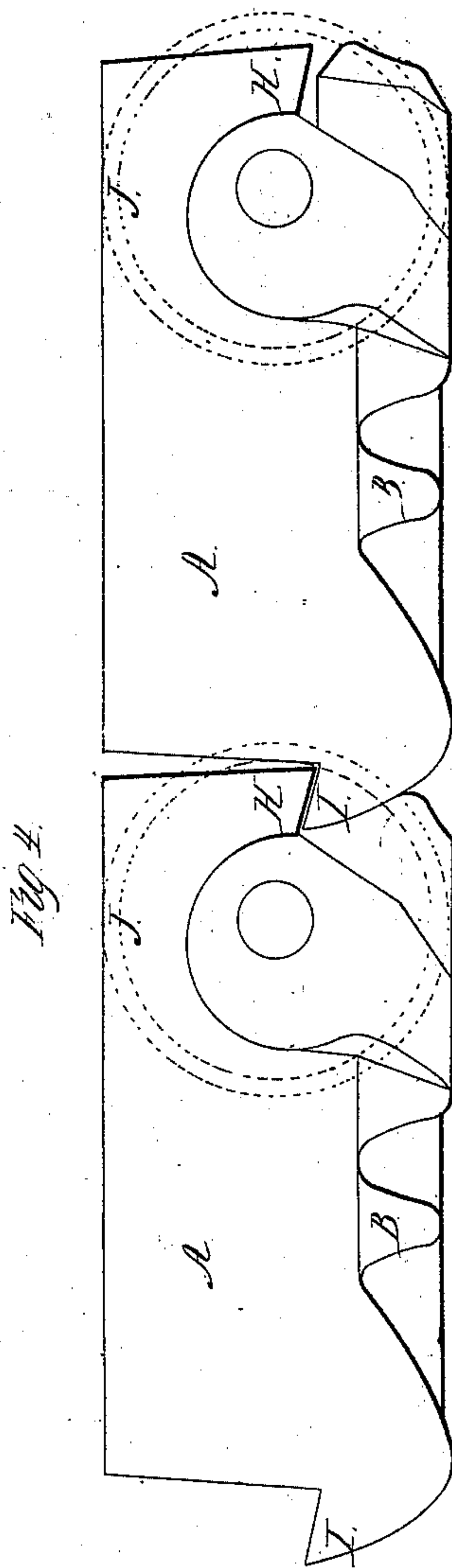
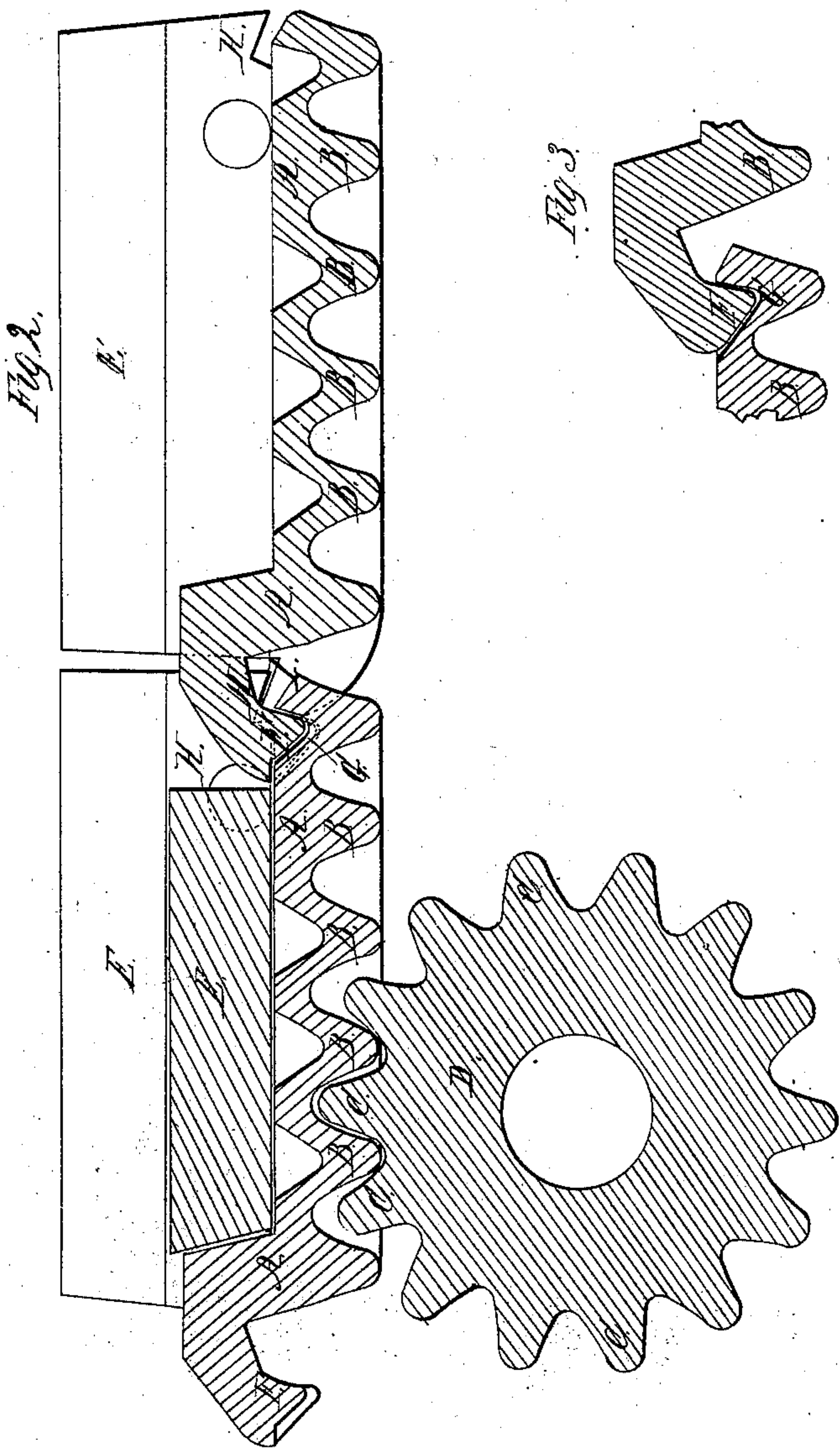


W. E. Arnold, 2 Sheets, Sheet 2.

Horse Power.

N<sup>o</sup> 10,852.

Patented May 2, 1854





# UNITED STATES PATENT OFFICE.

WM. E. ARNOLD, OF ROCHESTER, NEW YORK.

## COUPLINGS IN ENDLESS-CHAIN HORSE-POWERS.

Specification of Letters Patent No. 10,852, dated May 2, 1854.

*To all whom it may concern:*

Be it known that I, WILLIAM E. ARNOLD, of Rochester, in the county of Monroe and State of New York, have invented certain  
5 new and useful Improvements in Railroad Horse-Powers; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, which form  
10 part of this specification, in which—

Figure 1 represents a perspective view of my improved horse power complete; Fig. 2 represents a longitudinal section through two of the sectional platforms and the pinion. Fig. 3 represents a broken section of the lip and groove in the middle of the platforms or treads by which the series of sections are held together to form the endless chain; and Fig. 4 represents a side view of  
15 two of the platforms or treads—the pinion being omitted.

The nature of my invention consists in making the platforms or treads of grooved or fluted metallic plates—the grooves running crosswise so that they shall form rack teeth to work into and drive the pinion; and also in the lip and groove, and hooks on the platform for making the continuous chain without using links, pins, or any rigid connection between them.  
20 30

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawings.

35 The platforms (A) are made of cast or other iron and may be of any suitable width either for single or double horse powers, and the grooves or flutes are so formed as that they shall constitute rack teeth or cogs (B) for meshing with, and operating the cogs  
40 (C) on the pinion (D) and thus give or transmit motion or power to any species of machinery to be driven by it.

On the top of the platforms I place a  
45 block or piece of wood (E) upon which the horse walks which entirely protects the metal underneath. These however may be used or not as the platform or flooring is

perfect without the wood. The platforms are not permanently connected together, 50 either by links, bolts, rods, pivots, or any device of the kind, but by their peculiar shape form their own connections, and make up a continuous chain, while a single one may be removed at any time and re- 55 placed by another. The front end of each platform has a lip (F) which fits into a similarly shaped recess (G) in the rear of the preceding one and more distinctly shown in Fig. 3. This would permanently connect 60 the centers of the platforms but would not of itself prevent them from rising and disconnecting themselves. To prevent this at each end or side of the platform I form on one a hook (H) inclining downward and 65 on the other a similarly shaped hook (I) Figs. 2 and 4, inclining upward. The platforms in being put together are slipped side-wise until these hooks, can pass each other, when the lip (F) drops into its recess (G), 70 they are then slipped back again when the hooks pass one under the other as seen in Fig. (2) and the two platforms are connected and so on throughout the entire series. 75

The sides of the platforms are furnished with friction rollers (J) which run in ways formed on the frame to take off the friction or weight of the platforms.

Having thus fully described my inven- 80 tion, what I claim therein as new, and desire to secure by Letters Patent of the United States is—

The lips F, F, the recess G, G, the hooks H, I, H, I, Figs. 2 and 4, by which the series 85 of platforms A, A—A A, Fig. 2, are united into a continuous chain platform, without any other fastenings than those afforded by their own peculiar shape, and thus avoiding the use of links, bolts, rods or similar fas- 90 tenings; substantially as described, and as shown complete in Fig. 1.

WM. E. ARNOLD.

Witnesses:

L. D. FLEMING,  
A. B. HUNTINGTON.