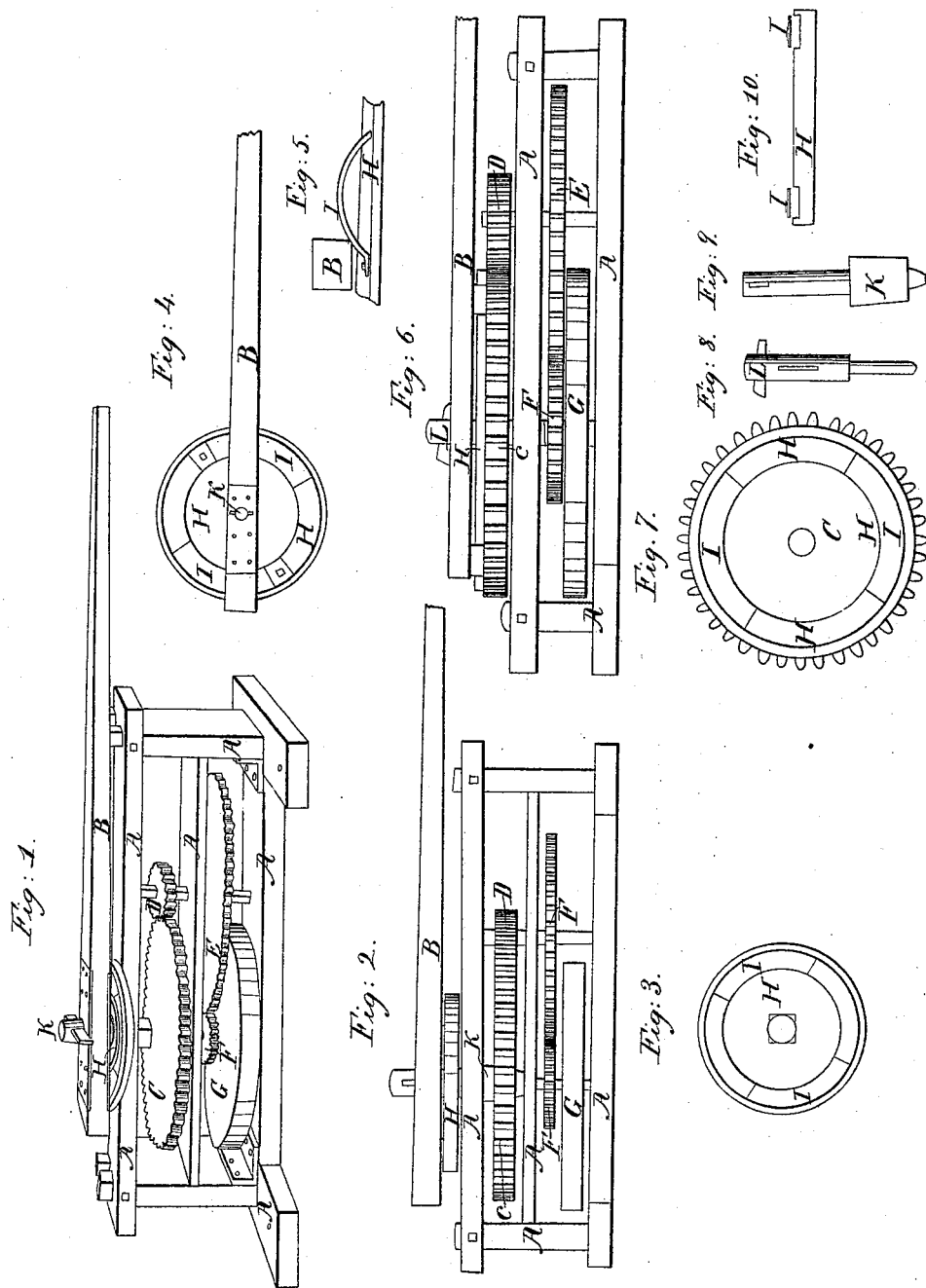


E. Warren, Horse Power.

N^o 1924.

Patented Jan. 5, 1841.



UNITED STATES PATENT OFFICE.

EDMUND WARREN, OF NEW YORK, N. Y.

HORSE-POWER FOR DRIVING MACHINERY.

Specification of Letters Patent No. 1,924, dated January 5, 1841.

To all whom it may concern:

Be it known that I, EDMUND WARREN, of the city, county, and State of New York, have invented a new and useful Improvement in Horse-Power; and I do hereby declare the following is a full and exact description.

It is called "Warren's improved horse-power."

The nature of the improvement consists in attaching to the shaft of the main wheel at top a disk with up-curved springs upon it, over which the lever can slip when so much strain is put upon it as would endanger the safety of the cog wheels.

To enable others to make and use my machine I proceed to describe its construction and operation—reference being had to the drawings hereunto annexed and making part of this specification.

Figure 1 is a perspective view of the machine; Fig. 2 is a side elevation; Fig. 3, the disk; Fig. 10 section of it; Fig. 4, the relative situation of the lever and disk; Fig. 5, the spring, &c., of the disk; Fig. 6, plan varied; Fig. 7, disk and main wheel combined; Fig. 8, shaft; Fig. 9, shaft.

The same letters refer to the same things in all the figures.

A the frame of the machine; B the lever; C the main cog wheel; D the pinion connecting with it; E the cog wheel on the same shaft with D; F pinion connecting with E; G band wheel on the same shaft with F; H the disk; I, C, combination of the main wheel and disk; J the springs of the disk; K the main shaft of one plan; L main shaft of the Fig. No. 6.

The frame is made of timber—about five feet six inches long. There is a longitudinal bed piece with a cross piece at each end—an upright at each end—a cap piece and middle piece.

The main shaft K sets in a socket in the middle piece and passes up through. It is round except for a square place left on it when it is wedged to the main wheel C. Upon this shaft is fixed firmly the disk over which the lever is laid and secured down by a key or screw. The wheels D and E are upon the same shaft, which has journals at the ends. The pinion F and band wheel G are upon a short and small shaft placed directly under the main shaft. The disk is of cast iron and is fastened firmly upon the

shaft. There is a circular groove or channel on the face of it in which is fastened a spring on each side; there may be one, two or more springs; they are rounded upward and fastened at one end. The springs rise an inch or more from the top of the disk. The lever being fastened near to the face it cannot turn around upon it without pressing down the springs, and they are made just stiff enough to hold the regular strain of a horse—or two horses as is desirable. The lever is keyed down to the face of the disk or left a little above it, as desired, so as to give it as much bearing upon the spring as will hold it in place until by the sudden spring of the horse from fright or other cause it will be necessary to relieve the wheels. In such a case the lever passes over the springs without more strain upon the wheels than is safe.

In setting this horse power in operation, the band is put on the drum or band wheel and connected with whatever machinery it is destined to carry. The horse is started and as at first the strain will be hard the springs yield and he walks regularly around the circle and thus continues until the machinery gets into full operation when the lever will cease to slip by the springs.

This apparatus of the disk is believed to be entirely new. The combination of the wheels may have been used before but it is believed not in horse powers. It may be varied, as I sometimes do, by making the main wheel serve the purpose of the disk; for this purpose it is made thicker and stouter with a circular channel in it in which lie the springs. When this plan is used the frame Fig. 6 is used and the first two wheels put on the top. The shaft L runs clear down to the bed piece and the pinion F and drum G have a metallic box, in which the shaft L fits and the drum and pinion turn thus on the lower and smaller part of the main shaft.

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

The combination of the disk, or main wheel arranged as a disk, with the springs upon it, and the lever as a means of relief or to prevent breakage of the machine.

EDMUND WARREN.

Witnesses:

OWEN G. WARREN,
WILLIAM E. COLLIER.