S. Pelton,

Horse Power.

No. 13,955. Patented Dec. 18, 1855.

Fig. 1

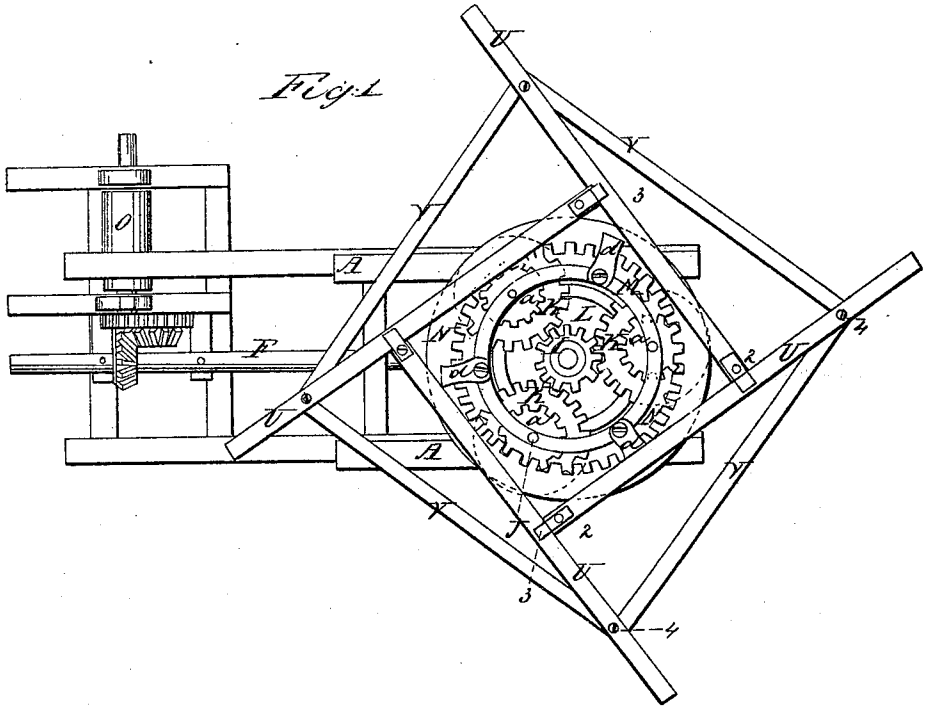


Fig. 2

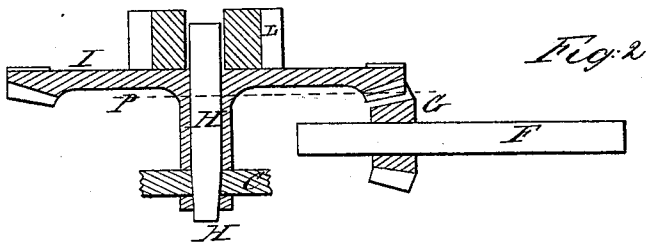
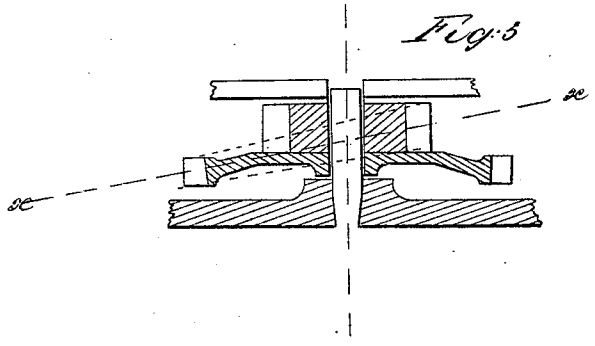


Fig. 3



UNITED STATES PATENT OFFICE.

SAMUEL PELTON, OF NEW WINDSOR, MARYLAND.

HORSE-POWER.

Specification of Letters Patent No. 13,955, dated December 18, 1855.

To all whom it may concern:

Be it known that I, SAMUEL PELTON, of New Windsor, in the county of Carroll and State of Maryland, have invented certain new and useful Improvements in Horse-Powers; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification.

The nature of my invention consists in certain improvements in what is known as tripple gear horse powers (such as that patented by David Anthony in 1847) whereby I avoid the tendency of the gearing to twist and break, also obtain greater compactness and strength, without the employment of additional metal or material.

The following is a description of my improvement in horse power.

It consists of a solid framed timber bed A, on which a circular plate of iron is secured. Across this plate or ring is placed a bridge bolted to the underside of said ring; to cross girts of the bed is confined (by boxes thereto attached) a portion of the line or horizontal shaft F. This shaft carries on its inner end a bevel pinion G, (see Figure 2) whose use will be explained hereafter. At the center of the bridge of the lower ring, rises a fixed central shaft. On this shaft the bevel spur I, and center pinion L, (see Fig. 2) freely turn. From the ring at equal distances rise three shafts, or fixed journals. On these the triple gear *k*, *k*, *k* is placed. Those three wheels have secured to them the pinions *a a a*, and it will be noticed that the triple gear *k*, *k*, *k*, all mesh into the cogs of the center pinion L. By means of an upper or second ring M, (placed on 3 posts or rests) the upper ends of the journals are secured, thus clamping and sustaining them, with an expenditure of metal far less than plates as usually constructed. There are three rests or supports for the master and centerless wheel N. They rise from the edge of the lower ring.

d d d represent three projecting clamps bolted through the upper ring M, and into the pillar or supports, and being slightly bent downward, and in contact with the upper side of the master wheel N, it is confined between them and the rests below the wheel, there being just space sufficient to allow of its movement. The line shaft F, carries the gear to the threshing cylinder.

The advantages I have gained in the form of the wheel (see in Figs. 2 and 3 cross section) prevents all liability of accident, from the twisting of the cogs, as it will be perceived on an inspection of that figure that it is almost impossible to throw any of the cogs out of their proper positions, they being preserved by the perfect balance thereof on the central line of force. This effect is secured by forming the underside of the wheels of a dish form, thus shortening their bearings on the underside, and giving an equal length of leverage; which form gives an equality of pressure the full length of their journals and breadth of their cogs; it will also be seen by reference to a cross section of the bevel wheel Fig. 2 that the same balance is secured by extending its bearings as far below the center line of pressure, P, against its journals, (which pressure is caused by the reaction from the force applied to the bevel pinions) as the journal H, rises above line P.

U, U, U, U, are four levers to which the horses are attached, secured to the master wheel by bolts passing through the end of the lever, and also through a clamp 3, for preventing the lever from rising too high, yet allows of sufficient movement to prevent undue strain on the master wheel.

V, V, V, V, are four braces united to the levers by bolts 4. The advantages that I have gained in my mode of securing or attaching the levers to the master wheel, is, the taking the lateral strain from off the levers and transfer the strain to the braces. It also prevents the master wheel from being thrown out of a horizontal position from any sudden jerk of the horses, thus avoiding any twist on the cogs from such a cause.

Having described my improvements, I am aware that a triple gear horse power constructed and arranged upon the same general principles as mine is not new. I therefore do not claim this arrangement, but

What I do claim and desire to secure by Letters Patent is—

1. The improvement more fully described in the body of my specification, consisting in centering the wheels and pinions upon their several axles and bearings by beveling

or dishing the wheels, and extending their bearings in the manner described whereby the pressure is equalized upon the journals above and below each pinion and wheel, thereby preventing the unequal wear of the axles and journals, consequently avoiding every tendency of the gearing to twist and break.

2. I claim the mode of constructing and attaching the levers U, U, U, U, and braces V, V, V, V, substantially as described for the purposes set forth.

SAMUEL PELTON.

Witnesses:
JOHN F. CLARK,
WM. S. CLARK.