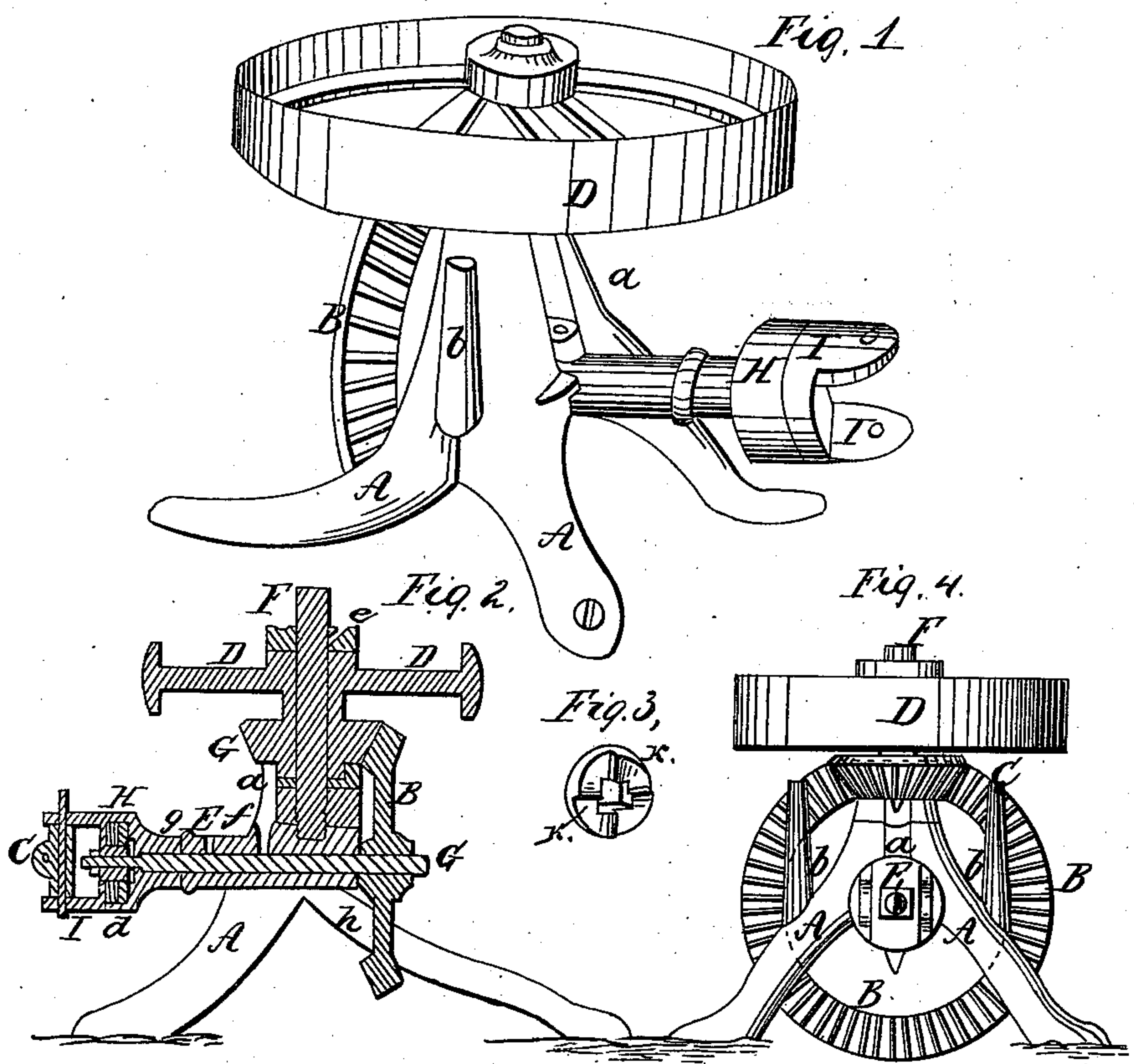


P. Geiser,
Horse Power,
No 82,617, Patented Sep. 29, 1868.



Witnesses,
A. Ruppert
C. H. Clausen

Inventor,
Peter Geiser
B. P. Selloway & Co
Atty

United States Patent Office.

PETER GEISER, OF WAYNESBORO, PENNSYLVANIA.

Letters Patent No. 82,617, dated September 29, 1868.

IMPROVEMENT IN HORSE-POWER.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, PETER GEISER, of Waynesboro, in the county of Franklin, and State of Pennsylvania, have invented a new and useful Improvement in Horse-Power Jacks; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making part of this specification, in which—

Figure 1 is a perspective view of the device.

Figure 2 is a central sectional elevation, showing the arrangement of the horizontal and vertical shafts, the gearing, and the means of connecting it with the horse or other power by which it is to be driven.

Figure 3 is a view of the clutch, which is placed in the socket upon the end of the horizontal shaft; and

Figure 4 is an end view, showing the bevel-wheel, the pins cast upon the frame to keep the belt or band from being drawn into the gearing, and the oil-passage, by which the waste oil is carried from the vertical to the horizontal shaft.

Corresponding letters are used to denote corresponding parts in the several figures.

This invention relates to and is an improvement upon jacks for horse-power, to the driving or tumbling-shafts of which it is to be attached, for the purpose of making a belt-connection between such power and the machine to be driven, and of multiplying the motion to be given to such machine; and it consists in the construction of the parts of which it is composed, and their combination and arrangement, as will be hereafter described.

A is the frame of the device, which is made of any suitable kind of metal, and is triangular in form, the rear leg of the triangle having an aperture formed in it, in the form of a segment of a circle, to allow of the gear-wheel B revolving therein. This frame may be screwed to a framework of wood, of suitable form to receive it, said frame having grooves in its ends, to receive hooks for fastening it to the floor or ground; or, such frame of wood may be dispensed with, and the metal frame be fastened to the floor of any building in which it may be placed. Whenever the jack is to be used in the field, the framework of wood will become necessary, and will be used.

B is a bevelled-gear wheel, which is secured to the horizontal shaft G. This wheel is made to mesh into and drive another bevel-wheel, C, which is smaller than the one B by about two or three to one, and hence, for every revolution of wheel B, which receives its motion direct from the horse-power or other motor, the pinion C, and consequently the bevel-wheel D, will have from two to three, or more, revolutions to one of wheel B.

C is a bevelled wheel, which is placed upon a vertical shaft, F, and which rests upon the apex of the frame A, and is arranged to mesh into the wheel B, as above described. This wheel has, upon its upper face, a boss or projection, upon which the bevel-wheel, after being bored, is fitted, and firmly secured. There is also a boss formed upon the under side of this wheel, which is turned off, and is made tapering, it being smallest at its lower end, so as to fit into a recess which is formed in the apex of the frame A, or, it may be, in a separate piece of metal, secured to the frame for the purpose, the object of said recess being twofold: first, it serves to steady and keep in line the lower end of the gear-wheel C, or the sleeve upon which it may be fastened; and, second, it serves as a reservoir for the oil which has been used for lubricating said wheel upon its shaft, as will be more fully described hereafter.

D is the bevel-wheel, which is keyed to a projection formed upon the pinion C, as above described.

E is the journal-box for the horizontal shaft G, which box or bearing is formed of a solid piece of metal, bored to receive said shaft, and which is of the proper contour to fit into that part of the frame A where the legs diverge from the body of said frame, which arrangement brings the centre of said box directly under the centre of the vertical shaft F, upon which the pinion C rotates. This journal-box is provided, upon its upper side, with a boss or projection, *b*, through which a small hole, *f*, is bored, to permit of the passage of oil for lubricating the shafts. In the side of the frame A a semicircular recess, *a*, is formed, into which the projection upon the journal-box fits. Upon the apex of the frame A, or within a separate piece of metal placed there for the

purpose, a recess is formed, as before stated, into which the lower portion of the pinion enters, and which also serves as a reservoir for the oil that passes downward around the shaft F. The semicircular groove above referred to extends up to the top of this oil-reservoir, and a communication is formed between the two, either by boring a hole through the side of said recess, or by cutting away a portion of the same, so that the oil, after rising to a certain height in the reservoir, shall flow over, and run down the recess in the side of the frame, and into the journal-box, through the aperture *f*, so as to be again used for lubricating the shaft G, after which it passes off through the spout *h*, formed upon the under side of said box, and it may, if desired, be allowed to run down upon the gear-wheel B to its periphery, where it will be carried up, and thus lubricate the teeth of both of the gear-wheels.

F is the vertical shaft, upon which the pinion C rotates. Said shaft passes down through the upper portion of the frame, and enters the journal-box E, to which it is secured by being screwed thereon, while, at the same time, it secures said box in its position, thus serving the double purpose of a shaft for the wheel C, and a bolt for holding in its place the journal-box E.

G is the horizontal shaft, which carries the gear-wheel B, and upon the outer end of which the coupling-box H is secured.

H is a coupling-box, firmly secured to the shaft G, and has placed within it a clutch, *k*, and spring, *d*, so arranged that, when an excess of power is applied to the jack, the spring *d*, which holds the clutch in contact with corresponding projections upon the end of the flange or head, I, will yield, and permit the shaft which drives the jack to revolve, without revolving the shaft G of said jack.

It will be apparent, from the above description, that this coupling-device may be so arranged, by the aid of the spring *d*, that only a given amount of power can be transmitted through the jack, and that, by thus arranging it, much of the danger of breaking threshing and other machines, which now exists, may be avoided.

I is the outer section or flange of the coupling-head, having formed upon its inner face projections corresponding with those upon the collar K. This portion of the coupling is screwed to the shaft G, by having a hole bored through its centre, to receive the end of said shaft, upon the end of which, and outside of said flange, a nut is placed, which holds said portion in contact with the spring, as above described.

K is the loose collar above referred to, which is placed within the portion H of the coupling-box, the construction of which is clearly shown in fig. 3 of the drawings.

a is the semicircular oil-groove, formed in the side of the frame A, as above described.

b b are pins or projections, secured to or cast upon the frame A, for the purpose of preventing the bolt from being drawn into the gearing, and injured thereby, should it slip off from the pulley D while the machine is in motion.

c is what may be termed a gimbal-joint, which is secured to ears formed upon the outer side of the outer portion I of the coupling-box H, and is for the purpose of attaching the driving-shaft to the jack, and, at the same time, provides for their being slightly out of line with each other.

d is the spring, arranged as above described.

e is the aperture through which oil is poured to lubricate the vertical shaft F.

f is the hole bored through the journal-box.

g is an oil-hole, for lubricating the shaft G independently of the above-named arrangement, should it become necessary.

h is the oil-spout, attached to the under side of the journal-box E, to carry away the oil, as above described.

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

1. The combination and arrangement of the frame A and journal-box E, substantially as and for the purpose described.

2. The combination and arrangement of the vertical shaft F and the journal-box E, substantially as and for the purpose described.

3. In combination with the above, the combination of the ratchet-coupling and the shaft G, substantially as and for the purpose described.

4. The construction of the frame A, and the arrangement, with reference thereto, of the journal-box E, shaft F, gear-wheels B and C, and pins or guards *b b*.

5. The arrangement of the oil-passages *e*, *a*, *f*, and *h*, substantially as and for the purpose set forth.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

PETER GEISER.

Witnesses:

JOHN S. HOLLINGSHEAD.

EDWIN JAMES.