6943X

J. H. Cory,

Horse Power.

Patented Feb. 27, 1832.

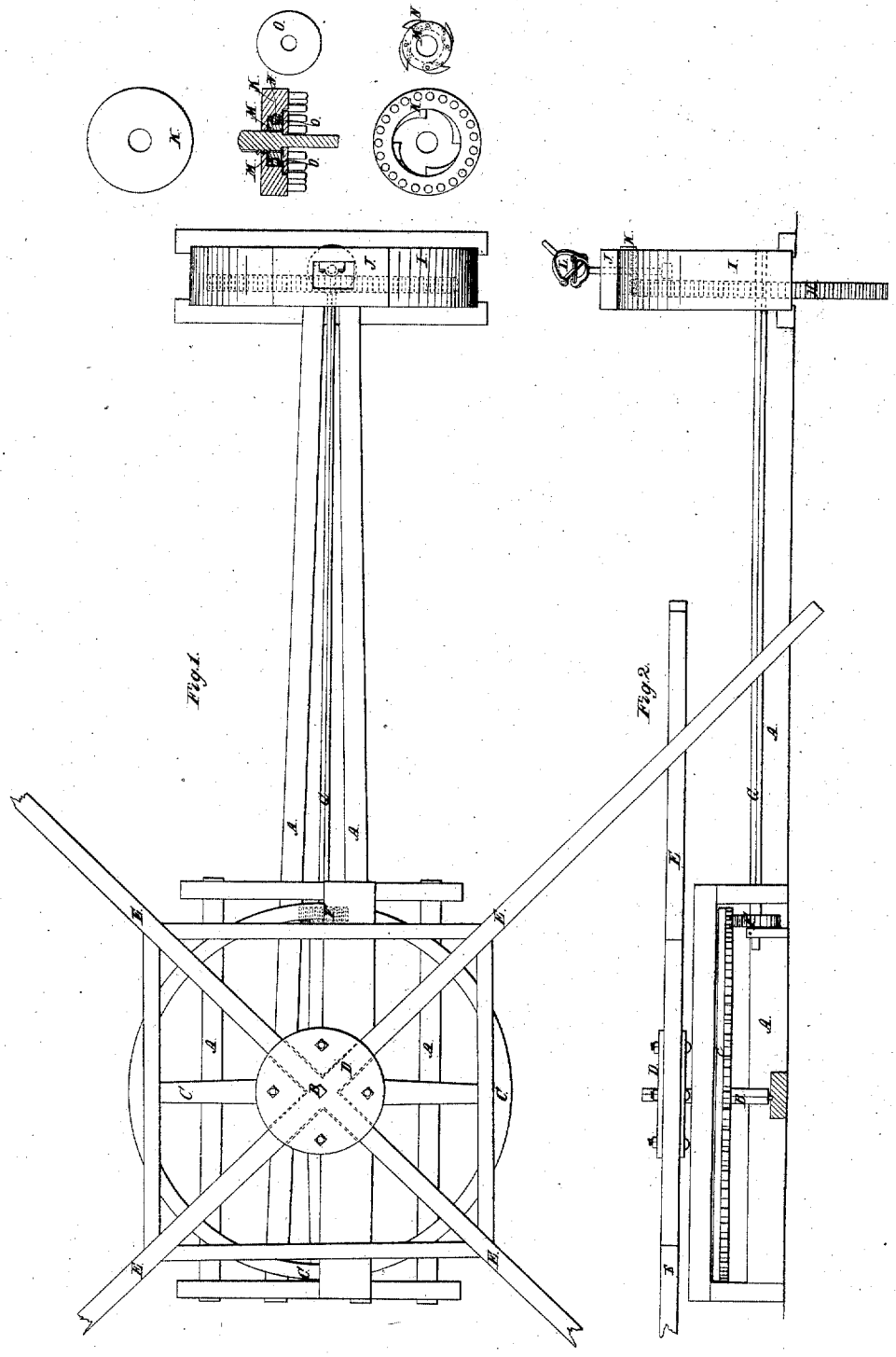


Fig. 1.

Fig. 2.

AM. PHOTO-LITHO. CO. N.Y. (OSBORNE'S PROCESS)

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Feb 27. 1892

James H Grey Bethel Township Elm

Letters Patent

The Schedule referred to in these Letters Patent and making part of the same containing a description of the invention of James H Grey himself of his Improvement in portable Horse Power

To all to whom these presents shall come Be it known that I James H Grey of Bethel Township in the County of Clark and State of Ohio have invented a new and useful Improvement in portable Horse Powers and that the following is a full and exact description of the Construction and operation of the said Machine, reference being had to the accompanying drawings forming part of this specification. Figure 1 is a perspective view of the machine. Fig 2 is a plan view. Fig 3 is a detail view of the Clutch. Fig 4 is a detail view of the Pinion.

The letters and figures marked on the drawings correspond with like letters and figures of reference in the following description.

A A are the Sills of the frame which are 2 inches thick 8 inches wide and 12 feet long. B B are the Cross Sills of the same size and 7 feet 6 inches long.

C C are the Long Posts placed in the Centre about one foot apart at the bottom and 12 inches at the top. D D are Short Posts placed at the outside of the Sills 2 feet nine inches apart from the outside to the outside.

E E are pieces 2 inches by 6 are set on edge near the end of the Short pieces and are stuck 1 inch in all four Sills and fastened down by bolts. F is a piece of timber 2 inches by ten is laid flat on the last described pieces lengthwise with the Sills with the one edge even with the Centre of the space between the long Sills. G is two inches thick cut out are placed to receive the neck of the Horse Shaft and immediately below a piece of wood about 10 inches long 6 broad and 4 thick is fastened in the middle Sills to receive the step of the Horse Shaft.

H is the Horse Shaft between the step and the neck the Horse head I is placed which is made of Cast Metal 4 feet in diameter the rim 8 inches wide this rests on the under side. J is the top of the Horse Shaft is placed a Cast flange plate in diameter which is formed in the following manner.

K is a plate of 3/8 of an inch thick of the diameter above mentioned with two pieces rising 2 inches above the plate and of the thickness of 3/8 of an inch and this plate is bored with each other leaving 4 inches of the Centre of the plate between them the other two pieces of the same description rests at right angles with these leaving the

same space. The edge of the plate of the frame shrunk into to the same height on each segment of the circle. On that when a dovetail plate with the other side up is placed opposite to this one and fastened with four bolts in each segment appears to form one solid Circular wheel of 2½ inches in thickness 2 feet in diameter with 4 Mortices of 4 inches square at equal distances from each other and extending from the hinge towards the Centre of the wheel to receive the levers by which the bars are worked.

The lengths of the levers are about 11 feet 6 inches thick a space from one to another near the middle. The Horse wheel shaft before mentioned will be about 2 feet 3 inches long connected at the lower end to the diameter of the wheel by the step in which it stands, 4 inches square up to the neck which is rounded to the dimensions of 9 inches and 4 inches long. 4 inches square above the neck and tapering to 3½ inches at the top which fits to a hole of this size in the Centre of the flange. The shaft is wrought from 8 inches in diameter to 4 feet 6 inches in length and on the one end of it a pinion of about 9½ inches in diameter with cogs similar to work in the cogs of the Horse wheel both of which wheels are steel. On the other end of this shaft is a second Motion wheel 4 feet in diameter.

This shaft is placed between the two long sills and the 4 feet wheel running in a frame fastened to the ends of the sills. A curved piece of timber 12 inches broad is fastened near each end of this frame leaving sufficient space between them for the pinion of the horse wheel to have its work and extending up to a proper height to receive a cap of 2½ inches thick 10 inches and lowered in from through the centre of this cap a mortice is made to receive the rabbet pinion of about 9 inches in diameter. The face of the cogs of this wheel and the one in which it works are 6½ inches in length.

This wheel (the rabbet wheel) exhibits a plane surface on the one side with the exception of a hole in the Centre of about 10 inches in diameter on the other side the diameter of the opening is about 6½ inches. At about half an inch from the surface the metal is made to commence at nothing and project to an inch inward towards the Centre from the Circle before described forming four steps or catches at equal distances from each other extending in each leaving the metal on the other side to an inch thick. A small circular plate of about 9 an inch thick with a hole of 10½ inch in diameter in the Centre is made to fill the recess from the outside to these catches. A piece of metal 12 inches by 4 inches in diameter and 1½ inch thick with a hole in it 10 inches in diameter and a groove

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round the Centre of the Screw frame about ¼ an inch in width and ⅛ in depth.
4 holes are bored through the edges of the groove
at equal distances. Four Catches of wrought iron ¼ an inch square 2½ inches long
with a hole drilled through the one end through which and the holes in the edges of the
groove wires are fixed; to the back of these Catches is placed a small steel spring which
tends to throw the wire end out about ¼ an inch beyond the edge of the groove.

This is then placed in the Centre of the wheel last mentioned in such position that the ends of the last mentioned Catches bear against the ends of the first mentioned Catches. This Wheel thus Constructed is placed in the Centre of the second part of the Shaft of about 8 inches long and 1½ in diameter and is prevented from turning on that Shaft by a small groove made in the side of the Shaft and in the second part of the second wheel which is filled by a wedge.

An advantage of a wheel of this Construction is that if the Horse does not stop while the Machine is in a fixed Motion, the second part of the wheel would run around the machinery without effect as upon that by guarding the works from the injury which might be sustained by a sudden check.

By means of a Universal joint attached to the last mentioned Shaft. This Machinery may be Conveniently applied to Sawing machines, Carding Machines, Grinding, Brewery, Turning Lathes &c. The foregoing Improvement may be varied in Size and Proportion to suit the Labours for which it is intended to be applied.

Witness
Wm Dale
Henry H Sanders

James M Curry.

Enrd. 1856

(Patent 27 February 1852)