2 Sheets—Sheet 1.

J. MILLER.

Horse-Power.

No. 208,413. **Patented Sept. 24, 1878.**

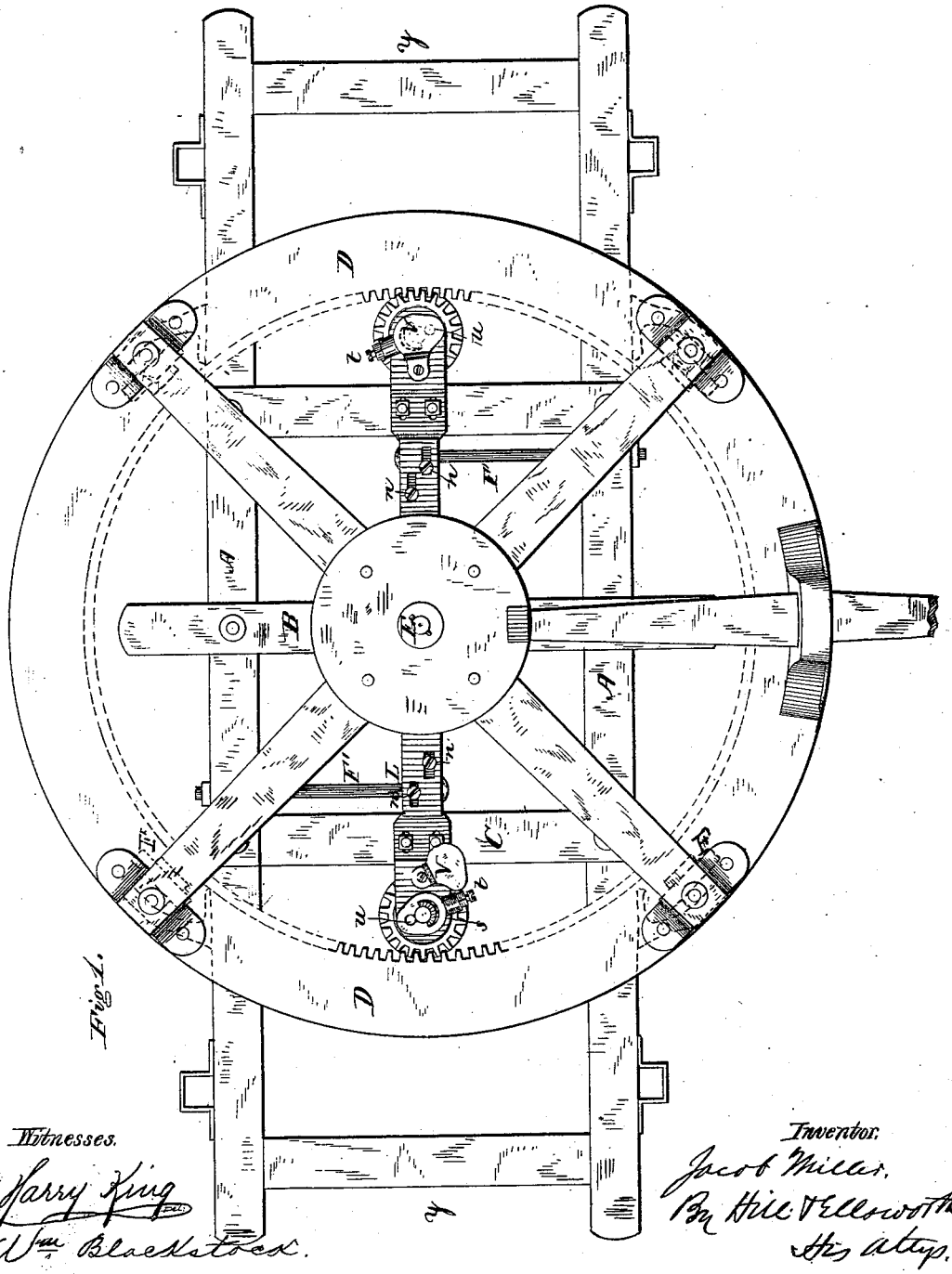

Fig. 1.

Witnesses.

Harry King

Wm Blackstock.

Inventor.

Jacob Miller.

By Hill & Ellsworth

His attys.

2 Sheets—Sheet 2.

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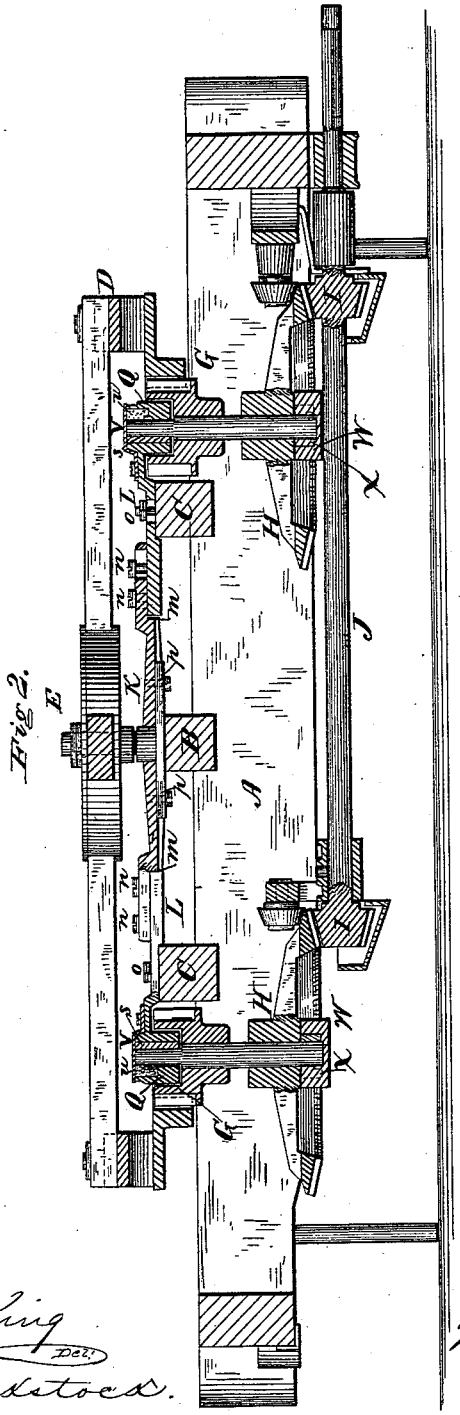

Fig 2.

Witnesses.

Larry King
Wm. Blackstock.

Inventor.

Jacob Miller
By Hill Ellsworth
His Attys.

UNITED STATES PATENT OFFICE.

JACOB MILLER, OF CANTON, OHIO.

IMPROVEMENT IN HORSE-POWERS.

Specification forming part of Letters Patent No. **208,413**, dated September 24, 1878; application filed January 15, 1878.

To all whom it may concern:

Be it known that I, JACOB MILLER, of Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Horse-Powers; and I do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a top-plan view of a horse-power showing my improvements; and Fig. 2 is a longitudinal section of the same, taken in the line *y y*, Fig. 1.

Similar letters of reference in the several figures denote the same parts.

My invention has for its object to improve the construction of horse-powers for thrashing-machines, &c.; and to this end it consists in making the bridge which furnishes the bearing for the master-wheel and the journals of the pinions in three parts, so that the two end parts carrying the pinions may be adjusted outward or inward on the middle part to adapt the pinions to the master-wheel.

It further consists in combining with a bridge thus constructed adjustable boxes for the journals of the pinion-shaft, and in the combination with the bridge and adjustable boxes of adjustable cross-pieces and boxes for the lower ends of the pinion-shafts, all of which I will now proceed to describe.

In the drawings, A A represent the frame of the horse-power, constructed, in the usual manner, with the central cross-bar, B, and side bars, C C. D is the master or main wheel, mounted upon the central stud or journal, E, and supported at the rim by the friction-roller F F. (Shown in dotted lines, Fig. 1.) G G are the pinions, mounted upon the same shafts with the crown-wheels H H, which, in their turn, mesh into the beveled pinions I I, to rotate the rod J and transmit the power to the thrashing-machine. These are the main features of the horse-power generally known, and do not in themselves constitute the present invention.

The bridge, the construction of which forms the first part of my invention, consists of three parts—to wit, the central part, K, cast with lugs, by which it is bolted to the central cross-bar of the frame, and the two end pieces, L L, cast with the boxes for the upper journals of the pinions and crown-wheel shafts. The ends of the central part are slightly raised to form shoulders *m m* beneath them, and the box-pieces L L fit under these raised ends, against or in line with the shoulders, so as to produce a straight bridge as nearly as possible. Such ends are also slotted for the passage of screw-bolts *n n*, by which the box-pieces are held thereto, and the box-pieces are also slotted for the passage of screw-bolts *o o*, by which they are secured to the side bars, C C.

By loosening the nuts upon the screw-bolts *n o* the box-pieces can be adjusted to lengthen or shorten the bridge, in order to adapt or accommodate the pinions to the master-wheel, and to compensate for the wear of such gearing.

Each box-piece is stayed laterally by means of stay-rods F′, extending from them to the side pieces of the frame, as shown in Fig. 1, one stay extending to one timber and the other stay to the opposite timber, to prevent the bridge from being displaced laterally.

The stud or journal E of the master-wheel is constructed with a square shank, which enters a corresponding recess in the central part of the bridge, and with bottom flanges, *p p*, which are bolted to the under side of such central part for the purpose of holding the stud in place. By this means the stud is made a part of the bridge, to be applied and removed with it without being directly fastened to the central cross-bar.

The upper boxes, Q Q, for the pinion-journals, are formed in the pieces L L, and are recessed vertically upon one side to receive the half-boxes *s s*, whose side edges are proximate to the shoulders formed by the recesses. These half-boxes are adjusted up to pinion the journals, to complete the boxes and compensate for wear, by means of set-screws *t t* passing through the sides of the boxes, as shown, which set-screws may be provided with locking or jam nuts, if desired.

Upon the side opposite the half-boxes the box-pieces are formed with vertical oil-holes *u u*, opening into the box at the side, which holes are filled with cotton-waste saturated with oil for the purpose of furnishing the necessary lubricant to the journals. This method of lubri-

cation may, of course, be employed in those boxes which are unprovided with the adjustable half-boxes.

Covers V may be used to swing over the tops of the boxes, to exclude the dirt, although this is not absolutely necessary.

W W are cast-metal cross-pieces, bolted to the under surface of the side timbers, A A, vertically in line with the upper box-pieces, L L, and centrally within these cross-pieces are formed the boxes *x x*, for the lower journals of the pinion and crown wheels, constructed in the same manner as the boxes in the pieces L, with the same adjustments and means for lubrication.

The cross-pieces are adapted by slots and bolts to be adjusted upon the side timbers of the frame, for the purpose of conforming to the adjustments of the box-pieces L L. This, however, is not generally necessary, as the adjustments of the half-boxes in each case will be sufficient to properly align the journals.

Having thus described my invention, what I claim as new is—

1. In a horse-power, the bridge constructed in three parts—to wit, the central part, K, bearing the master-wheel, and the two adjustable box-pieces L L, for the reception of the journals of the pinion-shafts—substantially as described, for the purpose specified.

2. The combination, with the adjustable bridge K L L, of adjustable bearings Q *s*, for the upper journals of the pinions which mesh into the master-wheel, substantially as described, for the purpose specified.

3. The combination of the adjustable cross-pieces W, containing the lower journal-boxes, with the journal-boxes of the adjustable bridge, substantially as described.

JACOB MILLER.

Witnesses:

JEFF. A. HOUSER,

DANIEL TONNER.