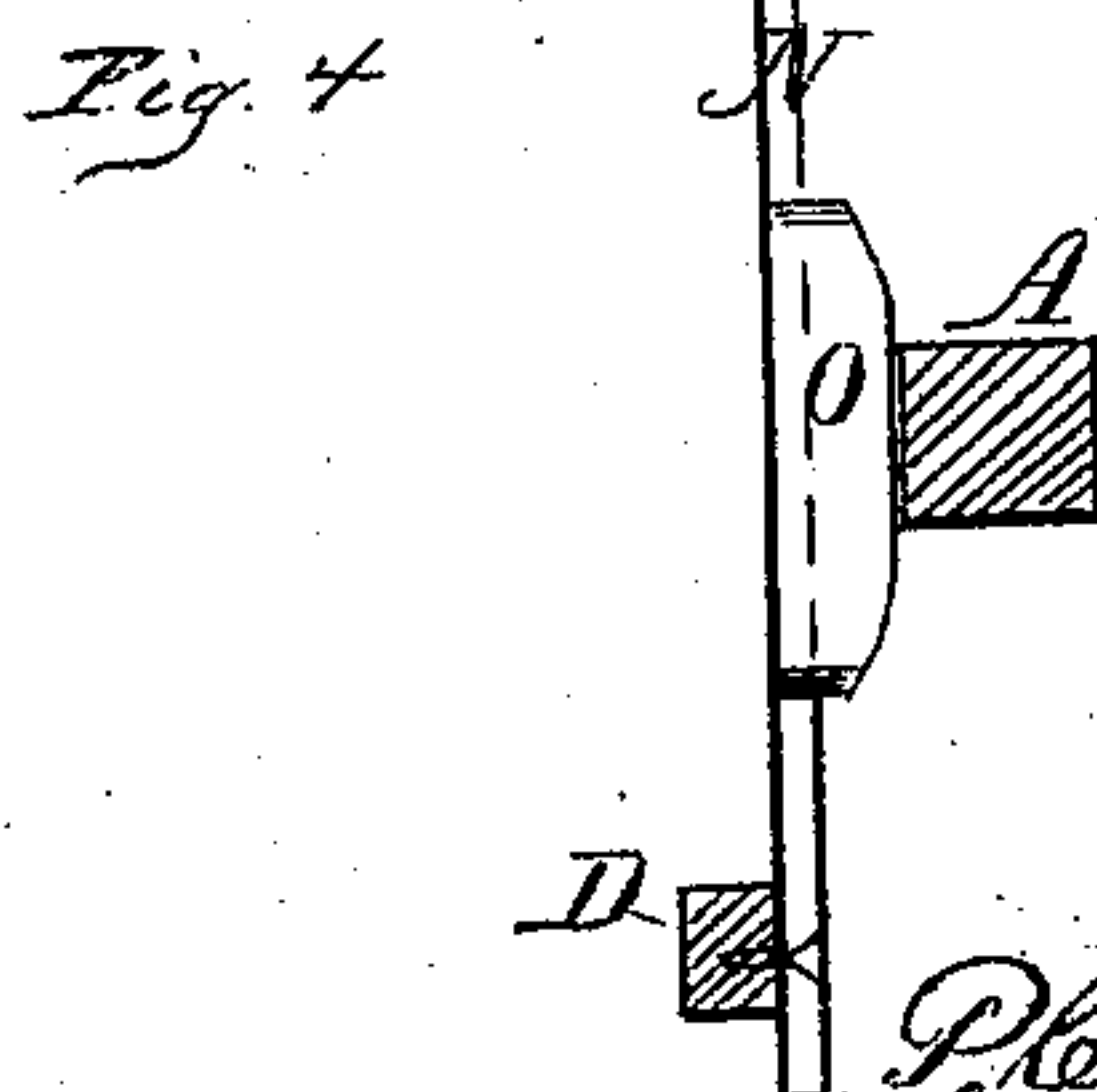
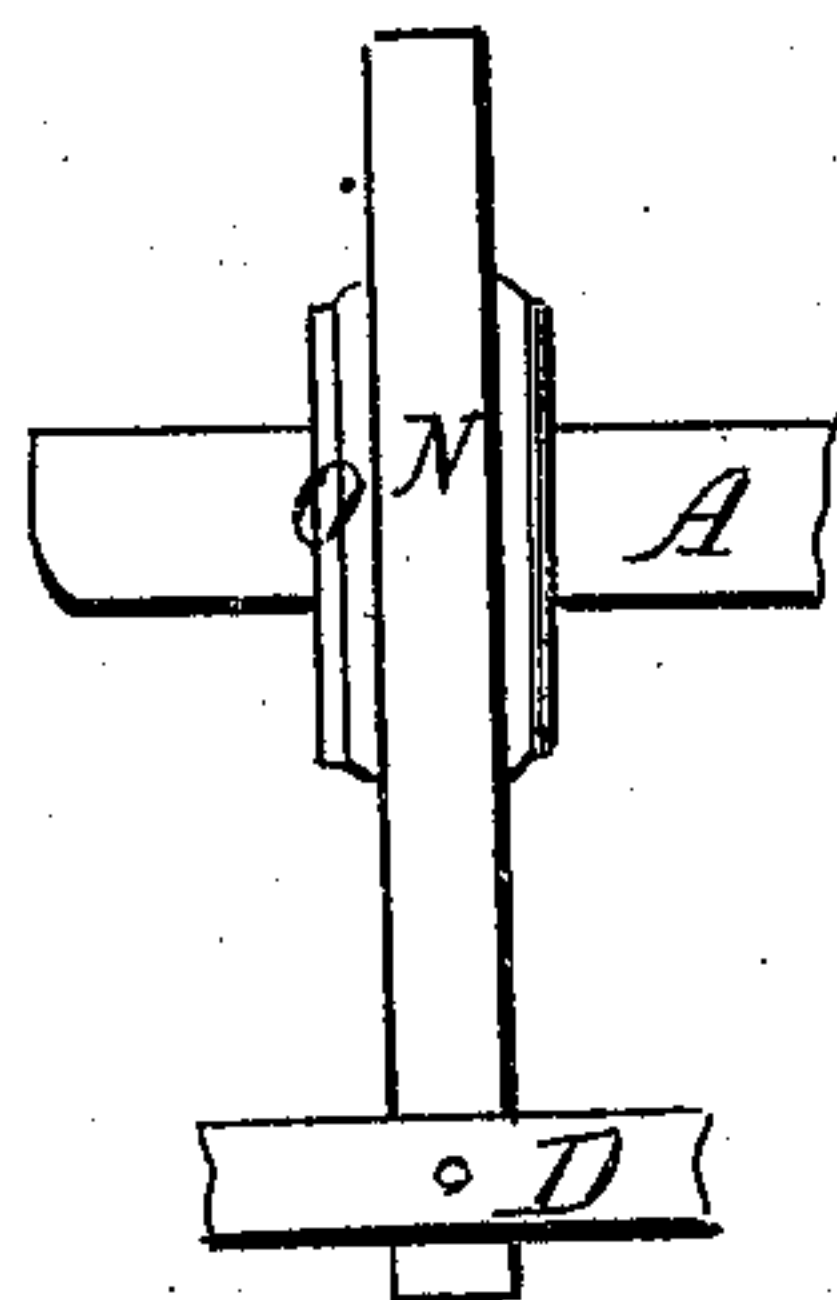
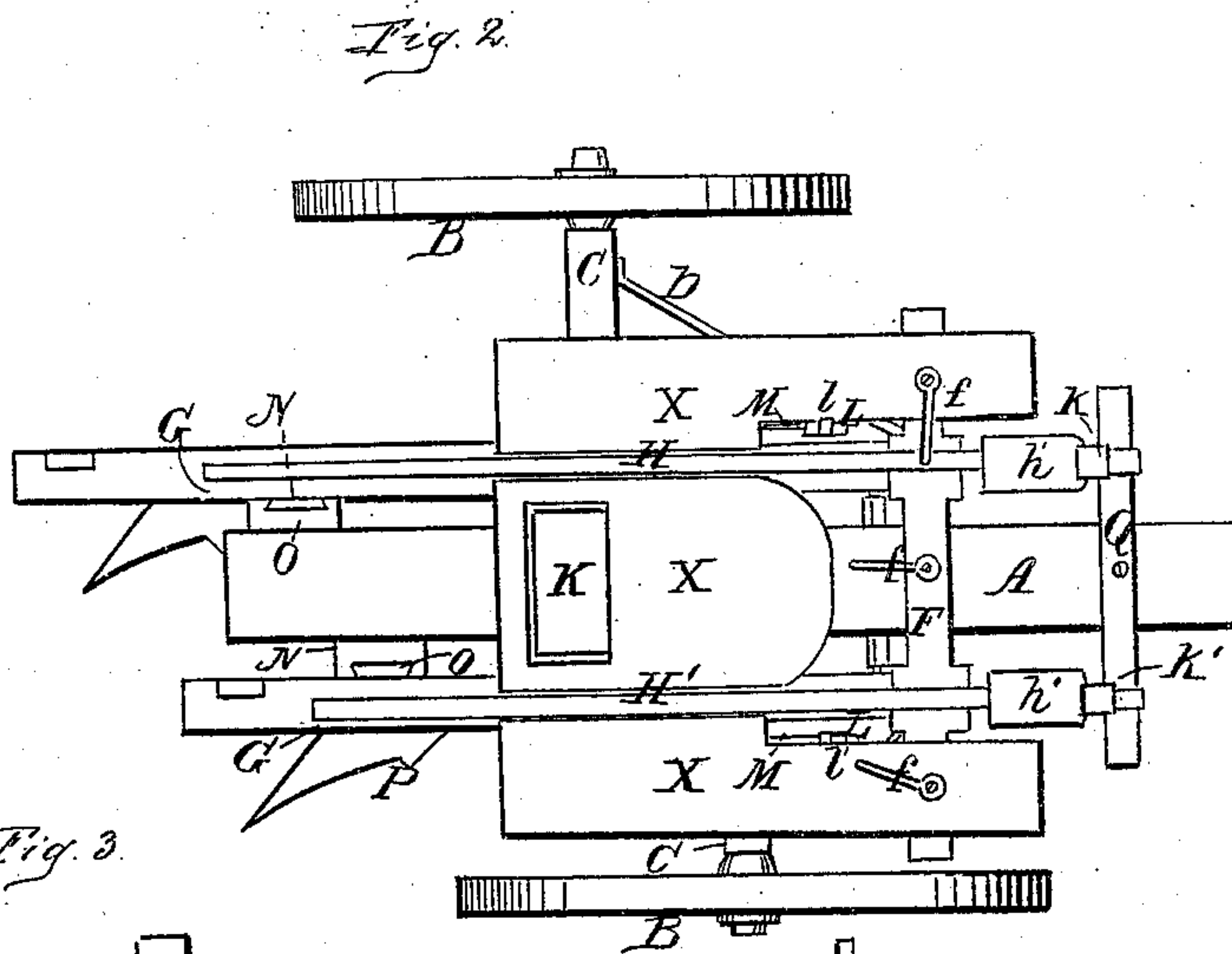
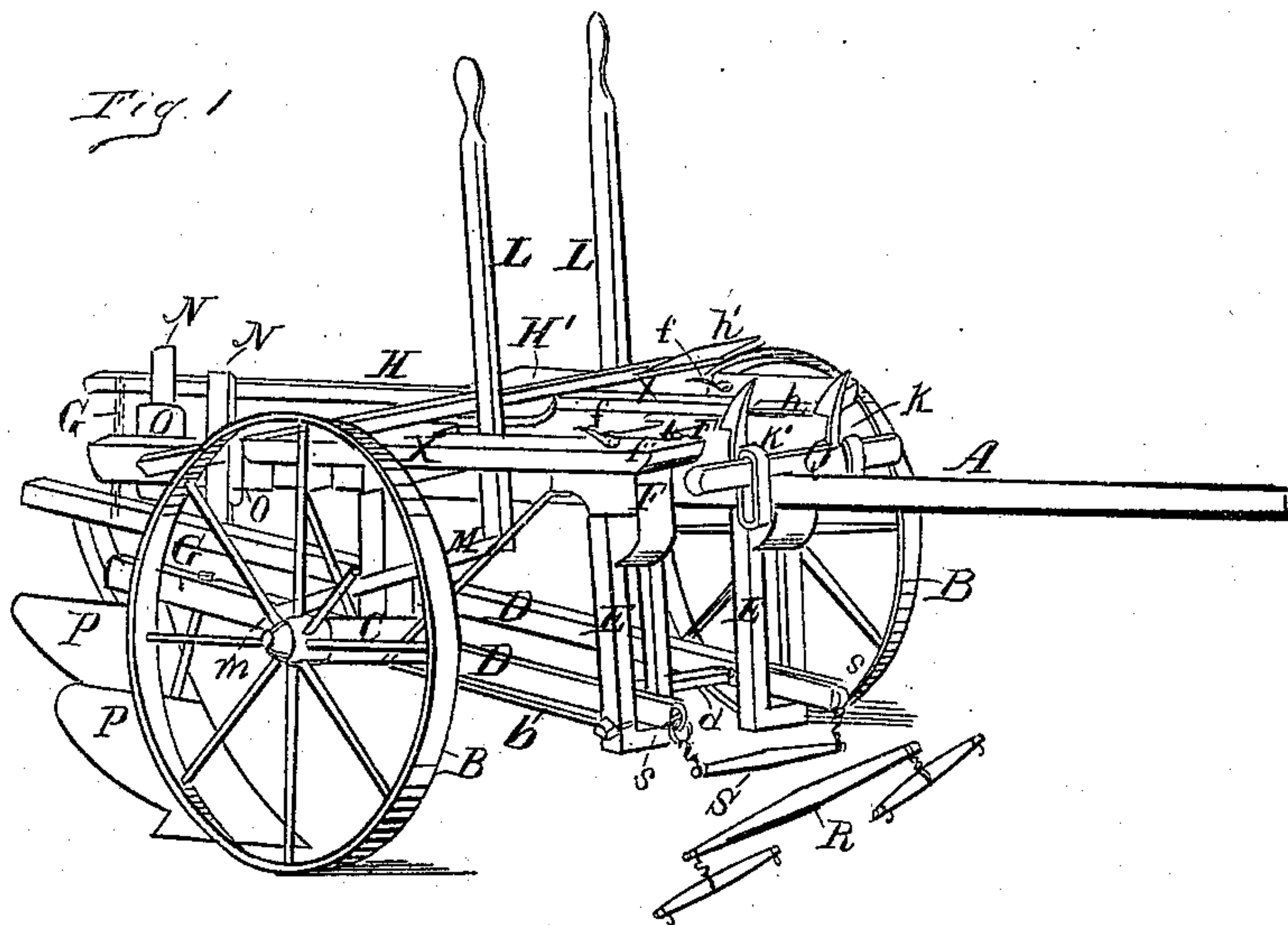


*P. Conrath,*

*Wheel Flow.*

*No. 93,680.*

*Patented Aug. 17, 1869.*



*Witnesses*  
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# UNITED STATES PATENT OFFICE.

PETER CONRATH, OF FREEBURG, ILLINOIS.

## IMPROVEMENT IN GANG-PLOWS.

Specification forming part of Letters Patent No. 93,680, dated August 17, 1869.

*To all whom it may concern:*

Be it known that I, PETER CONRATH, of Freeburg, in the county of St. Clair and State of Illinois, have invented certain new and useful Improvements in Self-Adjusting Carriage Gang-Plows; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The nature of my invention consists in providing carriage gang-plows with levers to be operated by the feet of the driver while he is seated on the machine, to raise or lower the plowshares, as desired; also, providing for such plows a system of levers to be operated by the hands of the driver, without his leaving his seat, to force the plowshares into the ground to any depth desired; also, providing such machines with means by which the driver, without quitting his seat, can give the plowshare more or less land—that is to say, regulate the width of the furrow; also, in adjusting the several parts of such machines so that they are perfectly balanced on their axles, and thus relieve the animals drawing the machine of a considerable and disadvantageously-diffused weight; also, in arranging the plows so that there will be no side draft, and each plow may operate independently of the other plow in the same machine, all of which will more fully hereinafter appear.

To enable those skilled in the art to make and use my invention, I will now proceed to more fully describe it.

In the drawings, Figure 1 is a perspective view of my invention. Fig. 2 is a plan view of the same, and Figs. 3 and 4 are views of parts of the said invention.

Like parts are indicated by the same letters in the different figures shown in the drawings and referred to in this description.

A is the tongue of the carriage.

B and B are wheels, and have independent axles C, connected by suitable means to the body X of the carriage, and by braces b to the slides E.

Above tongue A and below body X, and held in position by screw-bolts and taps *fff*, connected with the said tongue A and body X, is beam F. The bolts connecting beam F with

the tongue and body pass through slots cut with the longitudinal length of said beam, and have their heads on the under side of the beam F and their screw ends on the upper side of the body X secured by taps *f*, which are provided with handles, so that the assistance of a "wrench" is dispensed with when it is desirable to change the position of beam F. This change is made by the driver, and may be made without the driver leaving his seat or stopping the machine, by simply turning up the taps *f*, and thus loosening the hold of the screw-bolts on the beam F, which is then readily slid to the right or left of the driver, and carries with it the slides or guides E, which are firmly secured in a suitable manner to beam F, and the movement of the said slides E is communicated to the plows which have their beams D resting in the slides E; and by thus altering the position of the plows by moving beam F the width of the furrow of the front plow (or the rear plow when operated singly) may be regulated, and consequently the width of the land plowed by the gang-plow thus constructed is increased or decreased, and by turning down the taps *f* the beam F is held in position. The slides or guides E serve to hold the plow-beams D steadily in a forward course, and at the same time allow them a vertical play as the position of the plowshares may call for. The plow-beams D have their forward ends resting in slides or guides E, and are prevented from slipping out of said slides E by means of shoulders on said beams, or other convenient means. A brace or bar, *d*, has its ends let in beams D—one of the ends in either beam—but fitting loosely therein, and serving to prevent the jamming together of the plows. The plow-beams D are connected by chains G to the treadle-levers H and H', that have foot-boards *h* and *h'*. The driver, from his seat K, by pressing his foot on the foot-boards *h* and *h'* till they catch under the metal springs *k* and *k'*, secured to the brace Q, that is fastened to the tongue A, lifts the plows off the ground, and they are held off the ground while being transported from place to place by the springs *k* and *k'* holding the levers H and H' in position, and by forcing the springs *k* and *k'* from their hold on levers H and H' the weight of the plows will carry the levers H into the position occupied by lever H' in Fig. 1, and the plows will rest on the



ground. The same figure shows the position the plow is in when not in use and ready for transportation, (see lever H.)

L L are levers having their fulcrums on bolts secured to body X, (shown at *l l* in Fig. 2,) and secured at their lower ends to levers M, which have their other ends connected with the plow-beams D, (shown in Fig. 1 at *m*,) and the driver, by pushing forward the levers L, forces back and downward levers M, and they force plowshares P into the ground, even to a depth of ten or twelve inches. In raising or lowering the plows great assistance is derived from the combined action of the slides N and grooved metal boxes O. (Shown in detail in Figs. 3 and 4.)

A is the rear end of the tongue of the carriage, to which grooved box O is secured by a bolt or suitable means passing through its center, and on which it freely oscillates. This box O has a dovetailed groove running its whole length, into which a dovetailed sliding rod, N, enters, which is attached at its lower end by a bolt to the plow-beam D, and as the plow is raised or lowered the rod N turns on said bolt to suit any angle it may assume in sliding through the groove in box O; for as the rod N ascends or descends an oscillating motion is communicated to box O. These boxes O are thus seen to serve as guides to the plows in raising or lowering them, as well as to hold the plows steady during the operation of plowing.

To operate my machine, the power is hitched to the double-tree R, and as only the cross-bar S, secured to the clevis *s* of the plow-beam, changes its position, the plows may be readily raised or lowered, the one independent of the other, as it may be desired, while working the machine. The power having been connected to the machine and driven into position with both plows off the ground, like the plow connected with lever H, (shown in Fig. 1,) the driver pushes with his feet against springs *k* and *k'*, when the foot-boards *h* and *h'* are thus let loose, and the levers H and H', being moved by the weight of the plows, assume the position of lever H'. (Shown in Fig. 1.) The machine is now drawn forward, and, as is seen, the power being applied directly to the plow-beams D, there is no "side draft," which fact, when accompanied by the fact that the machine is evenly balanced on its axle, results in an easy and smooth movement in the operation of my machine. The plows are guided by the slides E, rods N working in grooved boxes O. Now, if desired, the driver pushes

the levers L forward by their handles, which, through means of rods M, force plowshares P into the ground the required depth, and, by reversing this motion the plowshares are withdrawn; then, if it is necessary, the driver turns up the taps *f*, slides the beam F to the right or left, as he may desire, to make the furrow narrower or wider, then quickly turns down the taps *f* and firmly secures beam F, and by reversing this operation the width of the furrow first cut may be cut again.

The position of the machine as shown in Fig. 2 will be the position it will occupy before it goes through the operation just described. From this it will be seen that the principal advantages of my self-adjusting carriage gang-plow over other inventions in the same class consist in the simple and effective means I provide, by which the driver, by operating from his seat, can save greatly in time and labor in regulating the width and depth of the furrows, and operating the plows independently of each other, as well as its lightness of structure, enabling the owner of it to accomplish a greater amount of work than can be accomplished with any other machine of its class; and the cheapness of my invention, compared with other carriage gang-plows, results from its parts being made mostly of wood, and of extreme simplicity.

A great advantage is also obtained by placing one of the wheels B before the other, as shown in Fig. 2, by reason of which arrangement a perfect balance of the machine is secured.

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

1. The taps and bolts *f*, beam F, and guides E, when constructed and operating substantially in the manner and for the purposes set forth.

2. A self-adjusting carriage gang-plow, with plows P, levers H, spring-catches *k*, and chains G, sliding rods N, and grooved boxes O, levers L and M, and taps and bolts *f*, beam F, and guides E, constructed and operating substantially in the manner and for the purposes set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

PETER CONRATH.

Witnesses:

HENRY SERTH,  
JOHN B. WILSON.