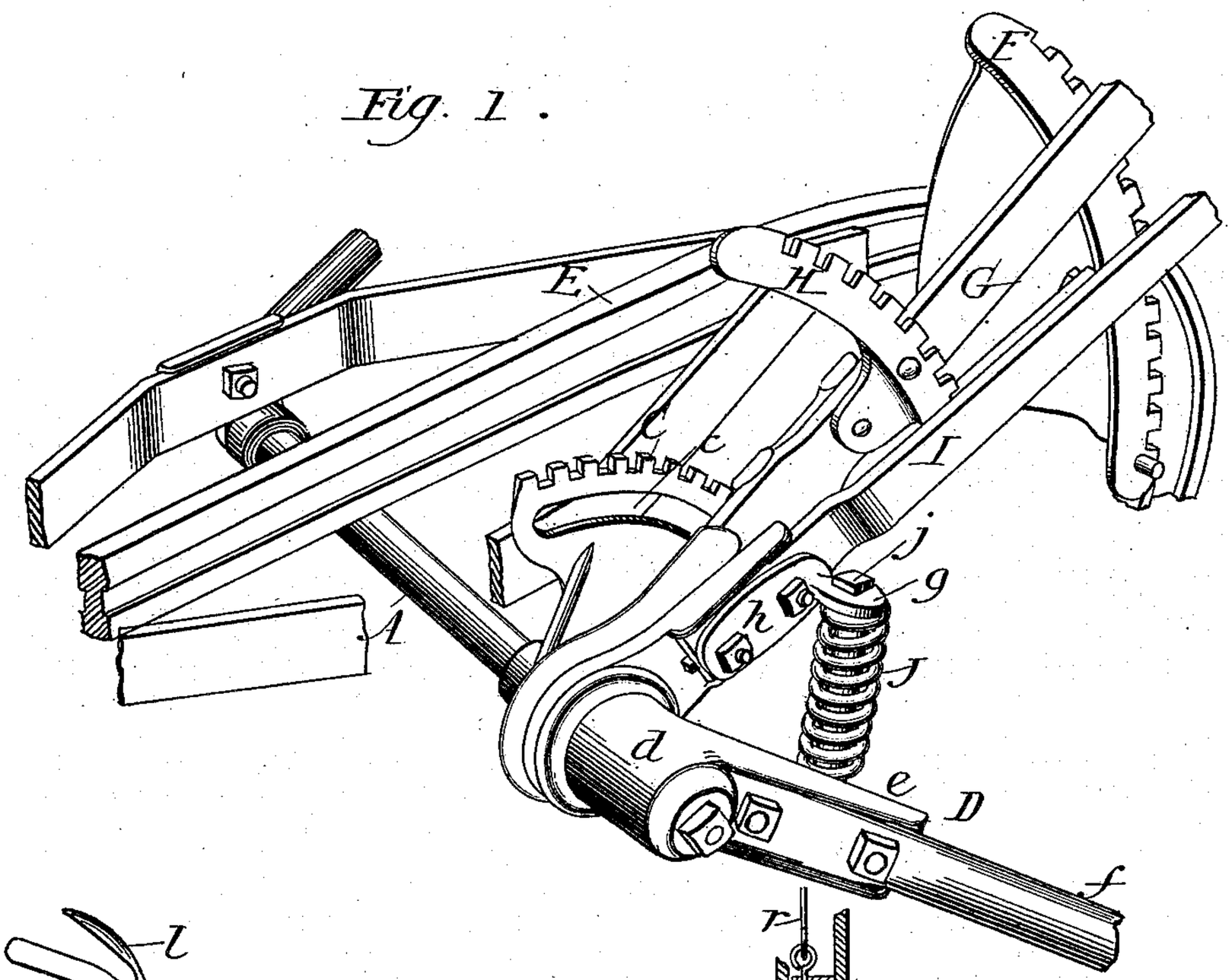
(No Model.)

S. A. KERNS.

WHEEL PLOW.

No. 393,707. Patented Nov. 27, 1888.

Fig. 1.



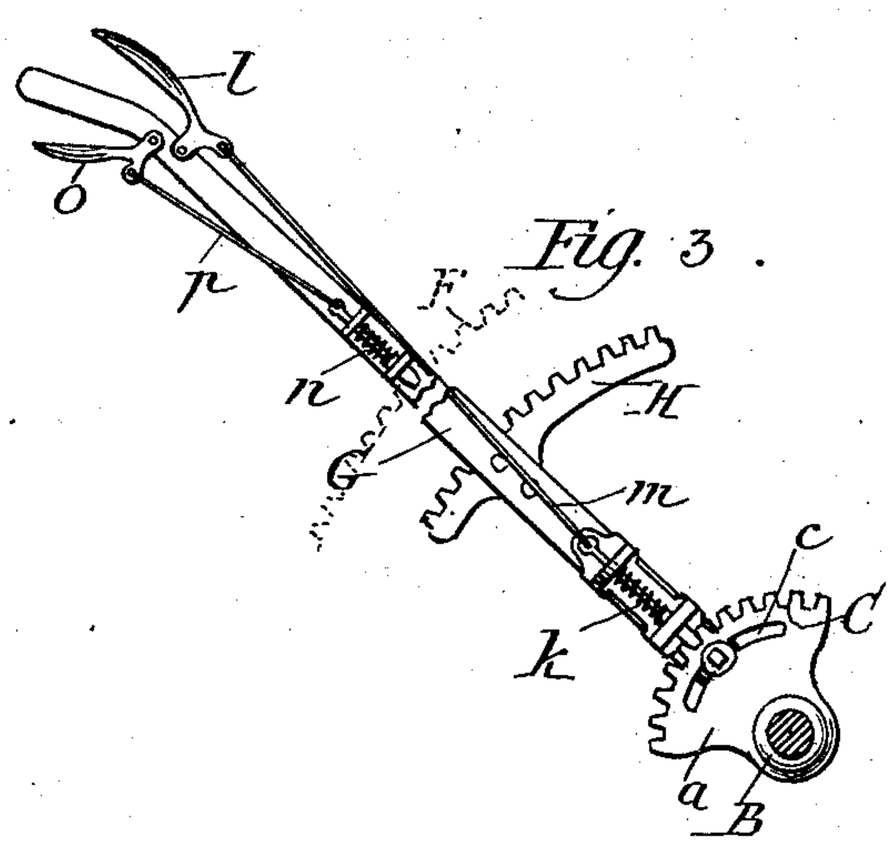


Fig. 3.

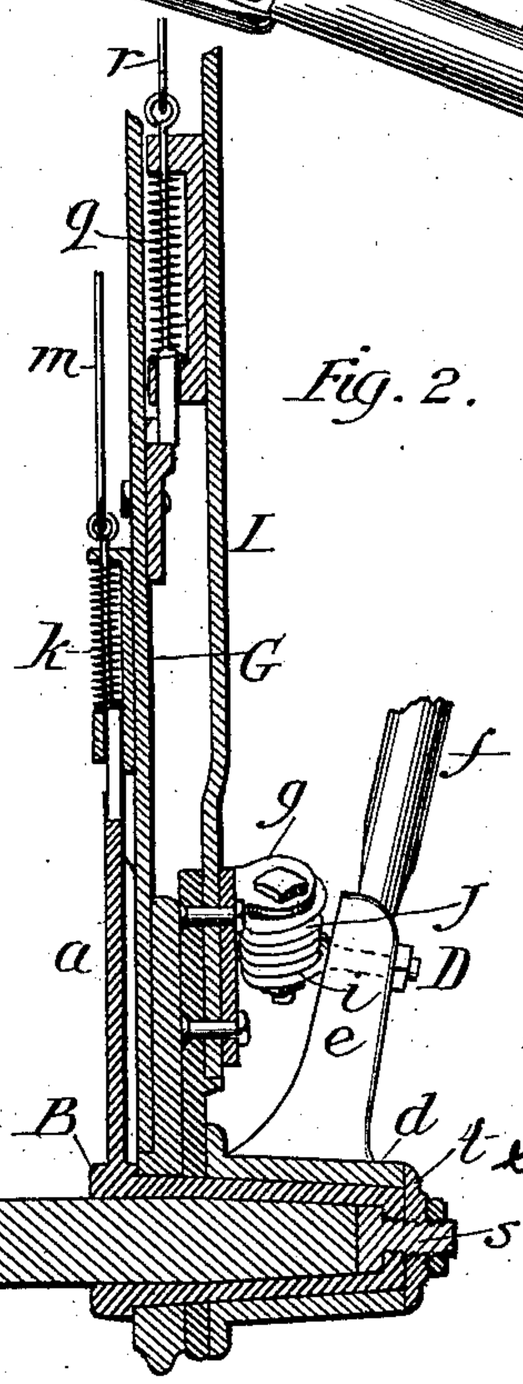


Fig. 2.

Witnesses:
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SIMON A. KERNS, OF ROCK ISLAND, ILLINOIS, ASSIGNOR TO THE ROCK ISLAND PLOW COMPANY, OF SAME PLACE.

WHEEL-PLOW.

SPECIFICATION forming part of Letters Patent No. 393,707, dated November 27, 1888.

Application filed October 1, 1888. Serial No. 286,833. (No model.)

To all whom it may concern:

Be it known that I, SIMON A. KERNS, residing at Rock Island, in the county of Rock Island and State of Illinois, and a citizen of the United States, have invented a new and useful Improvement in Wheel-Plows, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective showing a portion of a bent axle and a plow-beam and the devices for raising and lowering or leveling the plow. Fig. 2 is a detail, being a section through the parts thereby shown. Fig. 3 is a detail, being a side view of the main lever, two of the racks, and the locking devices which engage with such two racks.

The object of this invention is to provide a wheel-plow with improved devices for raising or lowering and leveling the plow, which I accomplish as illustrated in the drawings and as hereinafter described.

That which I claim as new will be pointed out in the claim.

In the drawings, A represents one part of the bent axle. The outer end of this part A is not shown in the drawings, but is adapted to receive a wheel, as usual.

B is a sleeve upon and secured to the part A of the axle, so that this sleeve B revolves with the part A of the axle.

a is an arm which extends out from the sleeve B, and the outer end of this arm *a* is enlarged and provided with a rack, C, and a slot, *c*.

D represents the other part of the bent axle, which, as shown, consists of three parts, *d e f*, *d* being a sleeve located loosely upon the outer end of the sleeve B, *e* being an arm connected with the sleeve *d*, and *f* being a piece of metal bolted, as shown, to the part *e*, the outer end of which is adapted to receive a wheel.

E is a plow-beam connected with the axle in any suitable known manner.

F is a rack secured to the plow-beam.

G is the main lever placed loosely on the sleeve B.

H is a rack secured to the main lever G.

I is a second lever, which is located loosely upon the sleeve B.

g is an ear projecting out from a plate, *h*, which is bolted to the lever I. *i* is another ear, which is secured to the part *e*. (See Fig. 2.)

J is a coiled spring located between the two ears *g* and *i* and held in place by a bolt, *j*, which passes through the ears and the spring, and is held by a nut on its lower end, by means of which nut the tension of the spring J can be adjusted.

k is a spring-bolt which engages with the rack C. This bolt is operated by means of a thumb-piece, *l*, secured to the main lever G, the thumb-piece and bolt being connected by means of a rod, *m*. *n* is another spring-bolt arranged to engage with the rack F, and it is operated by means of a thumb-piece, *o*, upon the lever G, which thumb-piece is connected with the bolt by means of a rod, *p*. *q* is another spring-bolt arranged to engage with the rack H. It is operated by means of a thumb-piece attached to the lever I, this thumb-piece being connected with the lock-bolt *q* by means of a rod, *r*.

s is a bolt, which can be inserted into the sleeve B before it is placed upon the axle A.

t is a washer.

The sleeve B, with its arm *a* and rack C, may be cast together. The sleeve *d* and arm *e* may be cast together. The levers G and I are, as shown, made of two parts bolted together.

The operation is as follows: When the three spring-bolts *k*, *n*, and *q* are all engaged with their respective racks, the axle and plow will be held in whatever position they may then occupy. If the bolt *n* be released from the rack F, the other bolts remaining engaged with their respective racks, the position of the whole axle can be changed by the movement of the lever G up or down, thus raising or lowering the plow. If the bolts *n* and *k* be both released, the other bolt remaining engaged with its rack H, the main lever G can be moved up or down, and thus the position of the part D of the axle can be changed, which will change the position of the plow. If the bolts *n* and *q* be both released, the bolt *k* remaining engaged with its rack C, the movement of the lever G will change the position of that part of the

axle marked A, which will raise or lower the plow. If the bolt *q* only be released, the other two remaining engaged with their racks, then by the movement of the lever I the position of that part of the axle marked D can be changed for the purpose of leveling or guiding the plow. The movement of the lever I acts upon the part D of the axle through the spring J. The spring J allows the wheel carried by the part D of the axle to pass over ordinary inequalities without changing the position of the plow.

The devices herein shown and described are in some respects similar to devices for a like purpose shown in a pending application of my own; but by means of the devices herein shown and described for raising and lowering or leveling the plow the action is more positive, and the operator can force the axle into any desired position, whether the plow is standing still or be in motion, much more readily than with the devices shown in my said pending application.

What I claim as new, and desire to secure by Letters Patent, is as follows:

In a wheel-plow, a divided and bent axle, in combination with a plow-beam carrying a rack, F, a sleeve, B, secured to one part, A, of the axle and carrying a rack, C, a sleeve, *d*, connected with the other part of the axle and placed loosely on the sleeve B, a main lever, G, a rack, H, supported by the lever G, a lever, I, both levers being placed loosely on the sleeve B, bolts arranged to engage with the racks C, F, and H, and a spring, J, substantially as and for the purposes specified.

SIMON A. KERNS.

Witnesses:
F. A. HEAD,
E. F. BUCK.