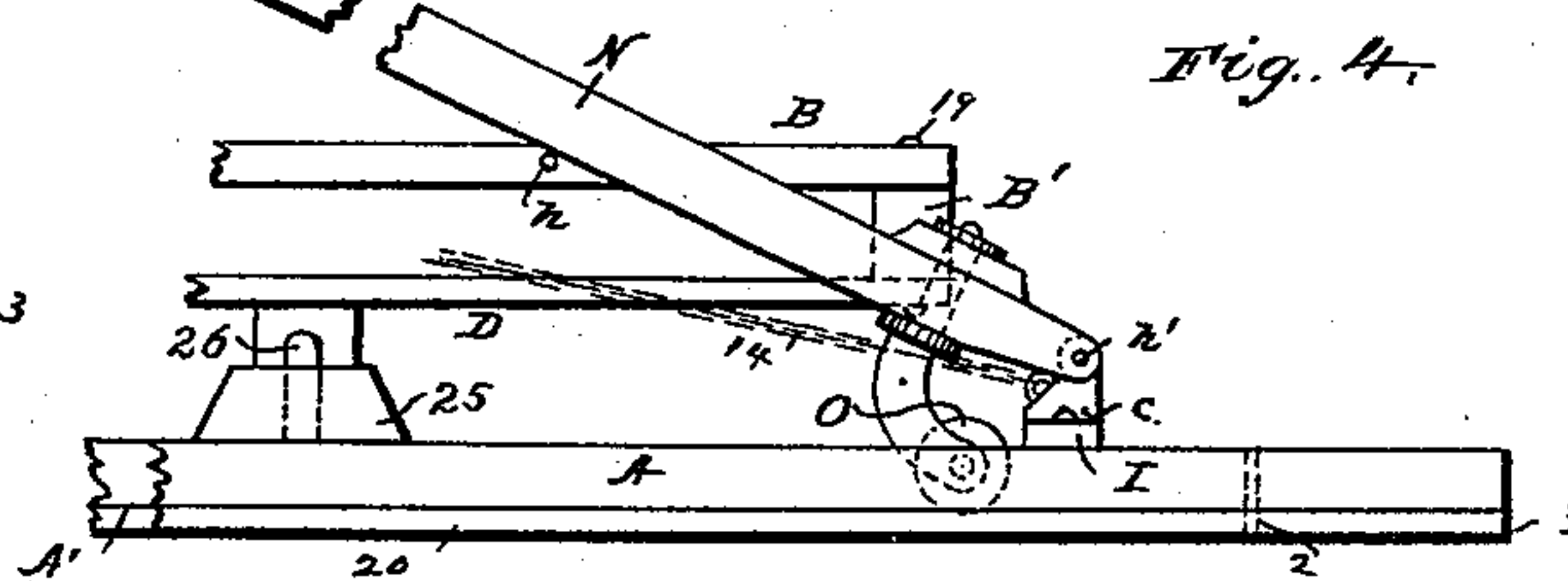
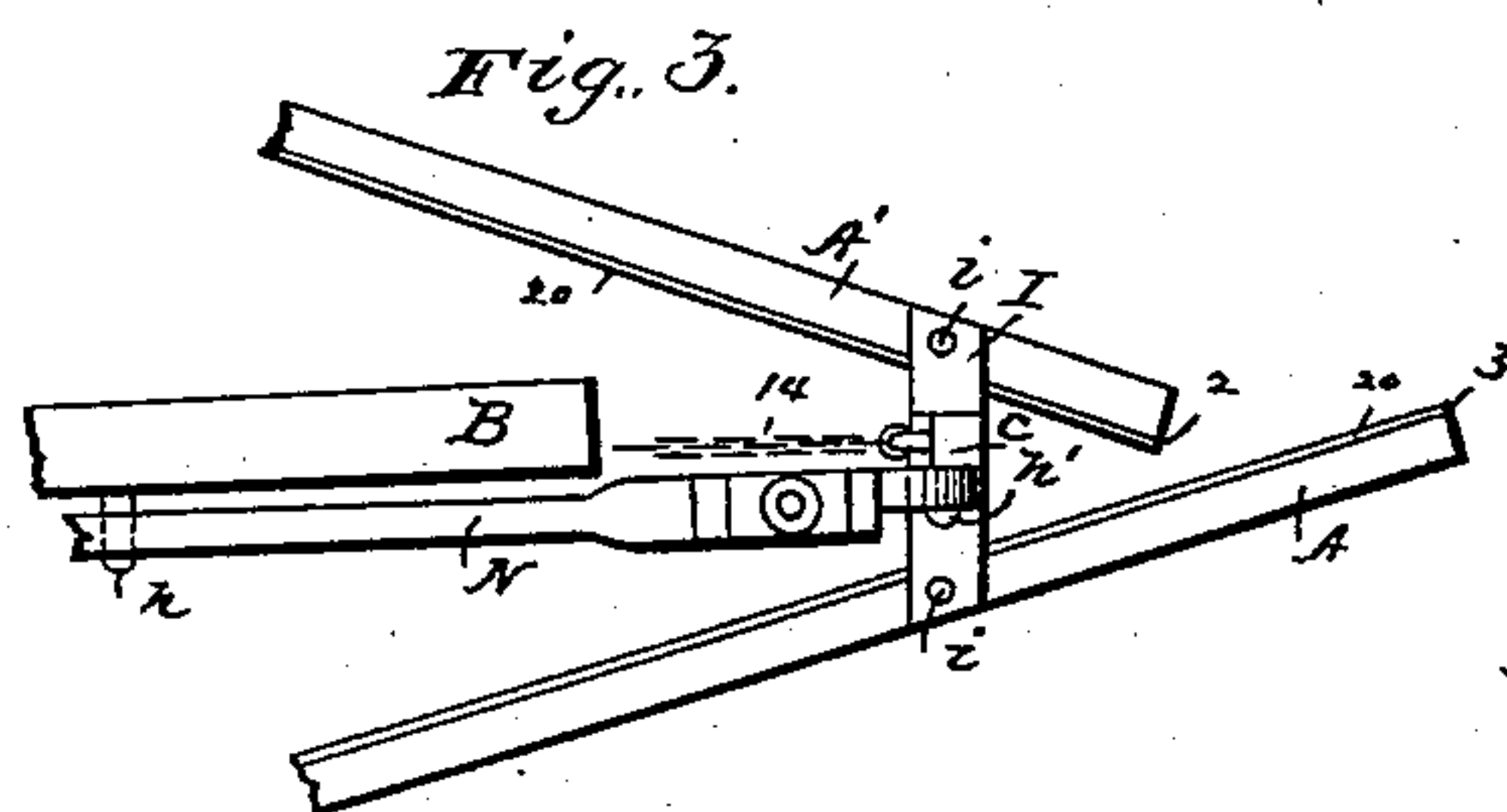
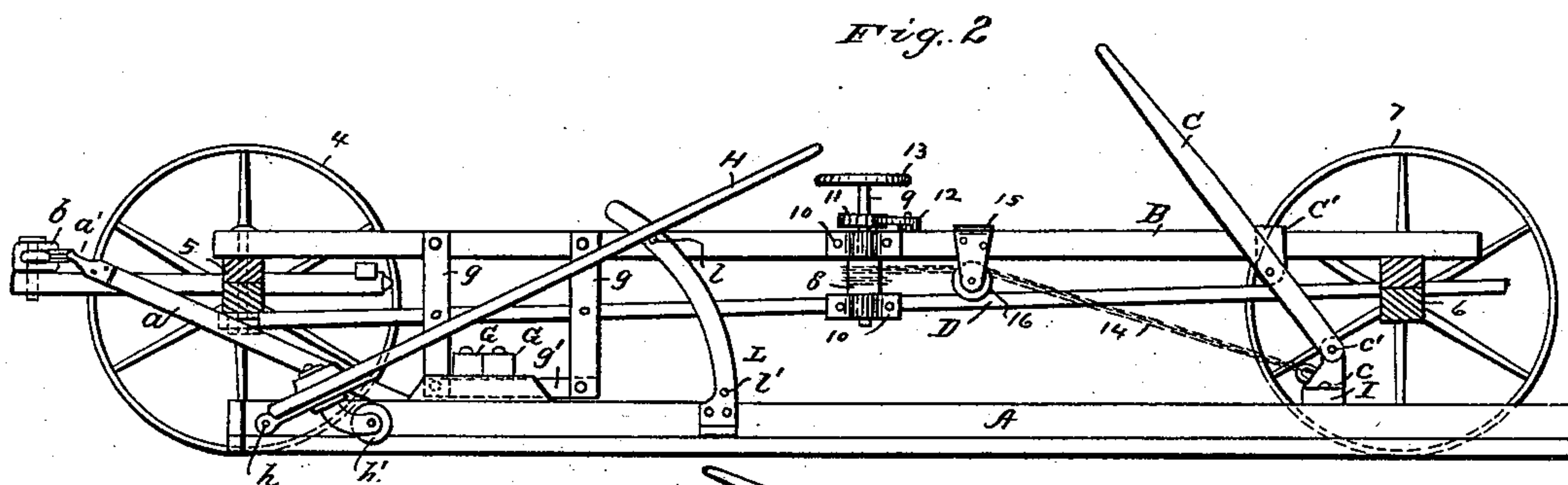
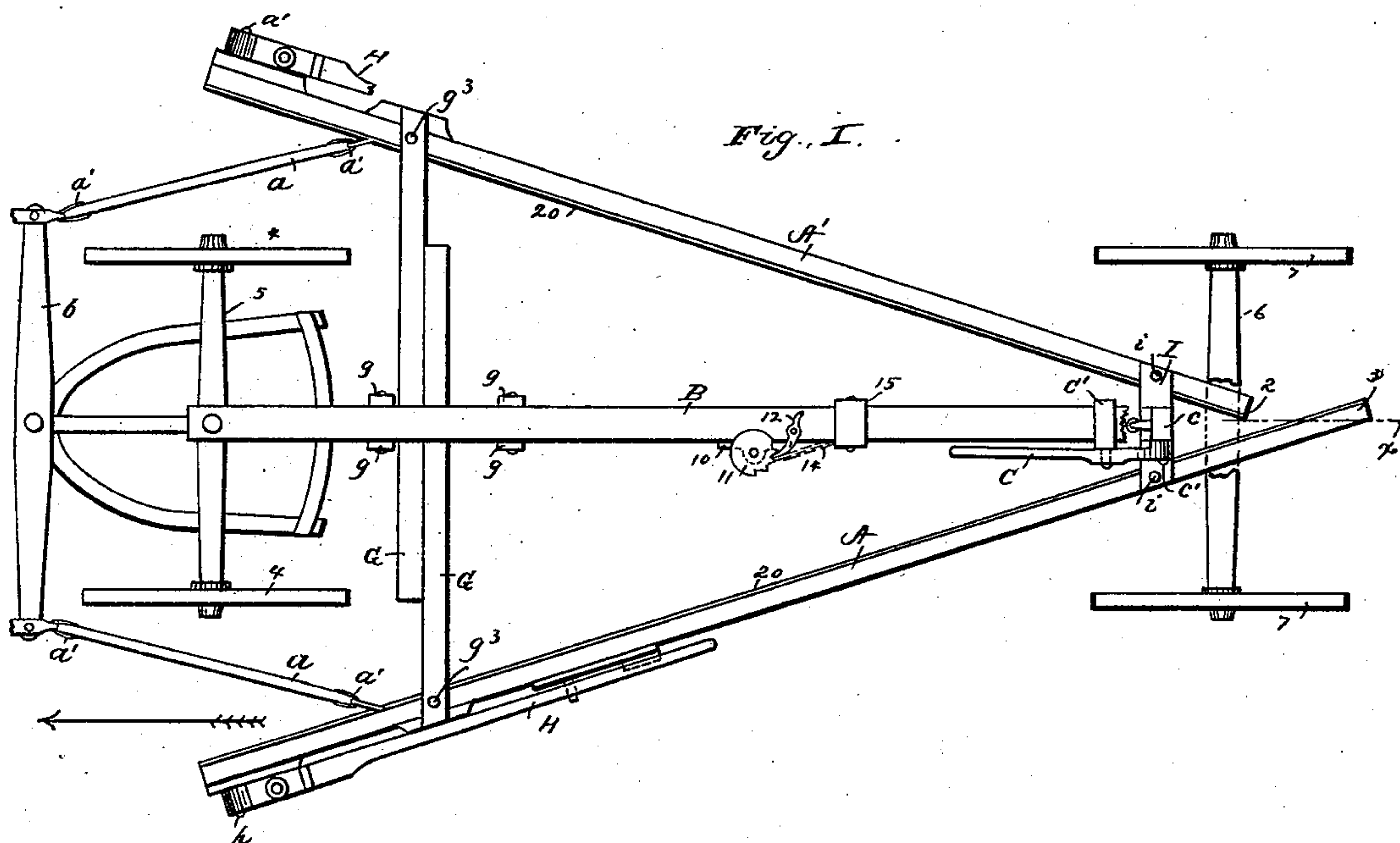


(No Model.)

N. S. MONROE.  
ROAD LEVELER.

No. 525,426.

Patented Sept. 4, 1894.



Witnesses.

W. R. Edson.

Montgomery Blair

Inventor,  
Nathaniel S. Monroe



# UNITED STATES PATENT OFFICE.

NATHANIEL S. MONROE, OF ARCOLA, ILLINOIS.

## ROAD-LEVELER.

SPECIFICATION forming part of Letters Patent No. 525,426, dated September 4, 1894.

Application filed April 13, 1894. Serial No. 507,400. (No model.)

*To all whom it may concern:*

Be it known that I, NATHANIEL S. MONROE, a citizen of the United States, residing at Arcola, in the county of Douglas and State of Illinois, have invented certain new and useful Improvements in Road-Levelers; and I hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in road-levelers or scrapers, and the special object thereof is to provide means for instantly and conveniently adjusting the angle of the scraping-bars by contracting or widening the front space, to thus accommodate the device to the width of the road; and by providing against leaving a ridge after the machine shall have passed, which is accomplished by the different lengths of the scrapers, one of the ends, the rear-most scraping-bar, leveling the ridge completely.

My invention further relates to the novel means employed for pivotally connecting the reach-bars from the scraper-bars to the double-tree; also the means employed for preventing said scraper-bars from twisting or flaring by means of two parallel bars pivoted to the same and resting upon a hanger supported by the coupling-pole.

My invention also further relates to the means employed for elevating the rear end of the scraping-bars, by means of a hand lever pivotally connected to a sliding saddle. Also the means employed for elevating the front ends of the scraper-bars, through the medium of levers provided with caster-wheels.

My invention also relates to other novel features of construction which hereinafter will be more fully described and pointed out in the claims. I attain these objects by the mechanism illustrated by the accompanying drawings, in which—

Figure 1 is a plan view of my improved road-leveler, partly broken away to more fully exhibit my special mechanism of the scraper-bars. Fig. 2 is a side elevation of the same, with the rear wheels removed, and the axles

and blocking in section. Figs. 3 and 4 are modifications in detail respectively in plan and side elevation.

My improved road-leveler consists of the following mechanism: A and A' represent scraper-bars which are provided with metal (preferably steel) sheathing or shoes 20, which project beyond the timbers holding the same. The front or flaring ends of said scraper-bars are secured to pivoted reach-bars *a*, *a*, said reach-bars being pivoted by eyes and clips *a'* *a'*, and connecting with the double-tree *b*, which is secured to an ordinary wagon gear 5, which is provided with wheels 4, 4. The rear ends of said scraper-bars A and A' are pivoted at *i*, *i*, to a bar I, secured to which bar is a bracket *c*, for supporting an adjustable lever C, which is pivoted at *c'*, and fulcrumed to the saddle or self-adjustable clasp *c'*, which hereinafter will be more fully described. Secured to the forward ends of the said scraper-bars A and A', by means of bolts *g*<sup>3</sup> *g*<sup>3</sup> are two bars G, G, which are parallel to each other, and extend a considerable distance beyond the coupling-pole D. The object of said bars is to prevent the scraper-bars from twisting or flaring outward at their scraping edges owing to the extreme pressure on the same from contact with hard earth. Said bars G, G are supported about centrally by a hanger consisting of timbers *g*, *g*, *g*, *g* and *g'*, which are pendent from the coupling-bar or pole D and the master-beam B. Said scraper-bars are also provided at their extreme forward ends with caster-wheels *h'*, *h'*, mounted on levers H, H and fulcrumed at *h* *h*. The object of said caster-wheels is to elevate the scrapers when not necessary to use the same, by removing said levers H, H, from their respective pins *l*, (only one pin being shown,) and engaging said levers H, H, under the pins *l'* secured to the wrought-iron standards L. The master-beam B, previously referred to, is very strong, so as to support not only all the mechanism on the machine, but to receive the thrust or strain consequent upon the scrapers A and A'; said master-beam being secured to the rear truck axle 6, having wheels 7, 7. The forward end of said beam is secured to the front truck by an ordinary king-bolt, and is also firmly secured by means of the hangers *g*, *g*, before referred to. Secured about cen-



trally to the master-beam B and coupling-bar D, by means of boxes 10, 10, is a spindle *g*, on which is mounted a drum 8, carrying a hand-wheel 13, and a ratchet-wheel 11 with its accompanying pawl 12. Secured to said drum 8 is a chain 14, which passes over a sheave 16, secured to a hanger 15, and thence to bracket *c*, secured to beam I.

When necessary to spread the scraper-bars A and A', the operator winds up the chain 14, on drum 8, by means of the hand-wheel 13, the pawl 12 and ratchet-wheel 11 preventing the chain from unwinding from said drum, and consequently the scraper-bars are held at the desired angle. To effect the contrary result, the pawl is released from its engagement with the ratchet-wheel, and the scraper-bars A and A' will automatically draw closer together at the rear end; for, as will readily be understood, as the chain 14 unwinds from the drum 8, the lever C retains the same relative position to its pivotal connection *c'*, by means of the saddle *c*, or clasp, which is loosely hung upon beam B, and consequently is pushed forward, as the scraper-bars A and A' are advanced through the medium of the beam I, secured to the same; and as the whole machine moves along the road, the lateral pressure of the earth, gravel, or sand, naturally causes the scraper-bars to spread outward in front, and consequently to close rear-ward.

The majority of leveling-machines leave a ridge in the road at the rear end of the machine, on account of the necessity of allowing an opening for the dirt or soil to pass through, and also to prevent the machine from riding upon the surface of the ground.

With my improved device, there is no possibility of forming a ridge, as is obvious by the construction of my beams A and A', the beam A extending beyond the scraping corner 2, of beam A', which is indicated by the dotted line *x*, also the corner 3 of beam A extends beyond said line *x*, thus smoothing or scraping off any ridge formed by said beam A'.

Figs. 3 and 4 are modifications, in one sense, yet are not so when taking into consideration the fact that they are identical with Figs. 1 and 2, as far as the operation will admit, when using a single wheel, preferably a caster-wheel O. I remove the rear truck only, the front truck with its accompanying mechanism being the same as shown in Figs. 1 and 2. On beam I, is fulcrumed le-

ver N, at *h'*, shorter beam B and coupling-bar D securing the same by a spreading block B', and supporting the same on beam 25, which is secured loosely at one end to beam A or A', the other end being provided with a pin 26, which passes through a long slot in said beam 25, at the end opposite to the pivoted end thus allowing said pin 26 to move freely in the slot when spreading or contracting the scraper-bars A and A'.

When operating my improved road-leveler, occasionally the amount of dirt removed becomes excessive toward the rear end of the scraper-bars, when I employ the lever C, previously referred to, thus elevating the scrapers, and allowing the excess of accumulated dirt to remain on the road.

Having described my invention, that which I desire to claim is—

1. A road-scraper, or leveler, with two independent scraper-bars A and A', so arranged that one of said scraper-bars projects beyond and overlaps the track formed by its opposite scraper-bar, as shown and described.

2. In a road-scraper, or leveler, the combination with adjustable scraper-bars A and A' of the mechanism (or its equivalent), for spreading, or for contracting, the angle of the same, which mechanism consists of chain 14, winding-drum 8, hand-wheel 13, and pawl 12 and ratchet-wheel 11, all operating as shown and specified.

3. In a road-leveling machine provided with pivoted bars G, G, adapted to slide, the hangers *g*, *g*, and *g'*, for rigidly supporting the scraper-bars A and A', as shown and described.

4. In a road-leveler, the combination with scraper-bars one of which is longer than its fellow, and projecting beyond it rear-ward, the reach-bars *a*, *a*, secured to a double-tree, and pivotally connected therewith, as shown and described.

5. In combination with a road-leveler, having one scraper-bar projecting beyond the rearmost end of its opposite scraper-bar, a single caster-wheel O, mounted on a beam I, and pivotally connected through the medium of the lever N, for the purpose specified.

NATHANIEL S. MONROE.

Witnesses:

JOHN A. PETTIT,  
MONTGOMERY BLAIR.