

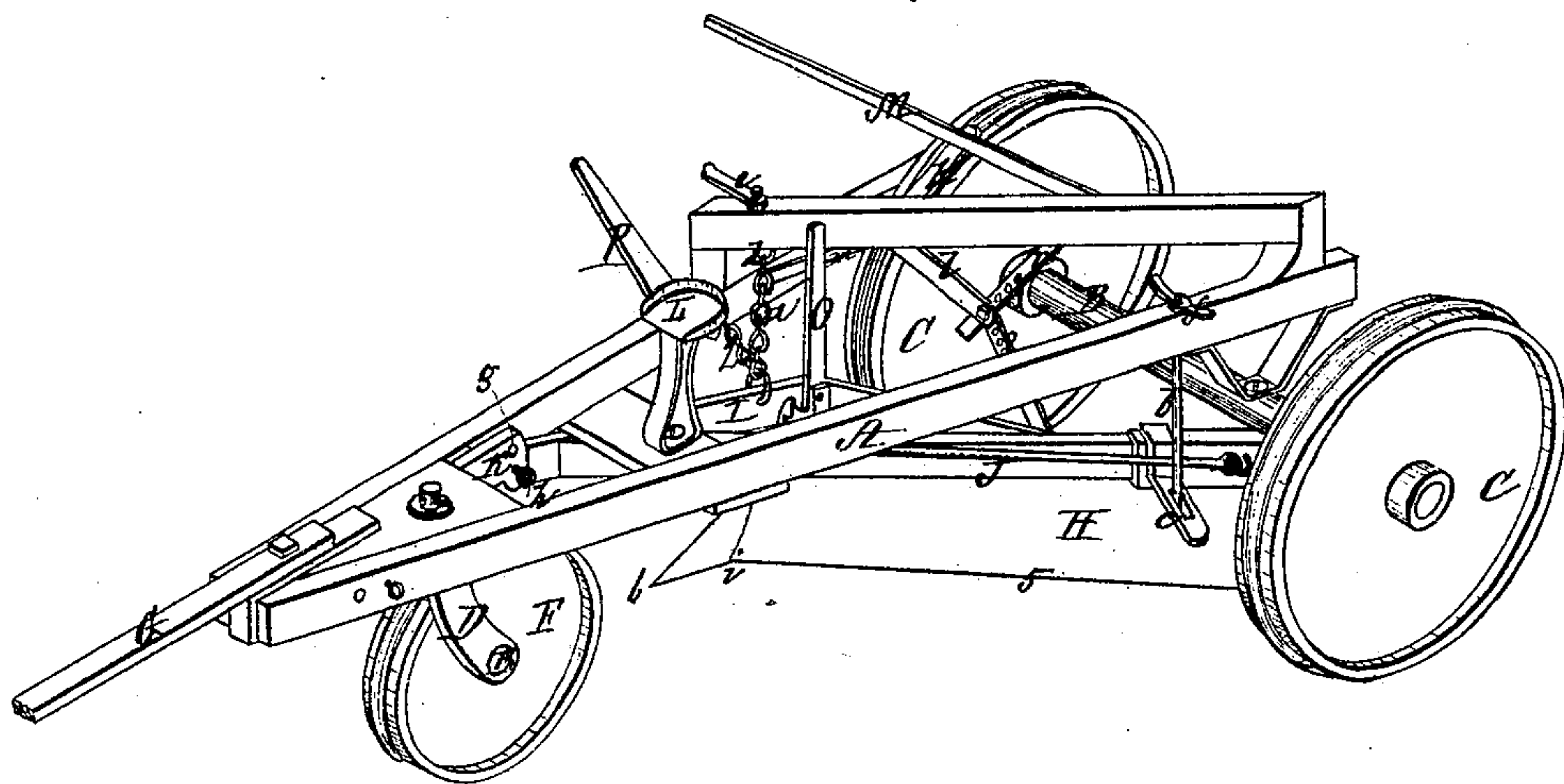
*D. L. Shepard,*

*Scraper.*

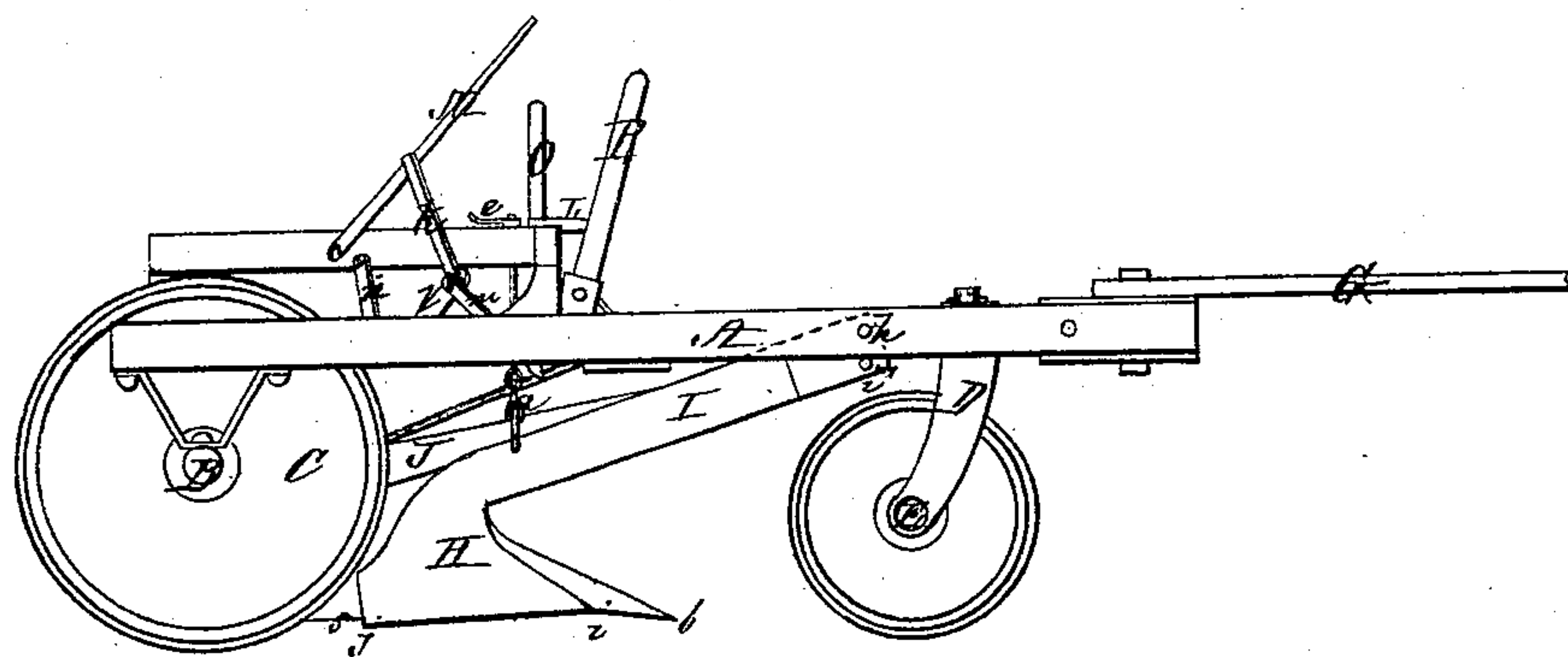
*No. 109,768.*

*Patented Nov. 29. 1870*

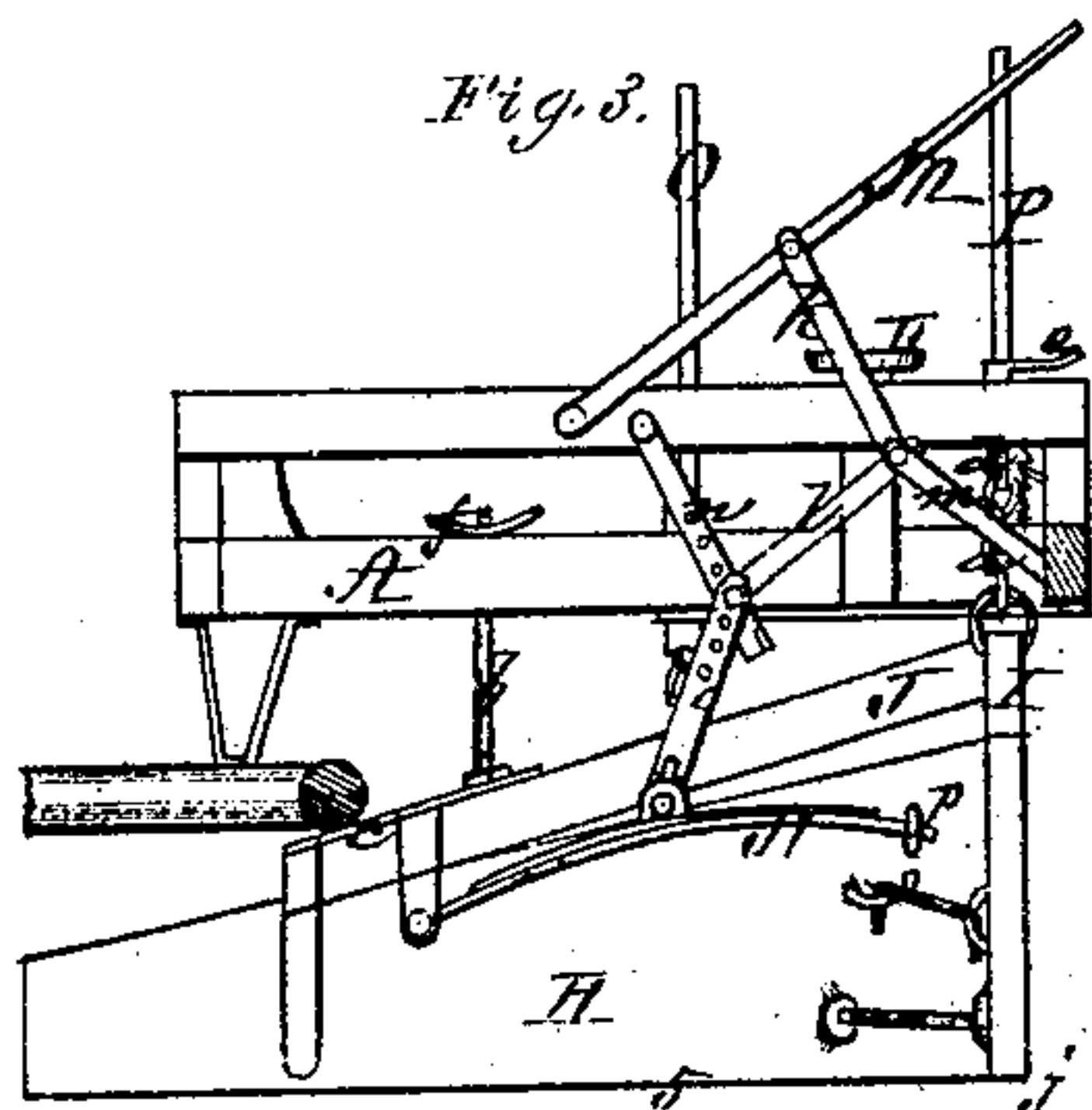
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



*Witnesses.*  
*L. E. Batcheller.*  
*H. J. Cambridge.*

*Inventor.*  
*David L. Shepard*  
*By his Attorneys*  
*Teschmacher & Stearns*



# United States Patent Office.

DAVID L. SHEPARD, OF FOXBOROUGH, MASSACHUSETTS.

Letters Patent No. 109,768, dated November 29, 1870.

## IMPROVEMENT IN ROAD-SCRAPERS.

The Schedule referred to in these Letters Patent and making part of the same.

*To all whom it may concern:*

Be it known that I, DAVID L. SHEPARD, of Foxborough, in the county of Norfolk and State of Massachusetts, have invented a Machine for Grading and Scraping Roads, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a perspective view, representing my machine for grading and scraping roads.

Figure 2 is a side elevation.

Figure 3, detail to be referred to.

To provide a convenient, expeditious, and economical means for making and grading new roads, and for scraping and smoothing over old roads to be repaired, is the object of my invention, which consists in an organized machine in which a scraper is employed for entering the ground and for guiding and disposing the material in proper quantities upon the road at the several points to form the inclination required.

And my invention also consists in certain details of mechanism by which the scraper is operated and adjusted to any inclination of grade determined on.

To enable others skilled in the art to understand and use my invention, I will proceed to describe the manner in which I have carried it out.

In the said drawing—

A is the frame-work, the rear end of which is supported on the axle B of a pair of wheels, C, while the front of the frame-work rests on a bifurcated arm, D, through the lower end of which passes the axle E of a single wheel, F, the arm being free to swivel or revolve around within the frame-work, in order that the truck may turn short around.

G is the draft pole or tongue, secured to the front of the frame-work, but the pole or tongue may be directly secured to the arm D, so as to enable the truck to turn more positively.

H is a scraper, of the form shown, that is to say, having the land-side of sufficient length to prevent its being thrown out of the direct line of draft when in operation, with the forward end fitted to the point 6, and shaped as shown in fig. 2, and with its scraping surface suitably curved above its cutting edge, 5, to cause it to carry forward and remove the dirt.

This scraper is rigidly secured at its forward end to the beam I, which beam is supported by a chain, a, secured at its upper end to a screw-bolt passing through the frame-work.

The scraper, at or near its rear end, is rigidly secured to the brace J of the beam I, and this brace is supported by the rod b passing through a slotted plate, c, projecting from the brace J.

The screw-bolts holding the chain a and the rod b, are turned up or down by means of screw-nuts, e f, whereby the scraper is raised and lowered, so that its

lower edge, 5, may be inclined to any angle to conform to the grade required; for instance, where a steep pitch is to be given the road-bed the rod b may be raised, and with it the rear portion of the scraper, by turning the screw-nut f, or the front portion of the scraper may be lowered by turning the nut e, or both nuts may be operated to perform this adjustment.

The upper forward end of the beam I is provided with a series of holes, i, and fits loosely between the frame-work and a plate, K, also provided with holes, g, of a size corresponding to those in the forward end of the beam, by which construction the movements required in giving the proper inclination to the edge 5 are free to be made, and the point 6 of the scraper may be raised or lowered by simply changing the position of a pin, h, which enters the holes i, and those in the forward end of the beam I.

The line from i, a little in the rear of the point 6, to the heel j of the scraper, is intended to be always kept in a horizontal plane, which may readily be done by means of the adjustments above described, and this line, ordinarily termed the "land-side," is of considerable length, so that an extended bearing surface may be provided to prevent, as far as possible, the scraper from being thrown out of the direct line of draft when in operation.

L is the seat, to be occupied by the driver, who uses the brake-rod M for keeping the edge 5 of the scraper down to its work.

This brake-rod is connected by a series of levers, k l m n o, with a curved spring, N, fig. 3, one end of which is secured to a pin projecting from the frame-work, while the other end of the spring is allowed to slide freely within a guide, p.

The object of the spring and compound leverage is to enable the operator at his option to apply an elastic or yielding pressure on the scraper, so to admit of its rising when it comes in contact with unyielding obstacles.

The plate c is slotted so as to allow the scraper to be moved laterally out and in by operating a shipper-lever, O, for the purpose of grading or scraping a wider or narrower portion of the road, according to the will of the operator.

The scraper may be instantly raised from the ground when not in use by the lever P; and to avoid contact with large stones or other obstructions when in use, the scraper can be raised by means of the same lever P, connected by a chain, q, with the beam I.

### Claims.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The scraper H, when attached to the beam I

and brace J, and adjusted by means of the chain *a*, rod *b*, and pin *h*, in combination substantially as set forth.

2. The brake-rod M, the connecting levers *k l m n o*, and the spring N, in combination with the scraper H, substantially as and for the purpose set forth.

Witness my hand this 25th day of April, A. D. 1870.

DAVID L. SHEPARD.

Witnesses:

N. W. STEARNS,  
L. E. BATCHELLER.