

W. T. NICHOLS.
Road-Scrapers.

No. 158,861.

Patented Jan. 19, 1875.

Fig. 1

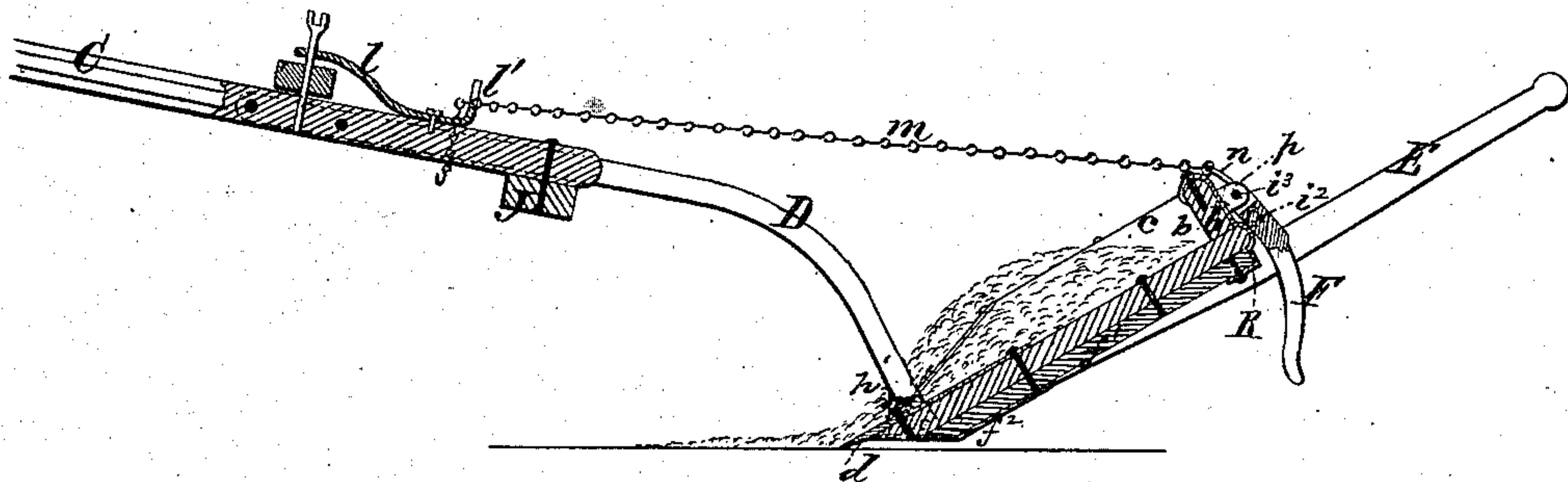


Fig. 2

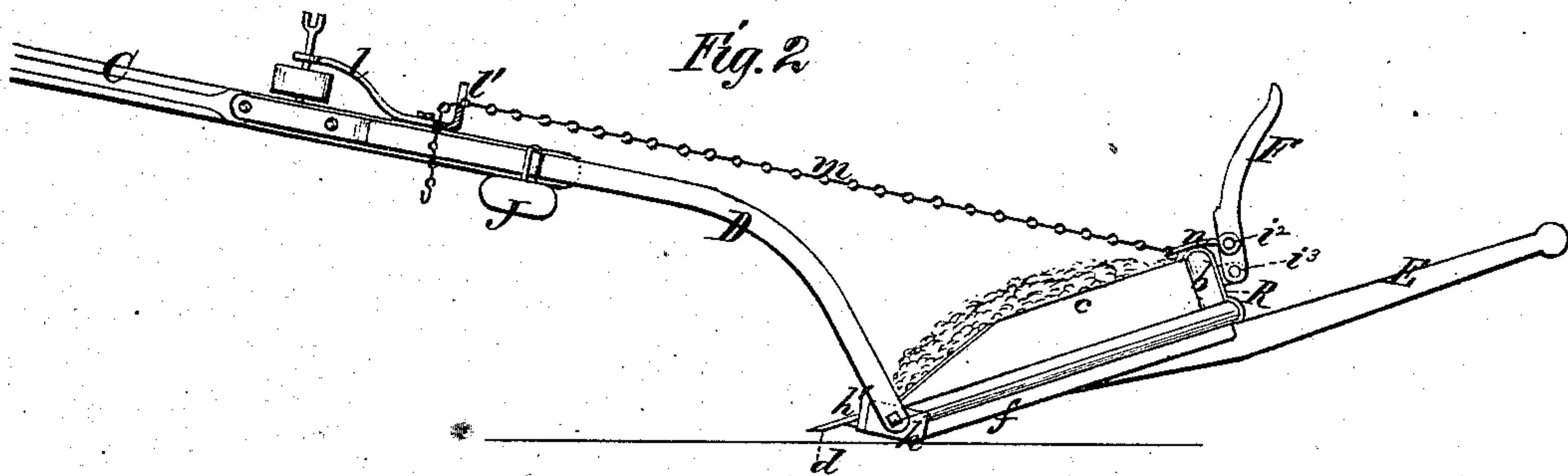
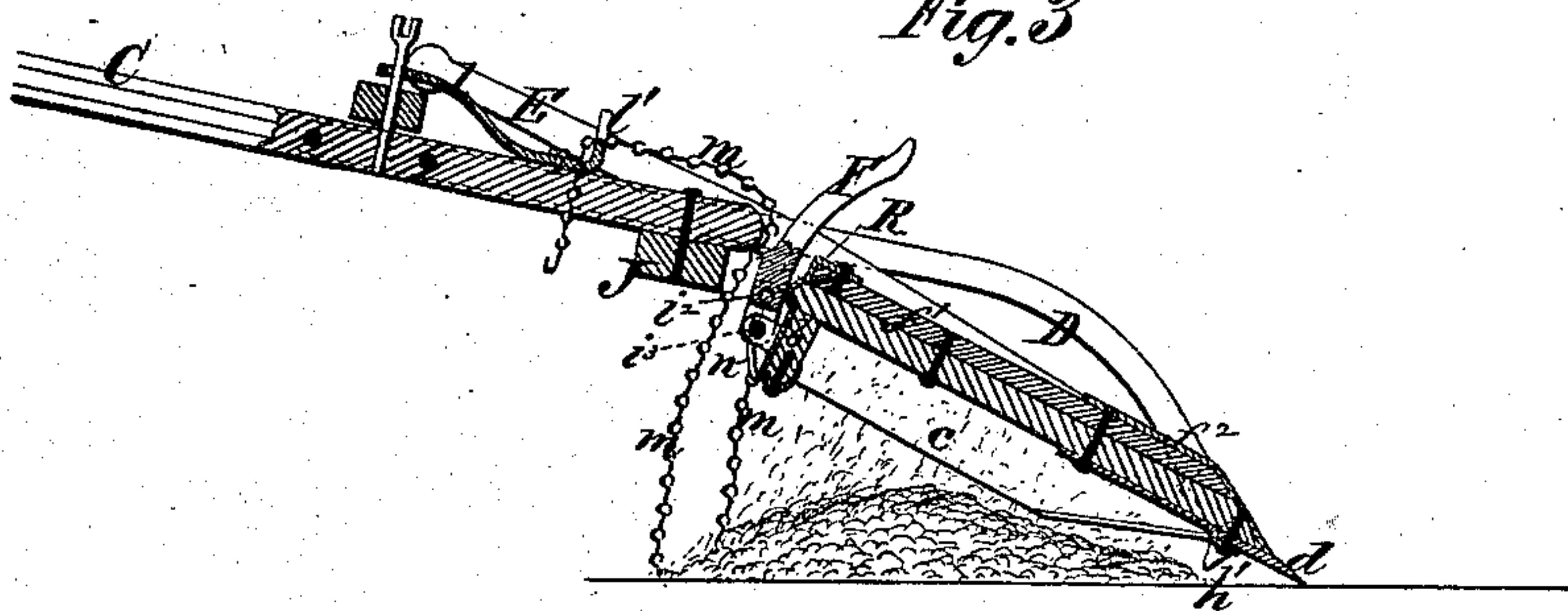


Fig. 3



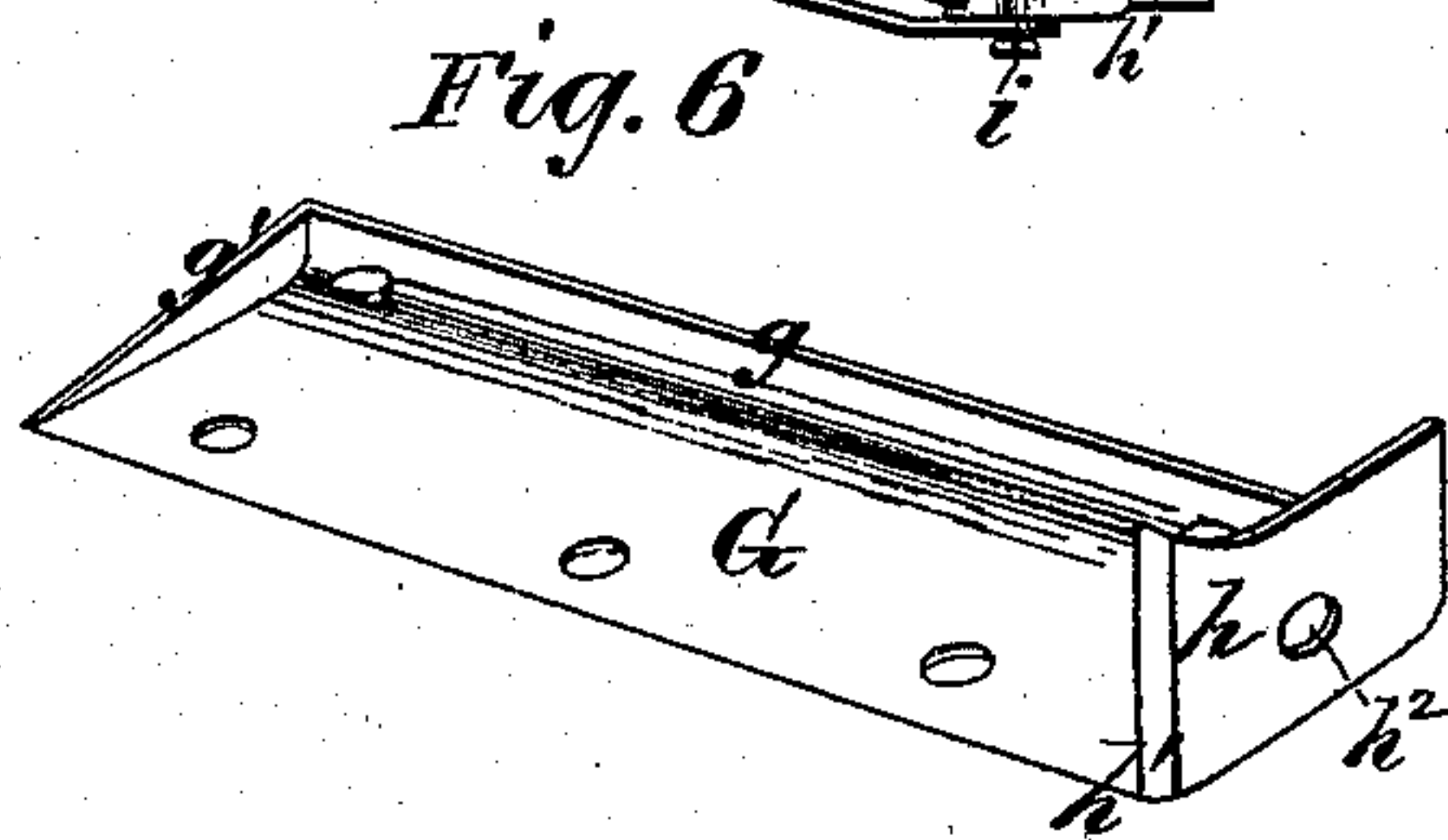
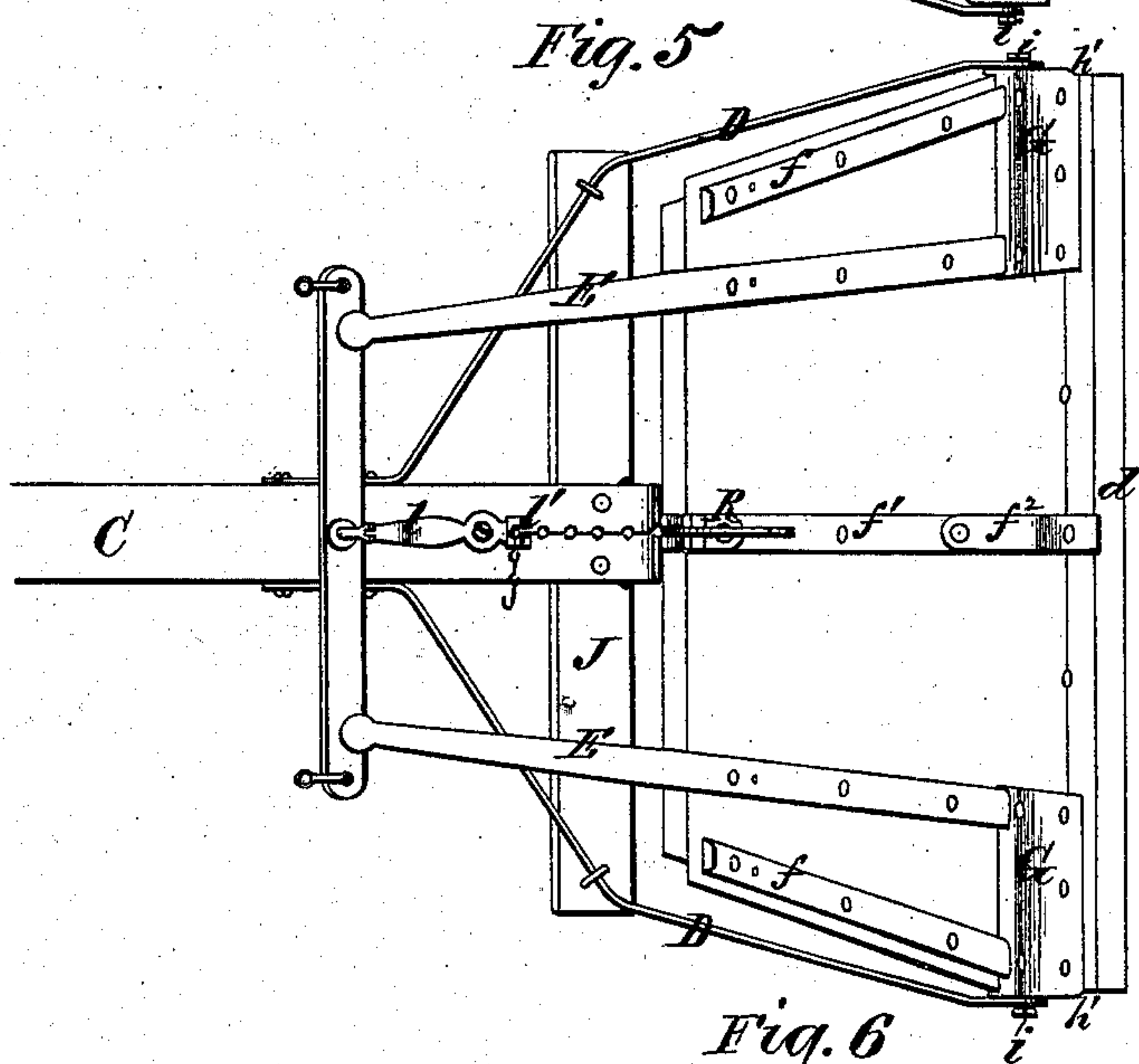
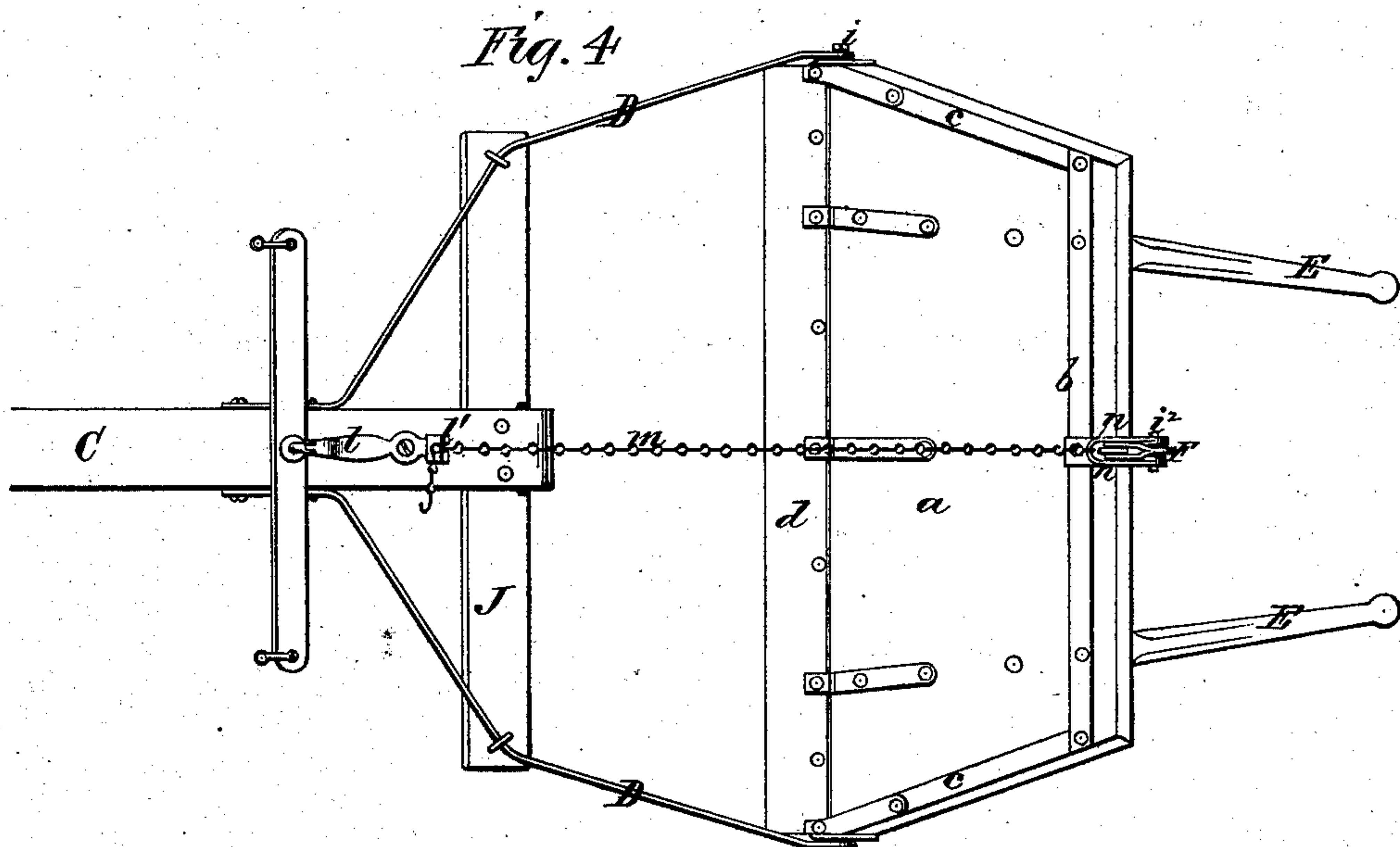
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UNITED STATES PATENT OFFICE.

WILLIAM T. NICHOLS, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN ROAD-SCRAPERS.

Specification forming part of Letters Patent No. 158,861, dated January 19, 1875; application filed December 29, 1874.

To all whom it may concern:

Be it known that I, WILLIAM T. NICHOLS, of Chicago, county of Cook and State of Illinois, have invented new and useful Improvements in Road-Scrapers; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings making part of this specification, in which—

Figure 1 is a longitudinal central section of my improved road-scraper, showing it in the act of scraping up a load of earth. Fig. 2 is a side elevation, showing it in position for transporting the gathered load of earth to the place where it is desired to dump the same. Fig. 3 is a longitudinal central section, showing the scraper in position when the load of earth is dumped therefrom. Fig. 4 is a top view of the scraper when in position, as shown in Fig. 1, and Fig. 5 a bottom view when the scraper is "dumped." Fig. 6 is a perspective view of a "shoe" applied at each extremity of the cutting-blade of the scraper, so formed and applied as to sever roots which might interfere with the operation of the scraper when in the act of use.

The main object of my invention is to provide a scraper with an automatic lever-lock attached to the chain of a pivoted draft-pole or hounds, and to the back-board of a scraper, by means of which lever-lock the cutting-edge of the scraper when loaded can be raised so as not to cut into the ground, and thus cause the scraper to run on its shoes instead of the cutting-edge, while being drawn to the locality where it is to be dumped.

In the drawings, *a* is the bed portion of the scraper provided with a back board, *b*, and side boards *c c*. The side boards *c* and back board *b* project above the bed-board *a* a sufficient height to hold the gathered load of earth, and are secured together as indicated in the drawings, or in any proper manner. The bed *a* is shod on its scraping-edge with a metal wearing-plate, *d*, secured to the bed by metal straps and bolts, as indicated in the figures. This bed is strengthened by means of extensions of the handle *E*, which extensions serve as battens to the under side of the bed *a*. Side battens, as at *f*, and a central batten, as at *f*¹, are also applied to the under side of the bed *a*. The

lower extremity of the battens *f* and *f*¹, as well as the lower end of the handles *E*, are beveled, as shown. The beveled portion of the batten *f*¹ is shod with a metal wearing-surface, *f*², and the like parts of the battens *f* and extended handles *E* are shod with metal shoes *G*. The shoes *G*, clearly shown in Fig. 6, are formed with a flange, as at *g*, at their back portion, and with a flange, *g'*, at one end for the purpose of giving the proper pitch and bearing to the same when permanently applied to the bed of the scraper, while their opposite ends, as at *h*, are turned up at an angle so as to form a cutting-blade having a portion of its cutting-edge *h*¹ projecting above the face of scraping-plate *d*, as clearly shown in Figs. 2 and 3, thus forming an effective implement for cutting roots and other like obstructions which may lie in the path of the road-scraper when in the act of use, as well as serving the uses of a shoe. The draft-pole *C*, cross-bar *J*, and the rods *D*, which form the draft-bail of the pole *C*, are substantially the same as shown and described in the patent granted me March 21, 1871, No. 112,835, except that the rear ends of the rods *D* are secured to the bed of the scraper near its scraping-edge by a bolt, *i*, which passes through a bolt-hole, *h*², of the cutting-blade *h* of the shoes *G*, and so, with the aid of a nut upon said bolt, a connection is secured between the body of the scraper and its draft-rods *D*. This bolt *i* thus becomes the point of articulation for the body of the scraper when being dumped to discharge a load of earth. To the pole *C* a metal whiffletree pivot-strap, *l*, is secured in the ordinary manner, and which is slotted at *l*¹, as shown, to receive and temporarily retain in place one end of a chain, *m*, while the opposite end of the chain is permanently secured to a clevis, *n*. This clevis is secured to a lever, *F*, by a bolt, *i*², loosely passed through it in such manner that the lever may articulate upon the bolt, and the lower end of the lever *F* being formed with bifurcations receives in its bifurcated end a lug or ear, *p*, to which it is secured by a bolt, as at *i*³, these several parts all being sustained by a metal strap, *R*, secured to the back board *b* of the scraper, from which strap *R* the lug or ear *p* projects. By such attachment of the

lever F it may readily be thrown into the positions shown in Figs. 1, 2, and 3, as occasion may require. By the use of the chain *m* the scraper-bed may be made to assume any angle at which it may be desirable to have the scraper-blade *d* enter the ground. This chain, it will be seen, affords a flexible connection between the draft-pole C, and the rear elevated part of the scraper-bed, and will sustain such bed in an inclined position, either with or without a load upon it without the aid of an attendant, while it will also allow an attendant to raise the rear part of the scraper-bed at pleasure, or dump it when desired.

In Fig. 1 I have shown the road-scraper with the lever F thrown down, so as to bring the pivotal connection or bolt *i*² below the pivotal connection or bolt *i*³, in which position of the lever the chain *m* between its attachment to the whiffletree pivot-strap *l* and the clevis *n* is adjusted to just the proper length to give the angle at which the scraper-blade *d* is desired to enter the ground, and perform the work of scraping up the earth. When the scraper has become loaded, as signified in Fig. 2, the attendant, by throwing the lever F upward into the position shown in this figure, practically lengthens the chain *m* between its forward point of attachment at *l* and the back board *b* of the scraper, and thus allows the weight of the gathered load to depress the rear of the scraper, so as to throw the blade *d* out of the ground, and cause the scraper to rest upon the shoe G, in which position the scraper, with its contents, can be

drawn to the locality where the load is to be dumped.

Fig. 3 shows the scraper dumped, during which act the lever F strikes against the extreme rear end of the pole C, thereby forcing the lever F from its position as shown in Fig. 2, into the position shown in Fig. 1, in which latter position the lever F becomes locked in the proper condition for the scraper to resume work after the body of the scraper has been reversed from the dumped position shown in Fig. 3 to the working position shown in Fig. 1. The lever F thus becomes an automatic locking-lever during the act of dumping to cause the scraper to assume the same working position for a subsequent load which it maintained during the act of gathering a previous load of earth.

What I claim is—

1. The lever F, in combination with the chain *m*, whereby the gathered load of earth may be allowed to depress the rear of the scraper, and throw the working-blade *d* out of the ground, substantially as described.
2. A root-cutter, *h*, in combination with the scraping-blade *d*, substantially as and for the purpose described.

Witness my hand in the matter of my application for a patent on a road-scraper and ditcher.

WILLIAM T. NICHOLS.

Witnesses:

C. A. GROW,
A. H. SMITH.