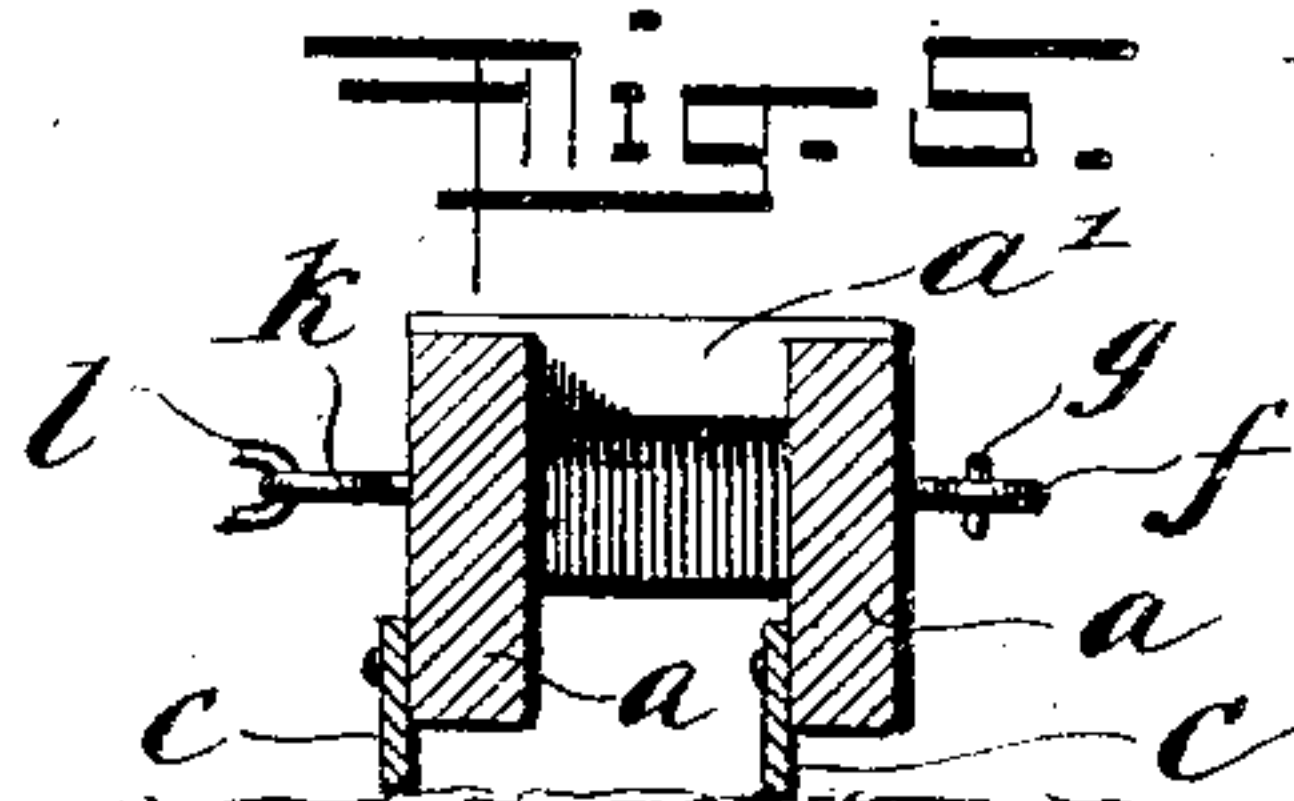
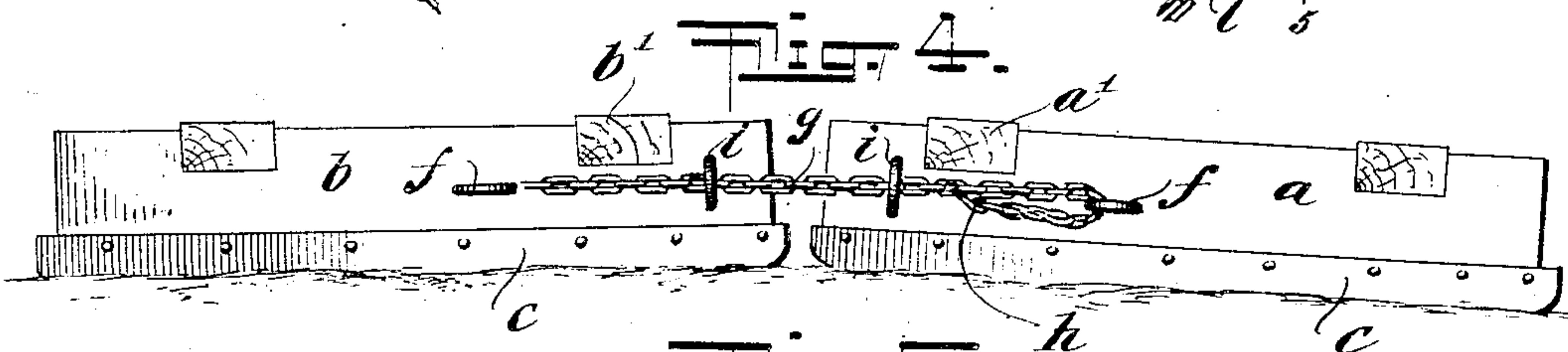
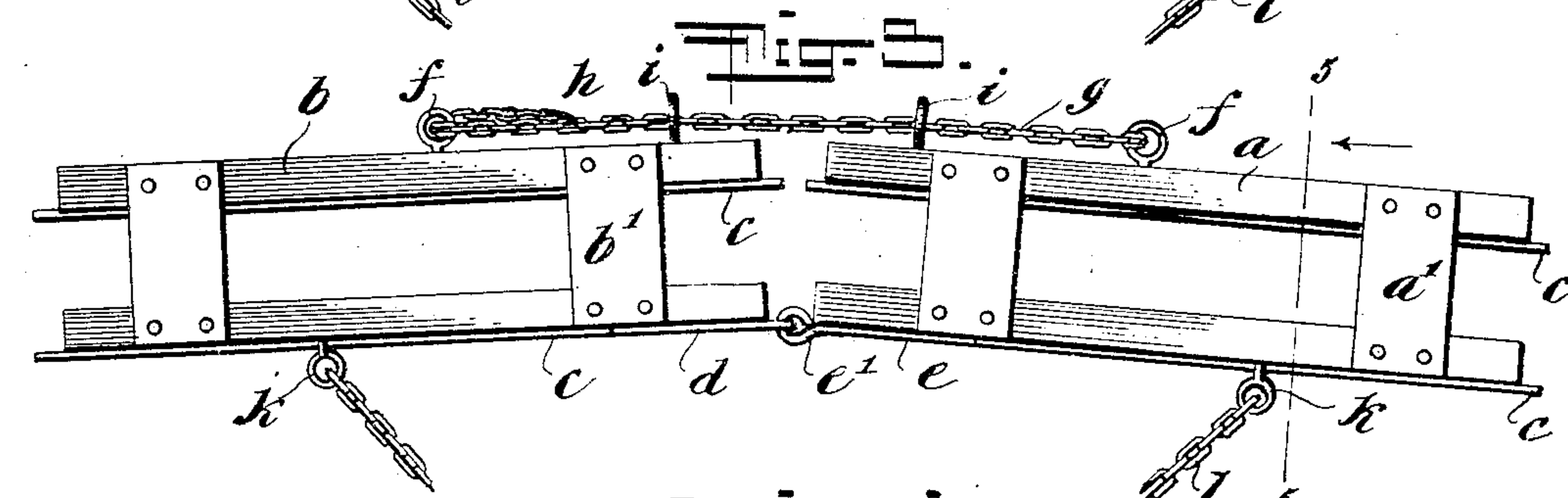
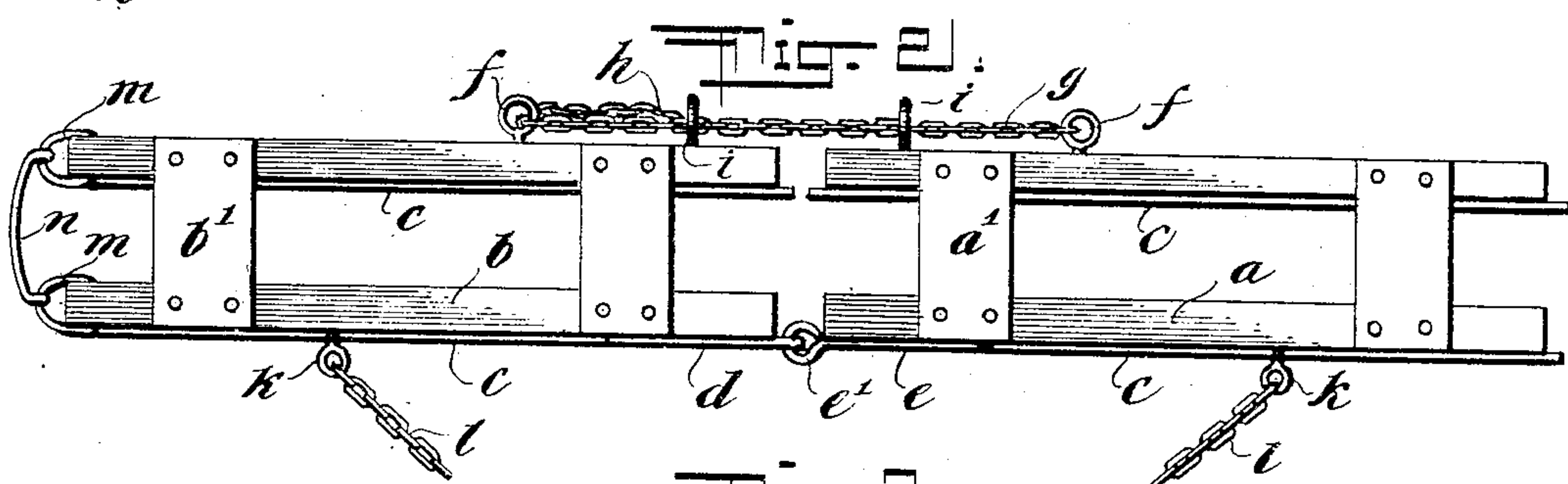
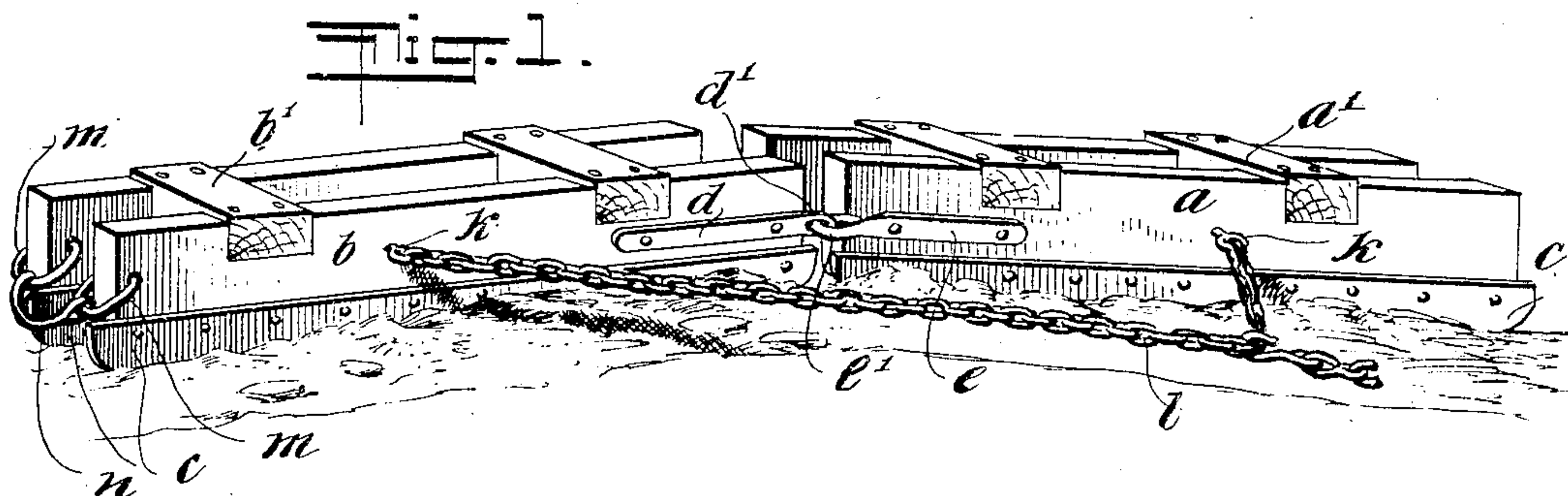


No. 786,108.

PATENTED MAR. 28, 1905.

J. FORCE.
ROAD SMOOTHER.
APPLICATION FILED JULY 30, 1904.



WITNESSES:
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UNITED STATES PATENT OFFICE.

JEFFERSON FORCE, OF CRAIG, NEBRASKA.

ROAD-SMOOTHER.

SPECIFICATION forming part of Letters Patent No. 786,108, dated March 28, 1905.

Application filed July 30, 1904 Serial No. 218,850.

To all whom it may concern:

Be it known that I, JEFFERSON FORCE, a citizen of the United States, and a resident of Craig, in the county of Burt and State of Nebraska, have invented a new and Improved Road-Smoother, of which the following is a full, clear, and exact description.

My invention relates to a device for smoothing roads and leveling grades and the like.

The principal object of my invention is to provide a device of the character described with means whereby it may be adjusted to furnish any desired angle between the parts, so that the road may be scraped on both sides of the grade, no matter at what angle the grade may be run from the center.

Further objects are to provide means for adjusting the device so as to set the scrapers at different angles to each other in a horizontal plane, to provide for the convenient attachment of the draft-animals to secure efficient operation of the device, and also for attaching the draft-animals in a convenient way for drawing the device over the ground without operating it as a scraper and without using the amount of power which has to be employed in such a case.

While I illustrate and describe a form of my invention which is especially designed for attachment of draft-animals, it will be understood that the device, with the exception of the parts designed for this purpose, may be applied to a self-propelled scraper and may be drawn over the surface of the ground in any desired manner.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view showing a preferred embodiment of my invention. Fig. 2 is a plan view thereof. Fig. 3 is a plan view showing the parts in an angularly-adjusted position. Fig. 4 is a side elevation, and Fig. 5 is a sectional view on the line 5 5 of Fig. 3.

The embodiment of my invention which is shown in the drawings comprises two frames *a* and *b*. Each of these frames is provided with side pieces, as shown, and with cross-plates *a'* and *b'* for holding the side pieces together.

On the front surface of each side piece is arranged a blade *c*, which when the device is drawn along as indicated in Fig. 1 serve as scrapers for leveling the surface of the road or other land to which the device may be applied. The two frames are pivotally connected together by means of a bar *d*, having an eye *d'*, and a bar *e*, having an eye *e'*, one of these bars being secured to a side piece of one of the frames, near the end thereof, and the other being secured in a similar manner to the other frame and the eyes engaging with each other. It will be obvious that with this construction, in which one of the eyes is vertical and the other horizontal, the two frames may be arranged at any desired angle to each other, either vertically or horizontally, as shown in Figs. 3 and 4.

For the purpose of securing and adjusting the frames in respect to each other at any angle at which they may be set two eyes *f* are secured one to each frame. These eyes are connected together by a chain *g*, which is secured at one end to one eye and is passed through the other and which has a hook *h* for the purpose of adjusting the length of the chain by securing the hook in any desired link thereof. Guiding-eyes *i i* are also preferably employed for the chain. For the purpose of securing the draft-animals to the scraper a second pair of eyes *k* is mounted upon the opposite sides of the two frames, and a chain *l* is secured to these eyes. The draft-animals are then connected with the chain in any desired manner, and it will be obvious that the device may be drawn along the ground, scraping the surface thereof and smoothing it at any desired angle, according to the grade of the road to which it is applied.

When it is desired to transport the device from one place to another without performing any scraping operation, the blades *c* are intended to serve as runners. They are parallel with each other, and those on one frame are practically a continuation of those on the other, and they are provided with rounded ends, as shown in Figs. 1 and 4. The device may be drawn along longitudinally by means of eyes *m* and a bar *n*, secured to the eyes and designed for attachment of a draft-animal.

The eyes *m* are mounted upon the outer end of one of the frames—as, for example, the frame *b*. The parts *l* and *n* serve as draft devices.

5 It will be readily seen that by attaching a horse to the bar *n* the device may be drawn along the ground on the runners *c* without the expenditure of a great deal of power, and the frame *a* will follow behind the frame *b*, the
10 chain *g* being adjusted to the proper length.

Although I have described and illustrated a preferred embodiment of my invention, it will be obvious that many modifications may be made therein without departing from the
15 spirit of the invention.

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

1. A road-smoother, comprising a pair of frames detachably connected together end to
20 end at one point, having an adjustable connection with each other at another point, and adapted to assume a position in tandem, or at a slight angle to each other.

2. The combination of a pair of frames each
25 having longitudinal scraping-blades or runners, and means for holding said frames end to end in a straight line or at any desired angle to each other.

3. The combination of a pair of frames each
30 having parallel longitudinal scraping-blades or runners secured to its lower surface, a universal joint for connecting them together, and means for holding said frames end to end at any desired angle to each other.

35 4. The combination of a pair of frames each having longitudinal scraping-blades or runners, and means for holding said frames end to end in a straight line or at any desired angle to each other, said means comprising a piv-
40 otal connection with the frames at one side

thereof and an adjustable connection at the other side.

5. The combination of a pair of frames each having longitudinal scraping-blades or run-
ners, and means for holding said frames end 45 to end in a straight line or at any desired angle to each other, said means comprising a pivotal connection between adjacent ends of the frames at one side but near the same end, an eye on each frame at the other side, a chain 50 connecting said eyes, and means for adjusting the length of the chain between the eyes.

6. A device of the class described, comprising a plurality of frames having blades on their bottoms arranged in tandem and having 55 a draft device secured to the side thereof, and another draft device secured to the end of one of the sections.

7. A device of the class described, comprising a plurality of frames having parallel blades 60 upon their lower surfaces arranged in tandem, and having a draft-chain secured to one side of each of the frames, another draft device secured at the front end of one of the frames, and means for adjustably securing said frames 65 together.

8. A scraper comprising a frame having a pair of blades projecting downwardly from the bottom thereof, fixed in parallel position and adapted to serve as scrapers when the 70 frame is drawn sidewise and as runners when it is drawn lengthwise.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JEFFERSON FORCE.

Witnesses:

J. J. BENNETT,

A. L. MCPHERSON.