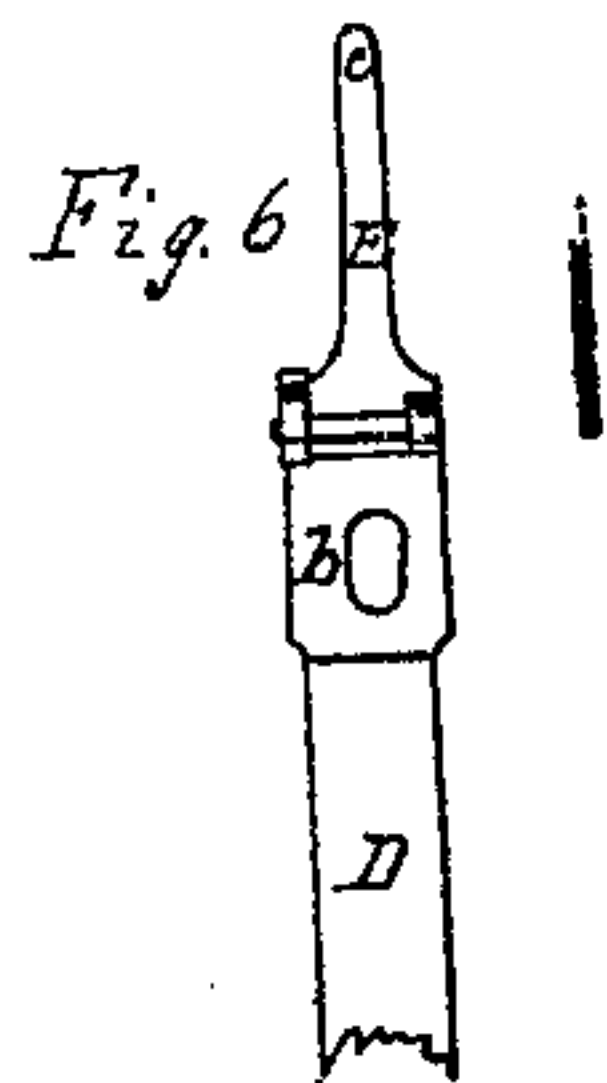
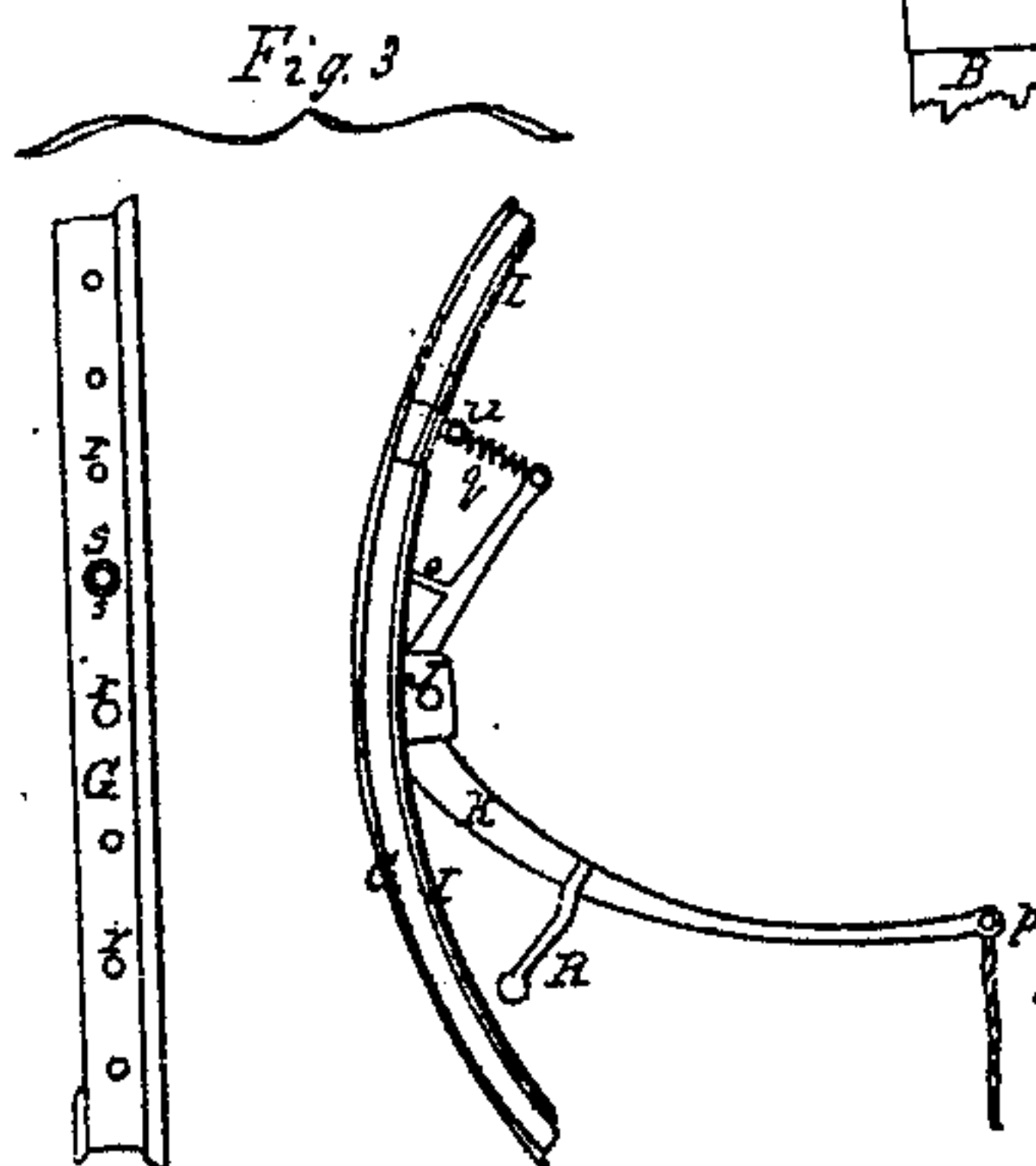
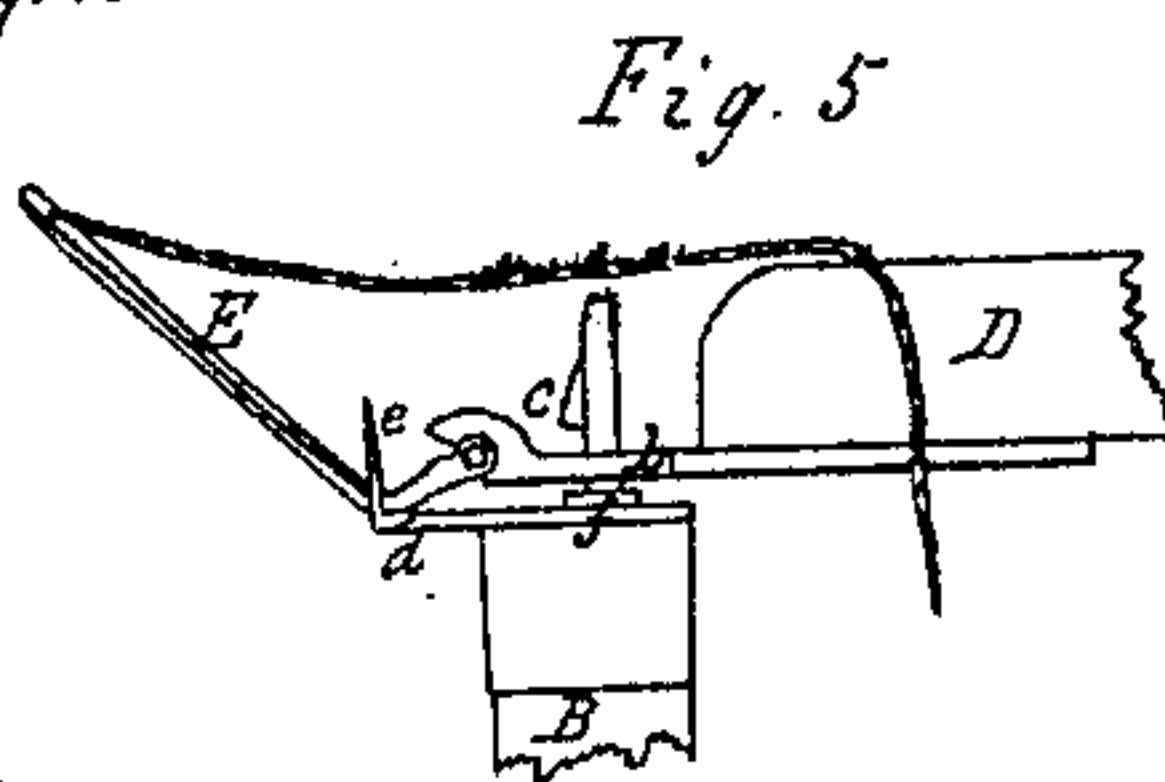
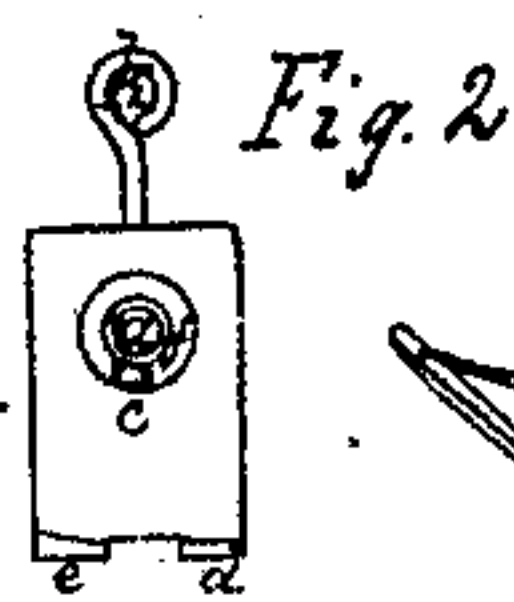
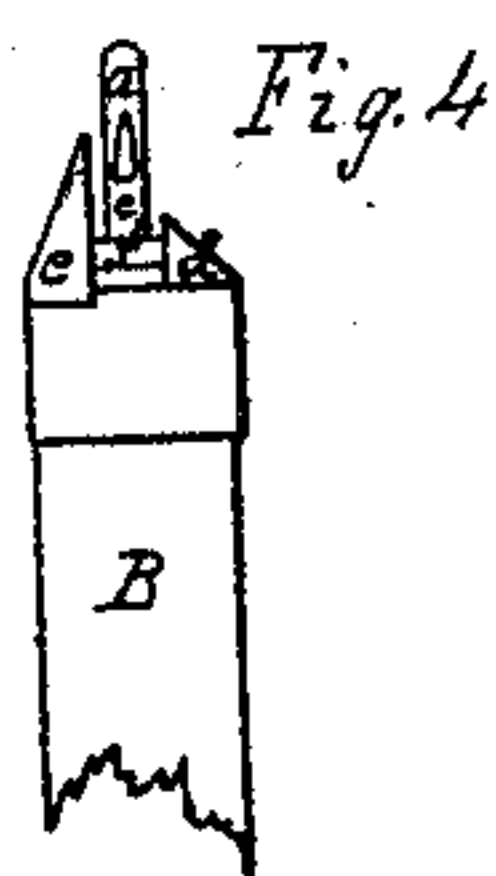
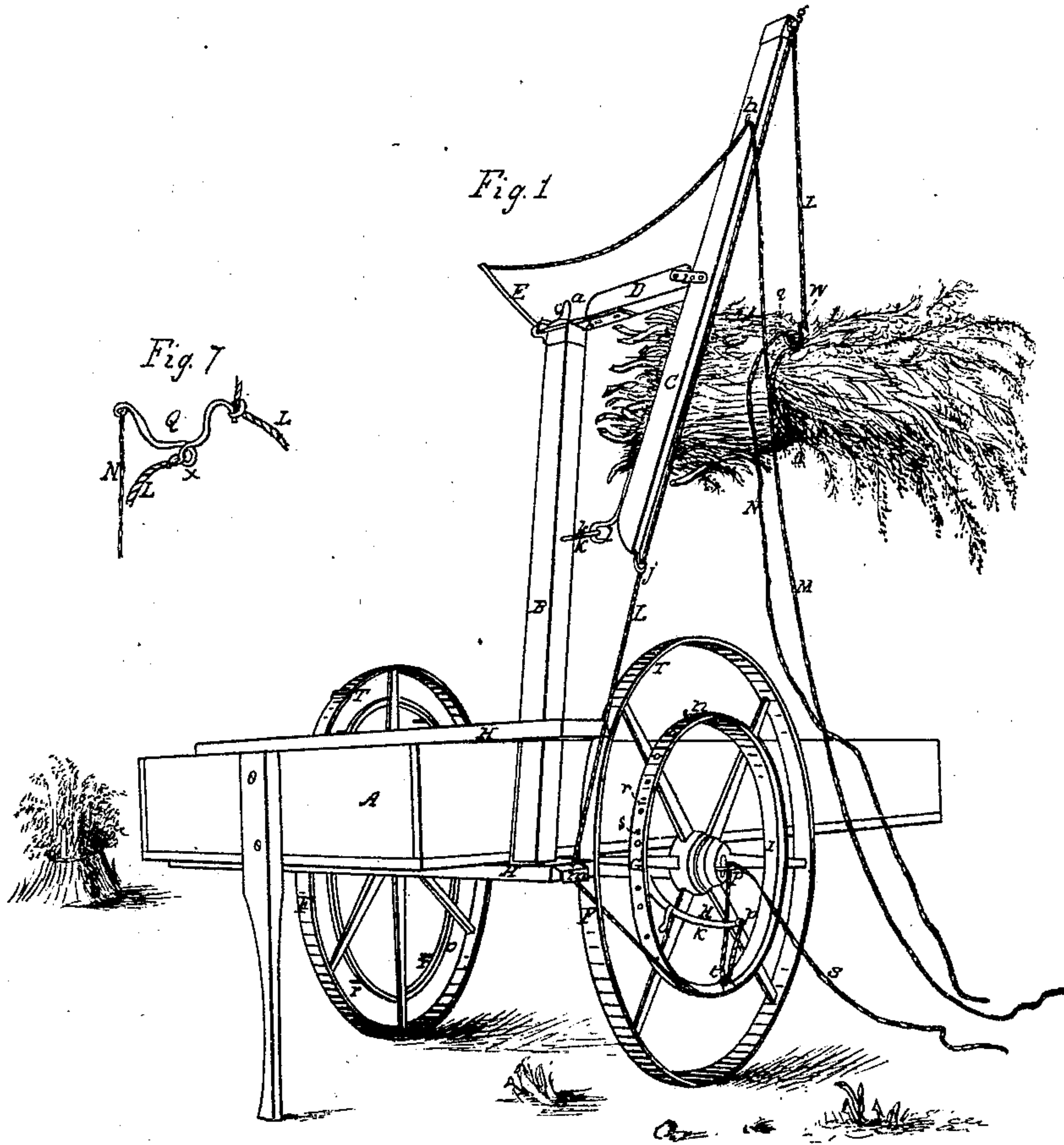


A. W. Lozier.

Hay Loader.

Nº 91242

Patented Jun. 15, 1869.



Witnesses

Laing
Edward C. Osborn.

Inventor

A. M. Logier

United States Patent Office.

ABRAHAM W. LOZIER, OF NEW YORK, N. Y.

Letters Patent No. 91,242, dated June 15, 1869.

IMPROVEMENT IN HAY-LOADERS.

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, ABRAHAM W. LOZIER, of the city, county, and State of New York, have invented certain new and useful Improvements in Machines for Loading Hay, Grain, and other products; and I do hereby declare the following to be a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of the apparatus attached to a carriage.

Figures 2 to 7, inclusive, show parts in detail.

Similar letters of reference indicate like parts in the several drawings.

This invention is designed as an improvement upon the loading-machine patented to me on the 1st day of December, 1868, No. 84,560; and

It consists—

First, in the combination, with the inclined derrick, of a perforated drum-wheel, for raising and delivering the load upon the carriage.

Second, in a novel combination and arrangement of parts for securing the arm of the crane to the inclined standard, and for tripping the arm, so that it may swing automatically, with its load, at the proper time, to deposit the same on the carriage.

Third, in the combination, with the drum-wheel, of a brake and stop, for operating and controlling the hoisting-mechanism.

Fourth, in a novel means for operating the brake.

Fifth, in a novel combination and arrangement of parts for grasping and releasing the grain or other produce to be loaded.

To enable others skilled in the art to construct and use my invention, I will describe its construction and operation.

To the body of the carriage A is bolted the frame H H, which supports the derrick, the ends of the frame being mortised, to receive and hold the end of the inclined standard B in a rigid manner.

The swinging arm C is attached to the standard by a link, D, hook *l*, and eye *k*.

The plate *b*, to which the link D is secured, is slotted, to fit on the pin *a*, upon which it turns as a pivot.

The plate, when in position, rests on the circular plate *f*, and is prevented from being raised off the pin *a*, while the crane is turning, by the projection, *c*, on the side of the pin.

The tripping-lever E, hinged to the plate *b*, drops between the stops *d e*, and holds the arm C in position to receive its load.

The construction of these parts is plainly shown in the detail views, figs. 2, 4, 5, and 6.

The hoist-rope L passes through the pulleys *g j*, around a snatch-block or pulley, *m'*, secured on the frame H, and is furnished with a hook at one end, to attach it to an eye on the drum G

The drum-wheel is formed of an inner flange, I, secured to the spokes of the wheel F, and an outer rim or sleeve, G, surrounding the inner flange, and turning freely upon it.

The outer edge of this rim is turned up, to prevent the rope from slipping off, and its periphery is pierced with a series of holes, *r r*, in which the pin *o*, of the brake-lever K, catches.

These holes are intended to be surrounded with a raised rim, *s s*, figs. 1 and 3, to prevent the rope, in being wound on the drum, from forcing the pin *o* out of the hole.

The lever K, which controls the movements of the drum, is pivoted to the inner flange, I, at J, and to it are secured the brake R and pin *o*.

This lever is operated by the rope S, attached to the eye *p*, which passes through the pulley *t*, on the inner rim, I, of the drum, and through the swivel, P, on the hub of the wheel.

A spring, *q*, attached to an eye, *u*, on the inner rim, I, and to the shorter end of the lever K, keeps the pin *o* in place in the holes of the rims I G.

The device shown in fig. 7 is designed to be attached to the rope L, when the grain, &c., to be elevated can be formed into sheaves or bundles. It consists of a rod, Q, bent in the form shown in the drawing, to which the end of the rope L is secured, at the eye, *x*, formed in the centre.

One end of the rod is formed into an eye, to which the tripping-rope N is attached, while the other end is bent in the shape of a hook, to catch into the ring *w*, surrounding and sliding on the rope L, the whole forming a curved lever, having its fulcrum at the eye *x*.

When the several parts of the mechanism are properly arranged and attached to the carriage, the apparatus operates as follows:

The rope L is slipped around the sheaf or bundle of grain to be raised, and formed into a noose by inserting the curved end of the lever-hook Q in the ring *w*. The other end of the rope is secured to the eye, *n*, on the drum G, and, on the forward motion of the carriage, the hoist-rope is wound up on the drum, and the load raised from the ground.

When the load has reached the desired height, the further motion of the drum is arrested by the pin *o* being withdrawn from the hole in which it had previously caught, and the brake being held against the rim of the drum G by means of the rope S.

The lever E being raised, by the rope M, above the catch *d*, the arm C swings around, with its load, over the carriage, on which the load drops, when, by means of the rope N, the hook of the tripping-device Q is withdrawn from the ring *w*.

As the arm of the crane is returned to the position to receive another load, the hinged lever E rides over the inclined edge of the catch *d*, and drops into place in the recess between the catches *d e*.

The wheels of the carriage are provided with projections or clevises, T T, in order to obtain the necessary tractive power to hoist the load.

To remove the crane from the standard, the link D is turned into position to allow the plate *b* to be slipped from the pin *a*, and the arm C is then turned down, in order to release it from the eye, *k*, on the standard.

Where it is impracticable, from the nature of the crop, to form it into bundles, a hay-fork of suitable construction may be used with the apparatus, in place of the device shown.

Having thus fully described my invention,
I claim—

1. The combination, with the inclined detachable derrick, of the perforated drum-wheel G and actuating-lever K, for raising and lowering the load upon the carriage, the whole constructed and operating substantially as described.

2. The arrangement and combination of the inclined

shaft B, the crane C, and link D, attached to the spindle *a*, and the tripping-lever E, the whole constructed and operating substantially as described and specified.

3. The combination, with the drum-wheel G, of a brake-lever, K, and stop *o*, for controlling the machine, substantially as described, and for the purposes specified.

4. The combination, with the brake K, of the swivel P, whereby the brake-rope is always kept at the centre of the wheel, substantially as described, and for the purposes specified.

5. The combination and arrangement of the piece Q, hoist-rope L, ring *w*, and tripping-rope N, constructed and operated substantially as described, and for the purposes specified.

A. W. LOZIER.

Witnesses:

C. A. DURGIN,
EDWARD E. OSBORN.