

J. FOWLER, Jr., R. BURTON, D. GREIG & J. HEAD.

Steam-Plow.

No. { 1,908, {
32,912. }

Patented July 23, 1861.

Fig. 3.

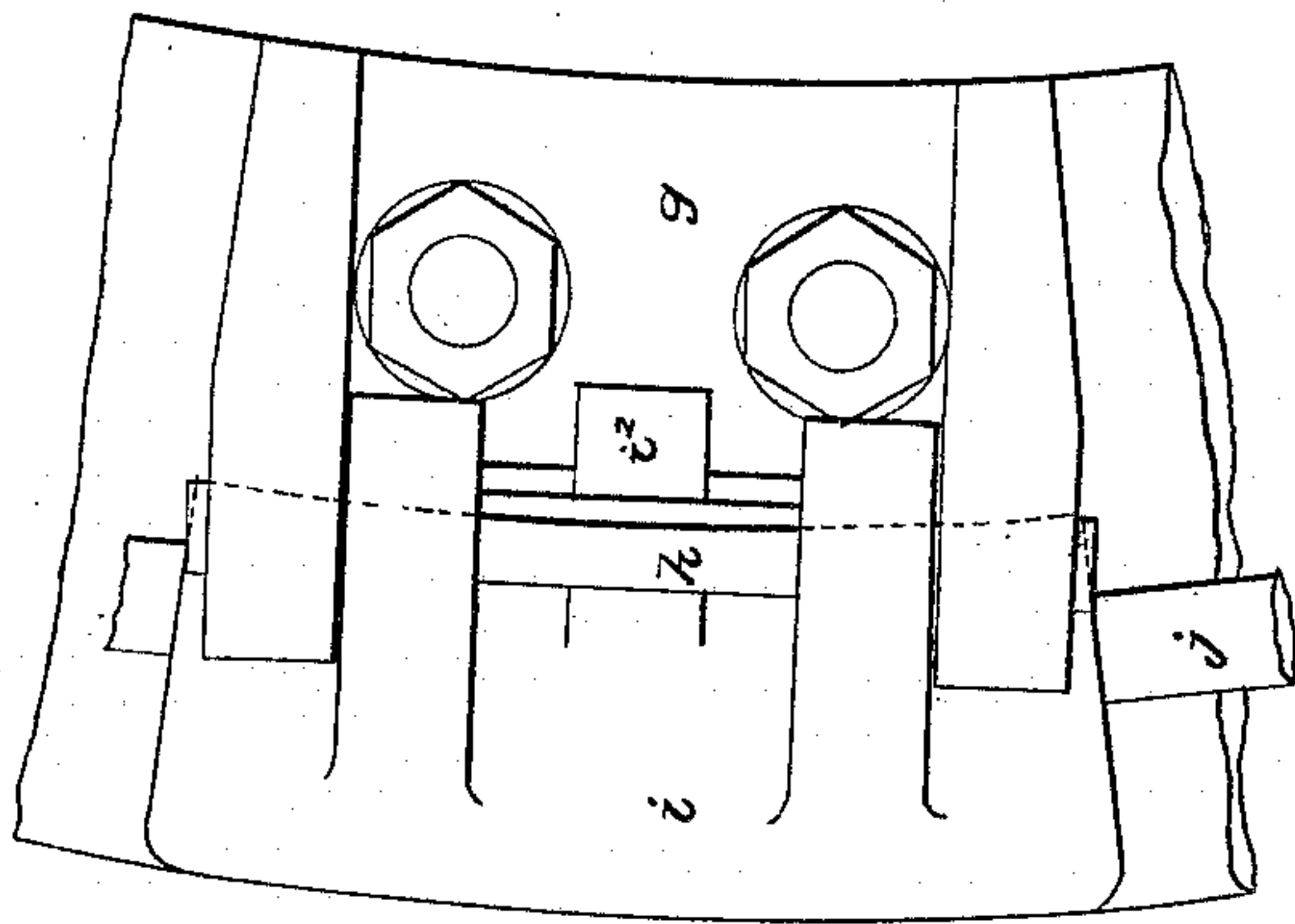


Fig. 4.

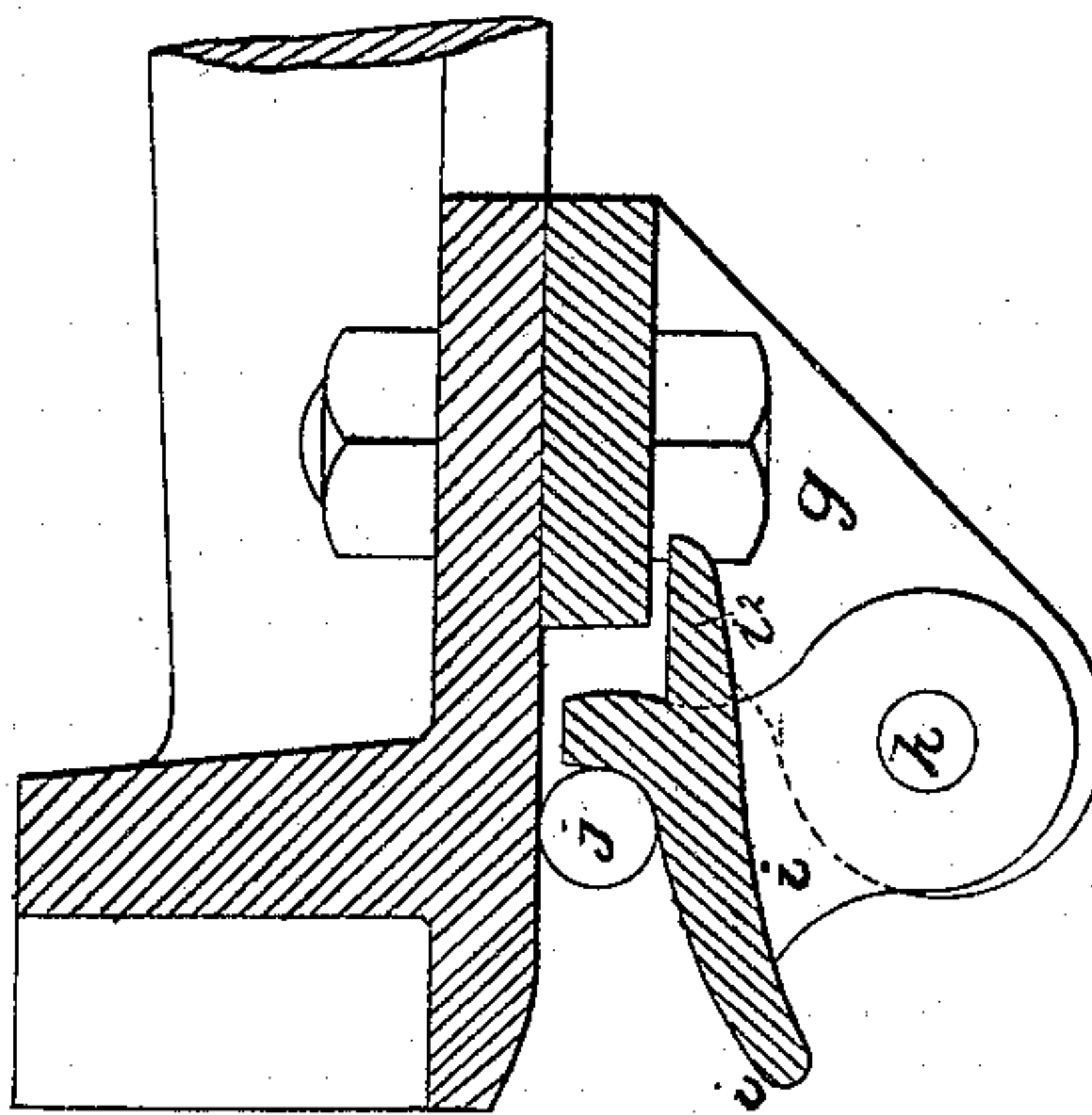


Fig. 2.

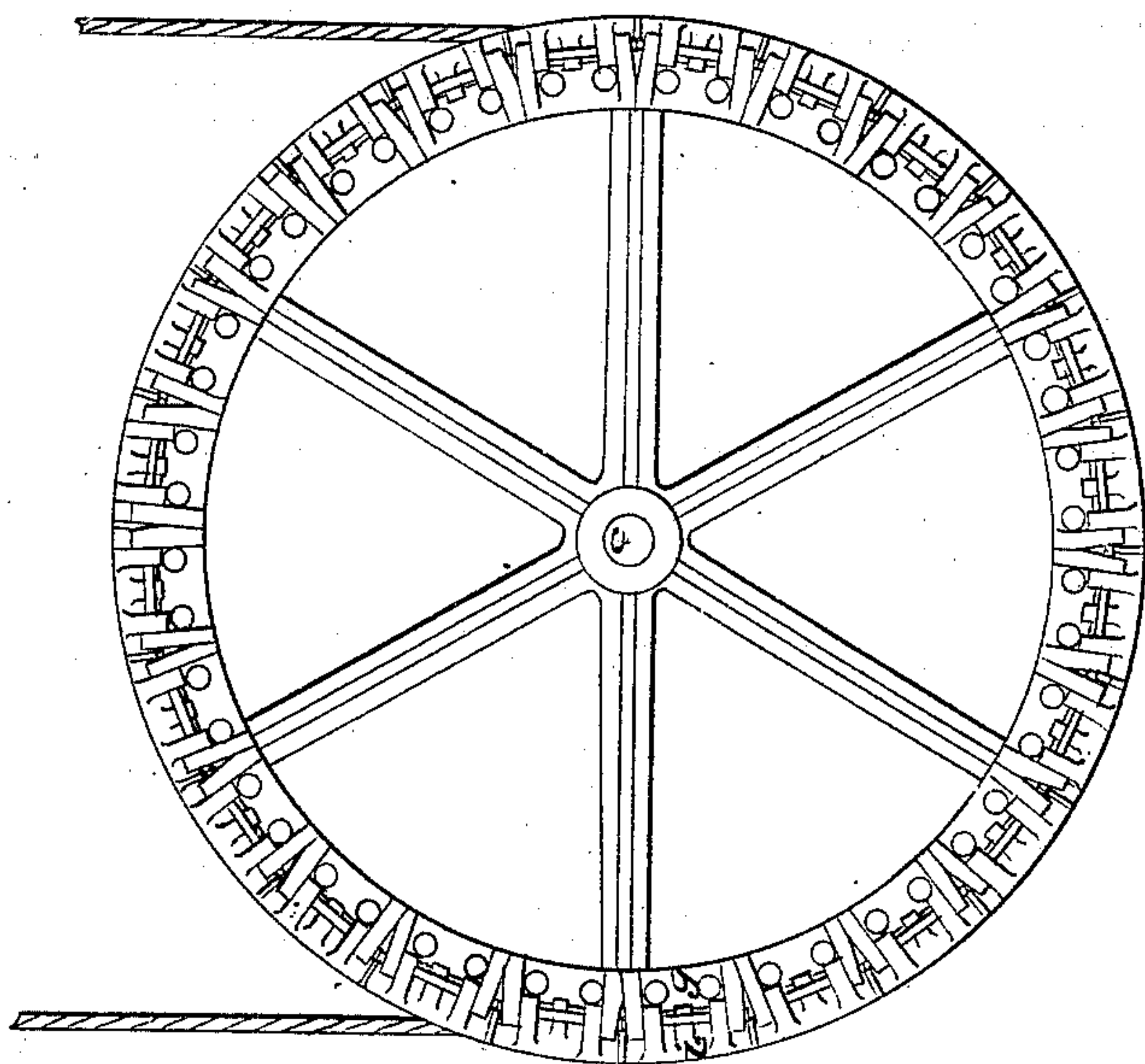
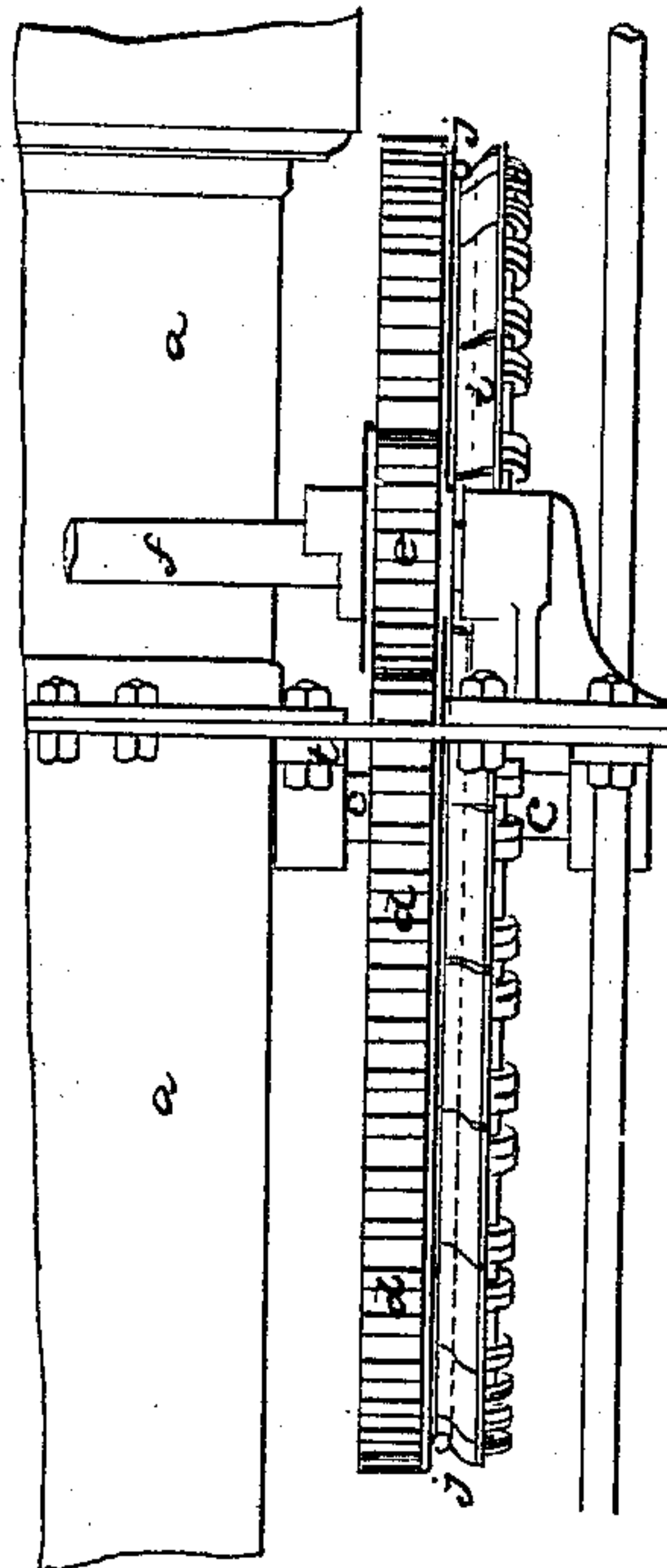


Fig. 1.



Witnesses:

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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN DRUMS OR PULLEYS TO PREVENT ROPES FROM SLIPPING IN MACHINERY FOR PLOWING AND TILLING LAND BY STEAM.

Specification forming part of Letters Patent No. **32,912**, dated July 23, 1861.

To all whom it may concern:

Be it known that we, JOHN FOWLER, Jr., of Cornhill, in the county of Middlesex, England, ROBERT BURTON, of Kingsland, in the county of Middlesex, England, DAVID GREIG, of New Cross, in the county of Kent, England, and JEREMIAH HEAD, of Newcastle-upon-Tyne, in the county of Northumberland, England, have invented a certain new and useful Improvement in Machinery for Plowing and Tilling Land by Steam; and we 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 side view. Fig. 2 is a plan; Fig. 3, a portion of a similar plan, and Fig. 4 a vertical section.

The same letters indicate like parts in all the figures.

Our said invention relates to the well-known method of plowing and tilling land in which the plows or other tilling-instruments are drawn back and forth across a field by steam-power, the engine being caused to shift its position along one edge of the field, and the ropes or equivalents for drawing the plows, &c., pass around suitable pulleys in what is termed an "anchoring apparatus" at the opposite side of the field, and which is also caused to shift its position.

The object of our invention is to employ a hauling or winding drum so constructed as to hold the rope firmly and draw the plows and other implements steadily forward, notwithstanding the rope only passes partially round the said drum.

Our invention consists in mounting on the periphery of the drum a series of levers or instruments turning on centers or axes. These levers or instruments are so placed that as the rope comes up to the drum it rests on the ends of the levers or instruments, and the pressure of the rope tends to cause their ends to move in toward the center of the drum. Immediately beyond the ends of the levers or instruments a flange is formed on the drum, and the axes on which

the levers or instruments turn being nearer the center of the drum than the point at which the rope enters on the drum, the motion of the levers or instruments caused by the strain on the rope, as mentioned, causes the rope to become jammed or nipped between the ends of the said levers or instruments and the flange on the drum, and in this manner a sufficient hold is obtained on the rope.

In the accompanying drawings, Fig. 1 represents a side view of a drum arranged in the manner described, together with a portion of the boiler of an engine on which it is mounted and some of the parts in connection with it.

a is a part of the boiler of the engine; *b*, a frame bolted to it and carrying the vertical axis *c*, on which the ring or plate *d* is mounted. This ring or plate has cog-teeth formed in its periphery, gearing with the pinion *e* on the vertical axis *f*, driven by the engine.

To the under side of the ring or plate *d* a number of small standards, *g*, are fixed, as is shown in Figs. 2, 3, and 4. The standards *g g* each carry a short axis, *h*, on which the lever *i* is mounted. *j* is the hauling-rope.

When the engine is at work the rope *j* lies between the ends of the levers *i* and the flange of the drum or under side of the plate *d*, near its edge. As the drum revolves the strain on the rope presses the ends of the levers or instruments toward the center of the drum, and in this way the rope becomes securely nipped between the flange of the drum and the end of the levers or instruments. The projections *i*² at the backs of the levers prevent the levers falling too low when relieved from the pressure of the rope.

And although we have above described and represented the mode of application of our said invention which we have reduced to practice with success, we do not wish to be understood as limiting our claim of invention to such mode of application, as other and equivalent modes—for instance, mounting two sets of levers or instruments on the hauling or winding drum, so that the rope is nipped between the upper and lower set of levers instead of be-

tween the levers and flange of the drum—may be substituted without deviating from the principle of our said invention.

What we claim as our invention, and desire to secure by Letters Patent, is—

The mounting on a hauling or winding drum a series of levers or instruments on axes or centers in such a manner that the motion of the levers or instruments caused by the strain

or pressure of the rope will nip the rope, substantially as herein described.

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