

(No Model.)

2 Sheets—Sheet 1.

J. L. REUSS.
Wheel Plow.

No. 231,193.

Patented Aug. 17, 1880.

Fig 1.

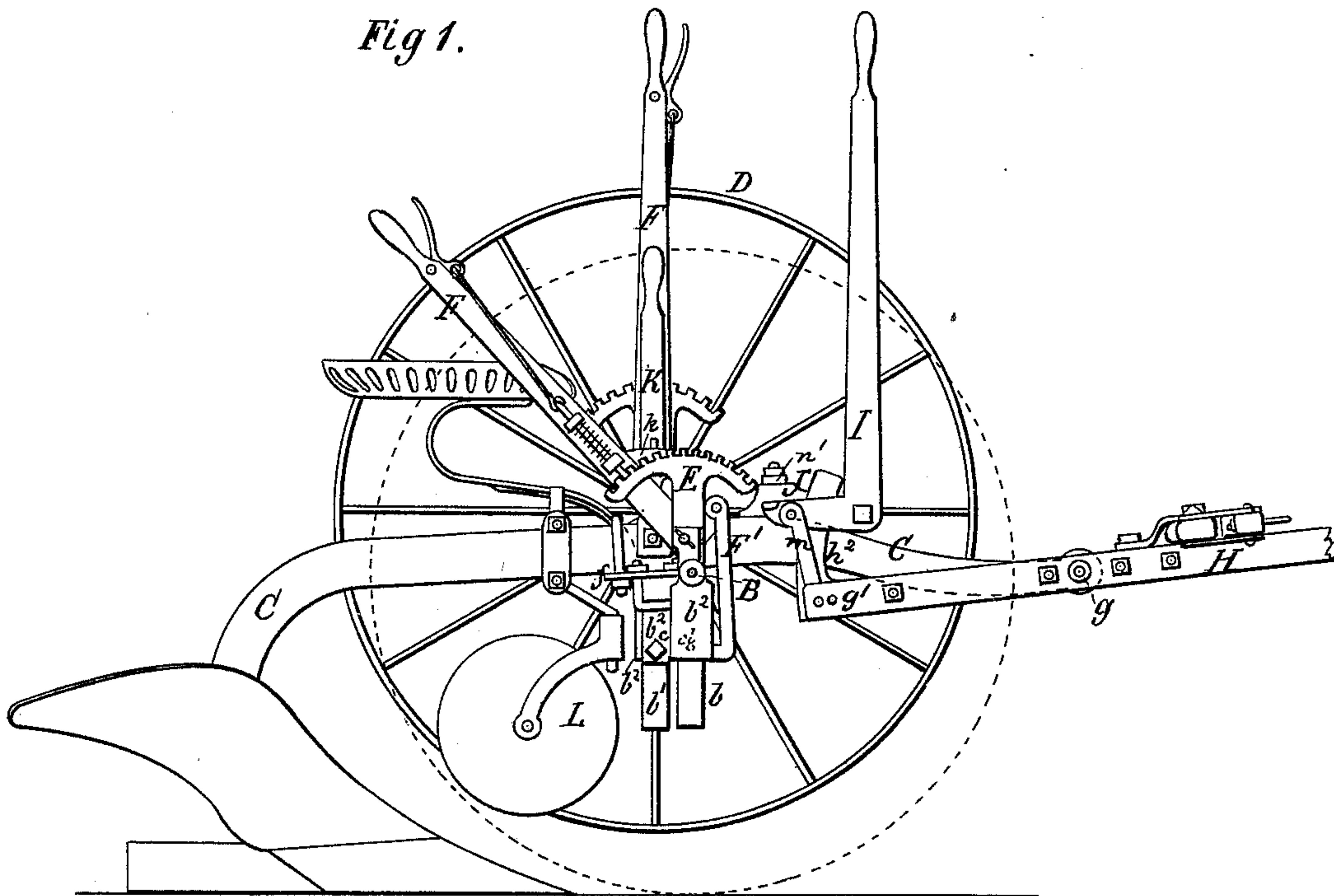
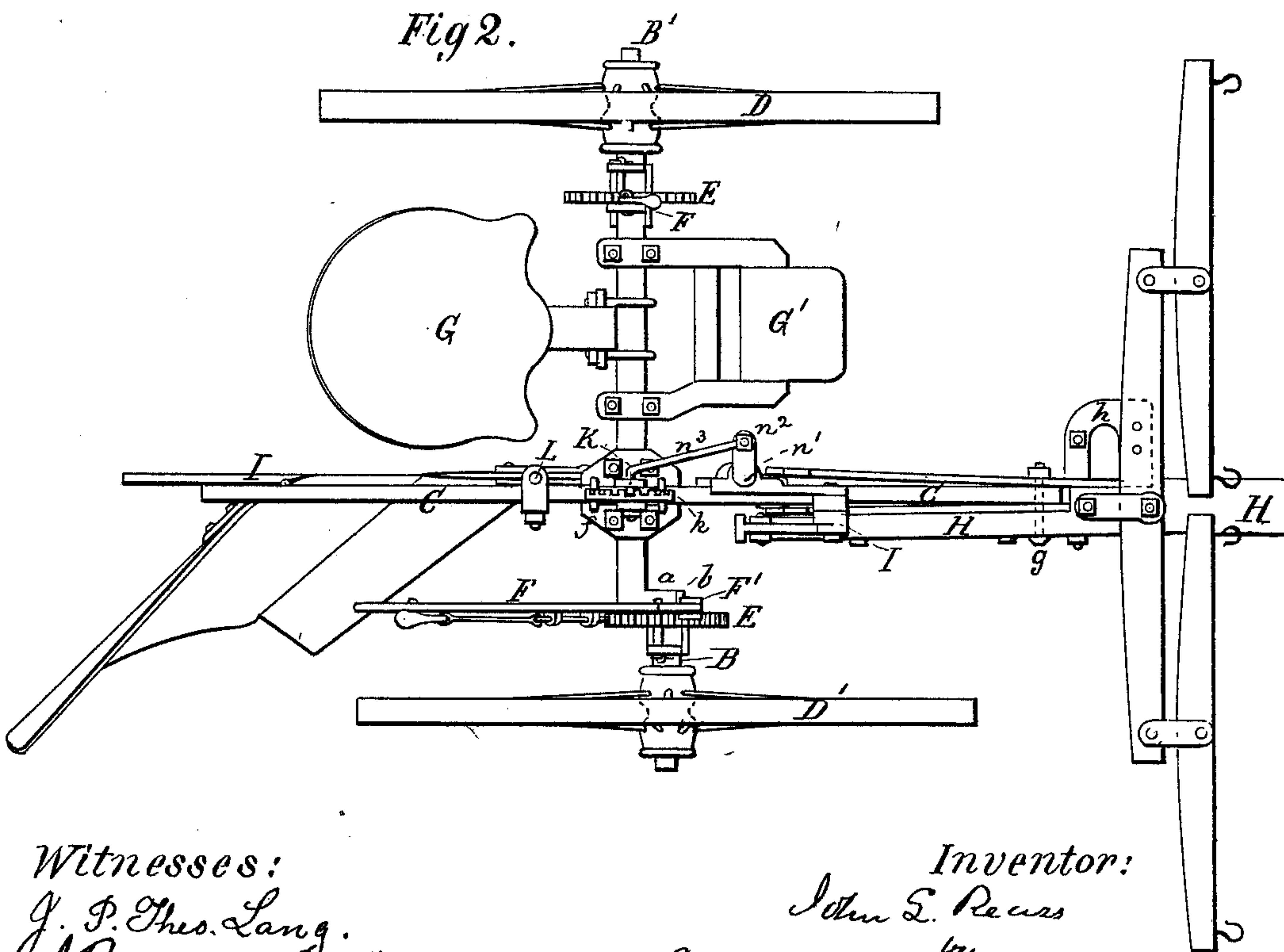


Fig 2.



Witnesses:
J. P. Thos. Lang.
J. Russell Hart

Inventor:
John L. Reuss
by
Reuss, Demick & Lawrence
his atty's

(No Model.)

2 Sheets—Sheet 2

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Fig 3.

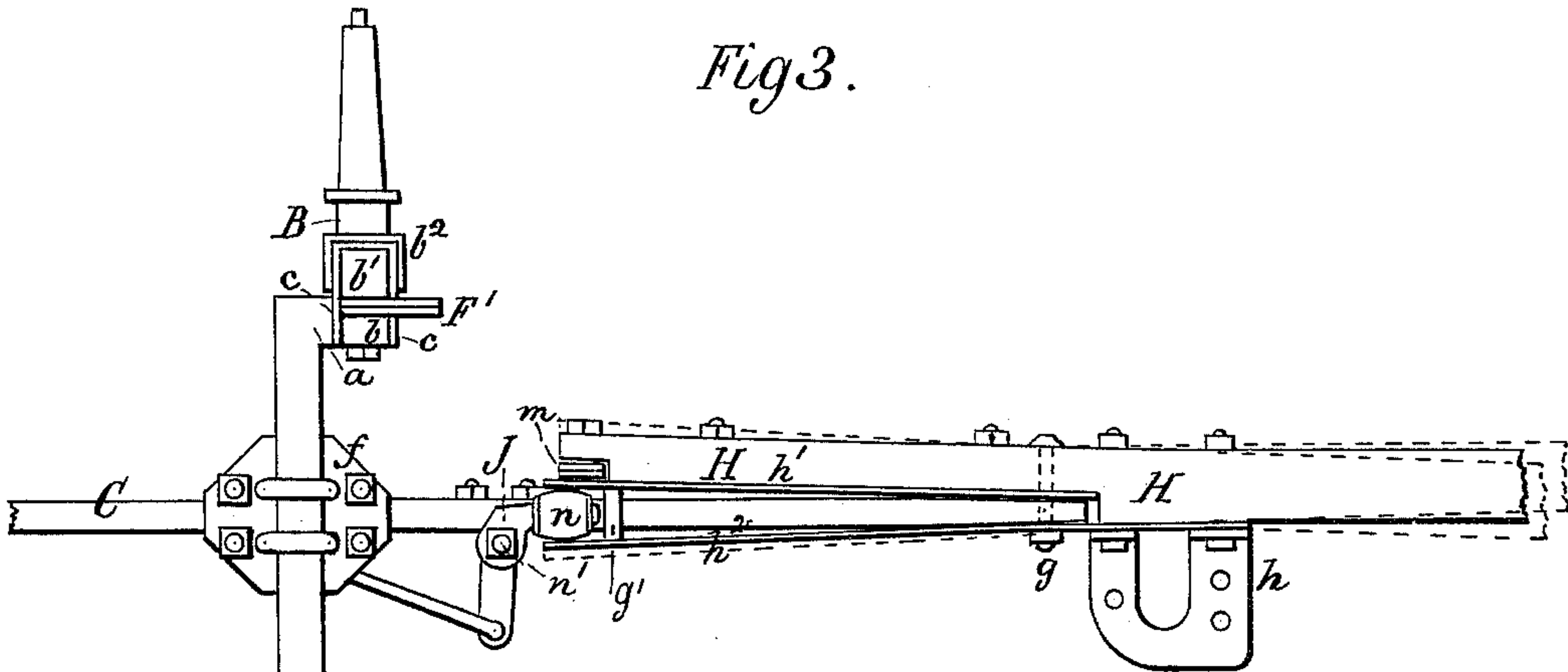


Fig 4.

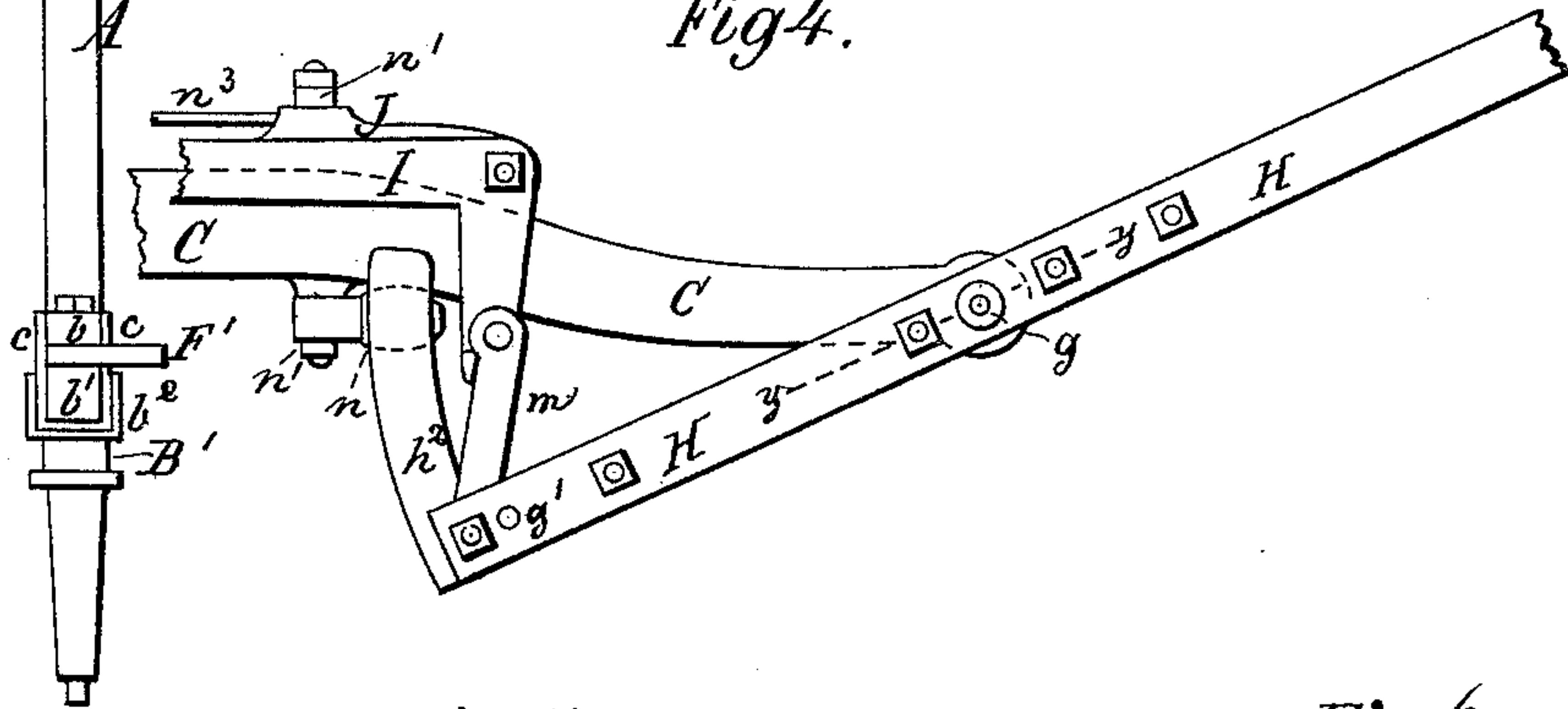


Fig 5.

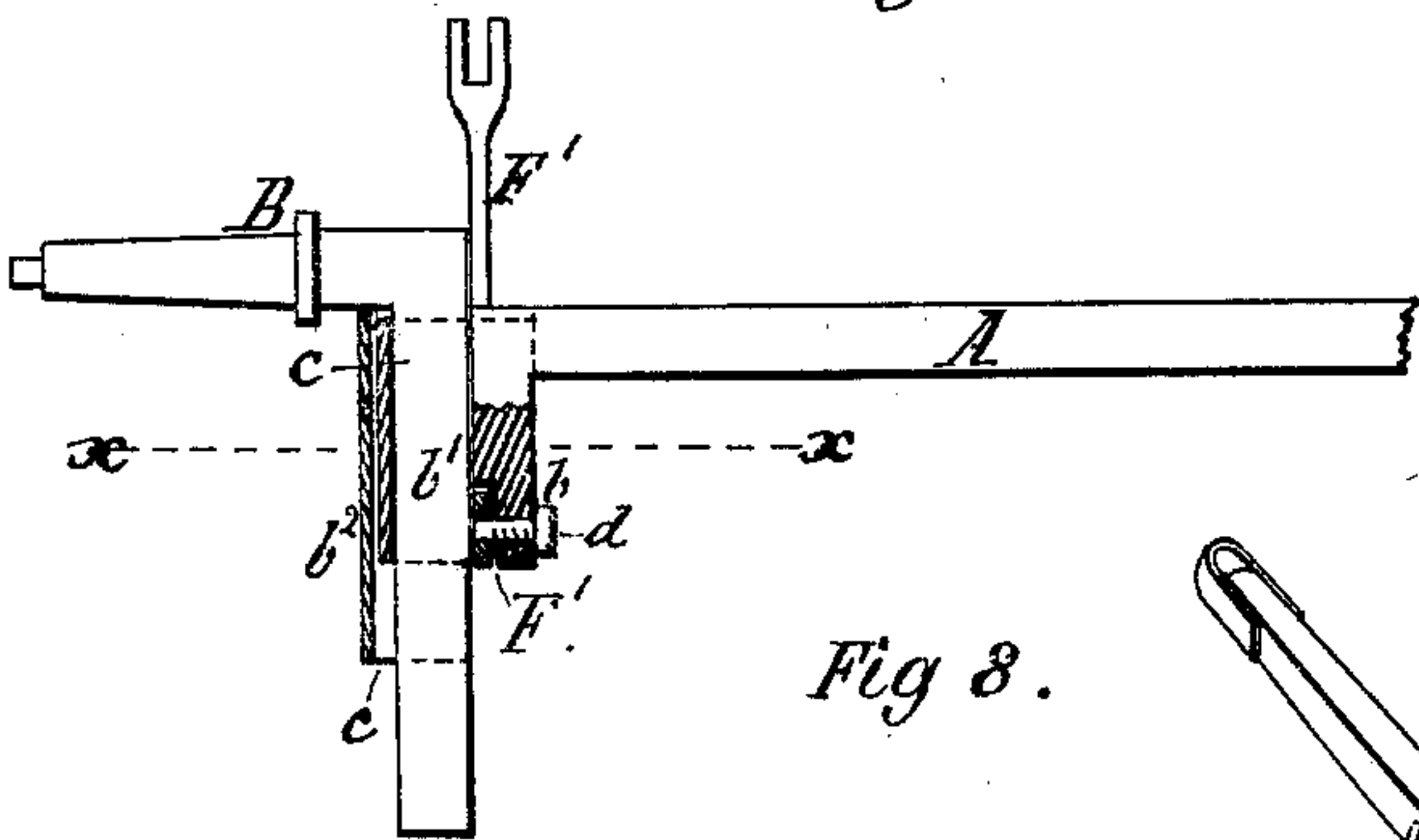


Fig 6.

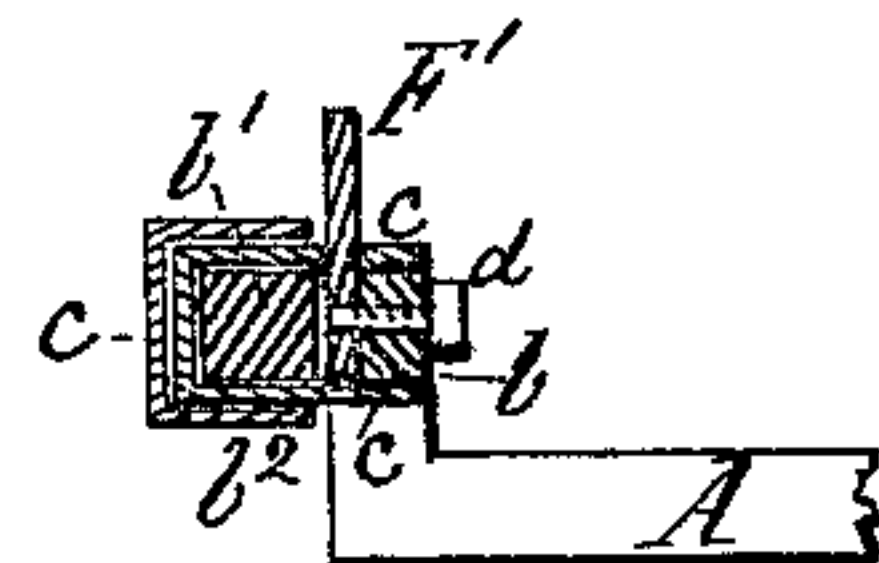


Fig 7.

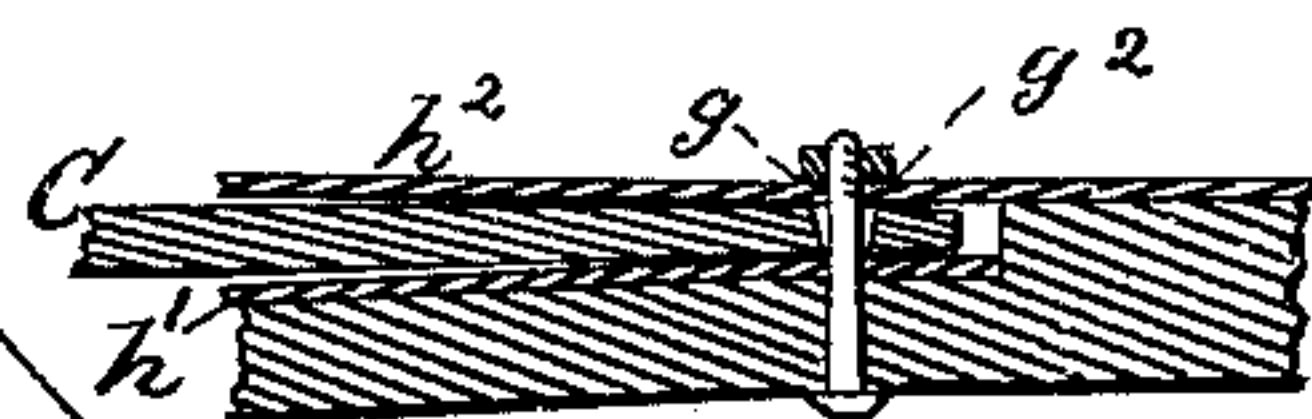


Fig 8.

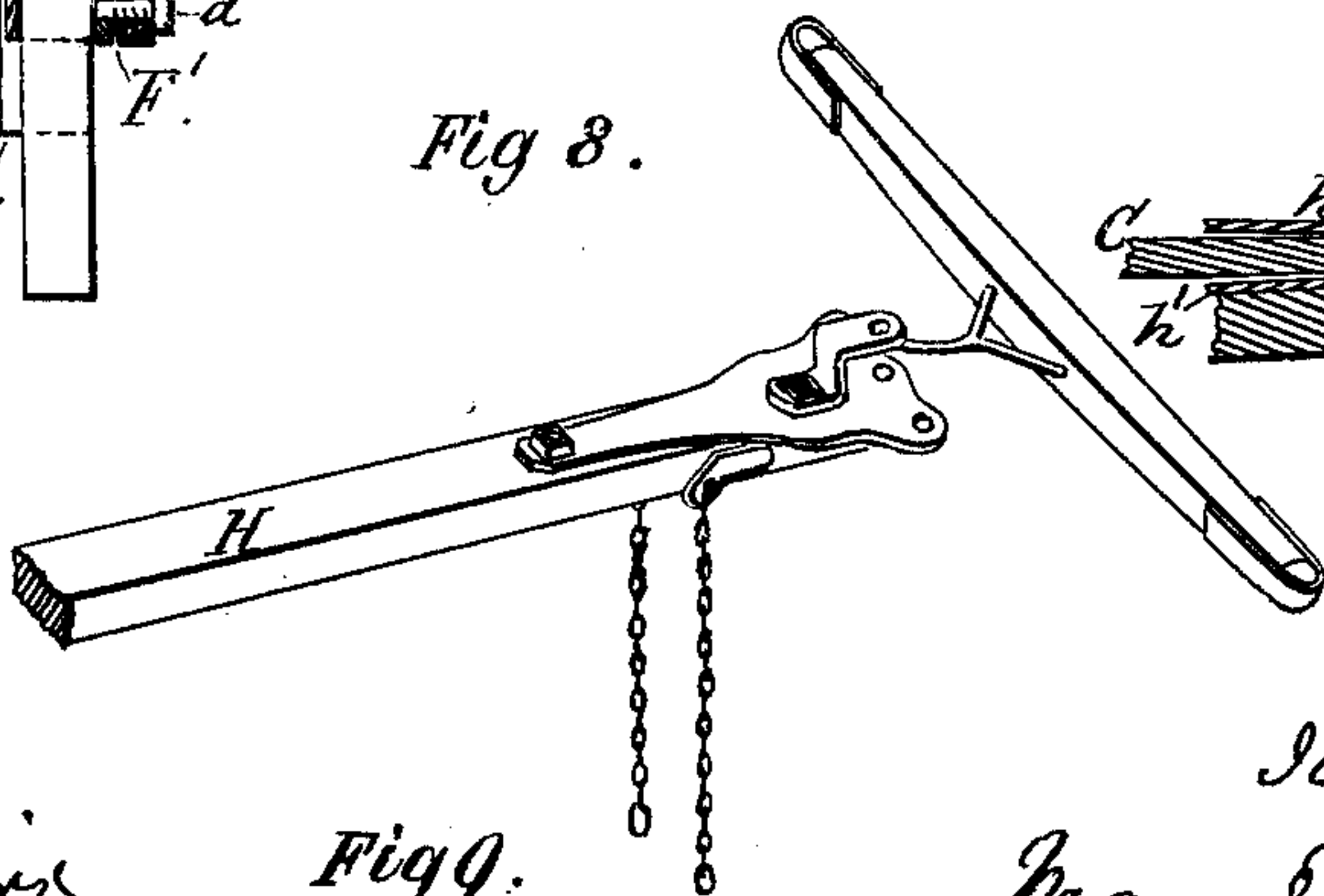
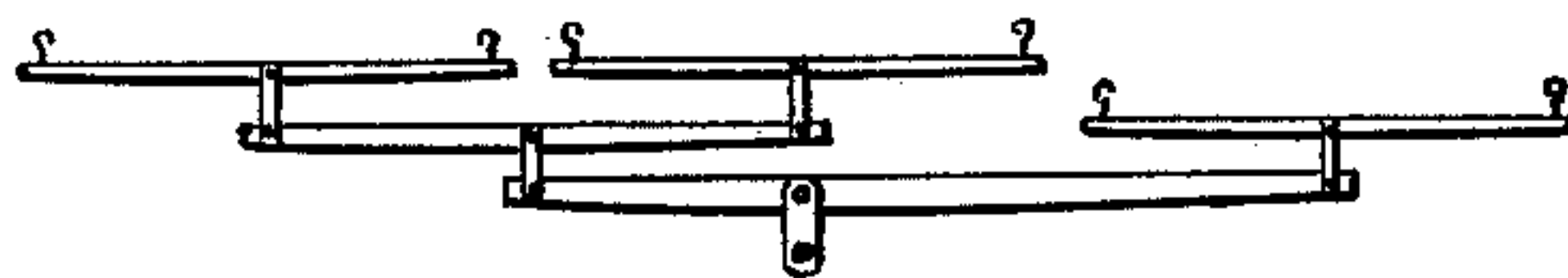


Fig 9.



Witnesses:
J. P. Theo Lang,
J. Russell Parr

Inventor:
John S. Reuss
by Lawrence
his atty's

UNITED STATES PATENT OFFICE.

JOHN L. REUSS, OF CASTROVILLE, TEXAS.

WHEEL-PLOW.

SPECIFICATION forming part of Letters Patent No. 231,193, dated August 17, 1880.

Application filed June 2, 1880. (No model.)

To all whom it may concern:

Be it known that I, JOHN LOUIS REUSS, a citizen of the United States, residing at Castroville, in the county of Medina and State of Texas, have invented a new and useful Improvement in Wheeled Plows, of which the following is a specification.

My invention relates, first, to a means whereby the axle-arms are constructed with an inner and outer guide for bent ends of the axle to move up and down in or against, and whereby elbow-links can be pivoted centrally to the bent ends of the axle and connected to the elbow ends of adjusting-levers which are pivoted to toothed arcs fastened on top of the said bent ends of the axle; second, to a plow-beam rigidly fastened to the axle and extended about half its length forward of the axle, and pivoted to the pole or tongue at a point considerably forward of its rear end, said beam being provided with a pivot-bearing for adjusting devices which are connected with the rear end of the pole or tongue, and the said pole or tongue provided with guide-bars and a stop, whereby the plow-beam is permitted a limited up-and-down movement and is steadied laterally; third, to a vertical crank-shaft having two horizontal arms, one of which carries a roller for acting laterally against the guide-plates of the pole or tongue, and the other being connected to an adjusting device of a segmental stop-plate; and, fourth, to an improved construction of the axle of the wheeled plow, which is attached to the plow-beam.

By the foregoing improvements the plow can be adjusted in a very perfect manner and with very little labor and inconvenience, and the mechanism employed can be made at small cost.

In the accompanying drawings the mechanism which I employ for carrying out my invention is shown, Figure 1 representing a side elevation of a wheeled plow, the furrow-side supporting-wheel having been removed from the axle-arm, and its position indicated by dotted circle; Fig. 2, a top view; Fig. 3, an inverted detail view; Fig. 4, a detail side view; Fig. 5, a vertical detail section of one of the guiding devices of the axle-arms; Fig. 6, a horizontal detail section in the line *xx* of Fig. 5, looking upward. Fig. 7 is a detail horizontal section in the line *yy* of Fig. 4, and Figs. 8 and 9 represent the different well-known draft appliances which are used in connection with the plow.

The same letters of reference in the several figures indicate corresponding parts.

The axle A of the wheeled plow, together with its arms B B', and the beam C of the mold-board, share, and landside-bar, constitute the supporting appliances, there being no other frame-work. The said axle is formed at its right-side end with a right-angle horizontal bend, *a*, and this bent portion *a* is again bent downward, so as to form a vertical leg, *b*.

Each of the legs *b* is inclosed by a square-sided tube, *c*, of greater diameter externally than the leg, but of the same diameter internally, in a direction at right angles to the axle. These tubes are, lengthwise of the axle, of a diameter sufficient to receive into them the vertical legs *b'* of the arms B B' of the axle, and thus act as guides to the arms.

On the arms, outside of the tubes, guiding-sheaths *b²* are provided, and these are of a diameter great enough to receive into them the tubes *c*, and thus act as guides to them.

By this construction a very steady up-and-down movement can be secured, and the axle and its arms are firmly braced, and dirt and clogging matters are prevented from getting into the guides.

It will be noticed that the left-hand end of the axle A is only bent down vertically, and owing to this the landside-wheel D has its axle-arm in rear of and out of line with the wheel D' on the furrow side, and thus the mold-board has freedom to throw over its slice or furrow-sod without obstruction from the supporting-wheel.

The adjusting devices for the arms of the axle consist of the usual arc E, lever F, with locking-bolt, and a link, F', bent in a horizontal direction at its lower end, so as to enter a slot in the tube *c* and be pivoted centrally to the leg *b*, as indicated at *d*. The lever F has its fulcrum-bearing fastened to the top of the axle-arm, and on this bearing the segmental toothed plate or arc E is formed. The fulcrum-pin of the lever is set a little in rear of the center of the axle-arm. The angular bend at the lower end of the link F' and the arrangement of the fulcrum of the lever F insure a very straight or parallel movement of the axle-arms in the guides. Each axle-arm is provided with adjusting devices, same as described. Between the plow-beam C and the lever on the land side of the plow a seat, G, and a foot-stand, G', are fastened upon the axle by ordinary carriage-axle clips.

The plow-beam C is fastened about midway of its length to the axle by a plate, *f*, which is provided with two sets of clip-yokes, one set passing around the beam and the other around the axle. Forward of this plate *f* the plow-beam is pivoted to the tongue or pole H of the plow, as indicated at *g*. The tongue is provided in rear of the draft-plate *h* with two metal guide, stay, and wearing plates of angular form, as indicated at *h'* *h*². These plates are set in and upon the rear end of the tongue, and are placed apart from one another far enough to admit the forward end of the beam C between them, as shown. The upward-bent ends of the plates extend up far enough to permit the beam to descend the requisite distance for throwing the plowshare entirely above ground or out of operation, and still to act as guides and lateral supports to the beam and tongue or pole. On a plane with the pivot *g* a stop-bar, *g'*, is provided between the plates, and by means of this stop the tongue and beam are kept in proper working position—that is, the rear end of the tongue is prevented from rising beyond a proper height. On the right side of the tongue a link, *m*, is pivoted, and the loose end of this link connects with the short arm of an elbow hand-lever, *I*, which is pivoted to a bearing-support, *J*, of the plow-beam. By thus pivoting and guiding the beam, and providing it with the adjusting devices described, the plow can be very easily raised out of operative position, and as readily returned to its working position. The arrangement gives a long leverage forward of the axle A, and the front end of the pole or tongue, together with the supporting-wheels, affords the purchase upon which the adjustments can be made, and while this is so the parts stay and guide one another in a very perfect manner.

In order to have the plow-point work properly toward the landside the tongue is made adjustable laterally, and in order to effect this adjustment the hole *g*² in the forward end of the plow-beam is made flaring and a little larger than the pivot *g*, and the plates *h'* *h*² are set slightly divergent from one another as they run backward.

Beneath the beam C a roller, *n*, is arranged upon a horizontal arm of a vertical crank-shaft, *n'*, said shaft being fitted in a bearing-box of the support *J*, as shown, and being provided with a crank-arm, *n*², at its upper end.

The crank-arm *n*² is connected by a rod, *n*³, to an adjusting hand-lever, *K*, which is pivoted to the plow-beam, and works in connection with a toothed arc, *k*, in the same manner as ordinary adjusting devices.

By releasing the lever from the arc and pressing it forward, the arm of the crank-shaft carrying the roller *n* is caused to press against the right-hand plate *h*², and thereby move the rear end of the tongue to the right and the forward end to the left, as illustrated by the dotted lines in Fig. 3. This lateral movement

is permitted by the flaring shape of the hole *g*², in which the pivot *g* fits.

It will be observed that in Fig. 3 the parts are shown inverted, and therefore the dotted lines are drawn just the reverse of what they would appear when the parts are viewed from the top.

The plates *h'* *h*² are made sufficiently yielding to prevent breakage of the parts under sudden jars, and this yielding property will assist the return of the tongue to its normal position when the pressure of the roller *n* is relaxed.

In rear of the axle a rotary colter, *L*, is applied, being "clipped" upon the beam in the usual manner.

In operating the plow a double-tree with single-trees at either end, or a three-horse evener, may be used in the usual manner at the rear end of the pole; and if greater power is required a single-tree or double-tree may be added, and the same attached to the front end of the tongue or pole, as illustrated in Figs. 8 and 9 of the drawings.

In raising and lowering the arms of the axle the levers *F* are operated from the driver's seat. So also are the levers *I* and *K*, for raising and lowering the plow and adjusting the point thereof to the landside.

The levers *F* are moved forward in raising the arms of the axle and backward in lowering them. The lever *I*, in lowering the plow for plowing, is also moved forward, and it becomes locked in the position shown in Fig. 1; and in adjusting the plow for traveling over the land without plowing the same the lever *I* is moved back and becomes locked, as shown in Fig. 4.

For adjusting the tongue or pole to the left at its forward end the hand-lever *K* is also moved forward and locked in one of the notches of the toothed arc.

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

1. The combination of the bent axle A, arms B B' of the axle, guide *c*, sheath *b*², link *F'*, having angular bend at its lower end, elbow-lever *F*, and segmental rack *E*, all substantially in the manner shown and described.

2. The combination of the tongue H, plow-beam C, rigid to the carriage-axle A, lever *I*, and link *m*, the tongue being pivoted to the plow forward of the axle, and the link *m* to the tongue between the axle A and the pivot *g*, all substantially as and for the purpose herein described.

3. The combination of the double-armed crank-shaft *n'* and its adjusting-lever *K* with the plates *h'* *h*² and the pole or tongue H, pivoted, as at *g* *g*², to the rigid forwardly-extended end of the plow-beam C, substantially as and for the purpose described.

Witnesses: JOHN LOUIS REUSS.

A. GEYER,
T. D. REUSS.