

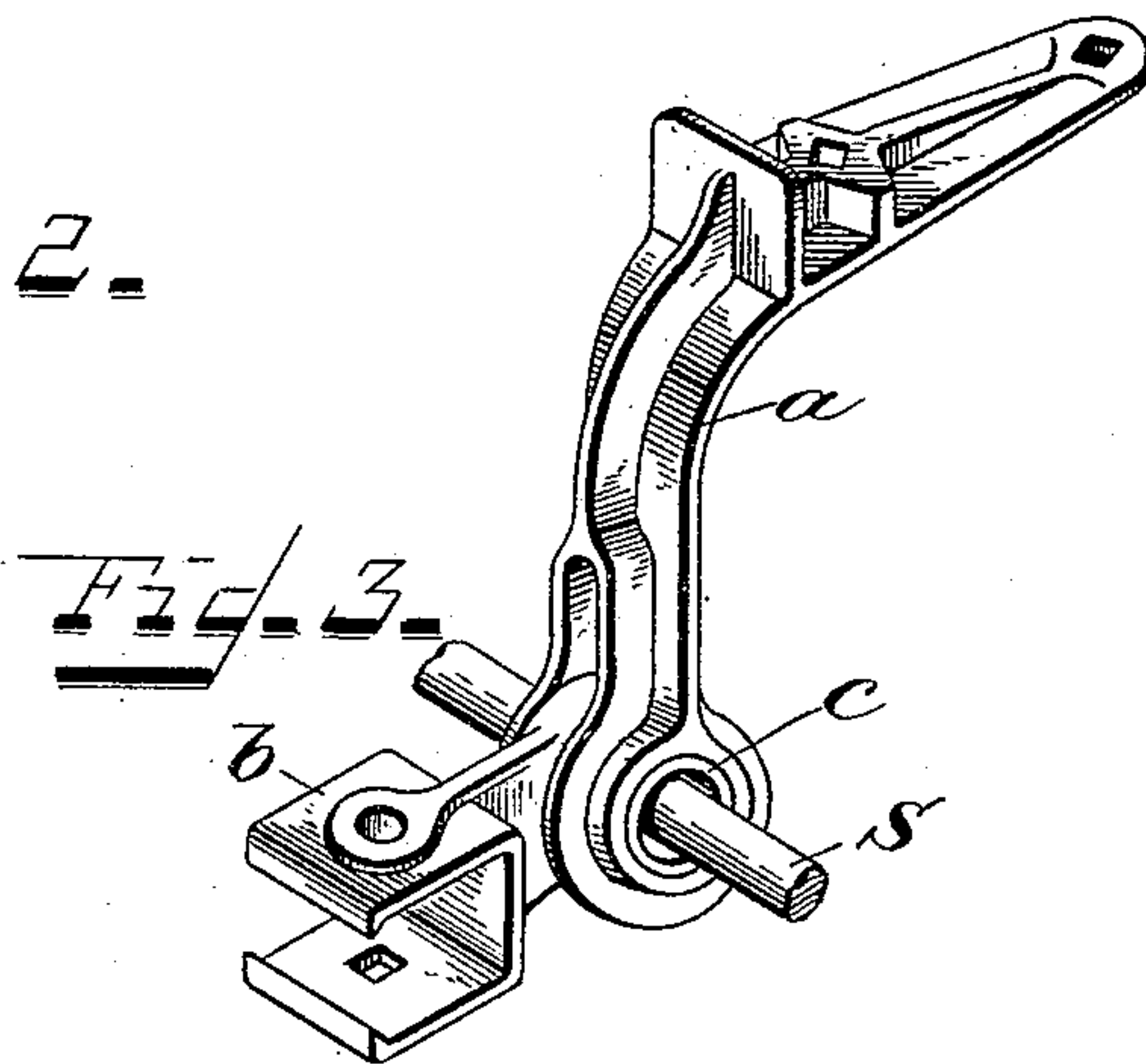
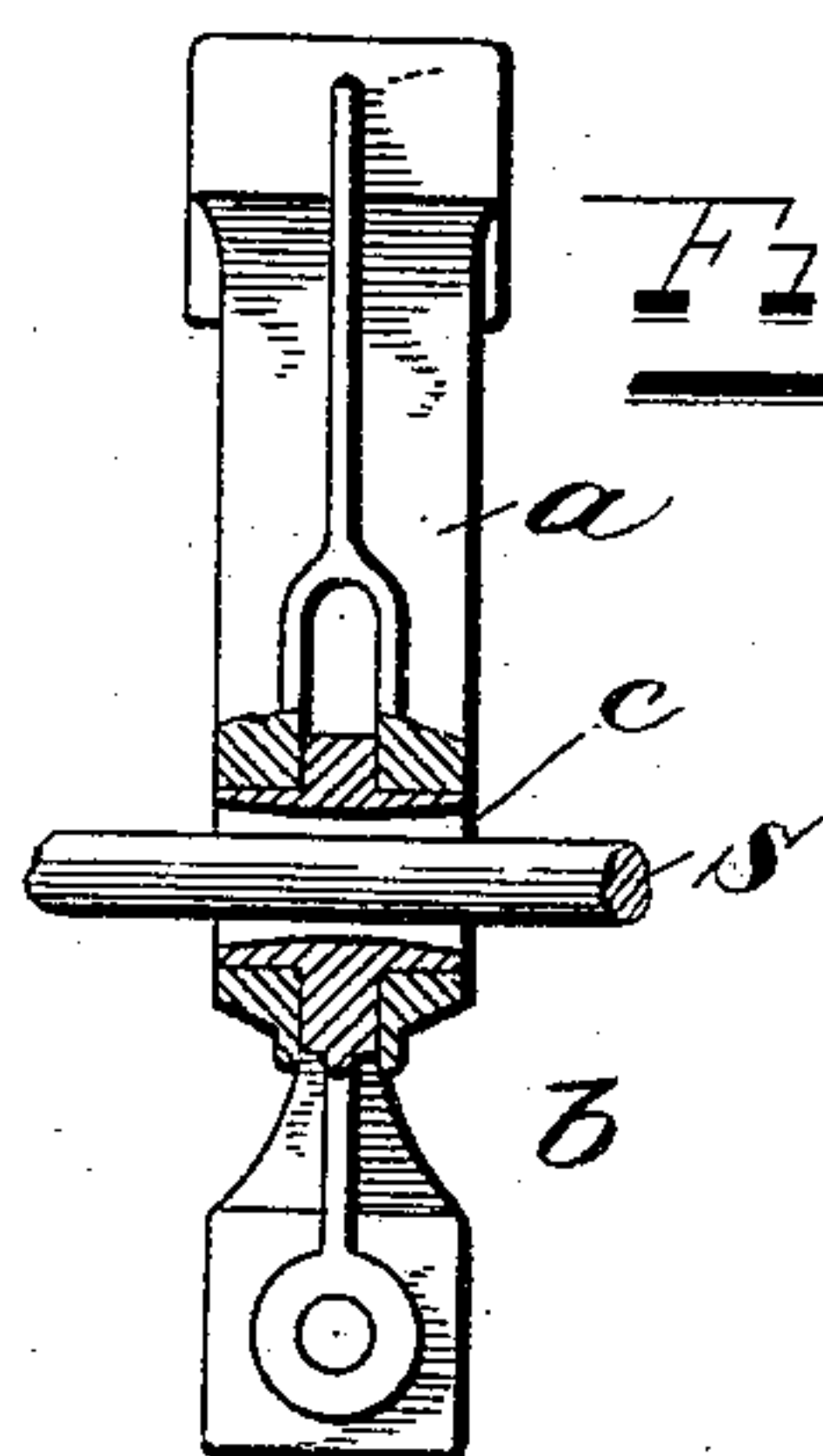
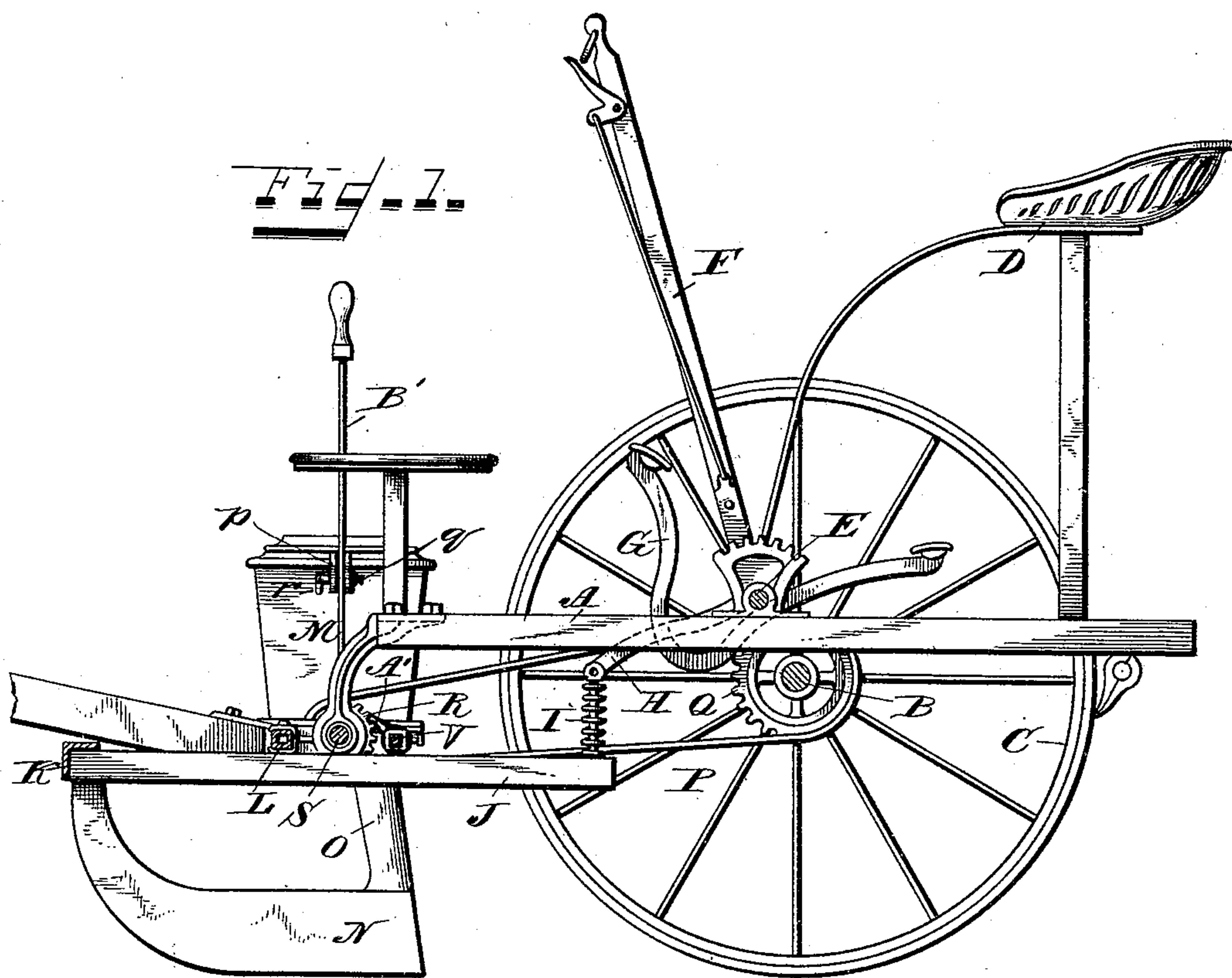
(No Model.)

2 Sheets—Sheet 1.

A. J. FISHER.
CORN PLANTER.

No. 496,114.

Patented Apr. 25, 1893.



Witnesses.
J. Thomson Cross.
Bernard. Hauefeldt.

Inventor:
Andrew J. Fisher
by Chas. M. Beck
his Attorney.

(No Model.)

2 Sheets—Sheet 2.

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Fig. 4.

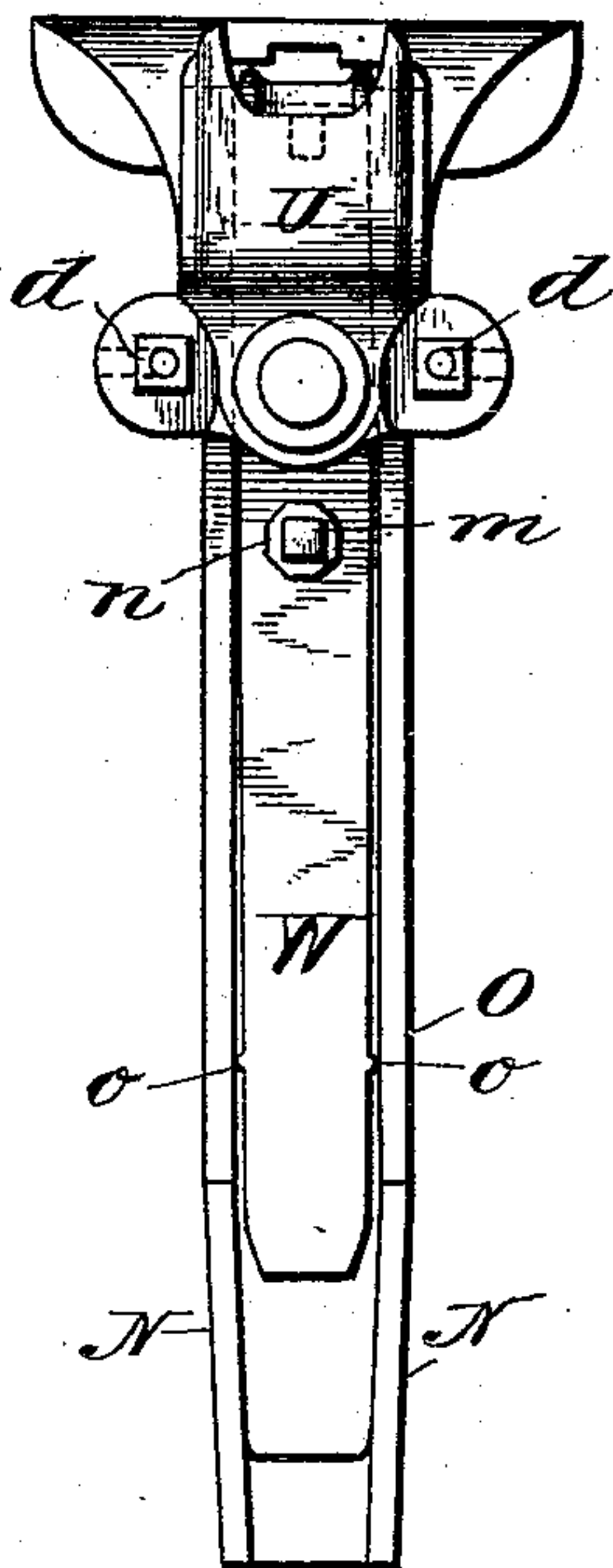


Fig. 5.

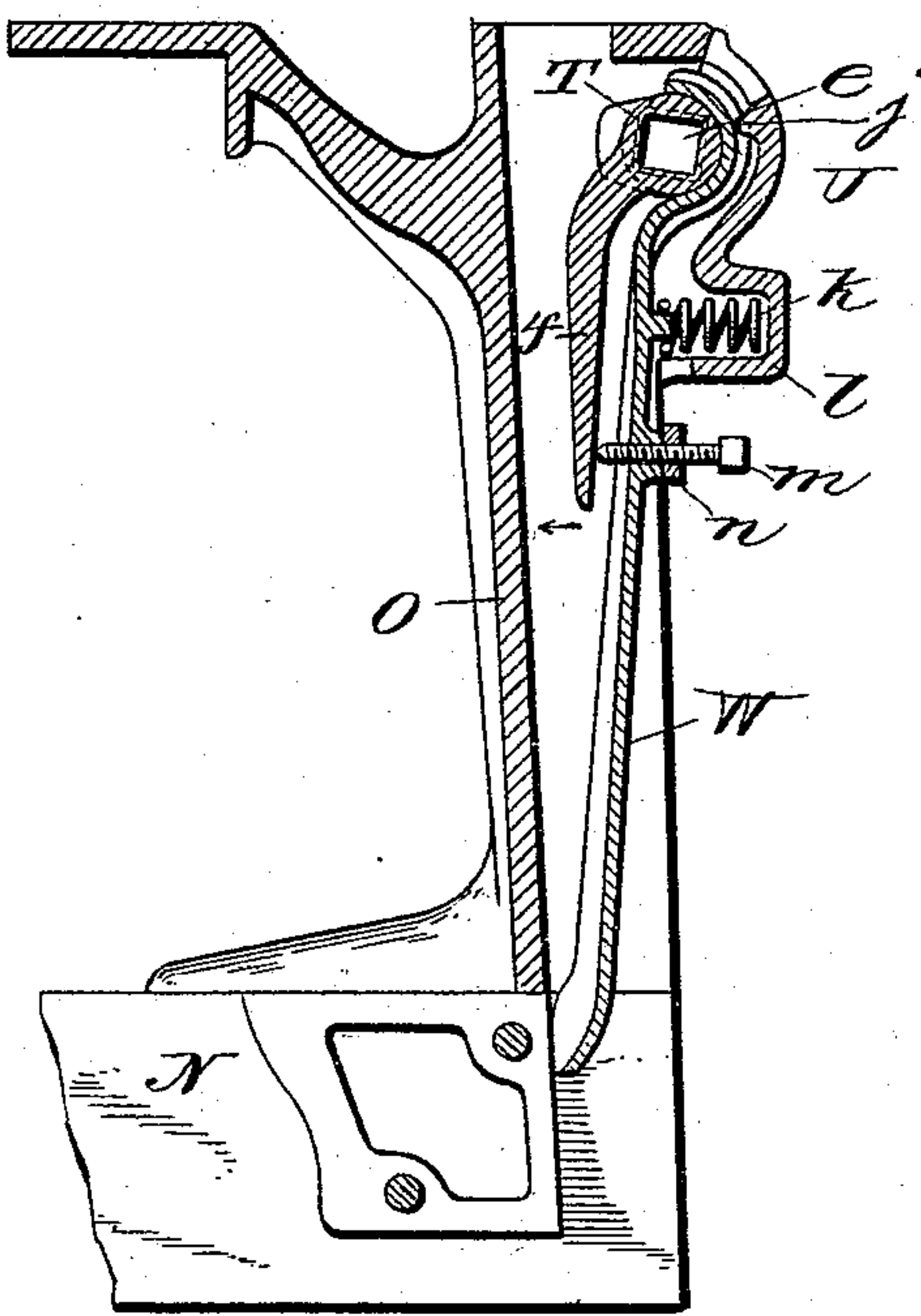


Fig. 7.

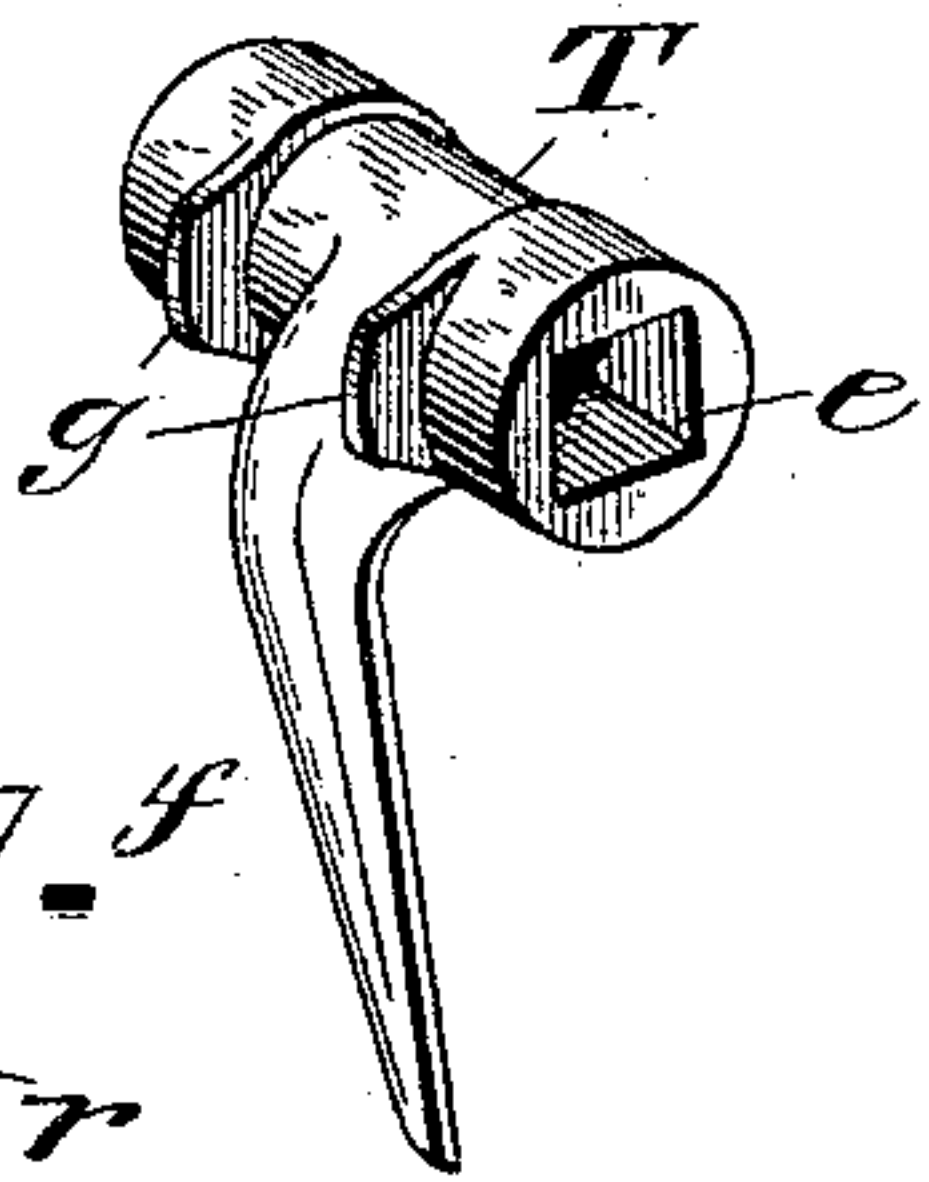


Fig. 6.

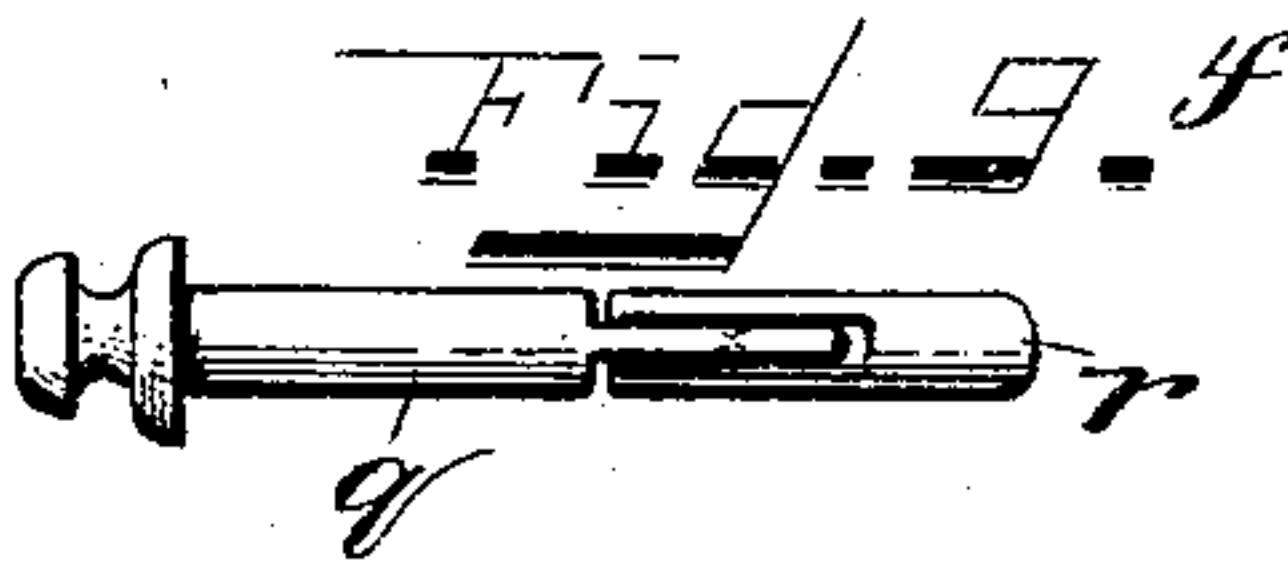


Fig. 9.

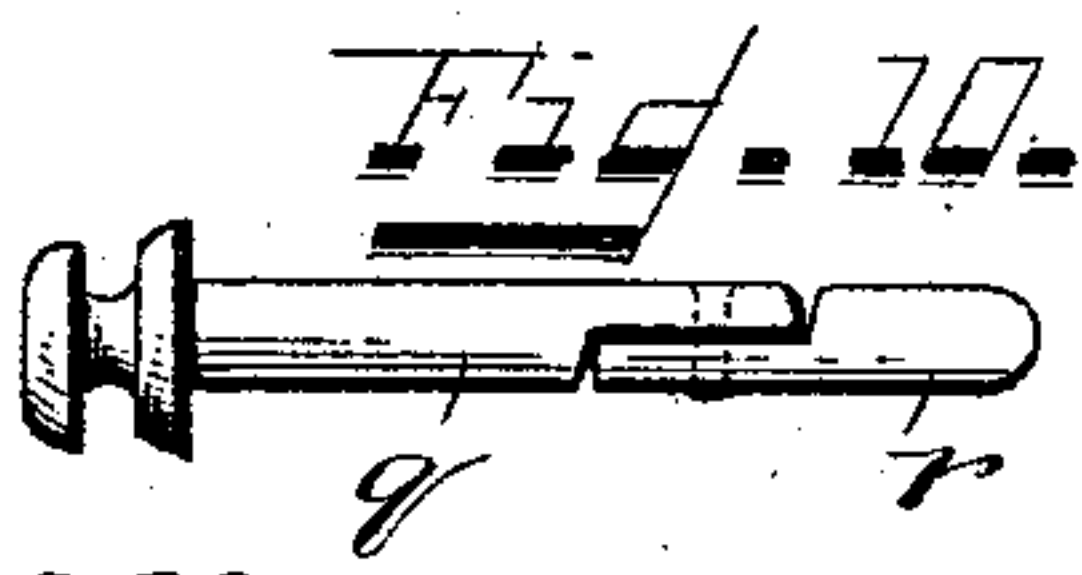
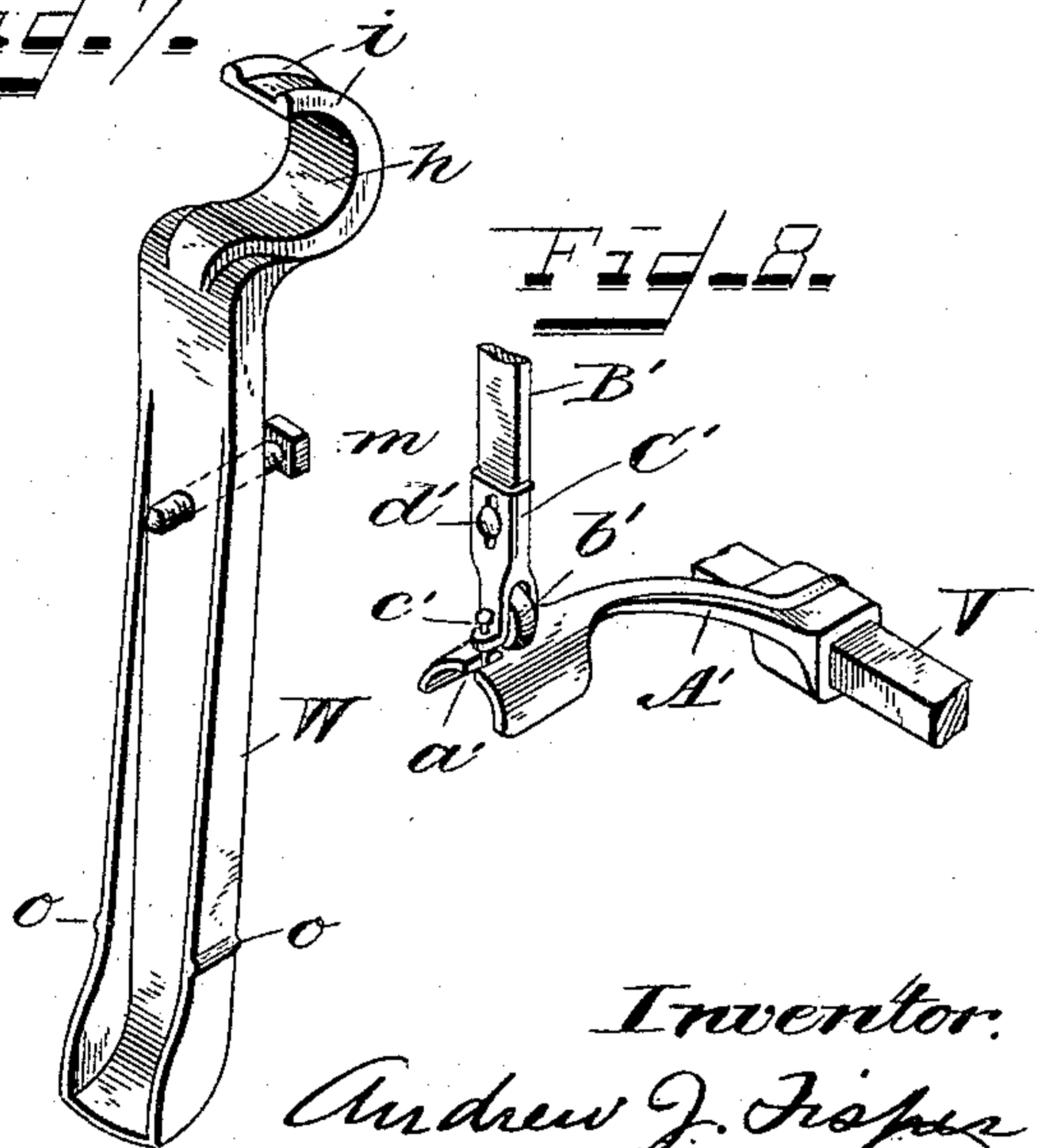


Fig. 10.

Fig. 8.



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UNITED STATES PATENT OFFICE.

ANDREW J. FISHER, OF DAYTON, OHIO, ASSIGNOR TO THE FARMERS
FRIEND MANUFACTURING COMPANY, OF SAME PLACE.

CORN-PLANTER.

SPECIFICATION forming part of Letters Patent No. 496,114, dated April 25, 1893.

Application filed November 25, 1892. Serial No. 453,035. (No model.)

To all whom it may concern:

Be it known that I, ANDREW J. FISHER, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Corn-Planters, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to that class of corn planters having a forward runner and seeding frame and a rear main or wheel frame, the two being hinged together, and it has for its object the improved construction of such corn planters whereby their simplicity and efficiency are increased.

The novelty of my invention will be hereinafter set forth and specifically pointed out in the claims.

In the accompanying drawings:—Figure 1, Sheet 1, is a sectional side elevation of a planter embodying my invention. Fig. 2, Sheet 1, is an enlarged section of one of the hinge joints and a portion of the seeding shaft. Fig. 3, Sheet 1, is a perspective view of the same. Fig. 4, Sheet 2, is an enlarged rear elevation of one of the runner shanks and contained valve. Fig. 5, Sheet 2, is a sectional side elevation of the same. Fig. 6, Sheet 2, is a perspective view of the valve sleeve and tongue. Fig. 7, Sheet 2, is a perspective view of the valve. Fig. 8, Sheet 2, is a detail perspective of the rock shaft and lower part of the hand lever. Fig. 9, Sheet 2, is an enlarged plan view of the self locking pin for the hand lever under one form of construction. Fig. 10, Sheet 2, is a corresponding view of the pin under another form of construction.

The same letters of reference are used to indicate identical parts in all the figures.

With the exceptions to be pointed out, the planter may be constructed as shown and described in my prior application, Serial No. 425,413, filed March 18, 1892, or it may be of any other suitable construction. In describing it, generally, it is only necessary to say, referring to Fig. 1, that A is the main frame, B the revolving axle thereof, C the supporting and covering wheels, D the driver's seat,

E the raising and lowering shaft for the runner frame, F the hand lock lever thereon, G the foot lever thereon, and H, I, the connections between the shaft E and the bars J of the runner frame.

In the runner frame, K is the front transverse bar, L the rear transverse bar, M the hoppers or seed boxes, N the runners and O their shanks. The seeding shaft S is suitably journaled on the runner frame preferably in boxes on the under side of the hoppers, and it carries beveled gears for actuating the seed plates, in the usual or any suitable manner. It is driven by a chain P passing around a sprocket wheel O, in this instance on the axle B, and a second sprocket or cone sprocket, R, on the shaft S.

The two frames are hinged together by the hinge joints shown in Figs. 1, 2 and 3 consisting of the two self interlocked members *a* *b* the former of which is fast to the frame A and the latter to the bar L of the runner frame. These hinge joints are constructed as in my prior application except that the opening *c* for the passage of the shaft S is so large that the shaft while passing through the center thereof does not come in contact with the joints and all danger of binding, under the twisting strains to which the two frames are subjected, is overcome. This is an important feature as it not only enables me to hinge the two frames together on an axis concentric with the axis of the seeding shaft but the binding of the shaft which would occur if it were journaled in the hinge joints is prevented. The advantage of hinging the frames on an axis concentric with the axis of the seeding shaft is to prevent any slack or tightening of the chain under different conditions of adjustment of the two frames, as will be readily understood.

The second feature of my invention relates to the valve for the lower drop located in the spouts of the runner shanks O and is illustrated in Figs. 4, 5, 6, and 7, where T is a sleeve journaled in the upper part of the spout and held in place by a cap U secured by bolts *d*. There is an aperture *e* through the sleeve preferably square in cross section and tapering from the center out for the passage of the operating rock shaft V Fig. 1, which is actu-

ated either by hand or by the check row wire, as in my prior application before referred to. Extending down from the sleeve is a tongue or projection *f* and on the inner side of the sleeve are two ribs *g* which bear against the inner wall of the spout to hold the sleeve from endwise movement. The valve *W* occupying the space between the walls of the spout has at its upper end a hook *h* which fits over and embraces the diminished central part of the sleeve and has ribs or flanges *i* between which a lug *j* on the cap *U* fits. A coiled spring *k* in a housing *l* of the cap *U* bears against the outer side of the valve and holds its lower end closed, and a set screw *m* passed through and engaging the valve bears against the tongue or projection *f*. The spring pressure is applied in any suitable manner to the rock shaft *V* so that it normally forces the tongue *f* in the direction of the arrow, Fig. 5, and a jam nut *n* is applied to the screw *m* to lock it when adjusted. By thus constructing the valves and making them adjustable on the sleeve *T*, or, which is the same thing, upon the rock shaft, by means of the set screws, both or either may be adjusted with the greatest nicety to open and close uniformly. Again by hanging the valves loosely upon the sleeves they adjust themselves to the spout walls and will not bind under the twisting strains of the runner frame as will be readily understood.

To make the matter of adjustment of the valves by the set screws more clear, suppose, when one valve is tightly closed at its lower end, the other stands partially open. Under this condition, when the rock shaft was operated the partially open valve would drop its grains earlier than the other valve, which would be very objectionable; but all the attendant has to do is to either unscrew the set screw of the partially open valve thereby permitting its spring *k* to force in its lower end to close it uniformly with the other valve or else screw in the set screw of the closed valve thereby bringing the valve to the same adjustment as the other or he may operate both set screws by partially screwing one end in and the other out, as will be readily understood.

To prevent binding or friction of the valves in the spouts of the shanks the valves are made slightly narrower than the spouts and are provided on each side near the lower end with a bearing rib *o*, Figs. 4 and 7. These ribs come in contact with the walls of the spout and serve to hold the valves in proper position while at the same time they prevent friction and binding, as will be readily understood. Instead of having the ribs upon the sides of the valves, they might be integral with the sides of the spouts and perform the same office.

In Figs. 1 and 8, *A'* is one of the actuating arms for the rock shaft *V*, and *B'* is the hand lever to be vibrated across the end of the arm *A'* to actuate it in its stroke in each di-

rection as in my prior application before referred to. The construction however of these parts is different in that the outer end of the arm *A'* is rounded on top as seen in Fig. 8, and is slotted as at *a'* and the lower end of the lever *B'* is provided with an adjustable extension *C'* in the bottom of which is journaled a friction roller *b'* which bears upon and travels over the rounded part of the arm *A'* to depress it and open the valves. The extension *C'* is recessed on one side to fit over the hand lever and is bolted thereto by a bolt *d'* passing through a slot in the piece *C'* by means of which the piece *C'* can be adjusted up or down to regulate the extent of vibration of the arm *A'* and consequently the extent of opening of the valves. The use of the roller *b'* prevents wear and friction, as will be readily understood. To hold the valves constantly open, as when drilling, the lower end of the extension *C'* has a perforated ear through which a pin or split key *c'* can be passed into the slot *a'* to lock the hand lever to the arm *A'* when depressed to its fullest extent.

In Figs. 1, 9 and 10, I have shown a novel and simple self locking pivot pin for the hand lever *B'*. In hand dropping as is well known the dropper should always face the row, which necessitates the shifting of the hand lever from one side of the machine to the other at each turn of the machine at the end of the row so that he may have the lever in front of him. The lever is accordingly pivoted between perforated ears *p*, Fig. 1, on the hopper by means of a pin, Figs. 9 and 10, composed of a headed shank *p* and an end piece *r* pivoted to the shank in line therewith so that it may be inserted through the ears *p* and the perforation in the lever and will then drop to a vertical position, as seen in Fig. 1, to prevent the accidental jarring out of the pin. At the same time when it is desired to shift the lever the pin can be readily and instantly withdrawn to be reinserted, on the other side, as will be readily understood. In Fig. 9 the end *r* is slotted and provided on its inner sides with dowels or projections, which fit into a perforation in a tongue on the shank *q* while in Fig. 10 each part has a flattened tongue and the two are pivoted together, as indicated by the dotted lines.

Having thus fully described my invention, I claim—

1. In a corn planter, the combination of the wheel frame, the runner frame with seeding mechanism carried thereon and hinged to the wheel frame by hinged joints with enlarged apertures therethrough, a revoluble seeding shaft journaled on the runner frame and extending concentrically through the enlarged apertures of the hinge joints without contact therewith, a sprocket wheel driven by the traction of the machine and connected by a drive chain with a sprocket on the seeding shaft, whereby the unequal giving of the runner frame will not cause the seeding shaft to

bind in the hinge joints, substantially as described.

2. In a corn planter, the combination with the shanks having spouts, of sleeves journaled in said shanks and having projections, a rock shaft for operating said sleeves, the valves loosely hung on said sleeves, springs for said valves and set screws engaging the valves and the projections on the sleeves substantially as described.

3. In a corn planter, the combination with the shanks having spouts, of the sleeves *T* having the ribs *g* and tongues *f*, the valves *W* having hooked upper ends *i* embracing the sleeves, the caps *U* with housings *l* and springs *k*, and the set screws *m* engaging the valves and bearing against the tongues *f*, substantially as described.

4. In a corn planter, the combination of the rock shaft *V*, the arm *A'* fast thereon, and the hand lever arranged to vibrate over and in contact with said arm and carrying at its lower end an adjustable extension, substantially as described.

5. In a corn planter, the combination of the

shanks having spouts, of valves hung therein and bearing ribs, carried by the valves or spouts on the sides to prevent binding and friction substantially as described.

6. In a corn planter, the combination of the rock shaft *V*, the arm *A'* fast thereon, and having its outer end rounded on top and slotted as at *a'* and the hand lever *B'* provided at its lower end with a friction roller *b'* and locking pin *c'*, substantially as described.

7. In a corn planter, the combination with the rock shaft arm *A'* having its end rounded on top and slotted, of the hand lever *B'* having at its lower end the adjustable extension *C'* in which is journaled the roller *b'*, and the locking pin *c'*, substantially as described.

8. In a corn planter, the combination of the rock shaft *V* the arm *A'* fast thereon the hand lever *B'* provided at its lower end with an adjustable extension in which is journaled a friction roller, substantially as described.

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Witnesses:

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