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Patented Nov. 11, 1902.

C. S. RUEF & C. L. TOMLINSON.

PLOW.

(Application filed Jan. 17, 1902.)

(No Model.)

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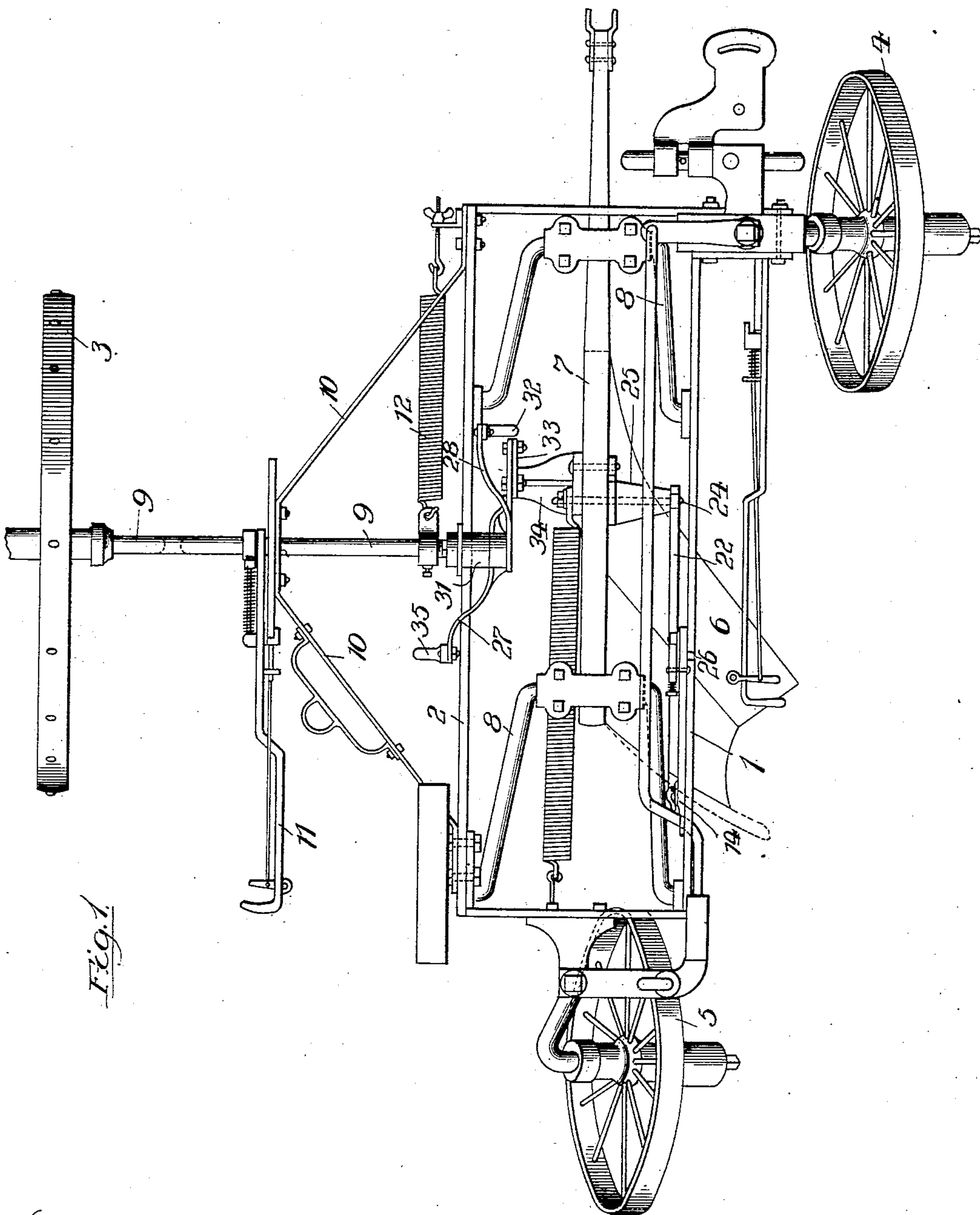


Fig. 1.

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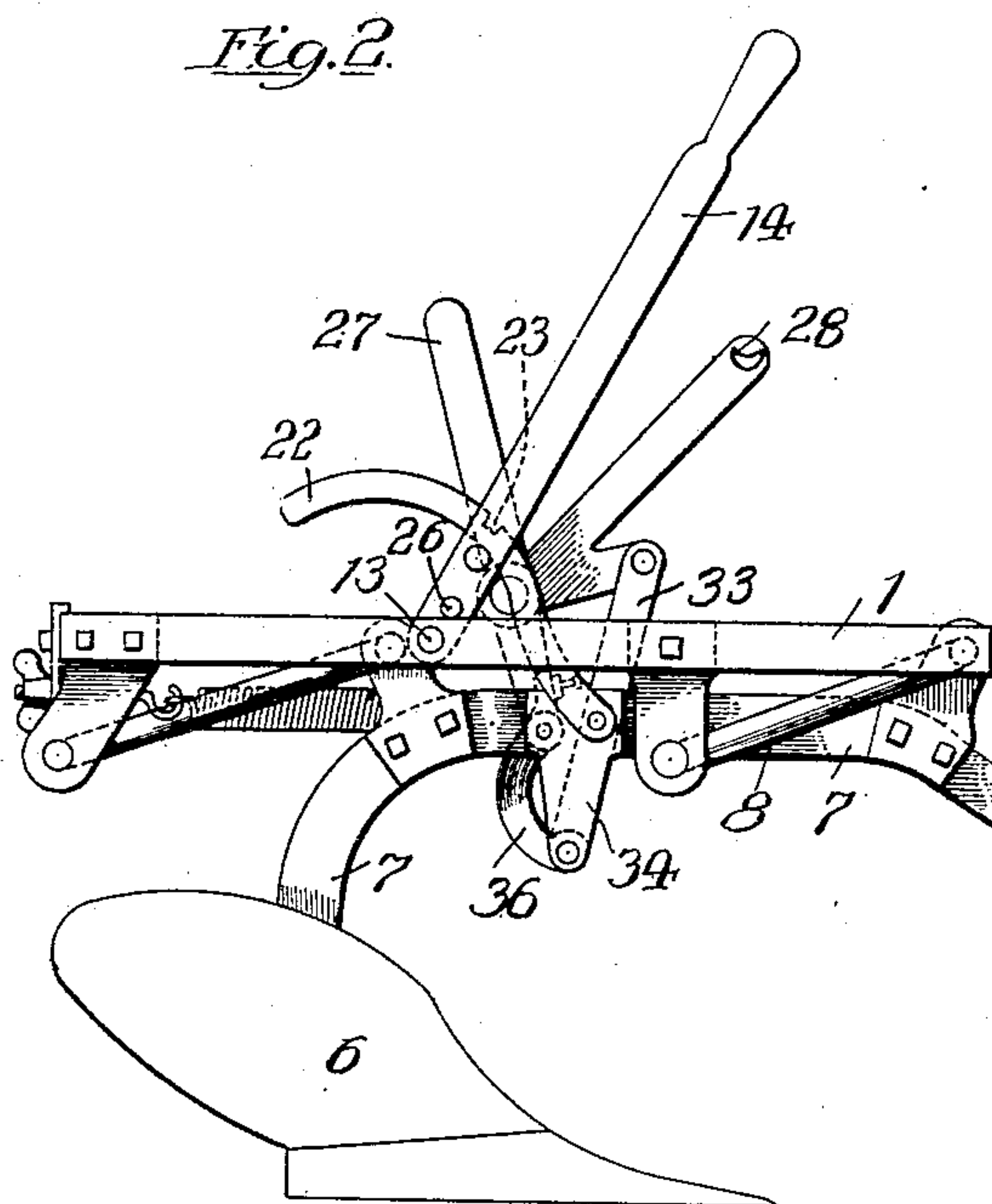
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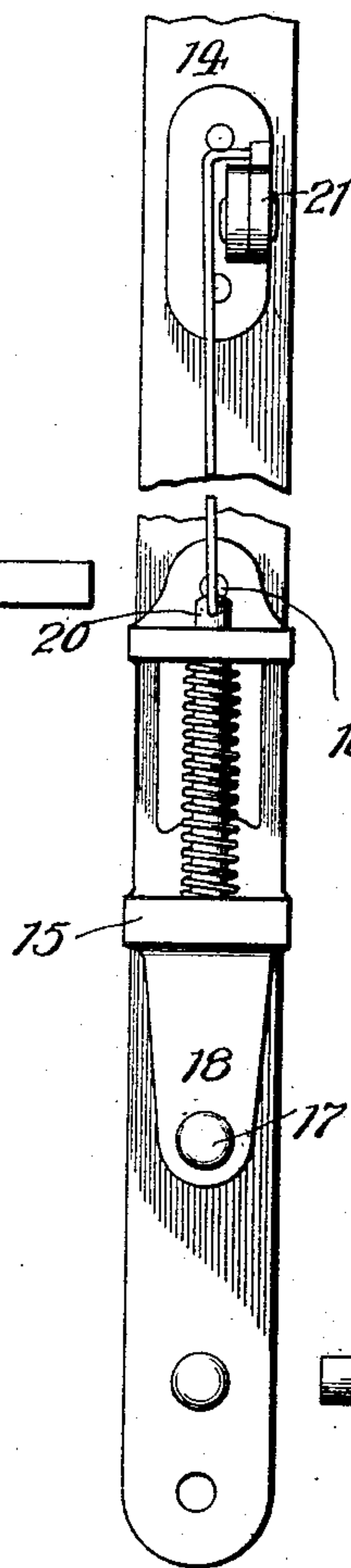
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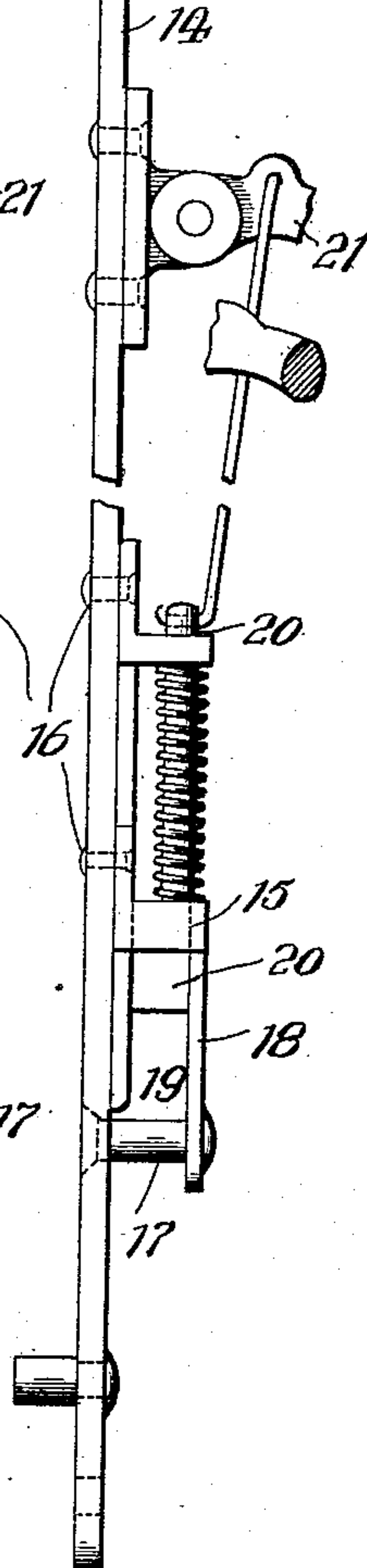
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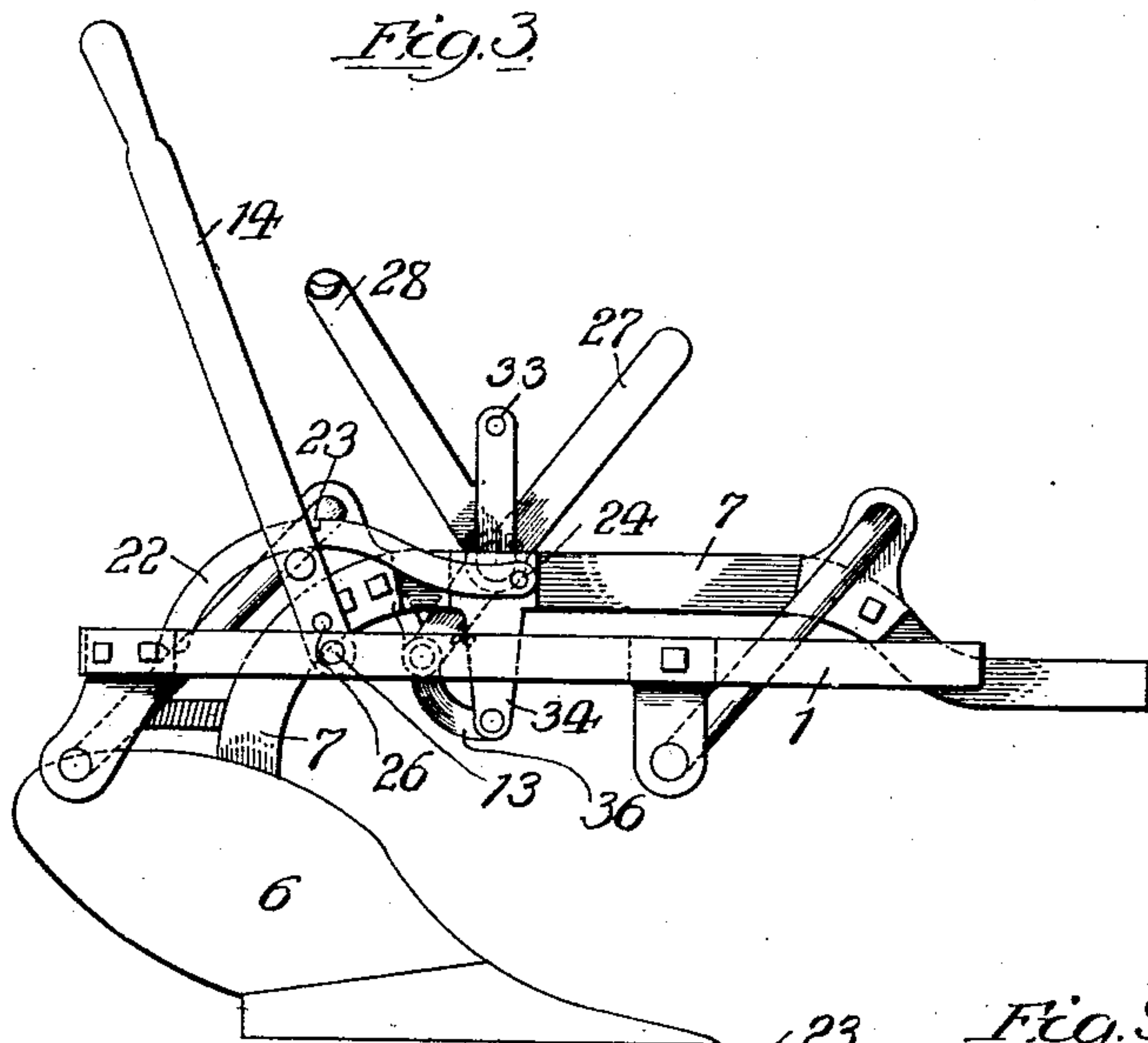
*Fig. 7.*



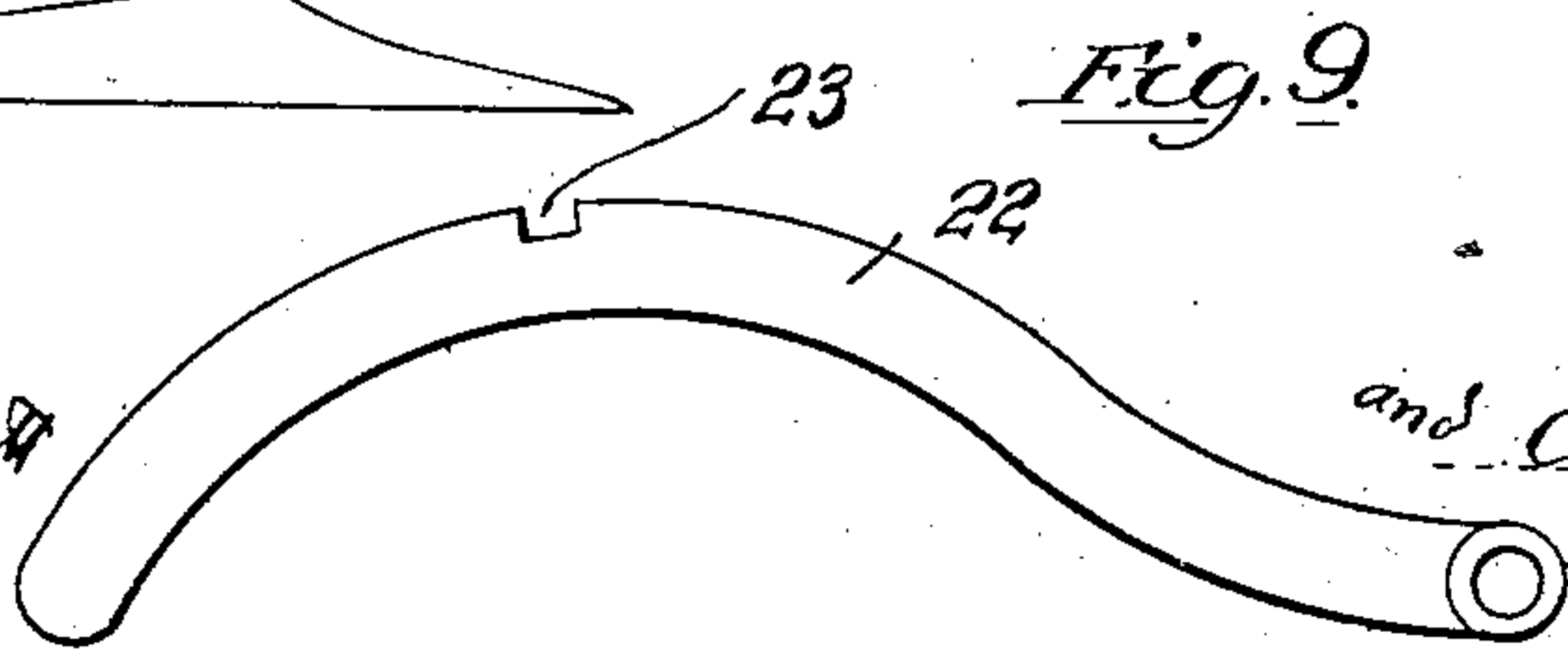
*Fig. 8.*



*Fig. 3.*



*Fig. 9.*



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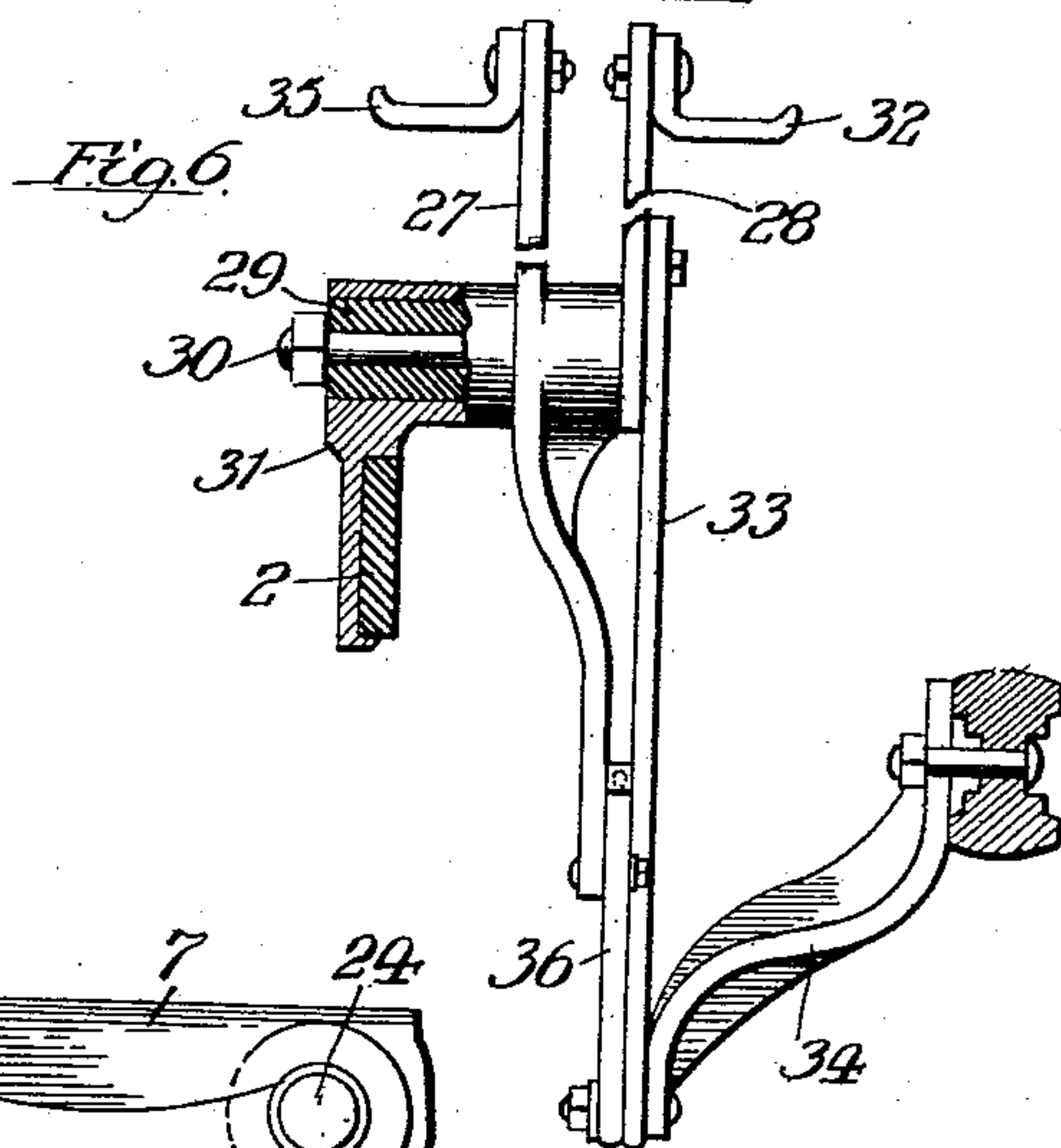
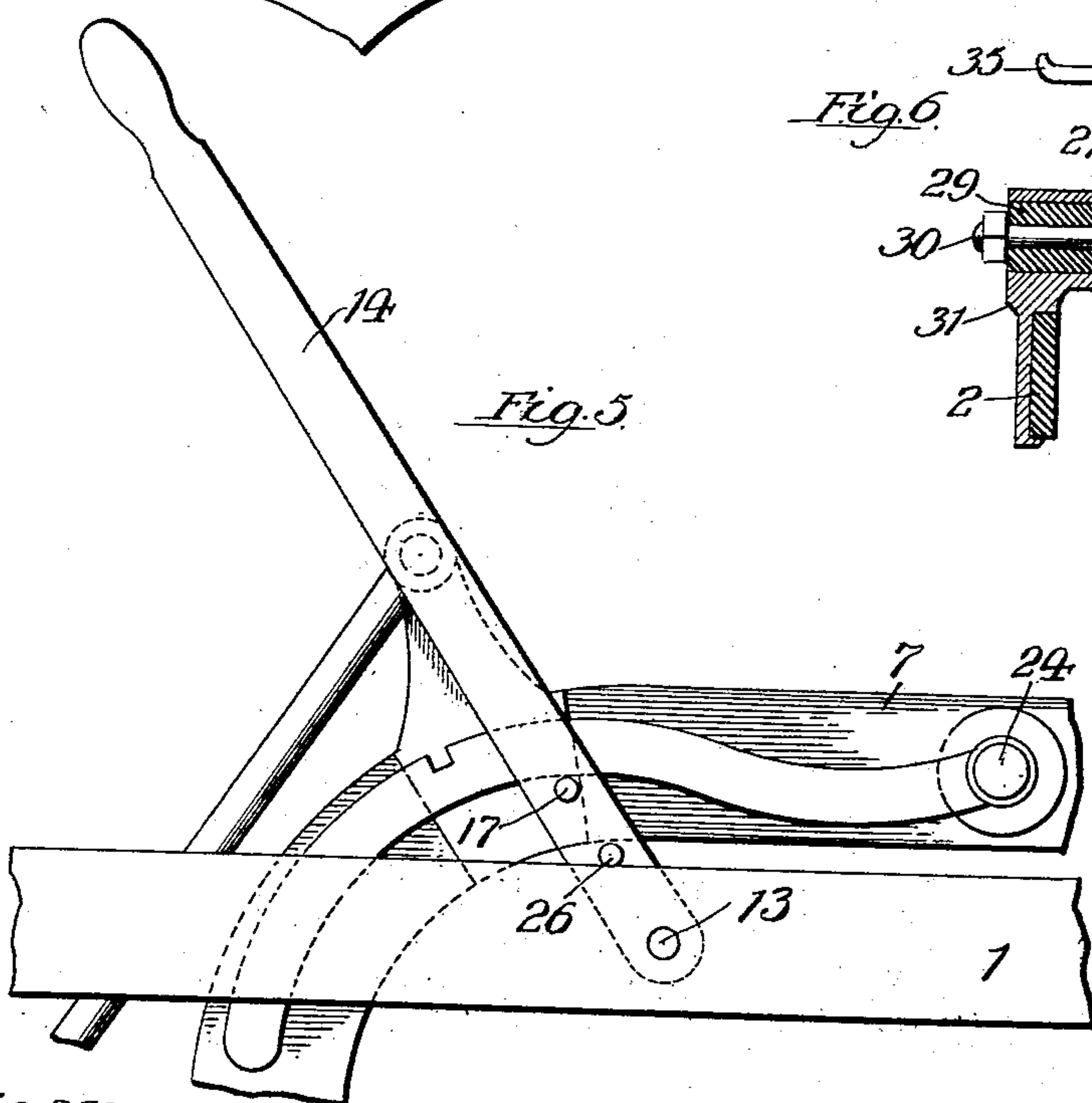
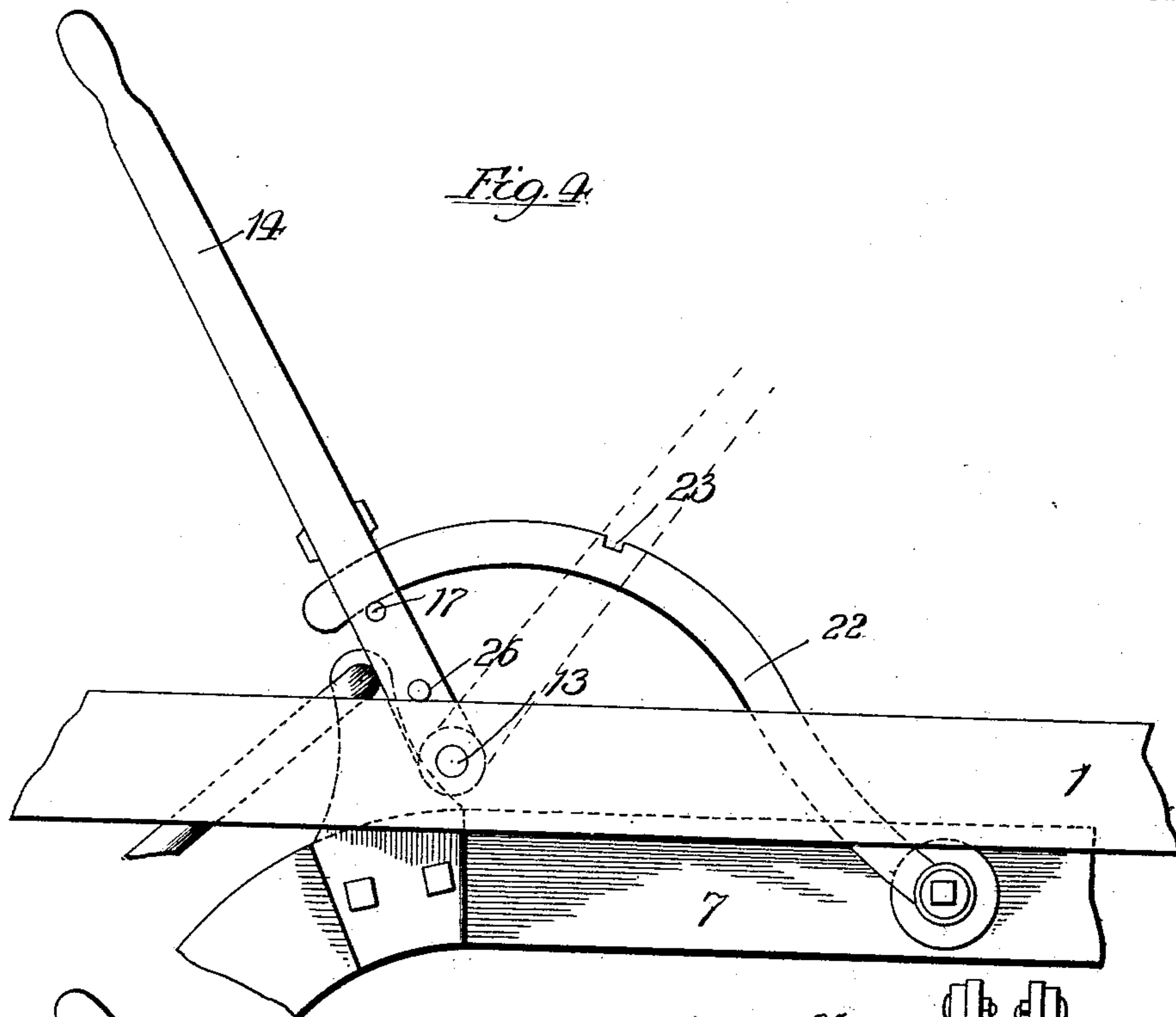
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# UNITED STATES PATENT OFFICE.

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## PLOW.

SPECIFICATION forming part of Letters Patent No. 713,498, dated November 11, 1902.

Application filed January 17, 1902. Serial No. 90,130. (No model.)

*To all whom it may concern:*

Be it known that we, CHARLES S. RUEF and CLARENCE L. TOMLINSON, residing at Dixon, Lee county, Illinois, have invented certain  
5 new and useful Improvements in Plows, of which the following is a specification.

Our invention relates to plows of the type or class commonly known as "wheeled riding-plows," in which the plow is suitably supported or swung in a wheeled frame; and the  
10 main object of such invention is to provide simple and efficient hand-actuated mechanism for raising and lowering the plow whenever desired, such mechanism being arranged  
15 to be operated independently of or in conjunction with suitable foot-actuated raising and lowering devices mounted in the frame.

In the drawings, Figure 1 is a plan view of the entire machine except the seat; Figs. 2  
20 and 3, side elevations of a portion of the frame and the operating-levers, showing their position, respectively, when the plow is lowered and raised; Figs. 4 and 5, similar views of the hand-actuated mechanism or lever; Fig.  
25 6, a detail of the foot-levers, partly in section; Figs. 7 and 8, detail views of the hand-lever, and Fig. 9 a detail view of the notched link.

The machine has a main frame comprising, essentially, the two longitudinal side plates  
30 or bars 1 and 2 and supported by the land-wheel 3 and front and rear furrow-wheels 4 and 5, respectively, suitably journaled therein. The plow 6 and its beam 7 are arranged to swing in the frame in the well-known way  
35 by means of the bails 8. The cranked or bent axle 9 of the land-wheel is in the present instance journaled at its inner end in the side bar 1 of the frame and intermediate of its length in an extended frame formed by the  
40 the bars 10, all as clearly shown in Fig. 1. The land-wheel axle is also provided with a suitable leveling-lever 11, by which leveling is accomplished against the tension of the spring 12. The parts of the machine as thus  
45 far described are in common use and form no part of our invention.

Upon the side bar 1 of the plow-frame at the point 13 is properly pivoted the lower end of the hand-lever 14, which is extended with-

in convenient reach of the driver. On the in- 50  
ner face or side of this hand-lever is formed or fastened a bracket-plate 15, herein shown as riveted to the lever by small rivets 16 and also having a large rivet or bolt 17, having a  
special purpose. This bolt passes through a 55  
depending extension 18 of the bracket-plate, so as to form a space or guideway 19, Figs. 7 and 8. The hand-lever is also provided with a spring-pressed latch 20, operated by and  
connected to a hand or finger piece 21 of such 60  
construction as to hold the latch either in operative or inoperative position.

A link 22, which is curved as shown, Figs. 4, 5, and 9, and provided with the notch 23, is pivoted at its forward end on a pin or bolt 65  
24, secured to the plow-beam, and extended laterally, in the present instance through a casting 25, arranged at the side of the plow-beam and secured thereto, Fig. 1. This  
notched link is in the same plane as the space 70  
or guideway 19 in the hand-lever and is, in fact, received by such guideway, with the result that when the foot devices hereinafter described are operated, with the hand-lever unlatched or inoperative, the notched link 75  
will pass or float freely through the hand-lever, with its bolt 17 supporting the free end of the link 22, and when the hand-lever is itself moved it will move freely along the  
notched link. Starting with the parts in the 80  
position shown in Fig. 4 and assuming that it is desired to raise the plow by hand, the latch is thrown to operative position and the hand-lever is forced forward to the dotted-line position, Fig. 4, until its latch snaps into 85  
and engages the notch 23 of the link 22, whereupon the lever is drawn backward to the position shown in Fig. 5, thereby raising the plow by reason of the connection of the  
notched link therewith. When the hand-le- 90  
ver is in operative position—that is, disengaged from the notched link—it may rest either in a forward or rearward position, a suitable stop being provided for the purpose—  
as, for instance, the projection or bolt 26, ar- 95  
ranged on the lever and adapted to strike the top edge of the side bar 1. The foot-actuated raising and lowering devices herein shown



comprise the raising-lever 27 and the lowering-lever 28, journaled or mounted on a common axis on the side bar 2 of the machine-frame.

5 Referring to Fig. 6, the lowering-lever is secured to a hub 29 by a bolt 30, which hub is journaled in the bearing-bracket 31, secured to the bar 2. The lowering-lever is forked, one of the forks having a footpiece, preferably a pivoted stirrup 32, the other fork being connected by a link 33 to a bracket 34, fastened to the plow-beam, Figs. 1 and 6. The raising-lever 27, which also preferably has a pivoted stirrup 35, is pivoted intermediate of its length on the hub 29 and is also connected to the plow-beam by means of a link 36, which is pivoted at its lower end to the bracket and intermediate of its length to the raising-lever. Inasmuch as the general operation of these levers is the same as that of the similar levers shown in our prior patent, No. 704,274, dated July 8, 1902, further explanation and description is rendered unnecessary.

25 The relative position of the various movable parts when the hand and foot levers are working conjointly is illustrated in Figs. 2 and 3, the former figure showing the lowered position of the plow and the latter figure the raised position thereof. Starting with the parts as shown in Fig. 2 and assuming that the plow is to be raised and that the hand-lever is already in engagement with the notched link, the raising-lever 27 is forced forward by the rider's foot and simultaneously the hand-lever is drawn backward, the plow being maintained in raised position by the locking effect of the foot-levers. The hand-lever may now, if desired, be released as to its latch from engagement with the notched link, and if so released it may be brought to rest, pointing forwardly or rearwardly, with its stop 26 contacting the top edge of the side bar 1.

45 When it is desired to lower the plow with the conjoint action of the hand and foot devices, the hand-lever is caused to engage the notched link and the lowering-lever is forced forwardly by the foot and the hand-lever likewise moved forwardly with pressure of the hand, or such hand-lever may be used to prevent too-rapid movement of the plow. Of course it will be understood that the raising and lowering of the plow may be accomplished by the separate or the conjoint action of the hand and foot devices. In the normal condition of the parts the hand-lever is unconnected with the curved link, and therefore also unconnected with the plow, for such hand-lever obtains connection with the plow only through the medium of this curved link. The latch 20 is, as hereinbefore stated, of such character as to be normally held out of engagement with the curved link, and consequently during such normal position or condition of the hand-lever and whenever the

foot-levers are operated for the purpose of raising or lowering the plow without the aid of the hand-lever the curved link will float with respect to the lever.

We claim—

1. In a plow, the combination of a frame, a plow supported therein, a link pivoted to the plow and a hand-lever having a movement independent of the plow but arranged to be connected to or disengaged from the link; substantially as described.

2. In a plow, the combination of a frame, a plow supported therein, a link pivoted to the plow, a hand-lever normally independent of the plow as to its movements and with respect to which the link is adapted to float and means operative at will for the engagement of the lever and link; substantially as described.

3. In a plow, the combination of a frame, a plow supported therein, a notched link pivoted to the plow, a hand-lever having a movement independent of the plow, and means operative at will for engagement between the lever and link; substantially as described.

4. In a plow the combination of a frame, a plow supported therein, a notched link pivoted to the plow, a hand-lever and a spring-pressed latch on the lever to engage the notch of the link; substantially as described.

5. In a plow, the combination of a frame, a plow supported therein, a link pivotally connected to the plow, a hand-lever pivoted on the frame and having a guideway to receive the link, and means of engagement between the link and lever comprising a spring-pressed latch on the lever; substantially as described.

6. In a plow, the combination of a frame, a plow supported therein, a notched link pivoted directly to the plow, a hand-lever pivoted in the frame and connectible to the plow only through the link, such lever having a guideway to receive the link and a latch adapted to engage the notch of the link; substantially as described.

7. In a plow, the combination of a frame, a plow supported therein, a link pivotally connected to the plow, a hand-lever having a bracket providing a guideway 19 to receive the link, and a spring-pressed latch mounted in said bracket, and cooperating with the link; substantially as described.

8. In a plow, the combination of a frame, a plow supported therein, a notched link pivotally connected to the plow, a hand-lever having a bracket providing a guideway 19 to receive the link and a spring-pressed latch mounted in said bracket to engage the notch of the link and having a finger-piece to hold the latch in operative or inoperative position; substantially as described.

9. In a plow, the combination of a frame, a plow therein, a link connected to the plow, a hand-lever normally independent of the plow as to its movements and pivoted on the frame



and having a projection on which the link rides or floats and means of engagement between the link and lever; substantially as described.

5 10. In a plow, the combination of a frame, a plow therein, a link connected to the plow, a hand-lever pivoted on the frame and having a projection on which the lower edge of the link rides or floats, means of engagement between  
10 the link and lever and means for limiting the movements of the lever; substantially as described.

11. In a plow, the combination of a frame, a plow therein, a notched link connected to the  
15 plow, a hand-lever pivoted on the frame and having a projection on which the link rides or floats, means of engagement between the link and lever and a projection on the lever adapted to contact the frame and act as a stop  
20 for the lever; substantially as described.

12. In a plow, the combination of a frame, a plow therein, a notched link connected to the plow, a hand-lever pivoted on the frame and having a bracket, a bolt 17 through the  
25 bracket and a lever to form a guideway 19 to receive the link and a latch 20 mounted in said bracket and adapted to engage the notch of the link; substantially as described.

13. In a plow, the combination of a frame, a plow therein having a beam provided with a lateral extension 25, a pin 24 in said extension, a link pivoted at one end to said pin, a hand-lever pivoted on the frame and on which the free end of such link is arranged to ride  
35 or float and means of engagement between the lever and link; substantially as described.

14. In a plow the combination of a frame having the two side bars 1 and 2, a plow mounted to swing in said frame, a link pivotally connected at one end to the plow, a hand-lever 14 pivoted on one side of the bar 1 and on which the free end of the link is arranged to ride or float, means of engagement between the link and lever and a projection 26 located  
45 on the lever and acting as a stop by striking the top edge of said bar 1; substantially as described.

15. In a plow the combination of a frame, a plow supported therein, a curved link connected to the plow and a hand-lever cooperating directly with such link and having a latch adapted to be engaged with and disengaged from the link at will; substantially as described.

gaged from the link at will; substantially as described.

16. In a plow, the combination of a frame, 55 a plow supported therein, a curved link connected to the plow, and a hand-lever on which such link is arranged to normally ride freely back and forth or float as to its lower edge and having means of engagement with such  
60 link; substantially as described.

17. In a plow, the combination of a frame, a plow supported therein, foot-actuated raising and lowering devices for the plow, and a hand raising and lowering device operative  
65 conjointly or independently of said devices and comprising a curved link pivotally connected at one end to the plow, a hand-lever pivoted on the frame and having means whereby the free end of the link may ride or float  
70 thereon when said devices are independently operated and means operated at will for engagement between the lever and link; substantially as described.

18. In a plow, the combination of a frame, 75 a plow supported thereby, a link pivoted to the plow, a lever pivoted to the frame and normally unconnected to the plow, the link normally floating with respect to the lever, and means operative at will for the engagement  
80 of the lever and link; substantially as described.

19. In a plow, the combination of a frame, a plow supported thereby, a link pivoted to the plow, a lever pivoted to the frame, a link  
85 normally adapted to float freely back and forth with respect to the lever, and means operative at will for the engagement of the lever and link; substantially as described.

20. In a plow, the combination of a frame, 90 a plow supported thereby, a link pivoted to the plow, a lever pivoted to the frame, a link having a notched upper edge and a continuous lower edge, such lower edge being normally adapted to float or slide freely on the  
95 lever, and a latch on the lever adapted, at will, to engage the notched upper edge of the link; substantially as described.

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