

(No Model.)

C. H. SWANK.
TONGUE SUPPORT.

No. 603,387.

Patented May 3, 1898.

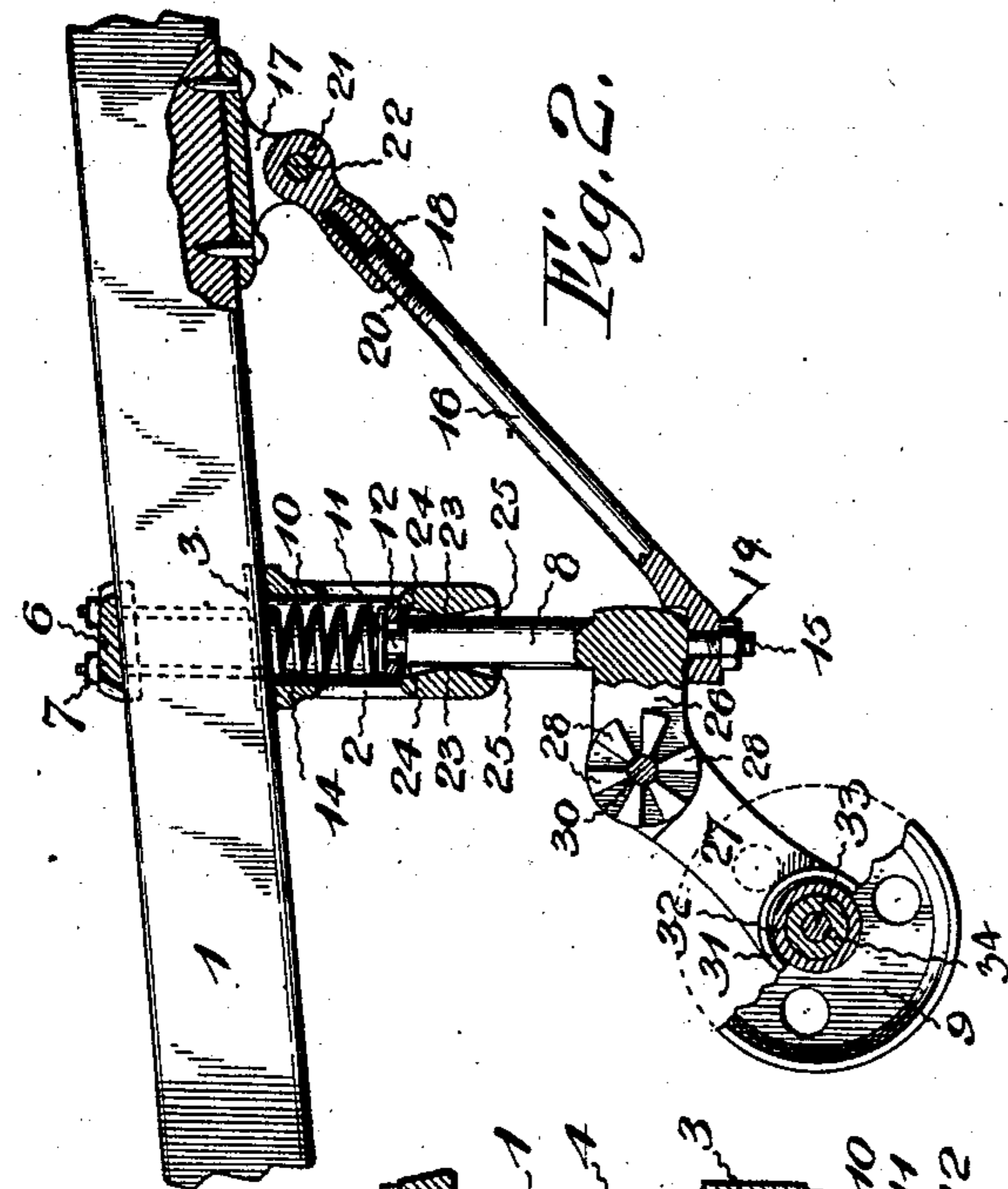


Fig. 1.

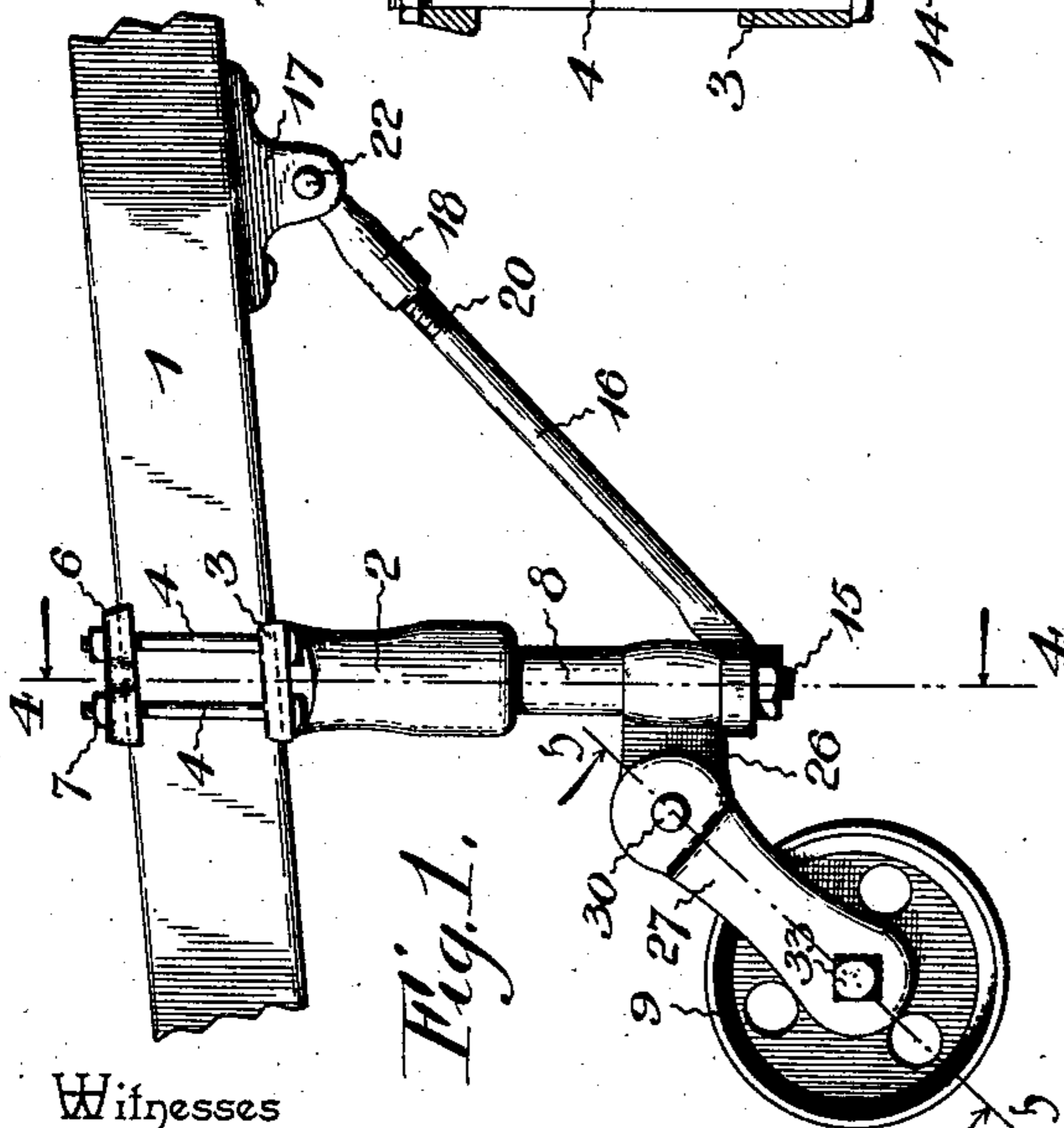


Fig. 2.

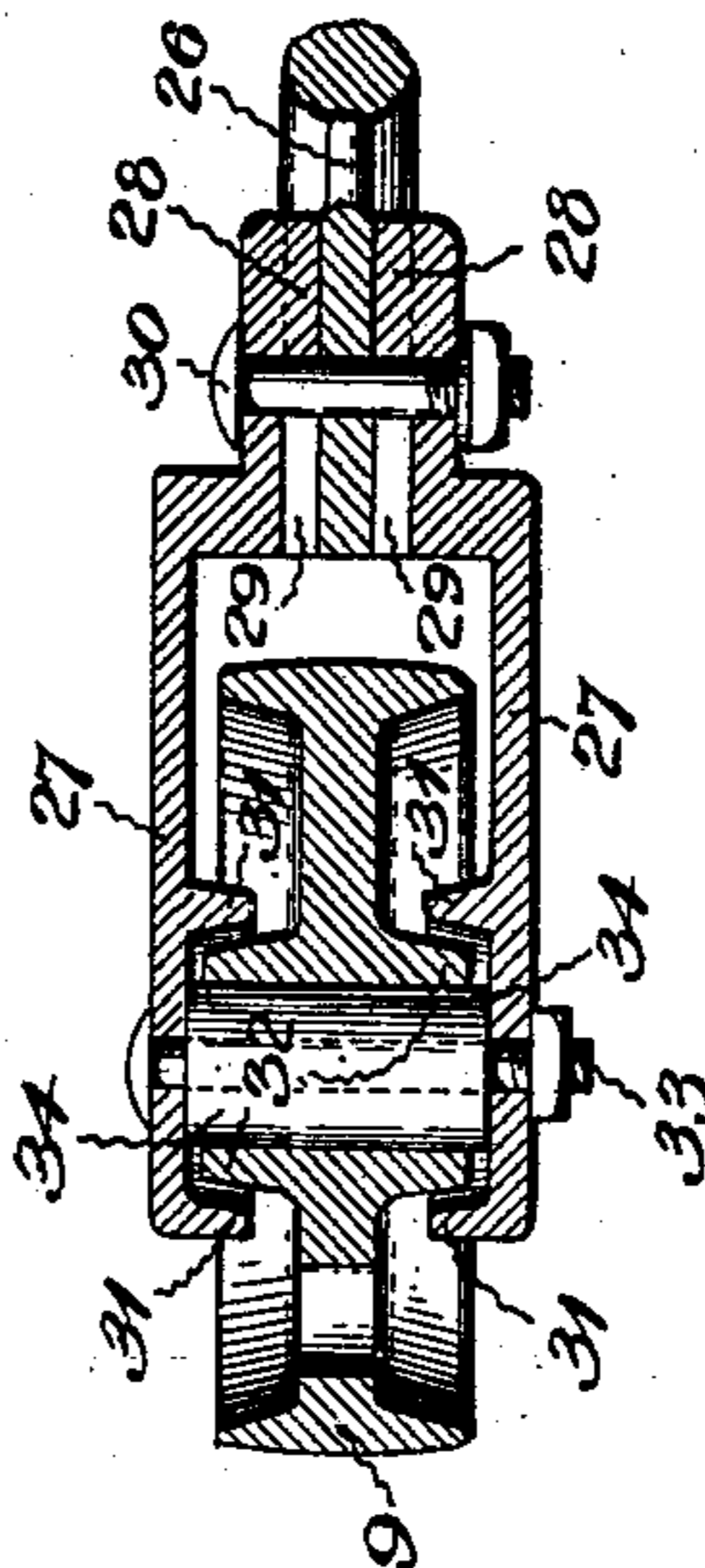


Fig. 3.

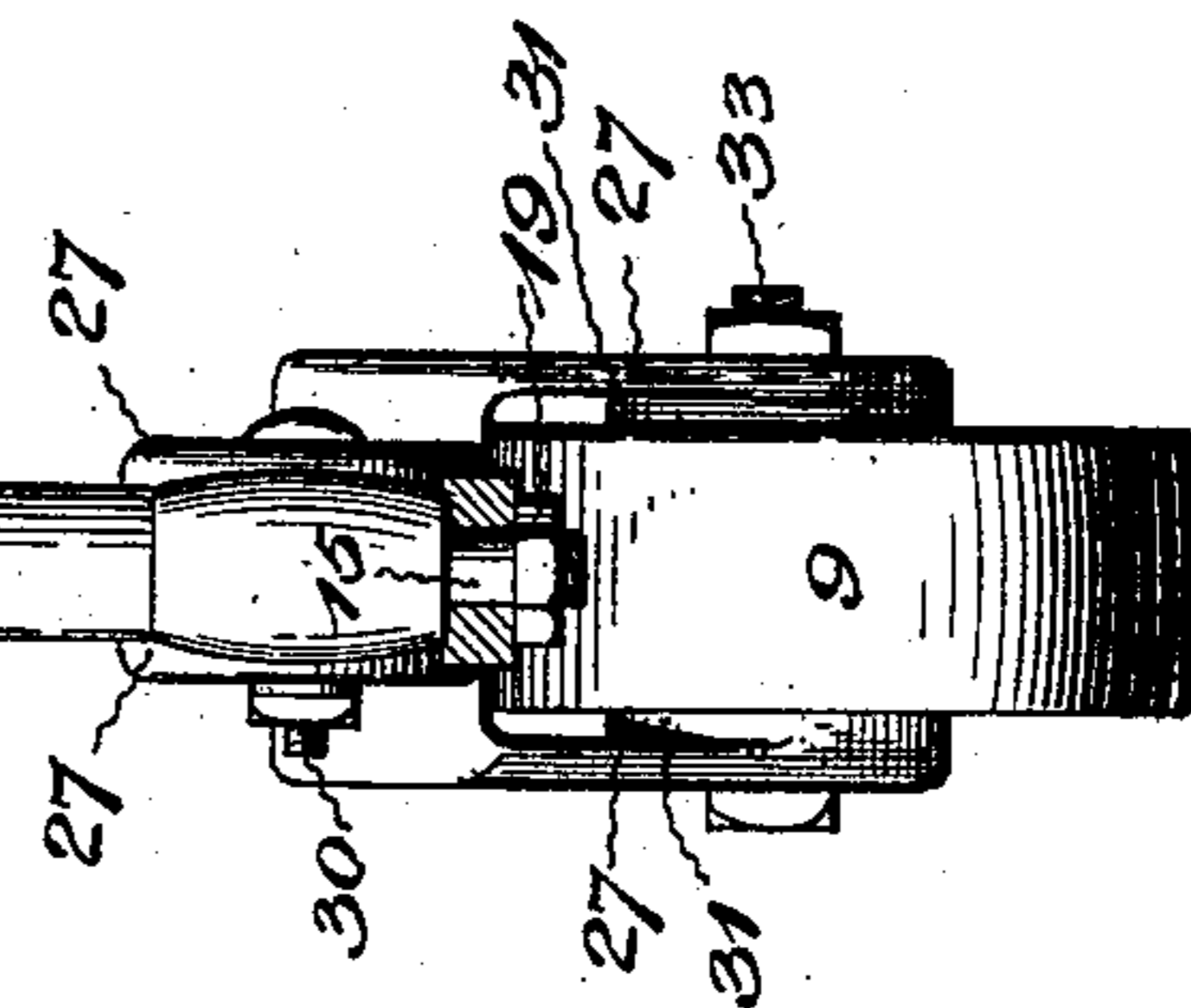


Fig. 4.

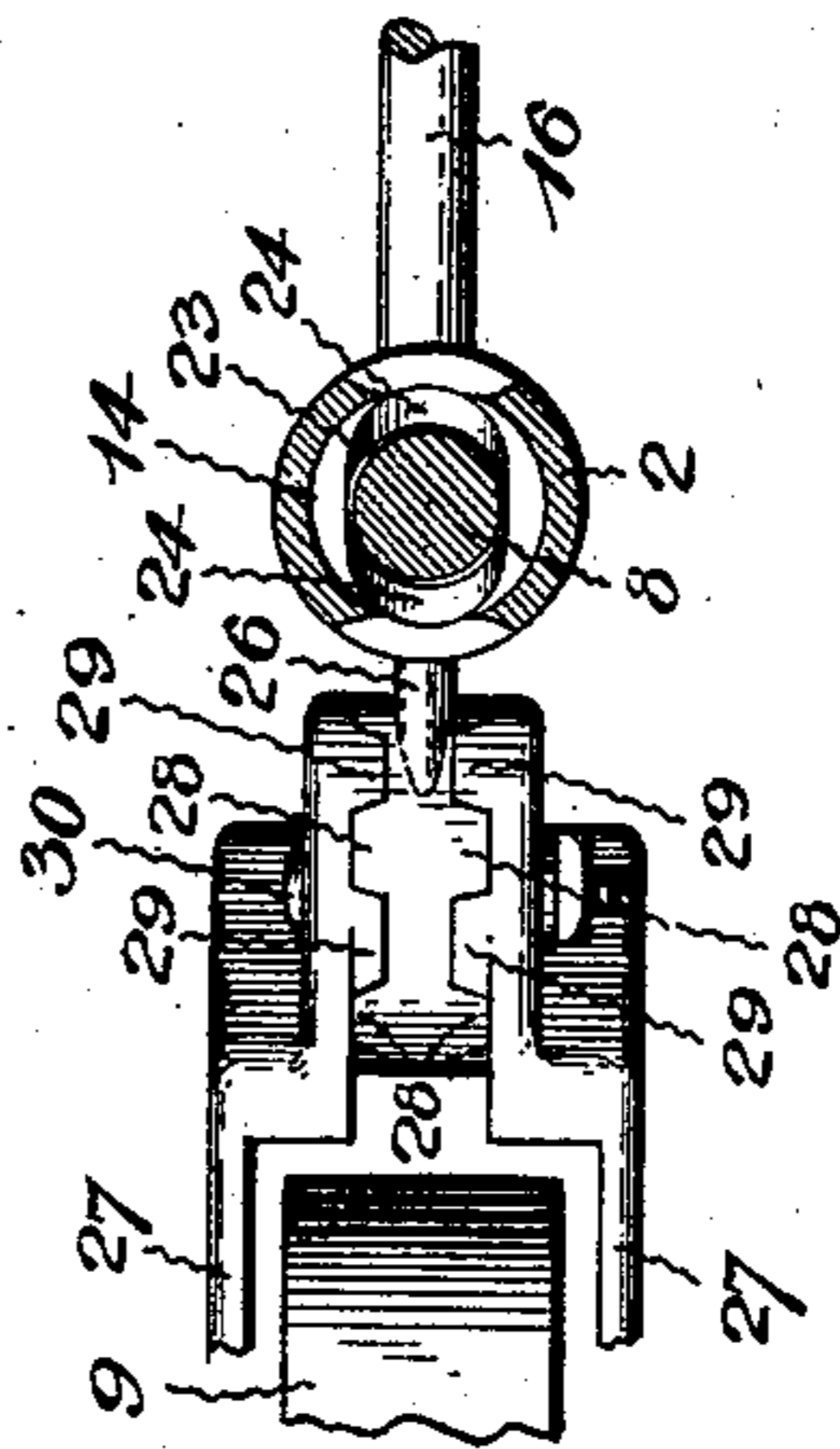


Fig. 5.

Witnesses
J. Grant Culverwell,
J. F. Riley
By This Attorneys,

Inventor
Charles H. Swank.

C. H. Swank & Co.

UNITED STATES PATENT OFFICE.

CHARLES H. SWANK, OF LINVILLE, VIRGINIA.

TONGUE-SUPPORT.

SPECIFICATION forming part of Letters Patent No. 603,387, dated May 3, 1898.

Application filed November 18, 1897. Serial No. 658,980. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. SWANK, a citizen of the United States, residing at Linville, in the county of Rockingham and State of Virginia, have invented a new and useful Tongue-Support, of which the following is a specification.

The invention relates to improvements in tongue-supports.

The object of the present invention is to improve the construction of tongue-supports for harvesters and other heavy agricultural machinery and the like and to provide a simple, inexpensive, and efficient one which will cushion a tongue and relieve the draft-horses of the weight of the same.

A further object of the invention is to provide a tongue-support which will be capable of adjustment to support a tongue at the proper elevation and adapted to yield to the movements of the same.

Another object of the invention is to provide means for adjusting the parts to take up the wear of the same.

The invention consists in the construction and novel combination and arrangement of parts, as hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a side elevation of a tongue-support constructed in accordance with this invention and shown applied to a tongue. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a horizontal section. Fig. 4 is a sectional view on line 5 5 of Fig. 1. Fig. 5 is a sectional view on line 4 4 of Fig. 1.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates the tongue of the harvester or other heavy agricultural machine; but the tongue-support may be applied to any other machine or the like where it is desired to relieve the draft-horses of the weight of the tongue. A vertical tube or housing 2 depends from the tongue 1 and has its upper end enlarged to form an attachment portion or flanges which present an upper inclined face to suit the inclination of the tongue. The top of the vertical tube or housing is recessed to receive the tongue and provide upwardly-

extending flanges 3 to engage the side faces of the same, and it is provided at opposite sides with perforations to receive bolts 4, which pass through similar perforations of a top attachment or clip plate 6, arranged on the upper face of the tongue. The attachment or clip plate 6 is recessed at its lower face to receive the tongue, and the bolts have their nuts 7 arranged on the upper face of the plate 6, their lower ends being provided with rectangular heads which bear against the side faces of the vertical tube or housing 2, whereby the bolts are prevented from turning. The nuts 7, which are located at the top of the tongue, are in convenient position for ready access, and they enable the housing or tube 2 to be drawn up tightly against the lower face of the tongue.

Within the tubular housing 2 is arranged a round standard 8 of a caster-wheel 9, and a spiral spring 10 is interposed between the lower face of the tongue and the top of the standard, being housed within the vertical tube 2 and adapted to cushion the tongue when the caster-wheel is traveling over uneven ground. The upper end 11 of the standard 8 is reduced and receives a disk or washer 12, provided with an enlarged opening for the end 11 and detachably secured to the same by a pin or key 13.

The upper portion 14 of the bore or opening of the tubular housing 2 is enlarged to receive the spring 10 and forms a horizontal shoulder at its lower end, which is engaged by the disk or washer, the enlarged opening of the latter being for the purpose of permitting the necessary play of the standard, as hereinafter described. The disk or washer limits the downward movement of the standard in the tubular housing and prevents it from leaving the latter.

The standard, which is provided at its bottom with a depending stud 15, is supported by a front inclined brace 16, extending upward and forward from the bottom of the standard and hingedly connected at its upper end with the tongue by means of a bracket 17 and a sleeve 18. The lower end of the inclined brace 16 is provided with a perforation to receive the stud 15 and is set an angle to arrange it horizontally on the bottom of the standard, where it is secured by means

of a nut 19, engaging the end of the stud 15, which is screw-threaded.

The upper end 20 of the brace 16 is threaded and receives the sleeve 18, which is interiorly threaded and adapted to screw on or off the brace to vary the length of the same to take up any wear of the parts. The upper end of the sleeve is provided with an eye 21, which is pivoted between depending perforated ears 10 of the bracket 17 by a removable bolt or pin 22, which is adapted to be readily detached to disconnect the brace from the tongue, so that the former may be readily adjusted by means of the sleeve 18.

The brace forms a rigid support for the standard and the caster-wheel, and in order to permit the tubular housing and the tongue to move vertically on the standard for cushioning the parts the lower portion of the bore or opening of the tubular housing is enlarged above and below the center 23 at 24 and 25 at the front and back of the housing or longitudinally of the device to permit the standard to tilt rearwardly and have the necessary play, and the enlarged opening of the disk or washer contributes to this result. The beveling or cutting away of the inner walls of the tubular housing at 24 and 25 forms a central horizontal circular ridge, which constitutes a bearing or fulcrum for the standard, and the transverse diameter of the lower portion of the tubular housing is not increased, so that the standard of the caster-wheel is permitted no lateral movement or play. Openings are provided at the front and back of the upper portion of the tubular housing to afford ready access to the pin or key, so that the parts may be conveniently separated and assembled without removing the tubular housing from the tongue.

The tubular housing is designed to be attached to the tongue in rear of the double-tree, and the bracket 17 is bolted or otherwise fastened to the same in advance of the double-tree, and as the tongue is arranged on a slight slant it may be raised or lowered by adjusting the support backward or forward. A vertical adjustment of the tongue is also obtained by means of the connection between the caster-wheel 9 and the standard 8. The standard is provided with a rearwardly-extending arm 26, to which are detachably secured rearwardly-extending side pieces 27, and the caster-wheel is journaled between the latter. The arm 26 is provided at opposite sides with annular series of lugs or teeth 28, and the upper ends of the sides 27 are provided with similar lugs or teeth 29, which interlock with the teeth 28 and form a ratchet connection to permit the side pieces to be arranged at any desired angle to the arm 26. The teeth 28 and 29 are locked in their engagement by a transverse bolt 30, which passes through perforations of the parts and is adapted to be readily loosened when it is desired to change the adjustment of the side pieces. By swinging the side pieces downward the

length of the tongue-support is increased and the tongue is raised, and by swinging it in the opposite direction the tongue may be lowered.

The side pieces 27 are laterally offset near their upper ends to increase the space between them, and they are provided at their lower ends on their inner faces with annular flanges 31, forming bearings and receiving the hub 32 of the caster-wheel. The lower end of the side pieces 27 are also perforated to receive a transverse axle pin or bolt 33, which connects the sides and which may be fastened by a key, nut, or any other suitable fastening device. In order to reduce the friction to a minimum, a bearing-sleeve or bushing 34 is arranged on the bolt or pin within the hub and interposed between the said side pieces to prevent the same from binding against the ends of the hub of the caster-wheel.

The invention has the following advantages: The tongue-support, which is simple, inexpensive, strong, and durable, is adapted to be readily applied to the tongue of a harvester or other heavy agricultural machine or the like and is adapted to relieve the necks of the draft-horses of the weight of the tongue. It is adapted to adjust the tongue to the proper elevation by being moved longitudinally of the same and by arranging the side pieces of the caster-wheel at the proper angle to the arm of the standard. It is firmly supported by the inclined brace, which extends from the bottom of the standard to the tongue, and the particular construction of the lower portion of the tubular housing permits the necessary backward-and-forward play of the standard and at the same time affords a perfect bearing for the same to permit it to rotate freely in the housing without lateral movement. The upper end of the inclined brace is detachably hinged to the tongue, and the sleeve may be readily disconnected therefrom when it is desired to vary the length of the brace and take up any wear of the parts.

Changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

What I claim is—

1. The combination with a tongue, a caster-wheel provided with a standard, and a brace extending from the standard to the tongue, of a tubular housing depending from the tongue and receiving the standard and capable of upward-and-downward movement thereon, said housing being provided on its interior with a horizontal bearing-ridge and being enlarged above and below the same at its back and front to permit the standard to move backward and forward and prevent any lateral movement, and means for cushioning the tubular housing and the tongue, substantially as described.

2. The combination with a tongue, of a tubular housing depending therefrom, a caster-wheel having a standard arranged within the

housing, and a coiled spring interposed between the upper end of the standard and the tongue and arranged within the tubular housing, substantially as described.

5 3. The combination with a tongue, of a tubular housing having its upper end enlarged and recessed to receive the tongue and arranged against the lower face thereof, a plate engaging the upper face of the tongue and
10 having a recess to receive the same, bolts located at opposite sides of the tongue and passing through the plate and the upper end of the housing, a caster-wheel having a stem arranged within the tubular housing, and a
15 coiled spring interposed between the standard and the tongue and located within the housing, substantially as described.

4. The combination with a tongue, of a tubular housing depending therefrom and having an interior shoulder located between its
20 ends and formed by enlarging the upper portion of the bore or opening, said housing being provided at the lower portion of the bore or opening with an annular bearing-rib and
25 being enlarged above and below the same at its front and back, a standard fitting within the housing and having its upper end reduced, a disk or plate having an enlarged opening to receive the upper end of the standard and detachably connected therewith and adapted to
30 engage the said shoulder, and a coiled spring interposed between the upper end of the standard and the tongue, substantially as described.

35 5. The combination of a tongue, a caster-wheel provided with a standard, means for connecting the tongue and the standard whereby the tongue will be capable of vertical movement on the standard, an oscillating
40 brace disposed at an inclination in advance of the caster-wheel and having its lower end

connected with the standard at the bottom thereof, and an adjustable sleeve arranged at the upper end of the brace and hinged to the tongue, said sleeve being adapted to vary
45 the length of the brace, substantially as described.

6. The combination with a tongue of a caster-wheel having a standard and provided at the bottom thereof with a depending stud,
50 means for mounting the standard on the tongue, an inclined brace having its upper end threaded and provided at its lower end with an eye detachably secured to the depending stud of the standard, a bracket se-
55 cured to the tongue and provided with depending ears, and a sleeve having an eye detachably hinged to the perforated ears, said sleeve being interiorly threaded and engaging the upper end of the brace, substantially
60 as described.

7. The combination of a tongue, a standard connected therewith and provided with an arm having ratchet-teeth at opposite sides
65 thereof, the adjustable side pieces provided at their upper ends with similar ratchet-teeth and having at their lower ends annular flanges extending inward from the side pieces and forming bearings, a bolt passing through
70 the arm of the standard and the upper ends of the side pieces, arranged centrally and forming a pivot for the same, and a caster-wheel journaled in the bearings between the side pieces, substantially as described.

In testimony that I claim the foregoing as
75 my own I have hereto affixed my signature in the presence of two witnesses.

CHAS. H. SWANK.

Witnesses:

JOHN H. SIGGERS,
HAROLD H. SIMMS.