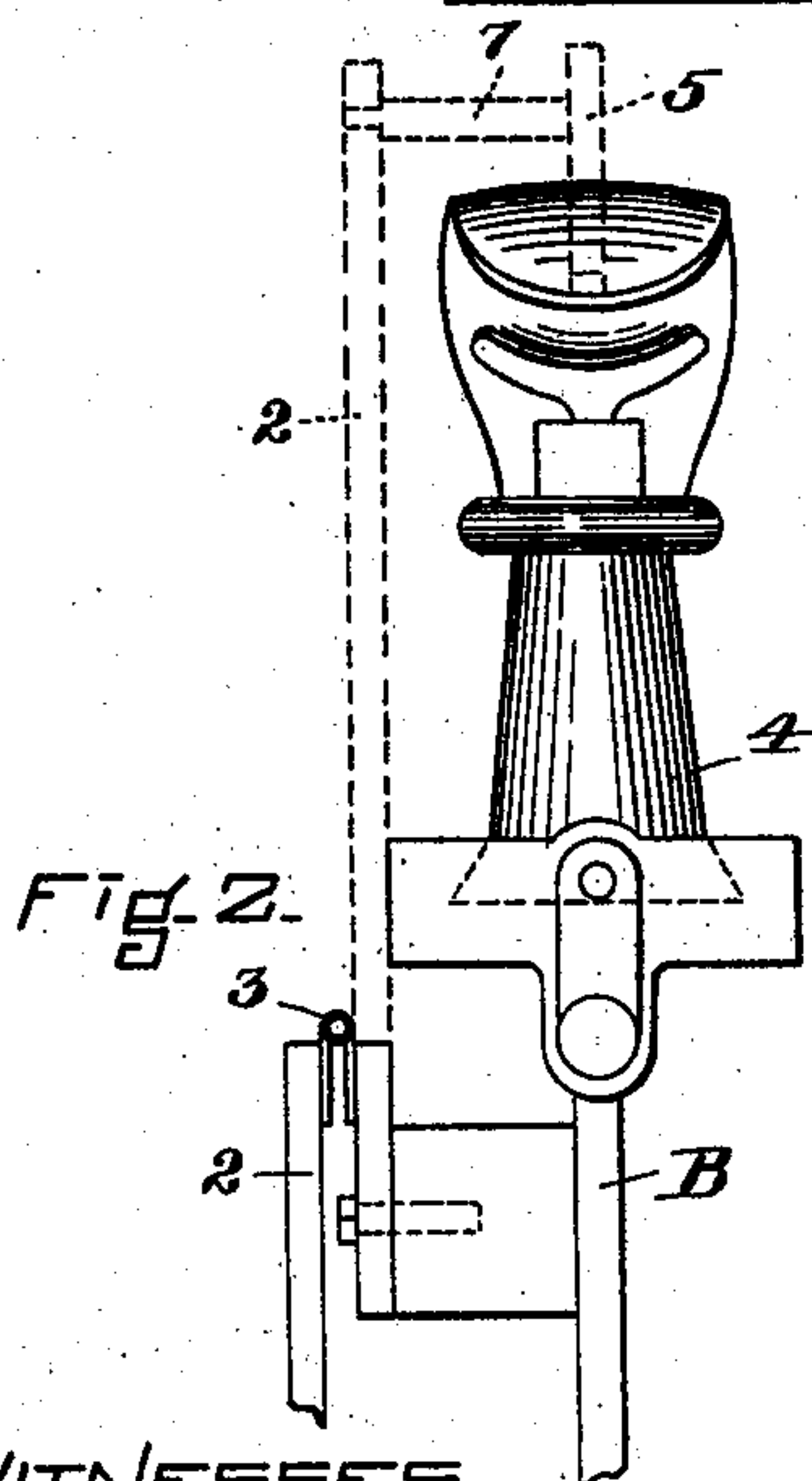
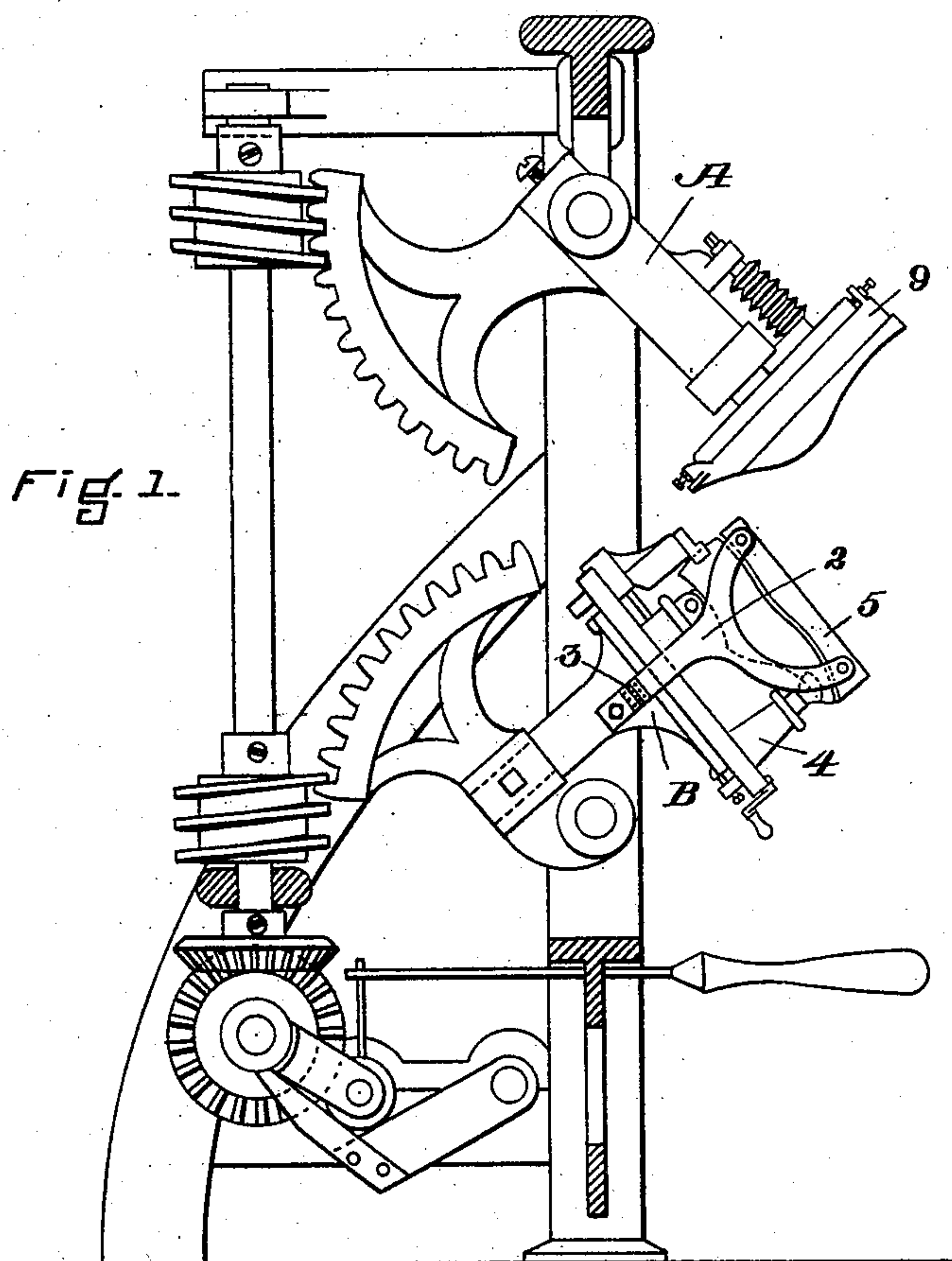


(No Model.)

C. S. JOHNSON & G. W. SPAULDING.
ATTACHMENT FOR SOLE LEVELING MACHINES.

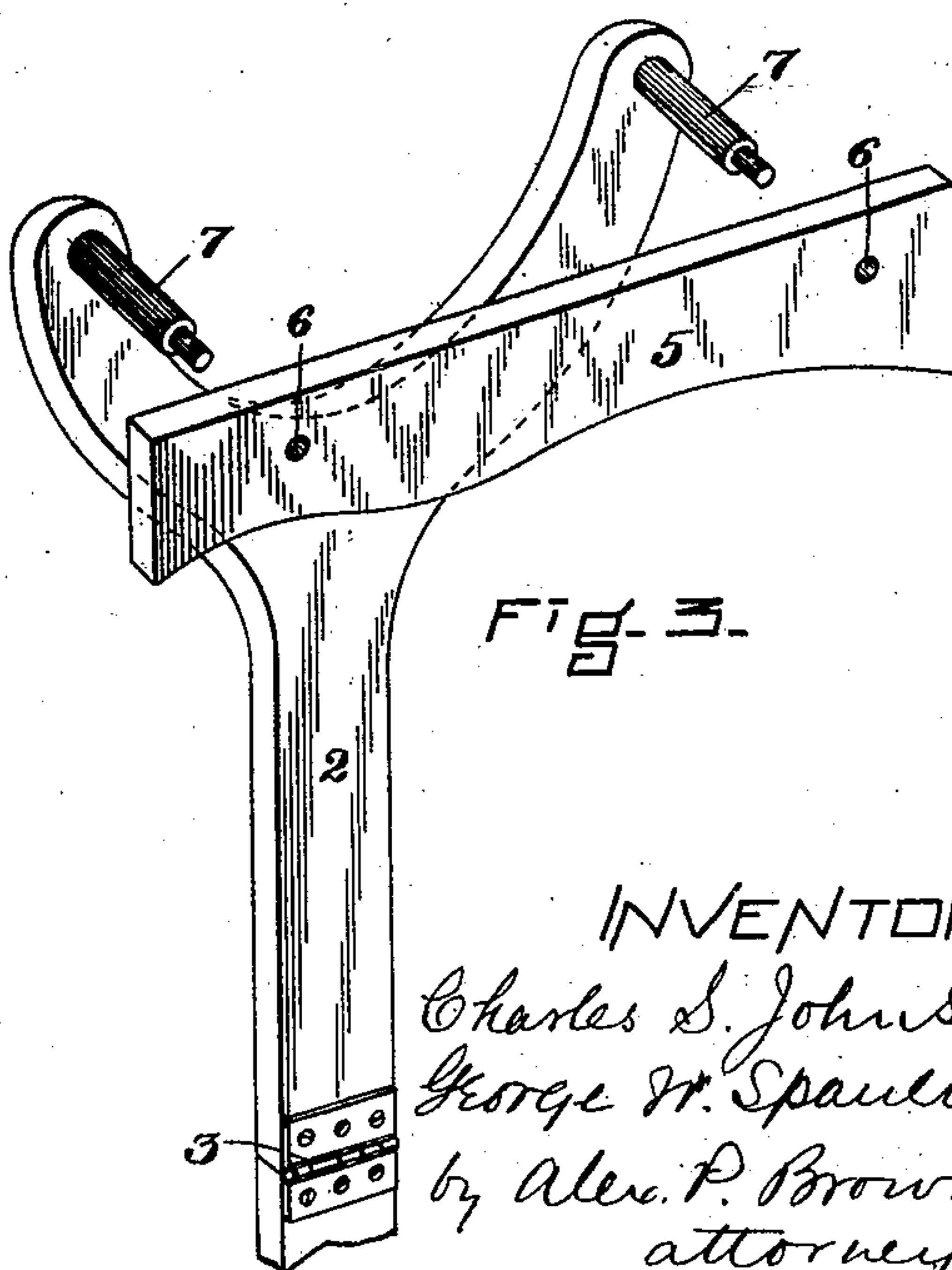
No. 604,885.

Patented May 31, 1898.



WITNESSES.

A. D. Grover.
E. B. Tomlinson.



INVENTORS

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UNITED STATES PATENT OFFICE.

CHARLES S. JOHNSON, OF LYNN, AND GEORGE W. SPAULDING, OF BEVERLY,
MASSACHUSETTS; SAID SPAULDING ASSIGNOR TO SAID JOHNSON.

ATTACHMENT FOR SOLE-LEVELING MACHINES.

SPECIFICATION forming part of Letters Patent No. 604,885, dated May 31, 1898.

Application filed June 14, 1897. Serial No. 640,722. (No model.)

To all whom it may concern:

Be it known that we, CHARLES S. JOHNSON, residing at Lynn, and GEORGE W. SPAULDING, residing at Beverly, in the county of Essex and State of Massachusetts, citizens of the United States, have invented certain new and useful Improvements in Attachments for Leveling-Machines, of which the following is a specification.

Our invention relates to improvements in leveling-machines, particularly those in which the sole is leveled or shaped by means of a form passing over it progressively or with a rolling motion; and its object is to provide improved means for insuring accuracy in the operation of the machine in a manner hereinafter more fully explained.

It is desirable in leveling a large class of shoes to have the work done upon the wooden last upon which the shoe is originally lasted. This need has heretofore made it difficult, if not impracticable, to perform this operation with leveling-machines of the rolling type, a sample of which is the machine patented to S. D. Tripp, No. 296,486, by reason of the liability of breaking the last. This liability arises from the fact that since in such machines the mold and the sole move in arcs of predetermined circles and are themselves of irregular contour on their opposing surfaces a failure to accurately adjust or position the last and sole with reference to the mold may produce excessive strain upon the last, and thereby break the same. Again, the wooden lasts themselves often vary in thickness, and such variation will often produce a breaking strain. It has therefore been the custom with the manufacturers of these machines to provide iron lasts, and the cost and expense of these are considerable; also in certain classes of work an iron last is not considered proper upon which to level a shoe. It follows, consequently, that the production of a leveling-machine of the rolling type, in which shoes can be leveled upon their own wooden lasts, is very desirable; and it is the object of our invention to furnish an attachment whereby this result may be accomplished.

In carrying out our invention we provide a gage to be used in connection with the last of any leveling-machine which operates upon

the rolling principle, this gage being such and so arranged that by its use the position of the last carrying the shoe may be accurately determined before pressure, so as to correspond with the position of the form in its consecutive movement, and thus obviate excess pressure. This gage or templet in its preferred form corresponds with the contour or profile of the bottom of the last when in proper position to be operated upon by the form and is secured to some appropriate part of the machine, preferably upon the device by which the last itself is carried, at such a position and in such relation to the last that it may be brought into place above the bottom of the last and the latter with the shoe upon it be adjusted to correspond to the gage, and so that, after the position of the last has been thus adjusted, the gage may be removed to permit the sole to be leveled.

In the drawings, Figure 1 is a side elevation of such portions of a Tripp machine, above referred to, as are material to the understanding of our present invention, which is shown applied thereto. Fig. 2 is a front elevation of a last-carrier, illustrating the operative relation of our device thereto. Fig. 3 is a perspective view of a preferred form of our gage or templet.

In Fig. 1, A represents the mold-carrying arm, and B the work-carrying arm of a machine constructed in accordance with Letters Patent No. 296,486, previously referred to, this machine being merely selected as a type of those in which both the mold and the work move in predetermined arcs of circles, as do the arms A and B. (Shown in Fig. 1.) Our improvement is attached to the arm which carries the work—that is to say, to the arm B—and in our preferred form of the same it comprises an arm 2, hinged, as at 3, to the arm B, so that it may be swung alternately toward and away from the last-carrier 4, to the free end of which is secured a plate 5, the under edge thereof being preferably given the contour of the bottom of the last to be used, and as this plate 5 must therefore be changed frequently to correspond with the changing styles of lasts we make it readily detachable from the arm 2—as, for instance, by being provided with holes 6, into which pins 7 on the

arm 2 will fit with sufficient tightness to hold the plate 5 in place.

In machines such as shown in Fig. 1 the mold 9 is detachably secured to the arm A 5 and is changed to correspond with the changing styles of lasts used on the arm B, and the plates or templets 5 are given such a contour on the lower edges and the holes 6 are so located in them that when said plates 5 are 10 slipped onto the pins 7 and the arm 2 is swung up vertically, as shown in Fig. 2, the lower edge of the plate 5 will bear substantially the same relation to the last beneath it that the lower face of the mold 9 will bear to said last 15 as the arms A B are rocked and the mold exerts its pressure on the work carried by the last. In use, therefore, after the mold 9 has been changed and a corresponding last has been placed upon the last-carrier the arm 2 20 is swung up into the position shown in Fig. 2 in dotted lines, and the last with its work is then adjusted in relation thereto until its contour corresponds with that given the lower edge of the plate 5. The arm 2 is then swung 25 down and the leveling operation proceeds, it being understood that the arm 2 and its plate 5 do not again have to be used until the style of the lasts which are being used are so much changed as to require a new templet 5.

The mechanism for adjusting the last may be of any preferred construction, as such mechanisms are old in the art. For a fuller description of the one shown in the drawings reference is made to the Tripp patent, previ- 30 ously referred to.

It will be seen that our device provides means whereby the correct position of the last for leveling may be quickly and positively de- 40 termined. We believe ourselves to be the first to have produced such a device for use with the class of machines to which our invention relates. We do not consider ourselves limited to the particular form of gage which we have shown and described, as any 45 device which acts as a gage for positively de-

termining a sufficient number of points in the surface of the last to enable the same to be correctly located will embody our invention.

We claim—

1. In a leveling-machine of the character 50 described, the combination with an adjustable last-carrier of a gage arranged to be moved into and out of position as described, and mechanism for adjusting said last-carrier with reference to the gage, for the purpose 55 set forth.

2. In a leveling-machine of the character described, the combination with an adjustable last-carrier of a pivoted arm having a fixed relation to the machine and provided 60 with a templet as described, and mechanism for adjusting said last-carrier with reference to said templet, for the purpose set forth.

3. In a leveling-machine of the character described, the combination with an adjust- 65 able last-carrier of a pivoted arm having a fixed relation to the machine and carrying a templet detachably secured thereto, said templet having a contour substantially corresponding to that of the last which is to be 70 used on the machine, and mechanism for adjusting said last-carrier with reference to said templet, for the purpose set forth.

4. In a leveling-machine of the character described, the combination with the rocking 75 arm B, carrying an adjustable last-carrier, of an arm 2 pivoted to said arm B and carrying a detachable templet 5, arranged to be moved into position over said last-carrier, and mechanism for adjusting said last-car- 80 rier with a last thereon, with reference to said templet 5, for the purpose set forth.

In testimony whereof we have hereunto subscribed our names this 12th day of June, 1897.

CHARLES S. JOHNSON.

GEORGE W. SPAULDING.

Witnesses:

E. D. CHADWICK,

ALEX. P. BROWNE.