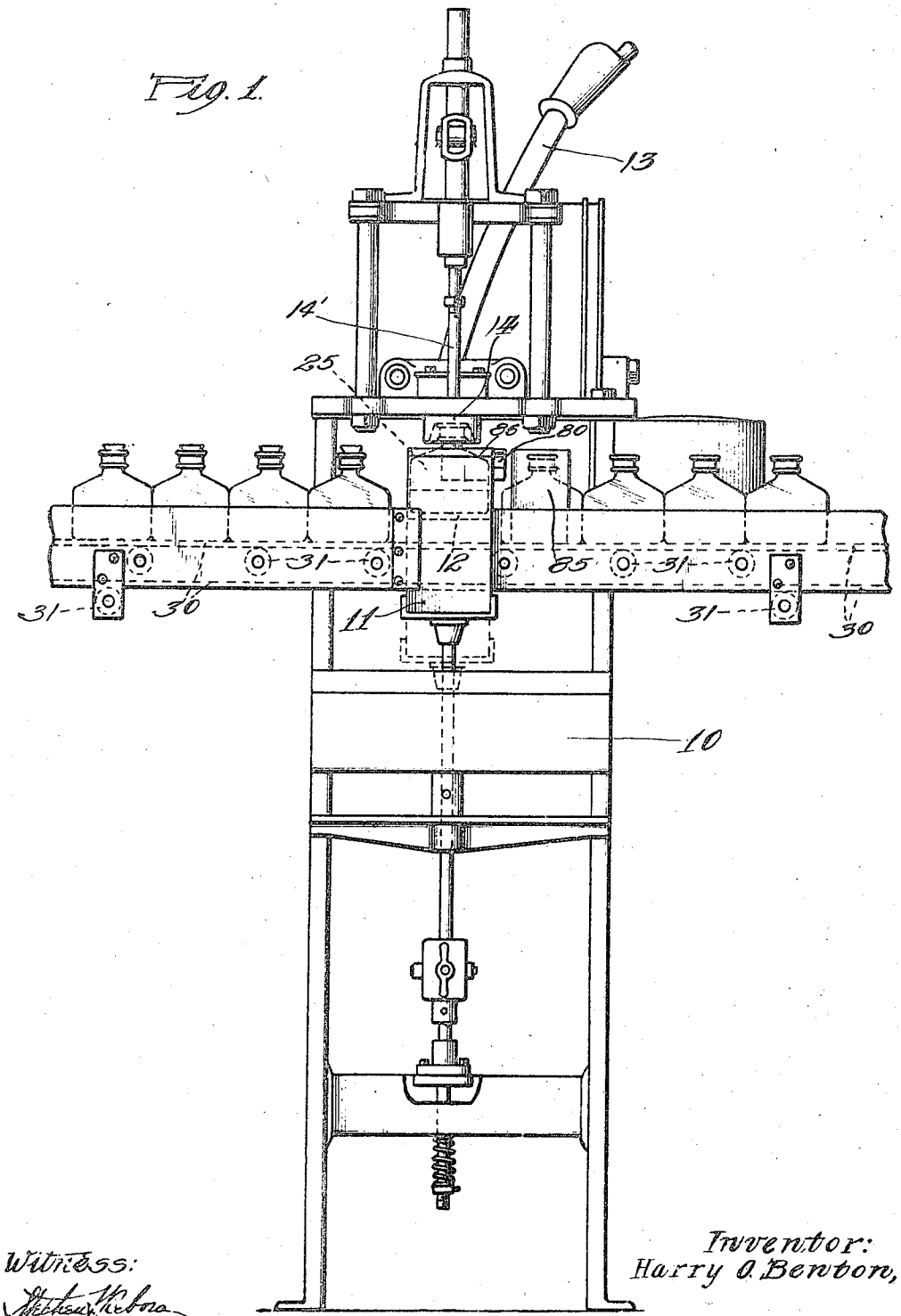
Oct. 2, 1923. 1,469,614

H. O. BENTON

CORKING MACHINE

Filed Feb. 3, 1921 4 Sheets-Sheet 1

Fig. 1.



Witness:

Inventor:
Harry O. Benton,

by Dyer, Tyler, Bee, Thurston & Wiles.

Attys.

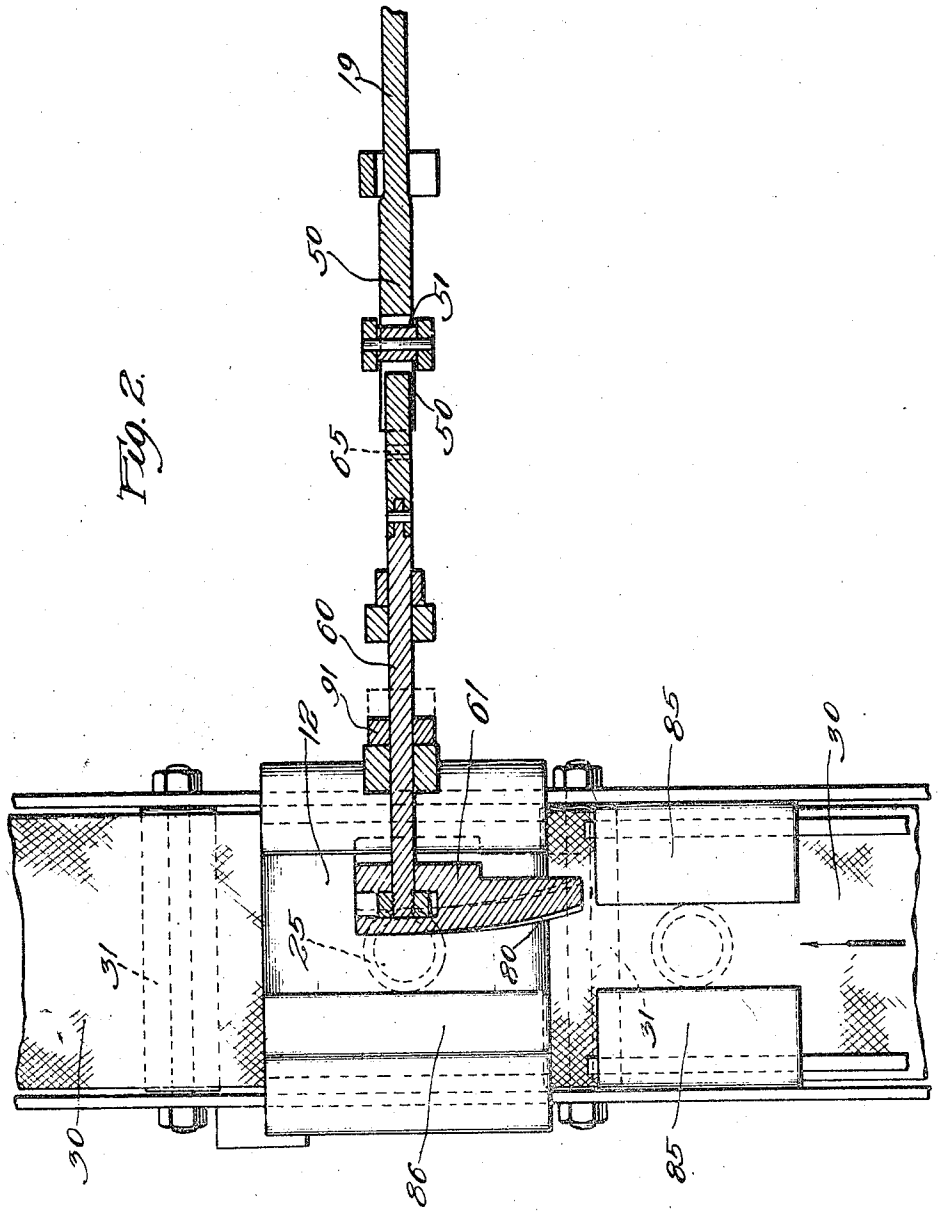
Oct. 2, 1923. 1,469,614

H. O. BENTON

CORKING MACHINE

Filed Feb. 3, 1921 4 Sheets-Sheet 2

Fig. 2.



Witness:
Stephen Rebora

Inventor:
Harry O. Benton,
by Dyer, Tompkins & Lee, Christton & Wiles, Attys.

Oct. 2, 1923. 1,469,614

H. O. BENTON

CORKING MACHINE

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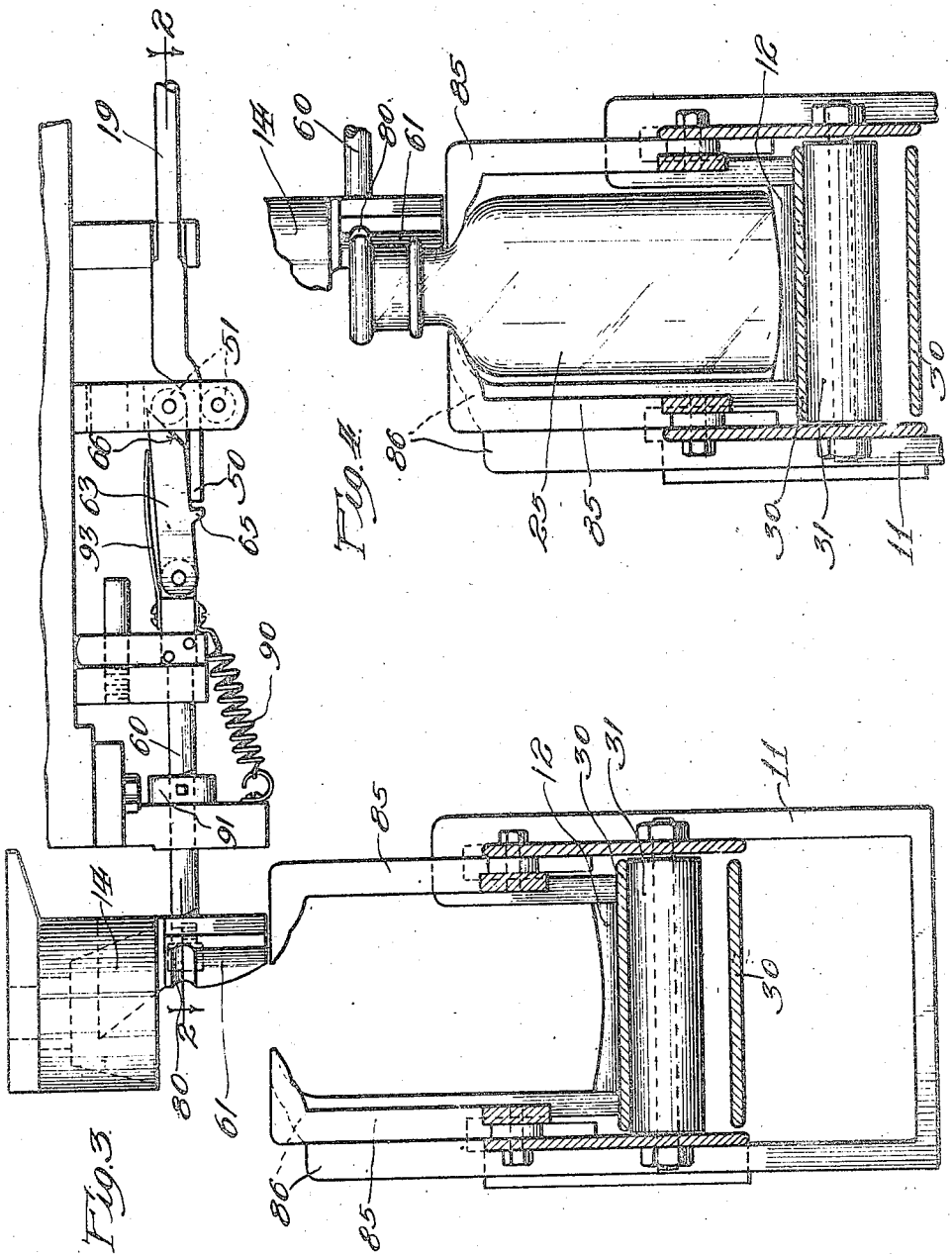


Fig. 4

Fig. 3

Witness:
Stephen Thebaud

Inventor:
Harry O. Benton,
by Dyer, Tompkins, Lee, Christy & Wiles, Attys.

Oct. 2, 1923. 1,469,614

H. O. BENTON

CORKING MACHINE

Filed Feb. 3, 1921 4 Sheets-Sheet 4

Fig. 5.

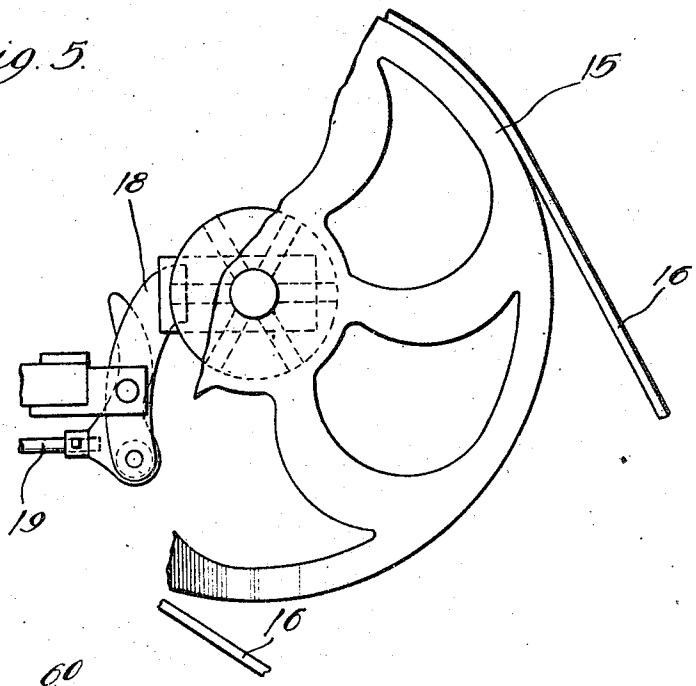


Fig. 6.

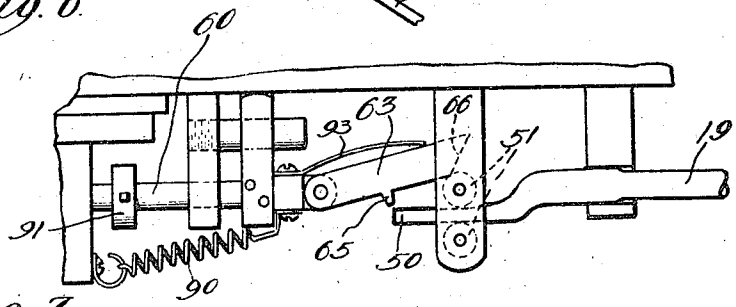
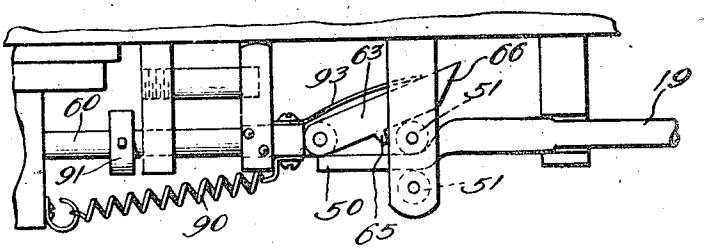


Fig. 7.



Witness:
Stephen Hebna

Inventor:
Harry O. Benton,

by Dyrenforth, Lee, Chritton & Wilson Attys.

Patented Oct. 2, 1923. 1,469,614

UNITED STATES PATENT OFFICE.

HARRY O. BENTON, OF BAYONNE, NEW JERSEY, ASSIGNOR TO STANDARD DEVELOPMENT COMPANY, A CORPORATION OF DELAWARE.

CORKING MACHINE.

Application filed February 3, 1921. Serial No. 442,029.

To all whom it may concern:

Be it known that I, HARRY O. BENTON, a citizen of the United States, residing at Bayonne, in the county of Hudson and State of New Jersey, have invented a new and useful Improvement in Corking Machines, of which the following is a specification.

This invention relates to improvements in bottle-corking machines and comprises in general the provision of mechanical means for feeding bottles to the machine and removing them therefrom, and automatic means for setting the machine into operation.

Heretofore bottle-corking machines have been made in which the bottle to be corked is placed by hand on the carriage of the machine, the tripping rod of the machine then moved by hand whereupon the machine performs the corking operation, and the bottle then removed by hand. In such machines each bottle separately must be placed on the carriage of the machine and removed therefrom by hand. Such machines are ordinarily provided with a continuously rotating motion wheel and a clutch operated by the tripping rod, so that when such tripping rod is moved a short distance and permitted to snap back the clutch operates to engage the motion wheel with the corking mechanism of the machine itself causing one corking operation to take place which corks the bottle in place on the carriage. The particular construction and operation of such clutch and corking mechanism will not be described in detail since they are old in the art and form no part of the present invention except in combination with the features of my invention herein described. In fact, my invention may be used on any kind of bottle-corking machine which is adapted to be set into operation by the movement of a tripping rod.

In the accompanying drawings, Figure 1 is a view in elevation of a corking machine embodying the features of my invention, Fig. 2 is a horizontal sectional view of the contact head and a part of the tripping mechanism, Fig. 3 is a form in elevation similar to Fig. 2, Fig. 4 is a view similar to Fig. 3, with the tripping mechanism omitted, showing a bottle in contact with the contact head, Fig. 5 is a view in elevation of a part of the motion wheel and clutch, and Figs. 6 and 7 are views of the tripping mechanism in altered positions.

As shown in said drawings, 10 indicates, in general, a corking machine of ordinary construction provided with a vertically reciprocating carriage 11 having a bottom plate 12 upon which a bottle is placed for the corking operation. 13 indicates a cork hopper and 14 the cork holder. The machine is also provided with a continuously rotating motion wheel 15 driven by a belt 16 from a suitable motor (not shown). A clutch, indicated in general by 18, adapted to be operated by the tripping rod 19 is provided, and the parts are so constructed that movement of the tripping rod 19 to the right (as viewed in the drawings) a short distance and permitting it to snap back operates the clutch 18 to engage the motion wheel 15 causing the machine to make one corking operation and cork the bottle 25 resting on the bottom plate 12 of the carriage 11. In general this corking of the bottle is accomplished by upward movement of the carriage 11, bringing the neck of the bottle 25 in position to receive a cork forced downward from the cork holder 14 by a plunger 14′; the cork first having been supplied to the cork holder from the hopper 13. As explained above, the details of construction and operation of the clutch and the details of the mechanism performing the operation and their manner of operation form no part of the present invention, except in combination with the features hereinafter pointed out, and consequently are not described in detail. Such features are old in the art and may be made in a variety of forms and operated in a variety of manners. In combination with a machine as shown and described above, I provide a belt conveyer comprising an endless belt 30 driven in any suitable manner. The upper strand of the belt 30 is given movement in the direction indicated by the arrows in Fig. 1 and is supported by suitable idler rollers 31. The upper strand of such conveyer belt 30 lies just beneath the bottom plate 12 of the carriage 11, which has its front edge beveled, so that a bottle resting upon the conveyer belt 30 and moving with it as it meets the bottom plate 12 will ride up on such bottom plate.

I have also provided the tripping rod 19 with an offset flattened extension 50 on its end supported between the two rollers 51. Lying substantially in line with the tripping rod and suitably supported is a reciprocating rod 60 having on one end a beveled fibre contact head 61 adapted to be engaged by the neck of a bottle as it rides up onto the bottom plate 12 of the carriage 11. The other end of the rod 60 is provided with a pivoted extension 63 having a downwardly depending finger 65 adapted to engage the end 50 of the tripping rod 19. The end of the pivoted extension 63 is beveled as indicated by 66, and such beveled surface adapted to engage the upper roller 51 causing the extension 63 to ride up on such roller and disengage the finger 65 from the end 50 of the tripping rod 19. It will be seen, that by this construction movement of the rod 60 to the right, as viewed in Fig. 3 will operate to push the tripping rod 19 a short distance in the same direction and then permit it to snap back as the finger 65 disengages from the end. In Fig. 3 I have shown the rod 60 in the position it occupies just before the contact head 61 is engaged by the neck of a bottle. It will be noted that the finger 65 is a short distance from the end 50 of the tripping rod 19. In Fig. 6 I have shown the parts in the position occupied after the contact head has been engaged by the neck of a bottle and the rod 60 moved a short distance to the right. It will be noted that in this position the finger 65 has engaged the end 50 of the rod 19 and forced it to the right and the beveled end 66 of the extension 63 has ridden up on the roller 51 and the finger 65 has just become disengaged from the end 50 and the rod 19 is just about to snap back to the left. In Fig. 7 I have shown the position occupied by the parts after the rod 19 has snapped back to the left to its normal position and the rod 60 has been moved further to the right by the contact of a neck of a bottle with the contact head 61. A spring mechanism, not shown in the drawings, is arranged in connection with the clutch to cause the rod 19 to snap back when the finger 65 disengages from its end. The contact head 61 is so located and arranged that as a bottle moves from the conveyer belt 30 onto the bottom plate 12 of the carriage, the neck of such bottle will strike the contact head 61 forcing it a short distance to the right, as viewed in Figs. 2, 3 and 4. As shown in Fig. 1 the bottles are lined up on the conveyer belt, and each bottle is pushed up onto the bottom plate 12 by the bottles behind it. The parts are so arranged that as each bottle rides up on the bottom plate 12 it centers itself under the cork that is to go into its neck; and when so centered it will have pushed back the contact head 61 and tripping rod and released the machine to perform a corking operation. After the cork is driven, the corking operation is completed by lowering the carriage so that the bottom plate 12 is again just over the belt, whereupon the bottle just corked is pushed off by the next bottle behind it. In this manner the corking operation is automatically performed on each bottle in succession.

It will be noted that the contact head 61 is provided with a groove 80 adapted to accommodate the bulge on the neck of the bottle. Suitable guides 85 are provided in order to properly direct the bottles onto the carriage and another guide 86 at the top of the carriage is provided in order to hold the neck of the bottle against the contact head 61 as the bottle enters the carriage.

The sliding rod 60 is provided with a spiral spring 90 adapted to move it back into normal position as shown in Fig. 3 after the contact head 61 has become disengaged from the neck of a passing bottle. A suitable stop 91 is also provided to limit its movement. A small spring 93 is also provided as shown for the purpose of resiliently holding the pivoted extension 63 down so that the beveled edge 66 will remain in contact with the roller 51.

While I have shown and described certain embodiments of my invention, it is to be understood that it is capable of many modifications. Changes therefore in the construction and arrangement may be made without departing from the spirit and scope of the invention as disclosed in the appended claims, in which it is my intention to claim all novelty inherent in my invention as broadly as possible in view of the prior art.

What I claim as new, and desire to secure by Letters Patent is:

1. In a bottle-corking machine having a tripping rod adapted to be moved to set the machine into operation, a bottle support, a contact head attached to said rod and projecting over said support, and an abutment between which and said contact head a portion of a bottle enters when placed on said support, whereby the head is pressed upon to actuate said rod.

2. In a bottle-corking machine having a tripping rod adapted to be moved to set the machine into operation, conveying means operating to feed bottles to the machine to be corked, a plate for receiving said bottles, and an elongated contact head beveled in the direction of the travel of the bottles attached to the tripping head and arranged above said conveying means and plate and adapted to be engaged by bottles carried by said conveying means whereby to actuate the said rod.

3. In a bottle-corking machine having a tripping rod adapted to be moved to set the

machine into operation, a conveyor belt operating to feed bottles to the machine to be corked, a plate for receiving said bottles, and an elongated contact head beveled in the direction of the travel of the bottles attached to the tripping head and arranged above said conveyor belt and plate and adapted to be engaged by bottles carried by said conveyor belt whereby to actuate the said rod.

In testimony whereof, I have hereunto set my hand and seal this 25 day of January 1921.

HARRY O. BENTON. [L. S.]