

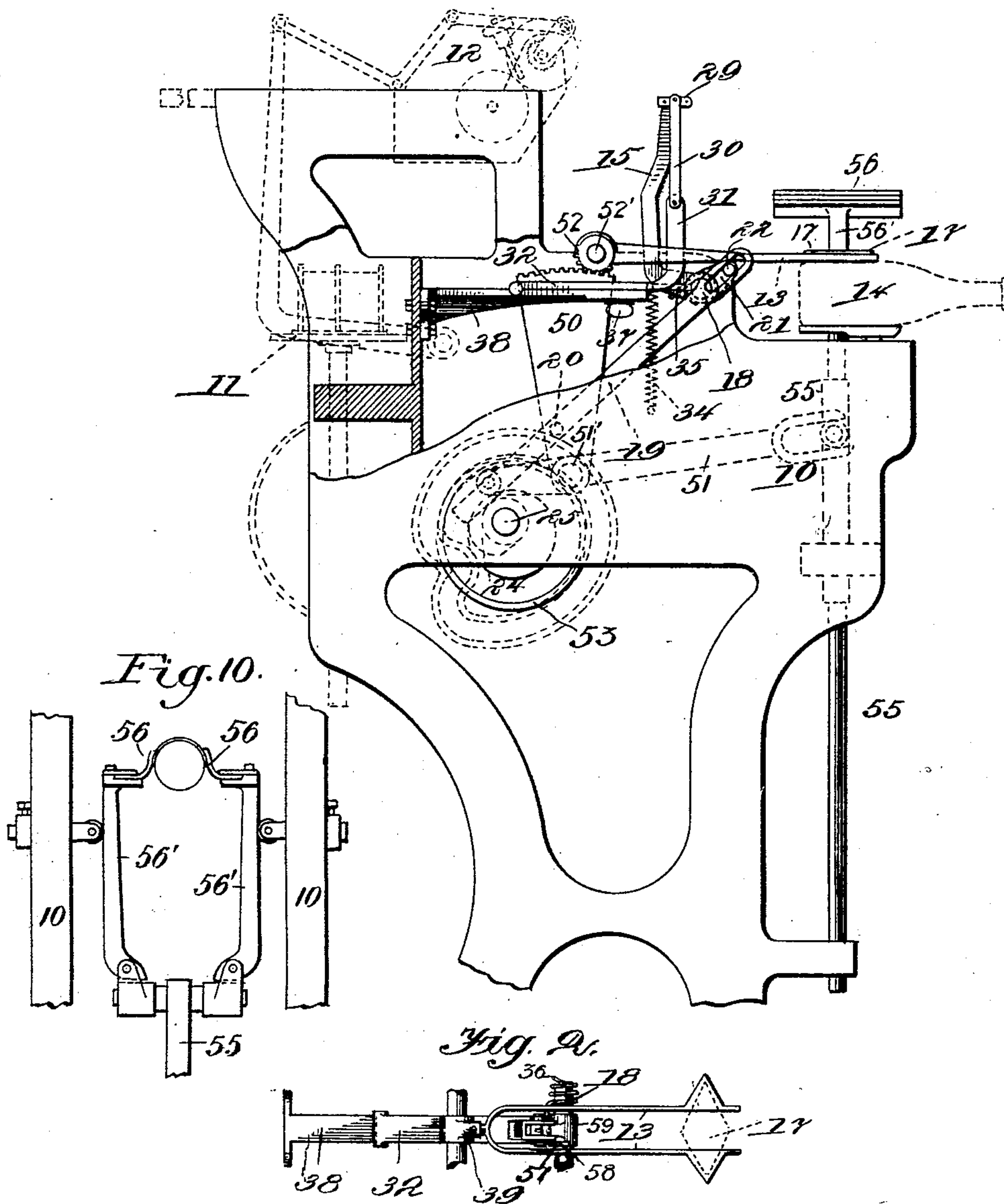
F. C. H. STRASBURGER.  
PRINTING ATTACHMENT FOR LABELING MACHINES.

(Application filed Nov. 7, 1901.)

(No Model.)

2 Sheets—Sheet 1.

*Fig. 1.*



Witnesses:  
*H. S. Gaidner*  
*Helmut L. Peck*

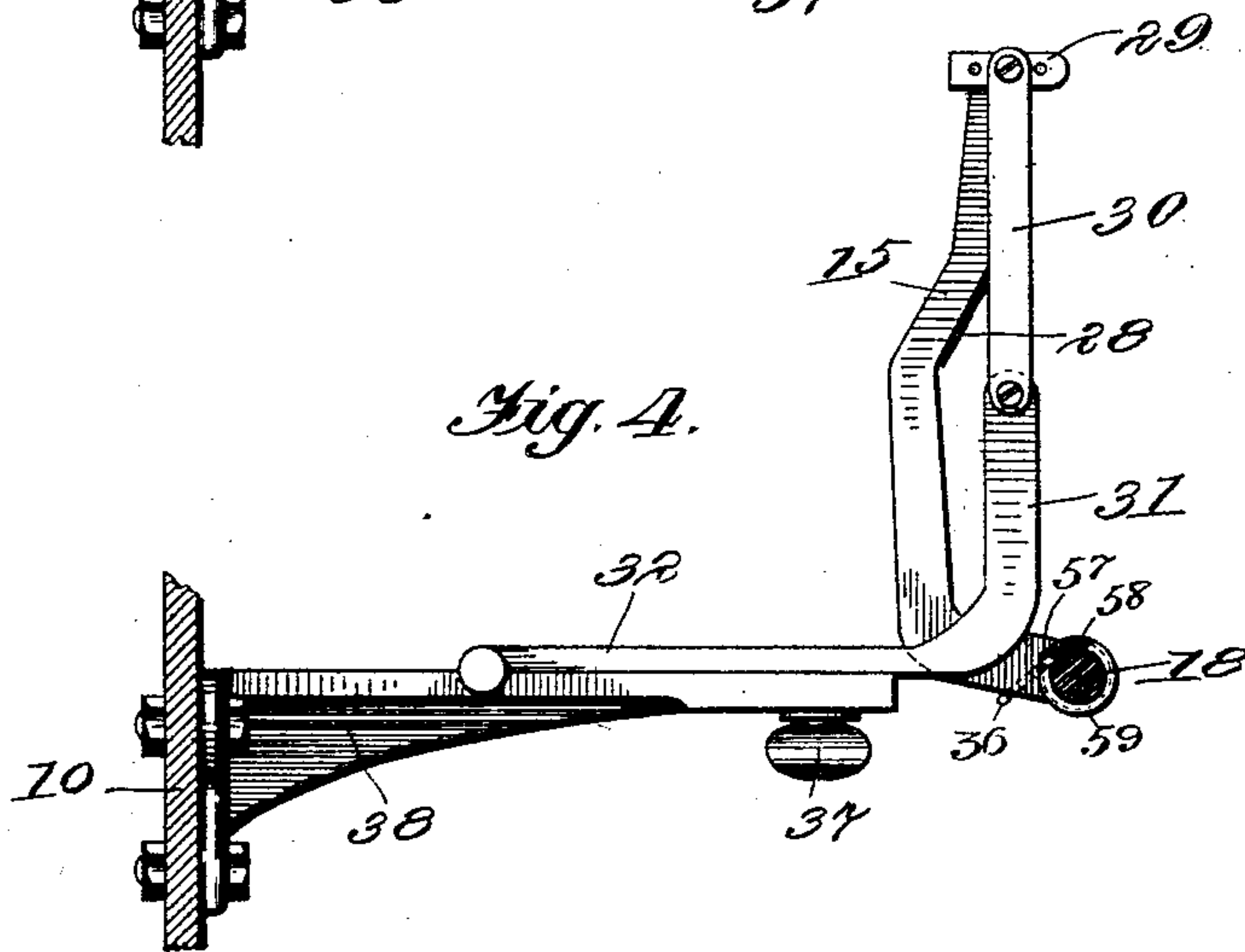
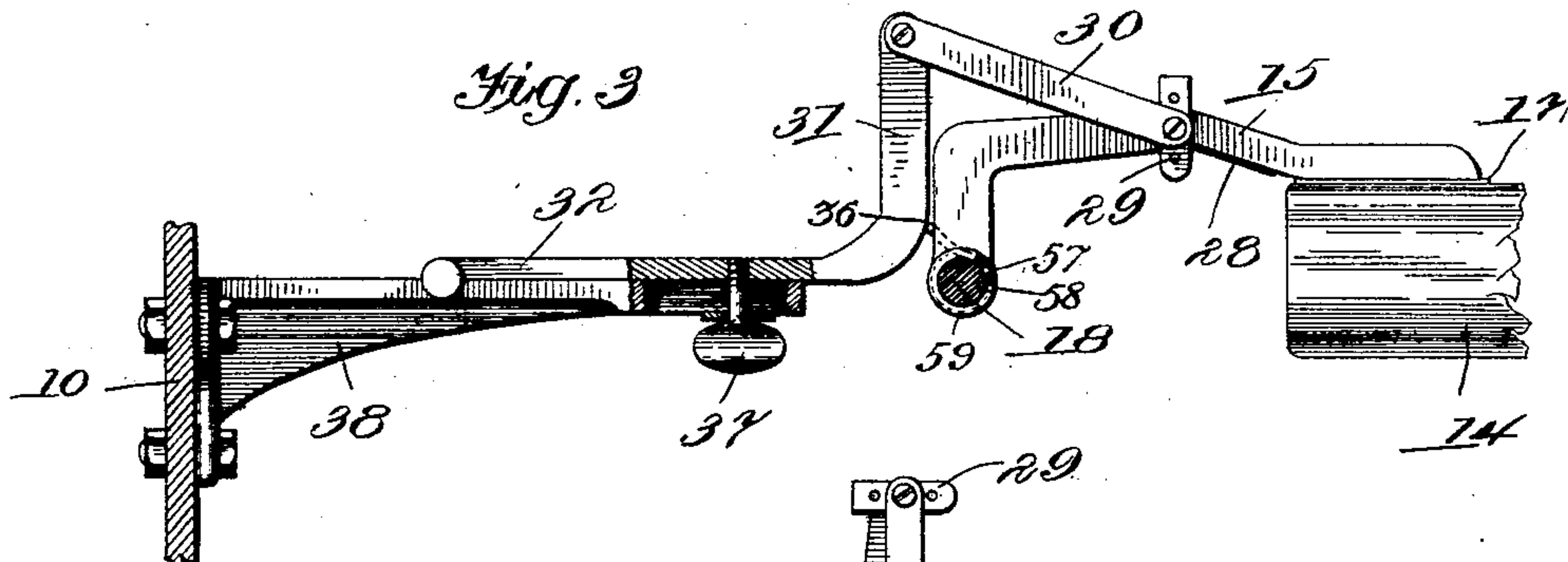
Inventor:  
*Frank C. H. Strasburger.*  
by *Wm. O. Bell.*  
Attorney.

F. C. H. STRASBURGER.  
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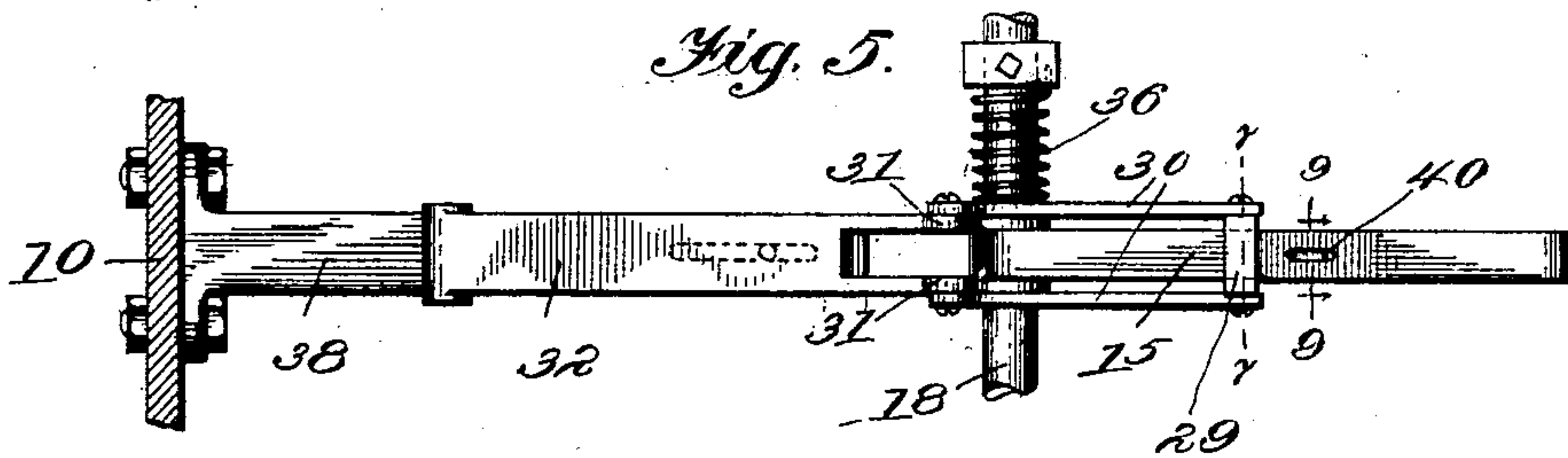
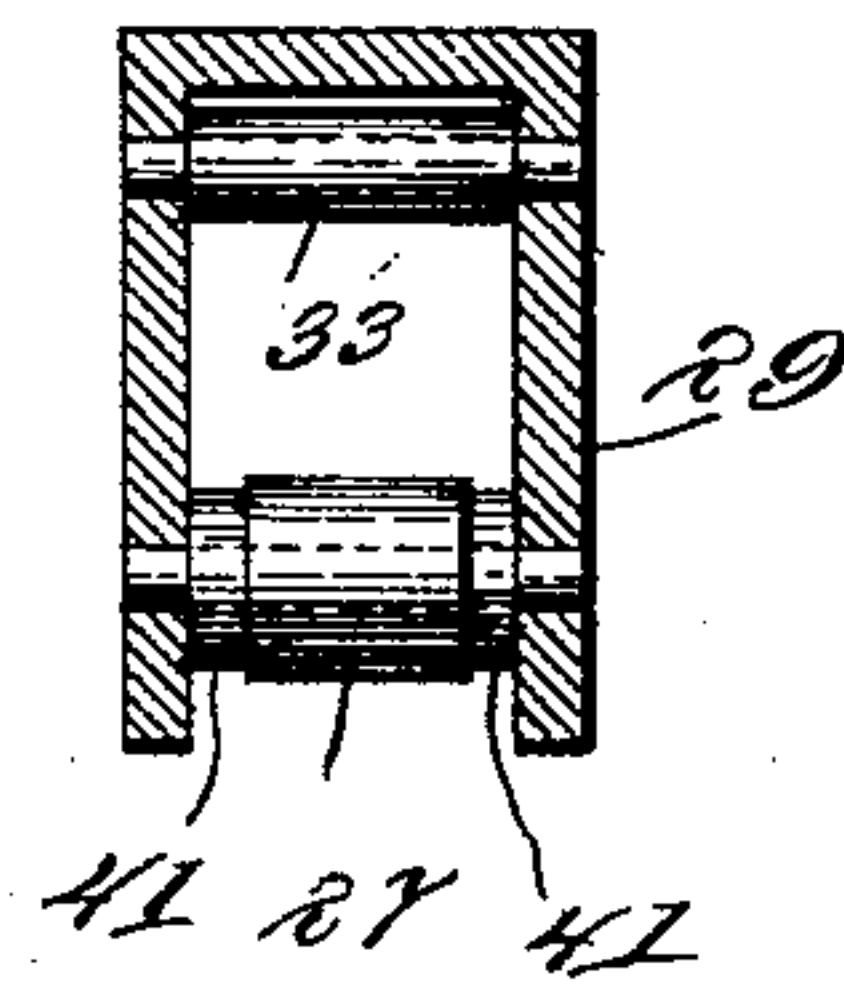
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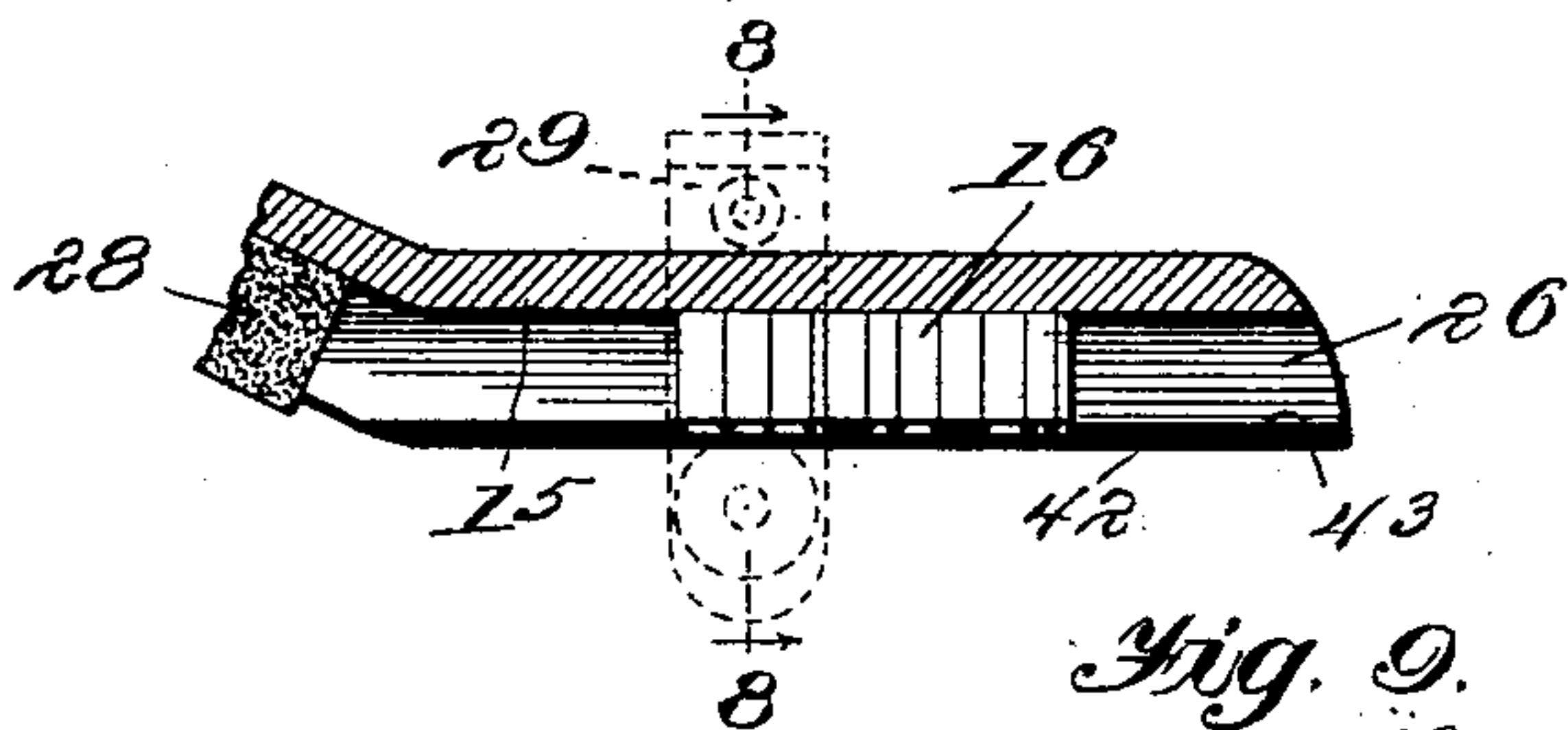
2 Sheets—Sheet 2.



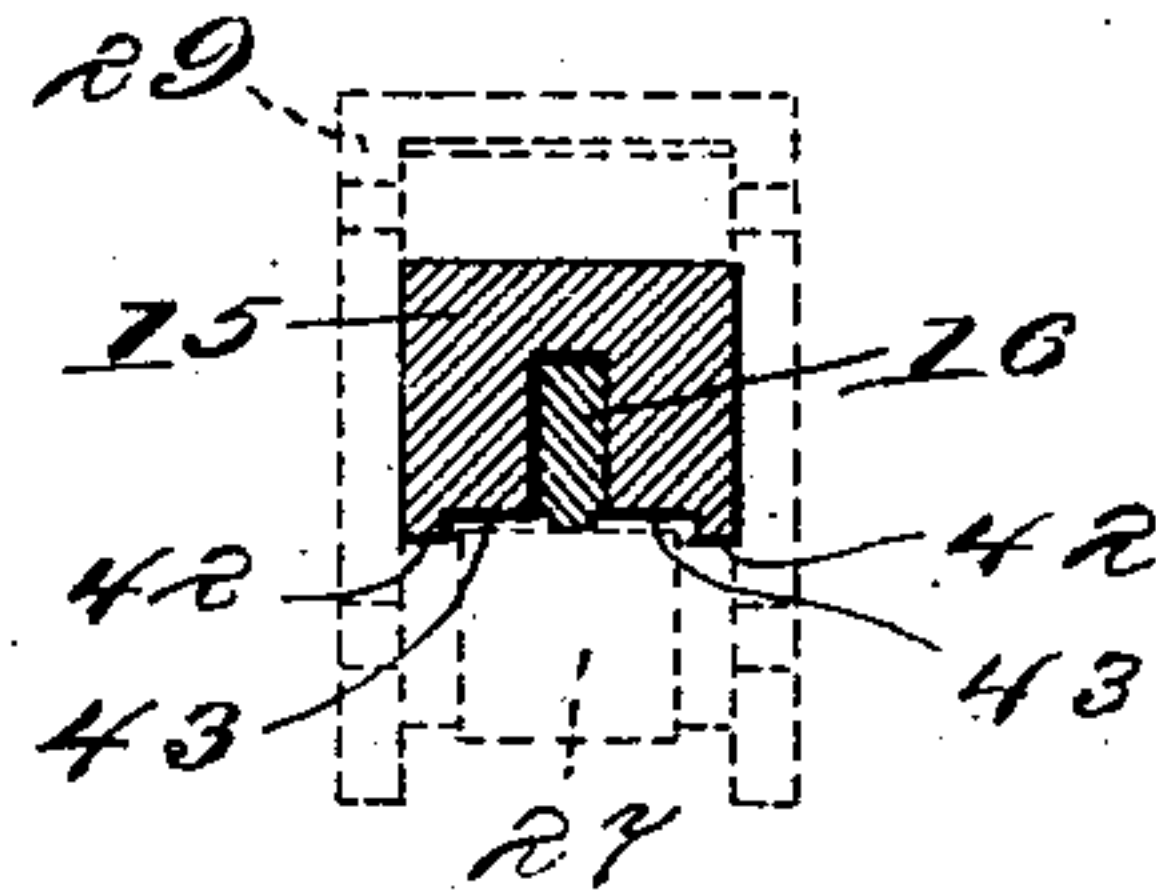
*Fig. 7.*



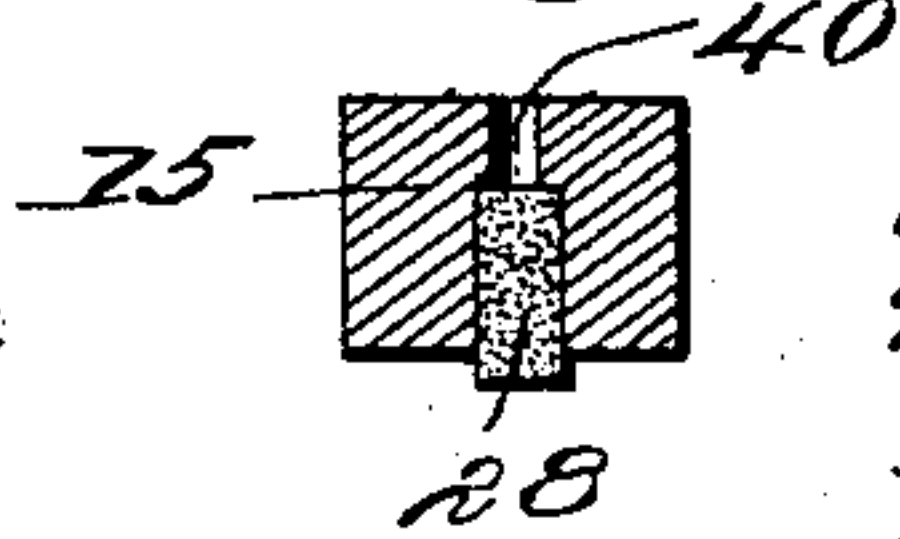
*Fig. 6.*



*Fig. 8.*



*Fig. 9.*



Witnesses:

*H. S. Gaither*

*Helen L. Peck*

Inventor:

*Frank C. H. Strasburger*

by *W. M. O. Bell*  
Attorney



# UNITED STATES PATENT OFFICE.

FRANK C. H. STRASBURGER, OF CHICAGO, ILLINOIS, ASSIGNOR TO BOTTLERS' SPECIALTY MANUFACTURING CO., OF CHICAGO, ILLINOIS, A CORPORATION OF IOWA.

## PRINTING ATTACHMENT FOR LABELING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 711,019, dated October 14, 1902.

Application filed November 7, 1901. Serial No. 81,440. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK C. H. STRASBURGER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Printing Attachments for Labeling-Machines, of which the following is a specification.

This invention relates to novel mechanism for printing a date or other information on labels at or about the time the labels are affixed to receptacles, and I have used it successfully in connection with labeling-machines of the character illustrated in Letters Patent of the United States No. 647,043, granted to me April 10, 1900, and No. 674,141, granted to me May 14, 1901; but it will be apparent after the invention is understood that it may be embodied in machines otherwise constructed and employed for a variety of different purposes, all within the scope of the invention.

The primary object of the invention is to provide a simple and inexpensive printing attachment for labeling-machines which automatically operate to print upon each label at or about the time the label is affixed to the receptacle; and another and equally important object is to employ the receptacle itself as a platen for the printing operation, whereby the printing attachment may come into operative engagement with the label at or about the time the latter is being affixed to the receptacle or after it is affixed.

The invention has other objects in view, which will be particularly described hereinafter and pointed out specifically in the claims.

I have illustrated my invention in connection with a labeling-machine of the character illustrated in my patents above mentioned, and as the invention is not restricted to use with a machine of special construction I have only shown so much of the machine as is necessary to illustrate the general position and arrangement and operation of the printing attachment.

In the accompanying drawings, Figure 1 illustrates the improved attachment embodied in a labeling-machine. Fig. 2 is a top plan view of the attachment and also showing a label-carrier. Fig. 3 is a side elevation

of the attachment partly in section and showing the same in printing position. Fig. 4 is a similar view of the attachment in elevated position. Fig. 5 is a top plan view of the attachment. Fig. 6 is a longitudinal sectional view showing the arrangement of the type. Fig. 7 is a sectional view on the line 7 7 of Fig. 5. Fig. 8 is a transverse sectional view on the line 8 8 of Fig. 6. Fig. 9 is a transverse sectional view on the line 9 9 of Fig. 5. Fig. 10 is a front view of the affixing devices.

Referring to the drawings, in which like numerals of reference denote corresponding parts in the several figures, 10 designates the frame of the machine in which my printing attachment is embodied, and in connection with the frame I have also shown in broken lines a label-supply holder 11 and a paste device 12. A swinging carrier 13 may be employed to carry the labels from the supply-holder into labeling position, Fig. 1, and this carrier may be actuated in any suitable manner, as by a segmental gear 50, mounted on a rock-shaft 50' and meshing with a partially-toothed pinion 52 on the carrier-shaft 52'. The affixing devices may consist of wipers 56, carried on arms 56', pivotally mounted on a vertically-movable rod 55, said rod being operated by means of a lever 51, mounted on the shaft 50' and reciprocated by a grooved cam 53 on a shaft 25. It will not be necessary to specifically describe these features of a labeling-machine, as they may be variously constructed and operate independently of the invention herein claimed.

The printing attachment consists, essentially, of an arm 15, carrying suitable type 16, Fig. 6, and arranged to be brought in operative contact with the label 17 while the latter is in engagement with or adjacent to the receptacle. In the embodiment of the invention illustrated in Fig. 1 the attachment is constructed and arranged to operate upon the label while the latter is held by the carrier 13 above the receptacle in position to be affixed thereto, and the printing attachment accomplishes also the additional result of temporarily clamping the label between itself and the receptacle while still engaged by the carrier, so that the carrier may disen-



gage itself from the label without disarranging the latter on the receptacle and return to the label-supply for another label, the affixing devices being brought into operative contact with the label while it is still held on the receptacle by the printing attachment and immediately after the carrier has disengaged itself therefrom. These operations of the carrier and affixing devices are fully disclosed in my aforesaid patents. This arm 15 is mounted on a shaft 18, suitably journaled in the frame or otherwise supported and given a rocking movement by suitable actuating mechanism, which may be variously constructed. In the drawings I have shown in broken lines one means for imparting a rocking movement to the arm, which consists of a lever 19, pivoted to the frame at 20 and connected to a crank 21 on the rock-shaft 18 by a pin 22 working in a slot in one end and operated by a cam 24 on a power-shaft 25, which engages its other end, whereby the printing-arm is properly rocked. It is apparent, however, that other means may be employed for imparting the proper movement to the printing-arm, and I desire to include within the purview of my invention all suitable means for rocking the arm. The type are arranged in a slot 26 in the free end of the arm and they may be held in place in any suitable manner. In labeling bottles and other hard receptacles I prefer to employ rubber type, which may be made to hold themselves in the type-groove without any holding devices; but I may employ metal or other hard type in labeling paper boxes and all receptacles having sufficient flexibility, and while such type may also be made to stay in the type-groove without holding devices I may employ whatever holding devices may prove necessary or desirable.

The inking device consists, essentially, of a roller 27, which is caused to take up ink from a pad 28 and distribute it over the printing-faces of the type. In the embodiment of the invention illustrated in the drawings, and particularly on Sheet 2 thereof, the ink-roller 27 is carried by a yoke 29, which in turn is pivotally mounted on and carried by links 30, pivoted on the bifurcated ends 31 of a support 32. The ink-roller is arranged to travel in contact with the type and the ink-pad, and in the top of the yoke I provide a roller 33, which rides on the opposite side of the printing-arm. The yoke 29 is pivoted in the ends of the links 30, so that it can readily adapt itself to the changing position of the printing-arm during its operation and also in order that the inking-roller may ride easily and smoothly over the type and inking-pad. The support 32 is bifurcated in order that the printing-arm may swing back into upright position, as illustrated in Fig. 4; but it will be understood that it is not necessary for accomplishing the improved results of my invention that the printing-arm should be carried to this upright position, and the

parts which support and carry the inking-roll, and the rock-shaft and the printing-arm may be variously disposed and arranged with relation to each other to adapt the invention for use in labeling-machines of different constructions and also as may become necessary to use the invention in labeling different kinds of receptacles. I have shown the printing-arm swung back into the bifurcated end of the support 32; but it is not an essential operation of the invention and equivalent results may be obtained by not carrying the printing-arm back so far. In connection with the rocking mechanism heretofore described for carrying the printing-arm into operative engagement with the label I may employ a spring 34, connected at one end to a rigid part of the machine and at the other end to an arm 35 on the rock-shaft 18 or other suitable devices for returning the rock-shaft to its normal position at rest. I prefer that the printing-arm should be movable relatively to its shaft and provide a pin 57 on the shaft, which works in a recess or cut-out 58 in the collar 59 of the arm, and a spring 36, arranged on the shaft and in engagement with the arm. The pressure of the arm on the receptacle will thus be yielding in character and not rigid, although I am aware that good results may be obtained by a proper adjustment of the working parts of the machine and the invention if a fixed pressure is provided instead of the yielding pressure. The support 32 is adjustably secured by a thumb-screw 37 to a bracket 38, fastened to a fixed part of the machine, this manner of securing the part being desirable in order to properly adjust the inking-roll with relation to the printing-arm. It is also useful in the particular embodiment of the invention herein described to permit the withdrawal of the carrier 13 from its socketed collar 39 as it becomes necessary to change the carrier for labels of different sizes or shapes and as there may not be sufficient room to permit this removal of the carrier without first moving the support 32 forward, as the carrier consists of a bifurcated arm inclosing the printing attachment in the manner illustrated in Fig. 2. The ink-pad is located back of the type in a suitable groove, which may form a continuation of the type-groove or be entirely independent thereof, and ink may be supplied to the pad through an opening 40 in the back of the arm or in any other suitable manner. In the particular construction of the printing-arm shown in the drawings the ink-pad is located between the ends of the arm in a part which is inclined at an angle to the part that carries the type, and while I have found this to be a very satisfactory construction I do not deem it essential to make the arm in this way and may make it straight or otherwise. The inking-roll is preferably made of metal, and it has its ends reduced at 41 to receive the shoulders 42 on the printing-arm, that portion of the face of the printing-arm between said



shoulders being recessed at 43, so that the faces of the type in the groove will lie clear of the arm to receive the ink from the roll and to make a clear and distinct impression on the label. This construction is particularly useful when labels are applied to curved or rounded surfaces, and it may be found in labeling some receptacles that better results will be obtained if the faces of the type project slightly beyond the entire face of the printing-arm.

The operation of the invention will be clearly understood from the foregoing description. The receptacle is used as a platen for the printing mechanism and the printing operation takes place preferably at or about the time the label is affixed. In the adaptation of the invention illustrated in the drawings the printing is done just prior to the operation of the affixing devices; but it will be clearly apparent to those skilled in the art that the printing operation may take place at any time while the label is in such juxtaposition to the receptacle that the latter may constitute the platen for the printing operation, and the platen may therefore be flat or rounded. The printing may be done prior to the affixing operation or simultaneously therewith or after the label has been completely affixed; but in the drawings I have shown the invention embodied in the machine in such a manner that the printing-arm serves also the purpose of a holding-arm for temporarily clamping the label against the receptacle while still on the carrier and so that the carrier may return for another label and get out of the way of the affixing devices, as I have found this to be a desirable construction, producing most favorable results. The inking-roll is arranged to travel over the type as the arm descends into printing position and during this movement the inking-roll passes in contact with the ink-pad also, so as to receive a fresh supply of ink for inking the type on the upward movement of the arm, so that, it will be observed, the inking-roll passes over the type before and after each printing operation.

I am aware that many changes in the form and proportion and arrangement of parts and details of construction can be made in the invention without departing from the spirit or sacrificing the advantages thereof, and I reserve the right to make all such changes as fall within the spirit and scope of the invention and to use the invention in all connections and in all machines where it may be useful for printing on labels before, during, or after the affixing operation and on receptacles of all kinds.

While the invention is intended particularly for printing the date on a label to show when the receptacle was filled it is obvious that any other information may be printed as desired and that several lines of type or any devices from which an impression can be taken, may be used. In the drawings the

label is shown supported horizontally on a forked or bifurcated carrier in juxtaposition to a bottle, and the faces of the type may therefore be located slightly inside of the front face of the arm, so that they will not actually engage and print upon the label until the arm clamps the label against the bottle, at which time the rounded surface of the bottle will enter the recessed face of the arm sufficiently to make printing contact with the type. When the arm thus first engages the middle of the label and as the forked carrier is being withdrawn from engagement with the outer portions of the label, the latter is momentarily bent or buckled and carried slightly away from the type, wherefore it will be observed that the type have no chance to print upon the label until the latter is clamped against the bottle, and thus blurring is effectually avoided.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination with means for supporting a label in juxtaposition to a receptacle, of a printing device and means for actuating the same to print on the label while in juxtaposition to the receptacle.

2. The combination with means for supporting a label in juxtaposition to a receptacle, of a yielding printing device and means for actuating the same to print on the label.

3. The combination with means for supporting a label in juxtaposition to a receptacle forming a platen for the printing operation, of a printing device and means for actuating the same to print on the label against the receptacle as a platen.

4. The combination with means for supporting a label in juxtaposition to a receptacle forming a platen for the printing operation, of a yielding printing device and means for actuating the same to print on the label against the receptacle as a platen.

5. The combination with means for supporting a label in juxtaposition to a receptacle, of a printing device and means for actuating the same to print on the label at that part where the label is engaged between the receptacle and the printing device.

6. The combination with means for supporting a label in juxtaposition to a receptacle, of a printing device comprising an arm carrying printing characters and means for actuating said arm to print on the label while in juxtaposition to the receptacle.

7. The combination with means for supporting a label in juxtaposition to a receptacle, of a printing device comprising a rocking arm and means for rocking said arm to engage said label against the receptacle and print on the label against the receptacle as a platen.

8. The combination with means for supporting a label in juxtaposition to a receptacle, of a printing device comprising an arm carrying printing characters and means for actuating said arm to print on the label, and a device



for inking the printing characters before the latter engage the label.

9. The combination with means for supporting a label in juxtaposition to a receptacle, of a printing device comprising an arm carrying printing characters and means for actuating said arm to print on the label, and an inking device arranged to engage the printing characters before and after each printing operation.

10. The combination with means for supporting a label in juxtaposition to a receptacle, of a printing device comprising an arm carrying printing characters, an ink-pad carried by said arm adjacent to the printing characters, means for actuating the arm to print on the label, and an ink-roll arranged to travel in contact with the ink-pad and the printing characters.

11. In a labeling-machine, the combination of an arm carrying printing characters, an inking device arranged to travel lengthwise on said arm to ink the printing characters and operated by the movement of the arm, and means for actuating the arm to print on a label against a receptacle.

12. In a labeling-machine, the combination of an arm carrying printing characters and an ink-pad, a yoke arranged to travel bodily lengthwise on said arm and carrying an inking roll to contact with the ink-pad and printing characters, and means for actuating the arm to print on a label against a receptacle.

13. In a labeling-machine, the combination of an arm carrying printing characters and an ink-pad, a support, an inking device loosely hung from said support and operated by the arm to slide lengthwise thereon in contact with the ink-pad and printing characters, and means for actuating the arm to print on a label against a receptacle.

14. In a labeling-machine, the combination of an arm carrying printing characters, a support, a yoke pivotally connected to said support and arranged to slide lengthwise on said arm, an inking-roll carried by the yoke to engage the printing characters, a roller carried by the yoke and riding on the opposite side of the arm, and means for actuating the arm.

15. The combination with a shaft and means for rocking the same, of an arm mounted on said shaft and carrying printing characters, an ink-pad carried by said arm, a fixed support, a yoke guided on the arm and pivotally connected to said support, and an ink-roll carried by said yoke to engage the printing characters as the arm is rocked.

16. In a labeling-machine, the combination of means for supporting a label in position to be affixed to a receptacle, and a printing device and means for operating the same to print on the label while in said position.

17. In a labeling-machine, the combination of means for supporting a label in position to be affixed to a receptacle and means for operating the same, and a printing device for printing on the label and holding the label

against the receptacle while the supporting means are withdrawn.

18. In a labeling-machine, the combination of means for supporting a label in position to be affixed to a receptacle, and a printing device comprising an arm carrying printing characters and means for operating the arm to engage and print upon the label while supported by said supporting means and at the same time press the label against the receptacle to permit the supporting means to be withdrawn.

19. In a labeling-machine, the combination of means for supporting a label in position to be affixed to a receptacle, affixing means, and a printing device and means for operating the same to print on the label while supported by said supporting means and hold the label against the receptacle to permit the supporting means to be withdrawn and while the label is being affixed.

20. In a labeling-machine, the combination of means for supporting a label above a receptacle in position to be affixed thereto, and a combined printing and holding device comprising a yielding arm and means for rocking the same, said arm carrying printing characters at its free end and arranged to engage and yieldingly press upon the label against the receptacle and print thereon while the supporting means are being withdrawn.

21. In a labeling-machine, the combination of a rock-shaft and means for actuating the same, a support, links pivoted to said support, a yoke carried by said links, an ink-roll in the yoke, and an arm mounted on the rock-shaft and carrying an ink-pad and printing characters, said arm being surrounded by said yoke whereby the yoke will slide lengthwise on the arm and the ink-roll will contact with the ink-pad and printing characters when the arm is actuated.

22. The combination with suitable actuating mechanism, of an arm carrying printing characters and an ink-pad, said ink-pad being located between the ends of the arm in a portion inclined at an angle to said ends.

23. The combination with suitable actuating mechanism, of an arm provided with a slot in one side thereof, printing characters arranged in said slot, and means actuated by said arm for inking said characters.

24. The combination with suitable actuating mechanism, of an arm carrying printing characters and having a slot therein, an ink-pad in said slot and means for carrying ink from the pad to the printing characters.

25. The combination with suitable actuating mechanism, of an arm having lengthwise slots in one face thereof, printing characters in one slot, an ink-pad in the other slot, and means for carrying ink from said pad to the printing characters.

26. The combination with suitable actuating mechanism, of a pivoted arm provided with an inclined portion between its ends, printing characters carried by the arm be-



tween said inclined portion and its free end, an ink-pad carried by the arm in said inclined portion, and means for conveying ink from said pad to the printing characters.

5 27. The combination with a rock-shaft and means for actuating the same, of an arm mounted on said shaft and carrying printing characters, said arm being movable relatively

on said shaft in the same direction, and a spring carried by the shaft and acting on the arm.

FRANK C. H. STRASBURGER.

Witnesses:

R. C. BLUME,  
WM. O. BELT.