

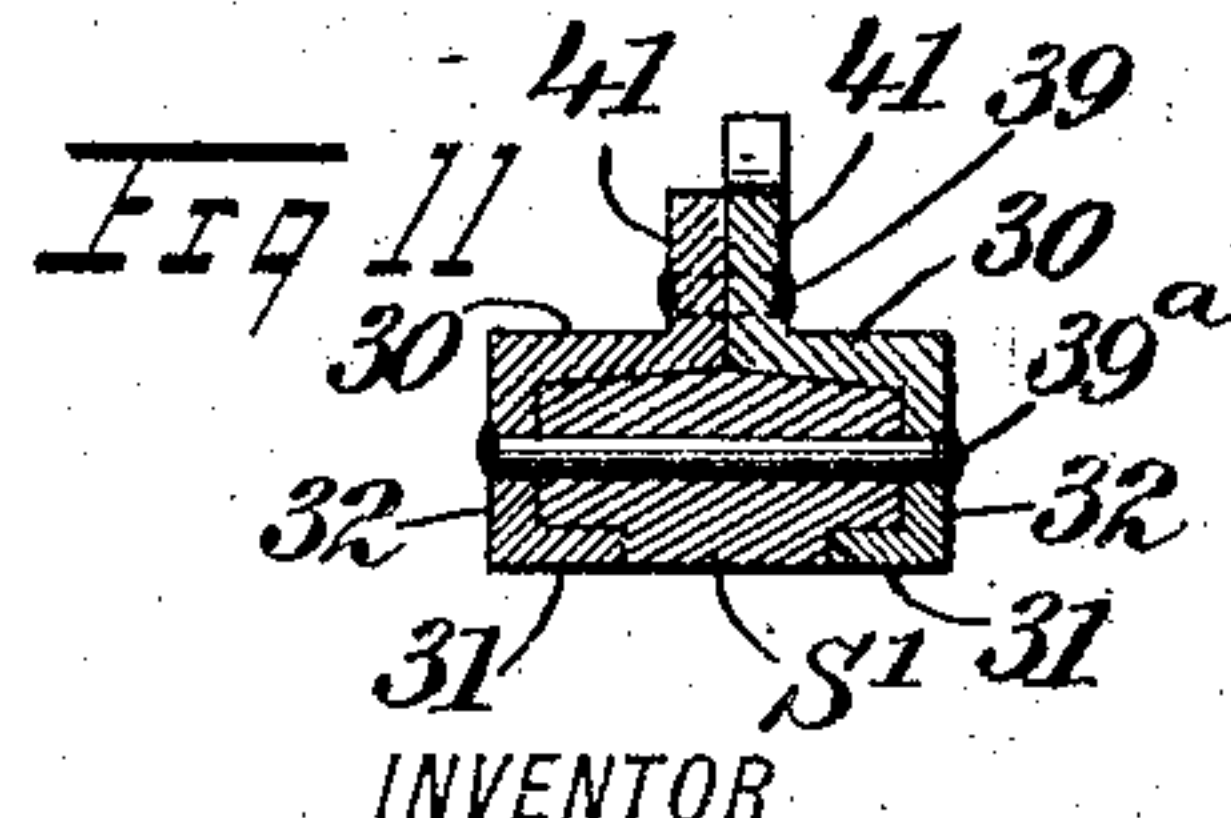
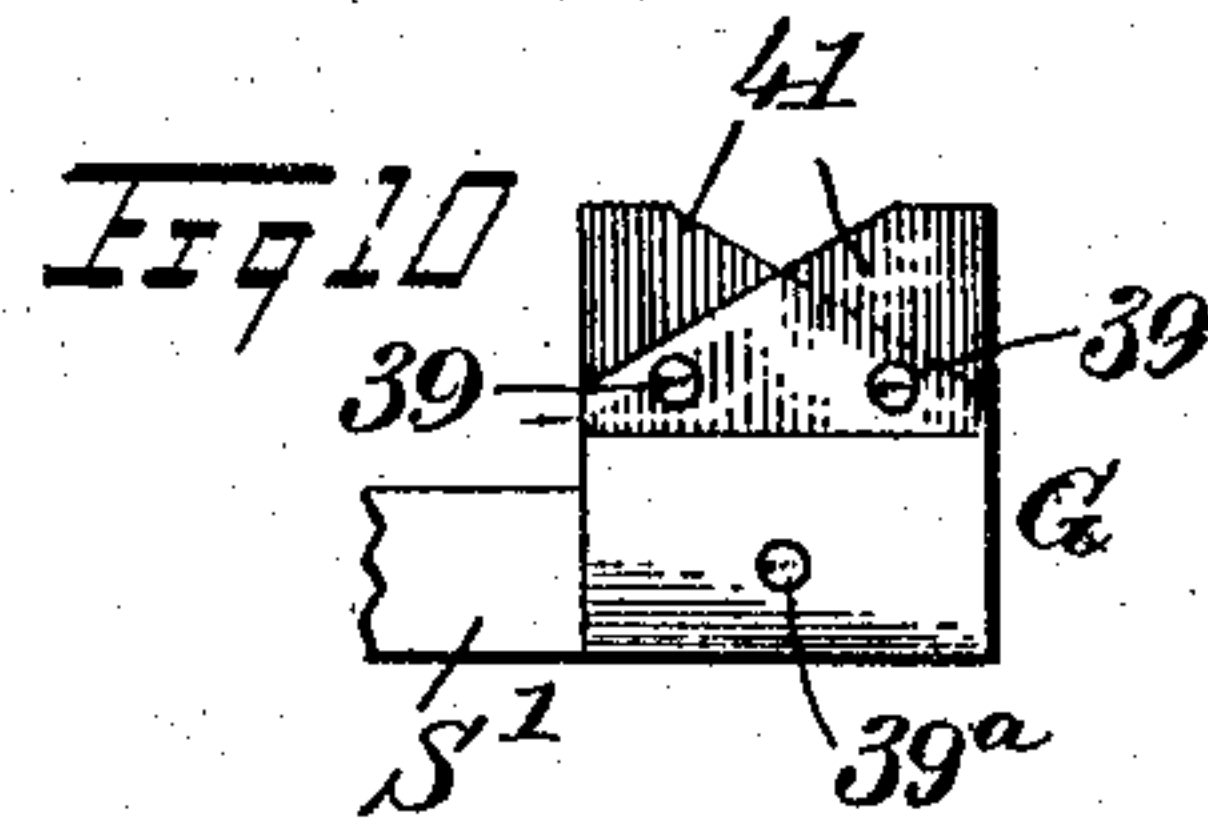
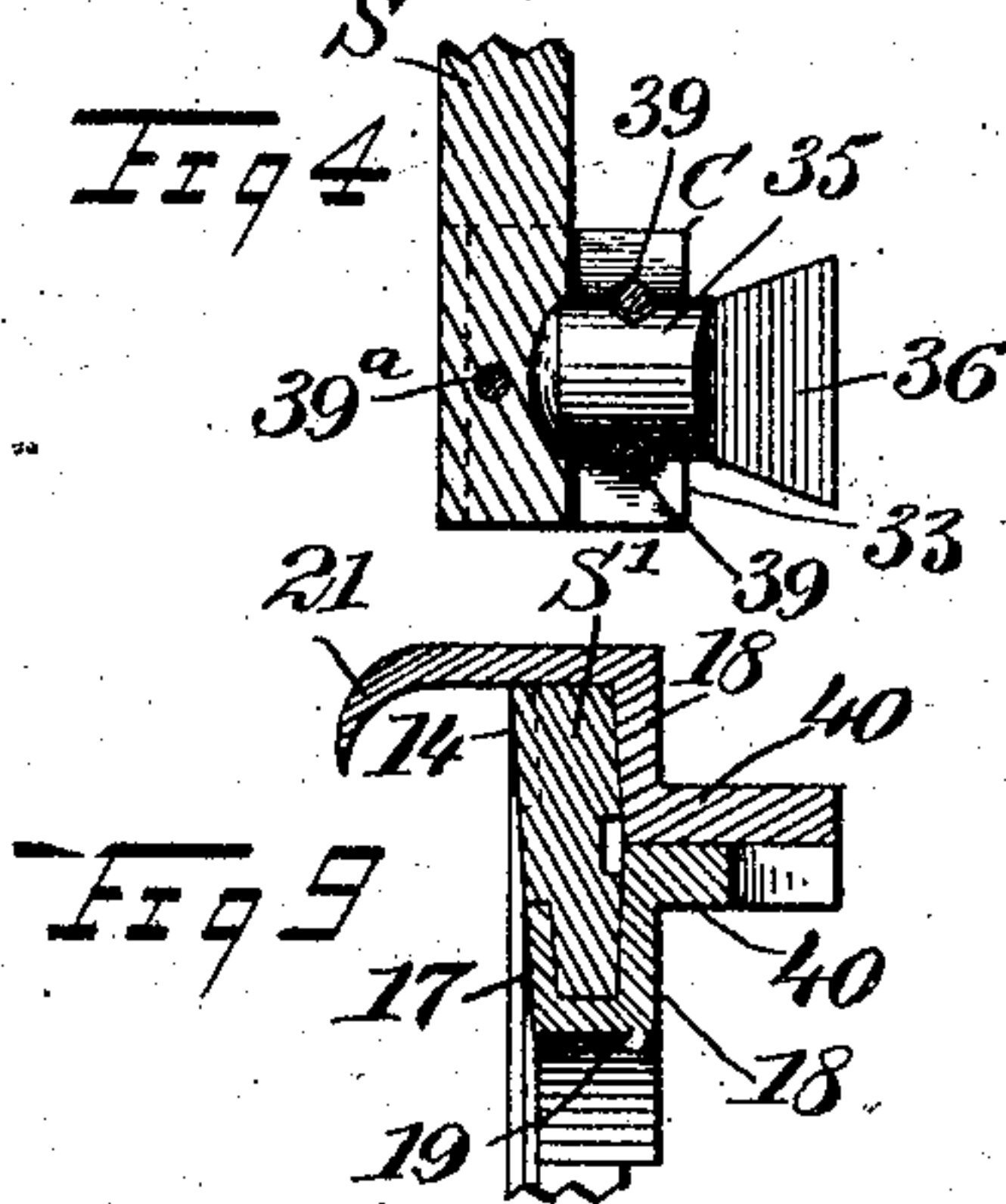
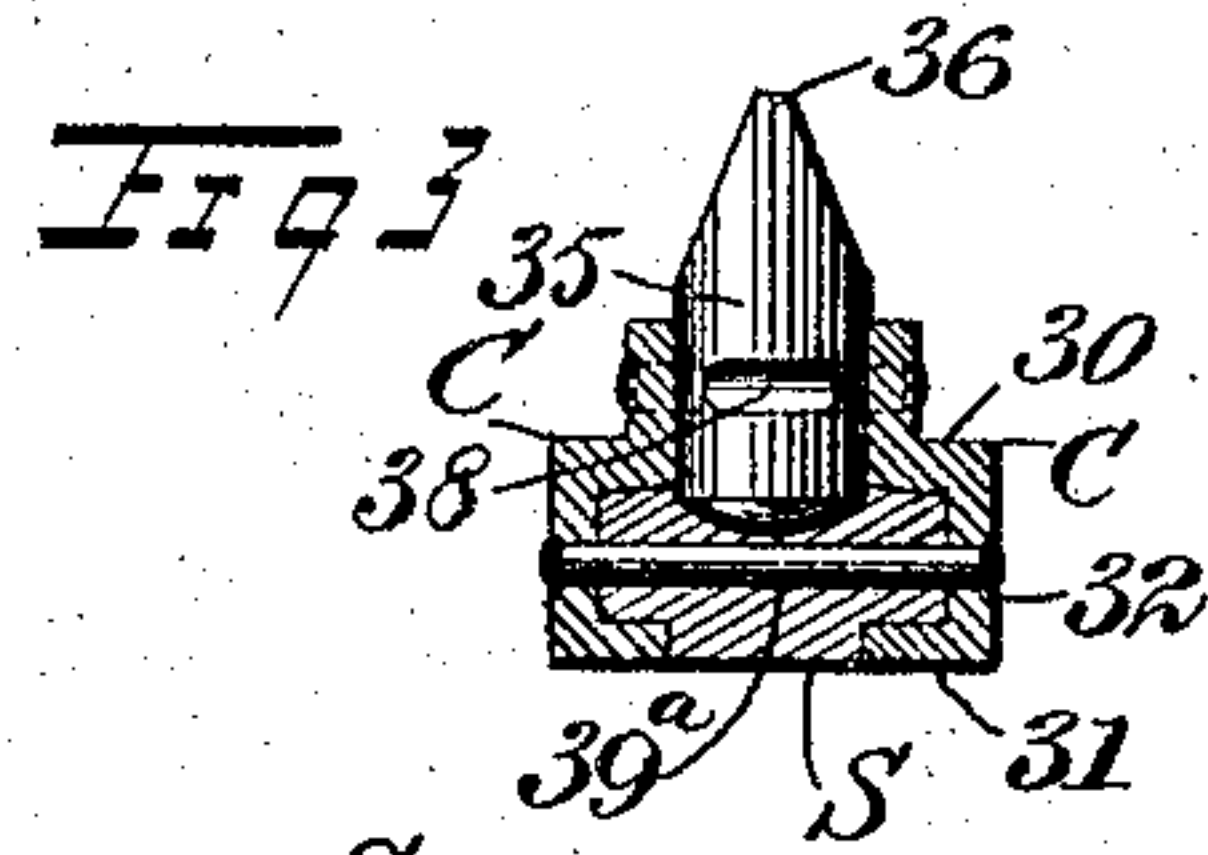
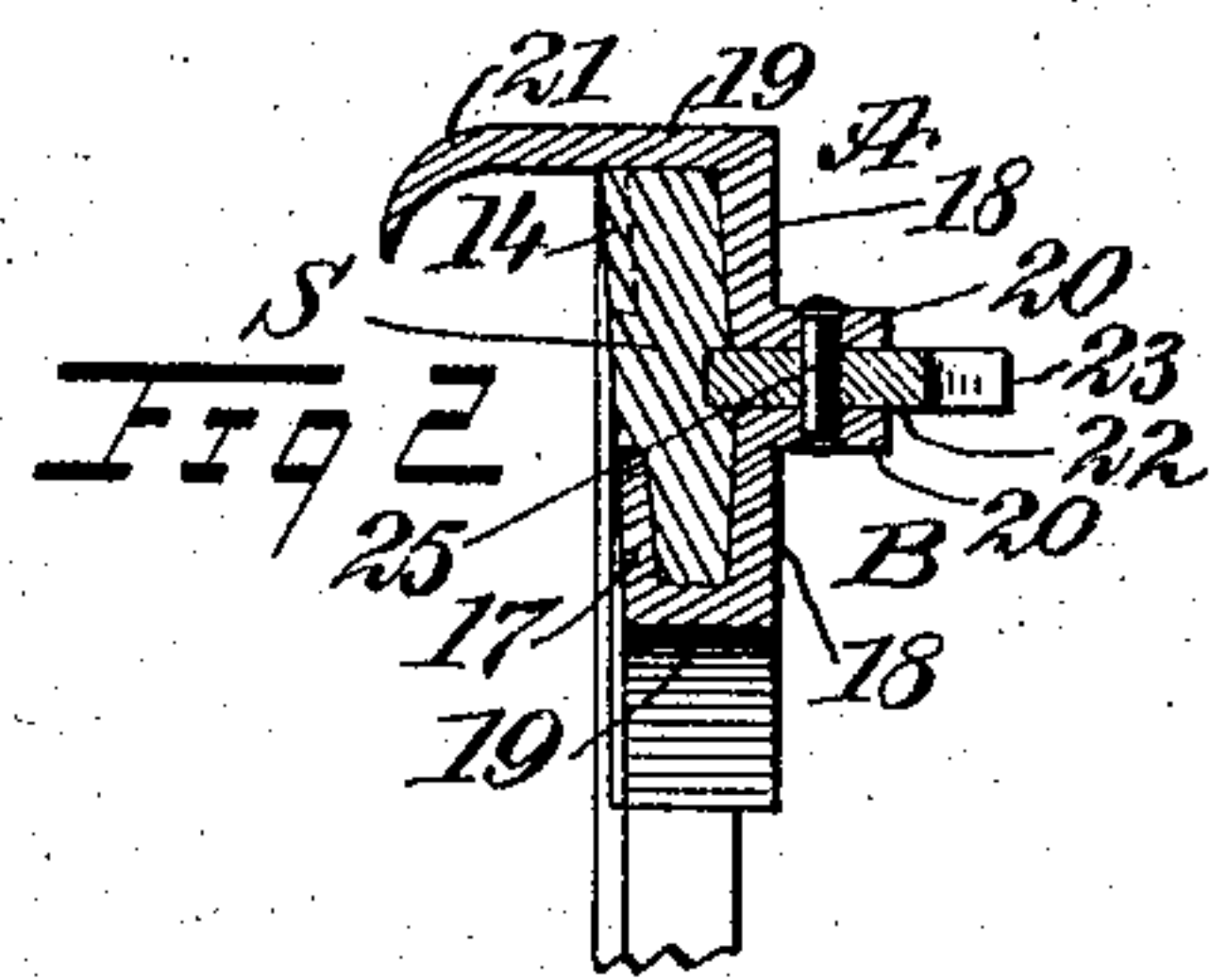
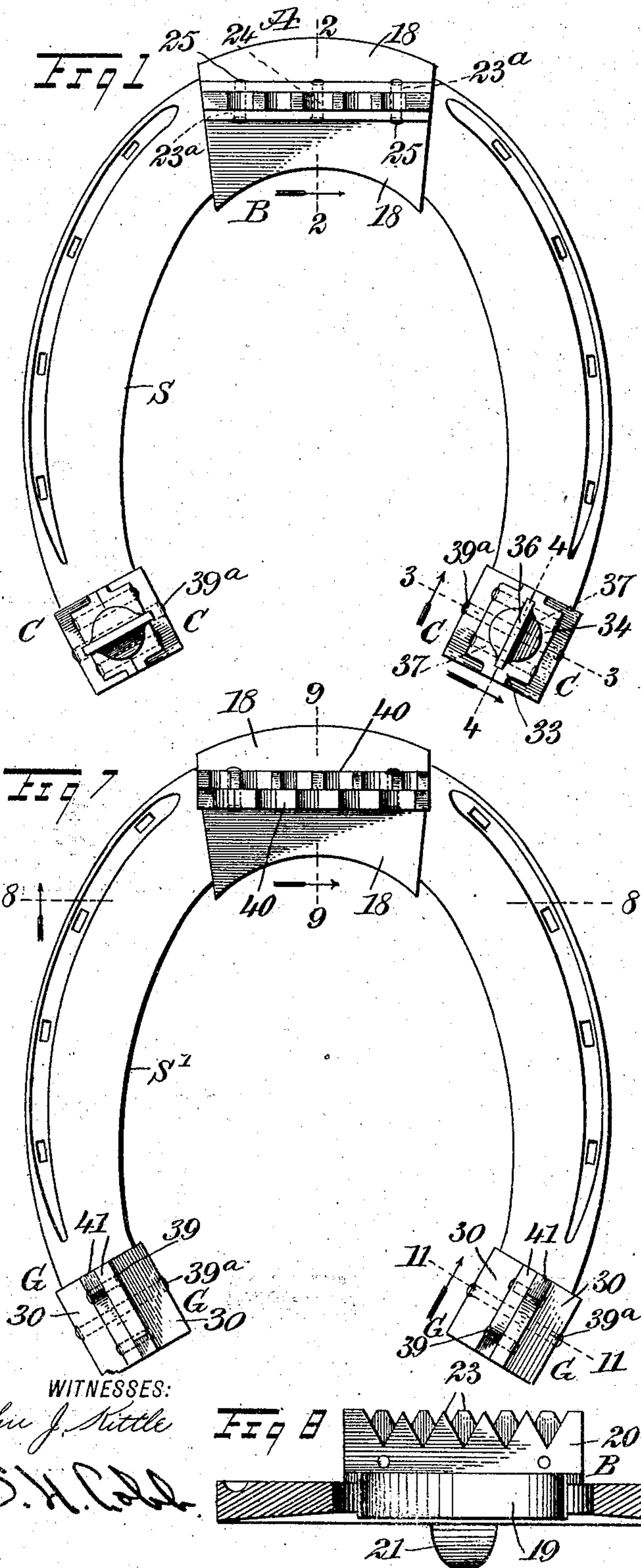
No. 781,204.

PATENTED JAN. 31, 1905.

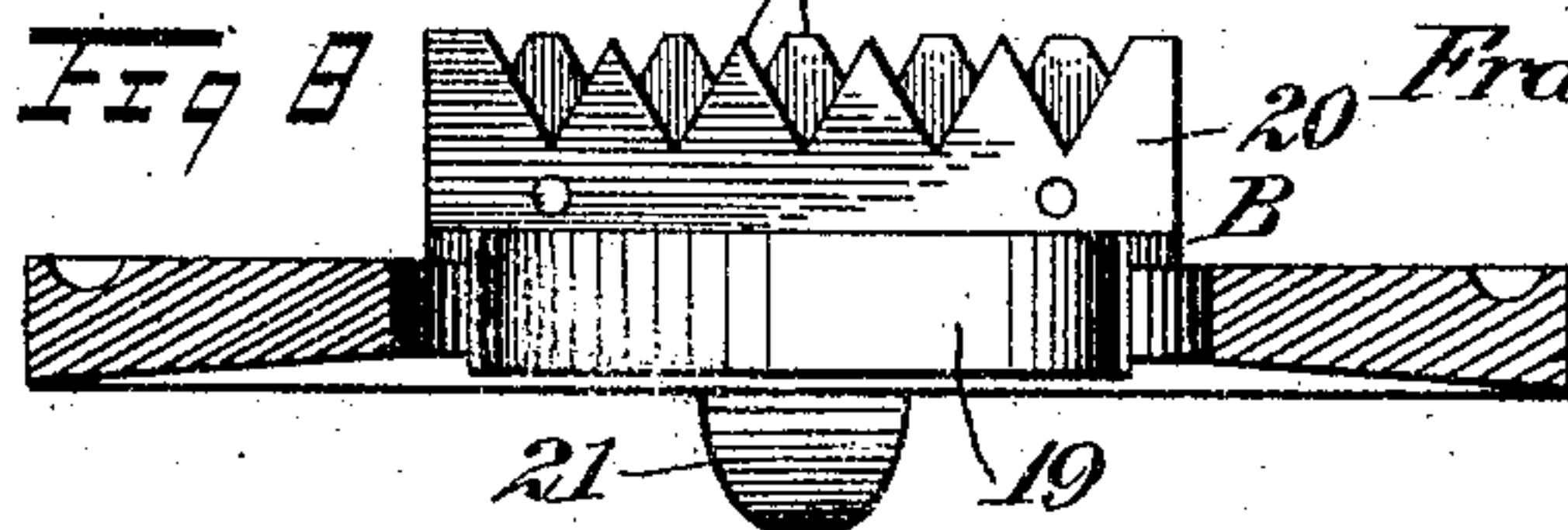
F. F. HEISELMANN.
CALK.

APPLICATION FILED APR. 11, 1904.

2 SHEETS—SHEET 1.



WITNESSES:
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S. H. Colby



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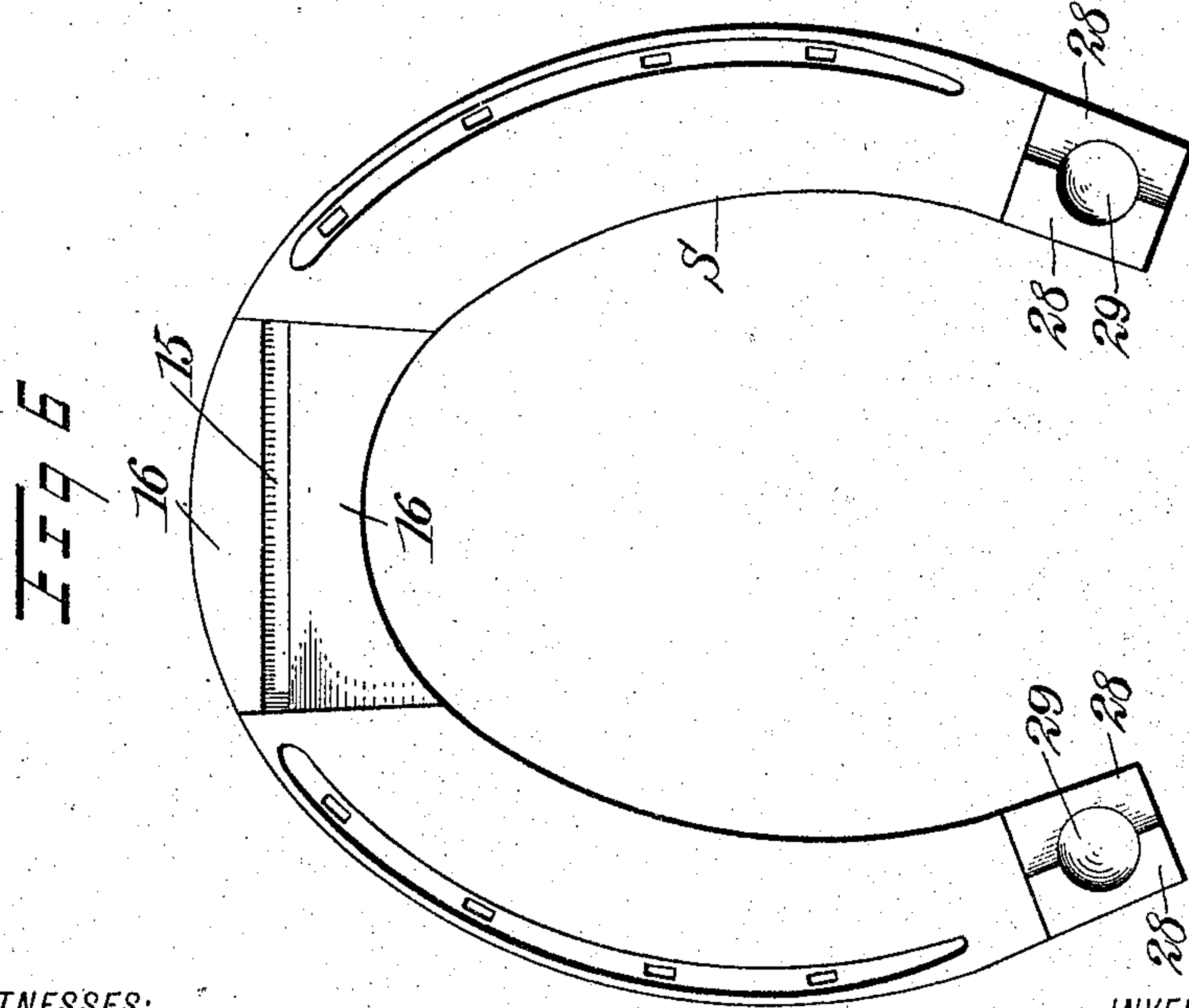
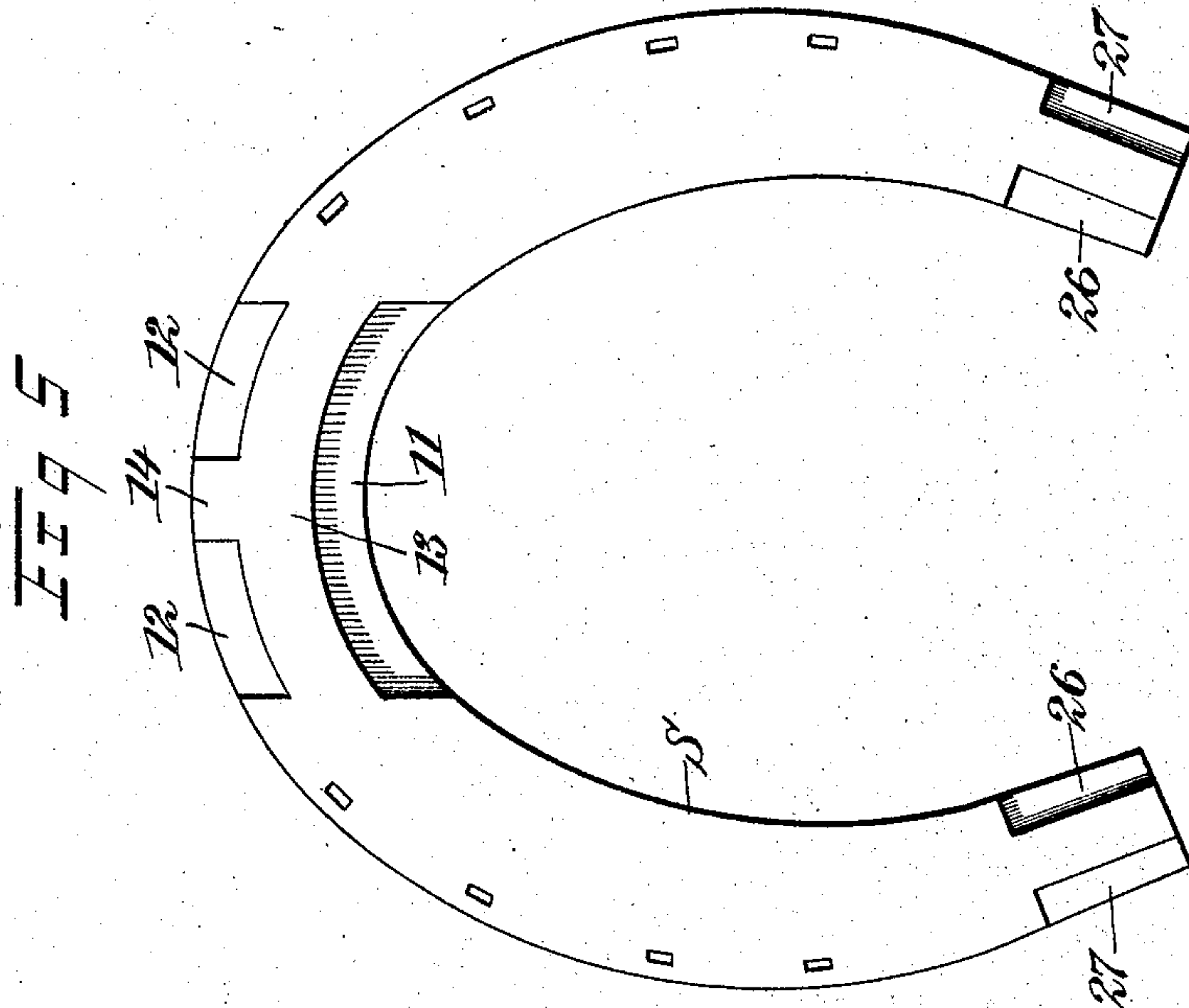
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UNITED STATES PATENT OFFICE.

FRANK FREDERIC HEISELMANN, OF CINCINNATI, OHIO.

CALK.

SPECIFICATION forming part of Letters Patent No. 781,204, dated January 31, 1905.

Application filed April 11, 1904. Serial No. 202,540.

To all whom it may concern:

Be it known that I, FRANK FREDERIC HEISELMANN, a citizen of the United States, and a resident of Hydepark, Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and Improved Calk, of which the following is a full, clear, and exact description.

My invention relates to calks, and more particularly to those adapted for use in connection with horseshoes. Its principal object is to provide such a device which will be strong and durable and may be readily applied to the shoe and replaced when worn.

It consists in the various features hereinafter described and more particularly claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a bottom plan view of a shoe with one embodiment of my invention applied to the toe and heel portions. Figs. 2, 3, and 4 are sectional details on the lines 2 2, 3 3, and 4 4, respectively, of Fig. 1. Fig. 5 is a top plan view of the shoe with the calks removed. Fig. 6 is a bottom plan view thereof. Fig. 7 is a bottom plan view of a shoe to which another form of my invention is applied. Figs. 8 and 9 are sectional details on the lines 8 8 and 9 9, respectively, of Fig. 7. Fig. 10 is a detail in side elevation of the heel-calk illustrated in Fig. 7, and Fig. 11 is a sectional detail on the line 11 11 of Fig. 7.

S designates a horseshoe, which may be of the usual form, except that upon its upper side it is provided at the toe with inner and outer recesses 11 12, which extend from the edges and conform substantially to the curvature of the shoe. Between these recesses is an intermediate portion or wall 13, and the outer one, 12, is divided into two sections by a wall 14. Upon the opposite or lower side of the shoe, extending transversely across the toe and substantially at the center thereof, is an elongated depression or groove 15, while at each side of this groove is an outwardly-inclined surface 16. Coacting with the shoe on the outside and inside are holders or calk members A B, respectively, preferably consisting of opposite clamping-arms 17 18, connected by

an intermediate portion or wall 19, while the lower arm 18 is provided with a depending holding member or flange 20. These arms 18 correspond in form to the recesses 11 12, which they are adapted to enter, that of the member A having a projection turned up at 21 to extend over the front of the animal's hoof, the width of this projection being such that the space left by it will receive the wall 14. Each of the arms 18 is curved at its outer edge to conform to the shoe, while at the opposite or inner side is a straight edge from which the flange 20 projects. When the holders are seated in the recesses, a space will be left between these flanges to receive an interposed contact member or calk proper, 22, which is here shown as consisting of a plate having a serrated edge at 23 of any desired form. This plate may be of hardened steel, while its holders are preferably drop-forged.

In applying the calks to the shoe the holders are placed at the opposite sides and then forced or driven into the recesses and over the opposite inclines, these latter serving to hold them to a tight fit, while they are retained against lateral movement by the end walls of the recesses and by the partition or wall 14. The contact member is introduced between them and forced in until its inner edge is seated in the groove 15. In the flanges are openings 23^a, which register with those in the opposite flange, and with these also register openings 24 in the contact member. The parts may now be secured together and upon the shoe by rivets 25 or the like, which are passed through the openings and upset or secured on the opposite sides.

At each of the heel extremities of the shoe are inner and outer recesses 26 27, respectively, upon the upper side thereof, while upon the opposite face are oppositely-inclined surfaces 28 28, similar to those already described at the toe of the shoe, except in their form and extent, and similarly related to one another; but instead of the toe-groove 15 a depression or recess 29 is provided between the inclined surfaces, which, as here shown, is of circular or dished shape. With these recesses and surfaces coact the holders or calk members C C, which, as in the toe members A B,

previously described, have opposite clamping-arms 30 31, with a connecting portion 32, they of course conforming in shape to the recesses. Their holding-flanges 33 are provided with a curved portion 34, which forms a cylindrical wall adapted to receive a shank 35, carrying an extended or flattened head 36. In the flanges are opposite openings 37, and with these register the ends of grooves 38, one of which is situated at each side of the shank. Through these openings and grooves pass rivets 39, which serve to secure the flanges together and also to retain the contact members between them and prevent the rotation of the latter. The relation of these grooves to the shank may be such as to give any desired position to the extended head. For example, at the right of Fig. 1 they are situated at the ends of the head, so that the head extends longitudinally of the shoe, while at the opposite side they lie in a plane parallel to the head extension, causing the head to assume a position transversely of the shoe. The holders may be applied to the shoe in the same manner as has already been described in connection with the toe-calks and retained in place upon the inclined surfaces and in the recesses by a rivet or similar securing device 39^a, which extends through the connecting portions 32 and through the shoe.

In connection with the shoe S' in Fig. 7 has been illustrated a form of my invention which is particularly adapted for winter use. Here the intermediate or contact portion is omitted and the flanges 40 coact with one another at their adjacent faces. Their edges instead of being smooth, as are those hereinbefore described, may be serrated and of such form as will be considered to give the best holding effect. The heel members G G are also shown with meeting flanges 41 41 lying parallel to one another instead of having a curved portion which forms the opening to receive a cylindrical shank. The form of the edges of these heel-calks is particularly shown in Fig. 10; but any desired contour may be adopted.

When the intermediate calks or contact portions are used, it will be evident that these may be of steel of such temper that it will be very resistive of wear, but which if utilized for the holders or any part which must be driven into place would be liable to break. These calks, therefore, last for a long time and when they are worn out may be easily replaced.

It will be seen that when the intermediate portion has become worn down to the edges of the flanges there will be presented for wear a surface of substantially three times the area of that which previously contacted with the ground. When in this condition, the calks are well adapted for summer use, it being

then unnecessary to secure any especial holding effect against slipping. Then when the three members have become worn down close to the rivet-holes they may be removed and the holders laid away for winter use, they being still effective to support the intermediate calk. It will be obvious that by giving this central or intermediate calk a positive engagement at its end with the shoe the calk structure as a whole will be considerably strengthened, since a great portion of the lateral strain is taken from the holders.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination with a shoe provided with oppositely-inclined faces at one side and recesses at the opposite side, of calk members seated in the recesses and engaging the inclined faces.

2. The combination with a shoe provided with oppositely-inclined faces at one side and recesses at the opposite side, of calk members seated in the recesses and engaging the inclined faces, and securing means extending through the calk members.

3. The combination with a shoe, of holders situated at opposite sides thereof, a contact member interposed between the holders, and securing means engaging both the holders and the contact member.

4. The combination with a shoe provided with oppositely-inclined faces, of holders situated at opposite sides of the shoe and coacting with the inclined faces, and a contact member interposed between the holders.

5. The combination with a shoe provided at one side with a recess and at the opposite side with oppositely-inclined faces, of holders seated in the recesses and engaging the inclined faces, and a contact member interposed between the holders.

6. The combination with a shoe provided with a depression, of holders situated upon the shoe at each side of the depression, and a contact member interposed between the holders and entering the depression.

7. A calk comprising opposed holders, a contact member situated between the holders, and securing means engaging the holders and the contact member.

8. A calk comprising opposed holders which have separated clamping-arms and a flange projecting from one of said arms, and a contact member situated between the holders.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRANK FREDERIC HEISELMANN.

Witnesses:

JOHN HEISELMANN,
CHARLES EHRET.