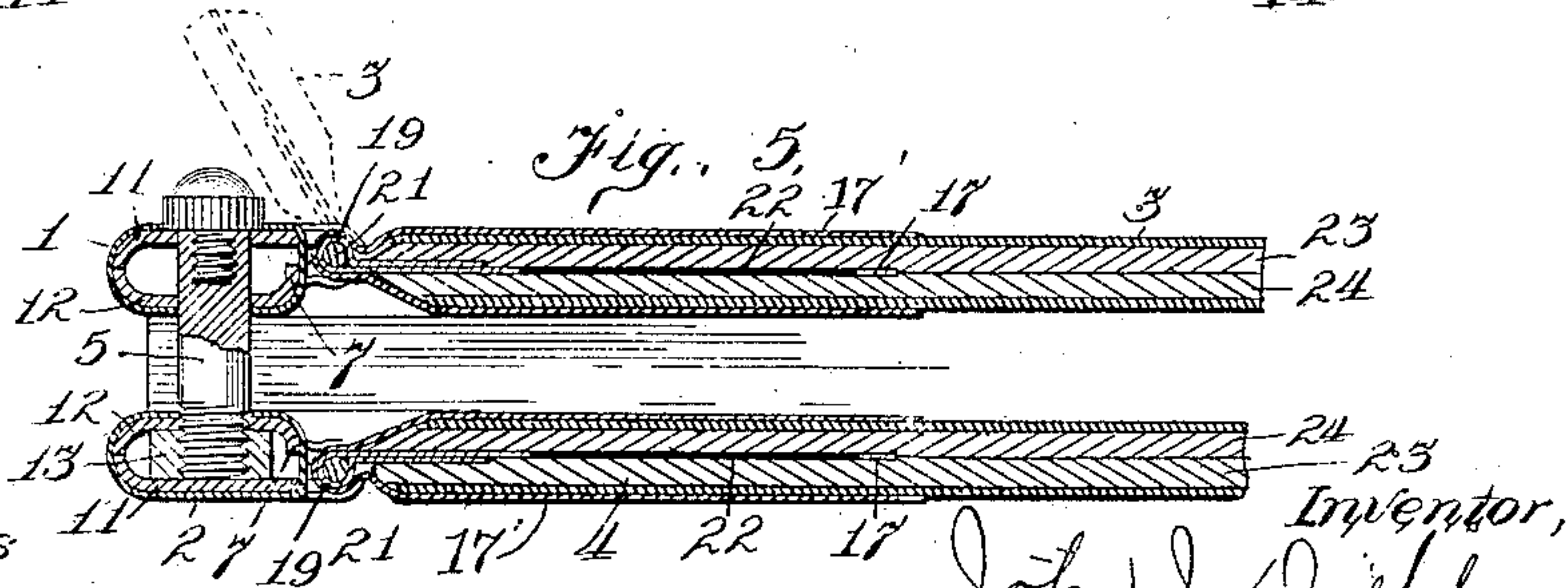
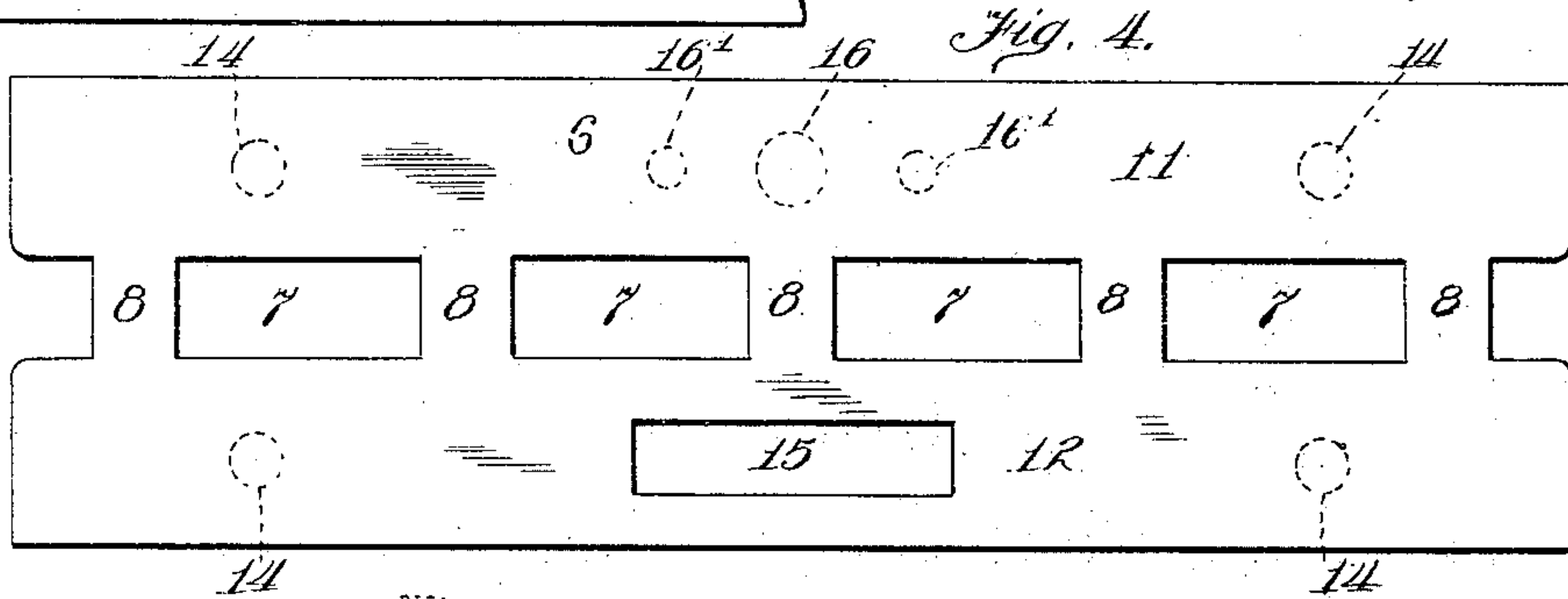
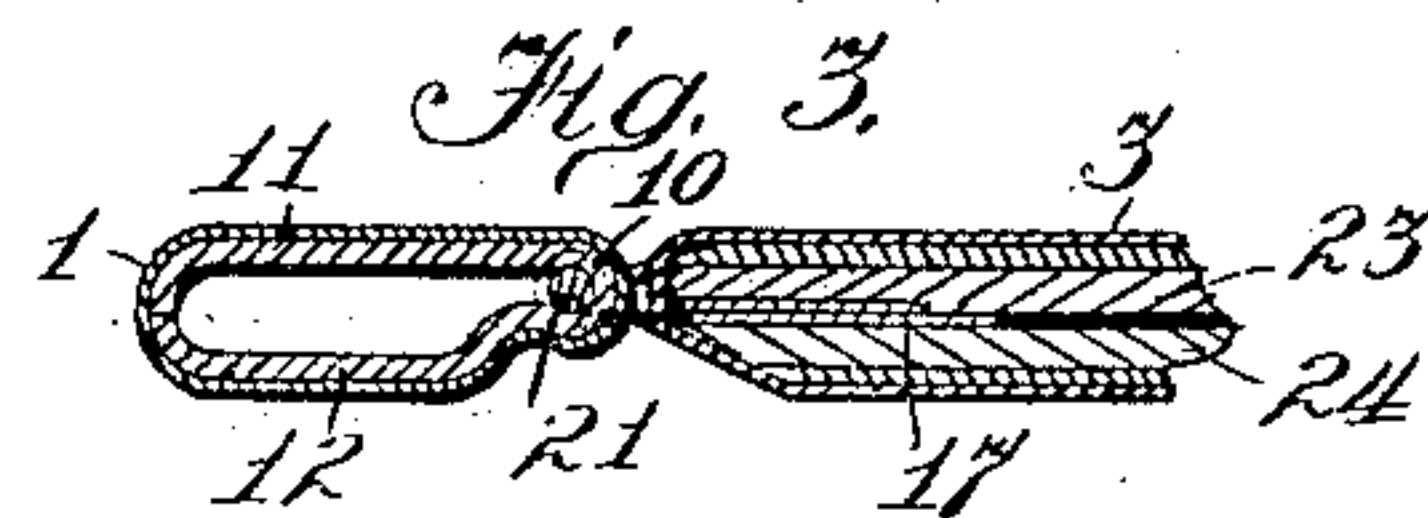
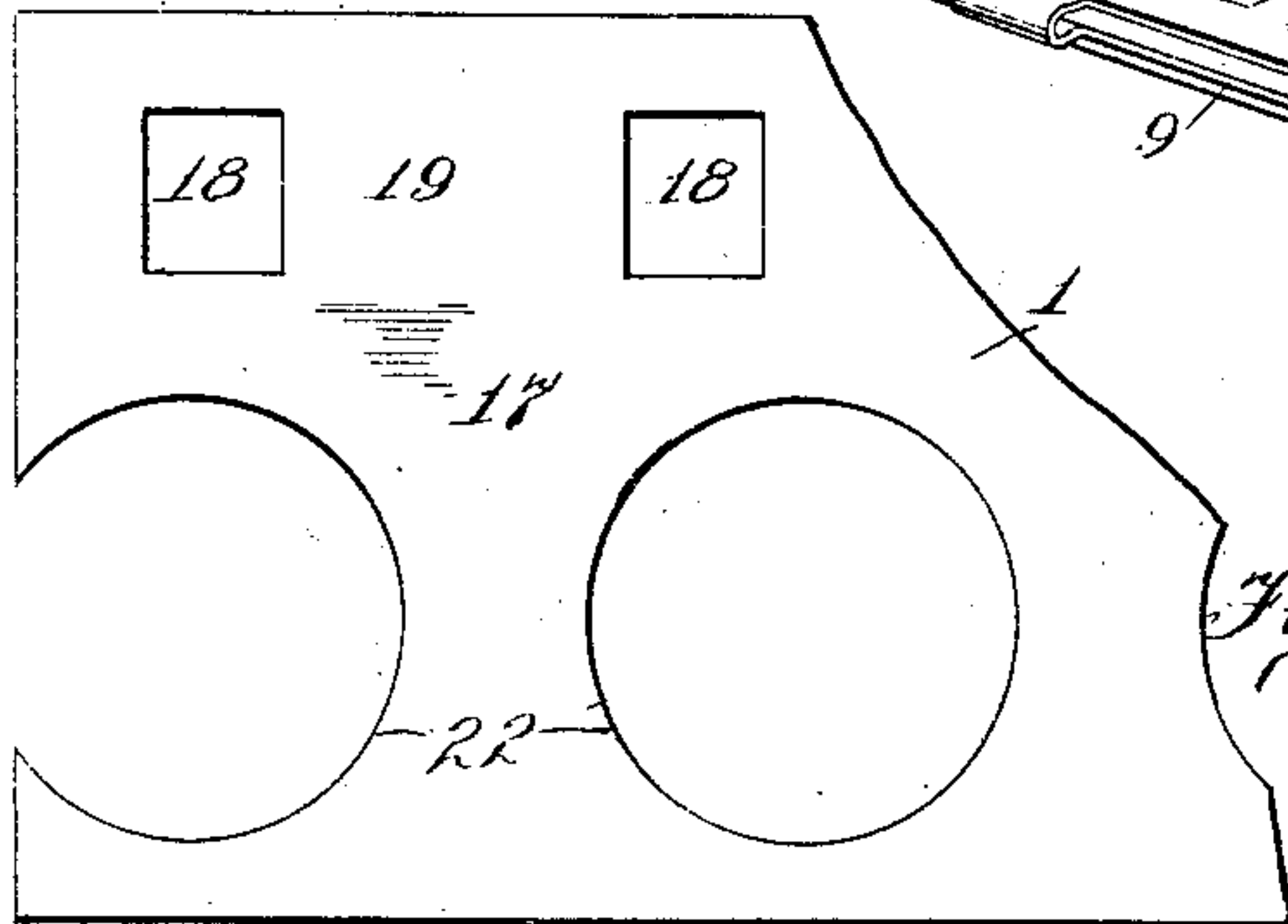
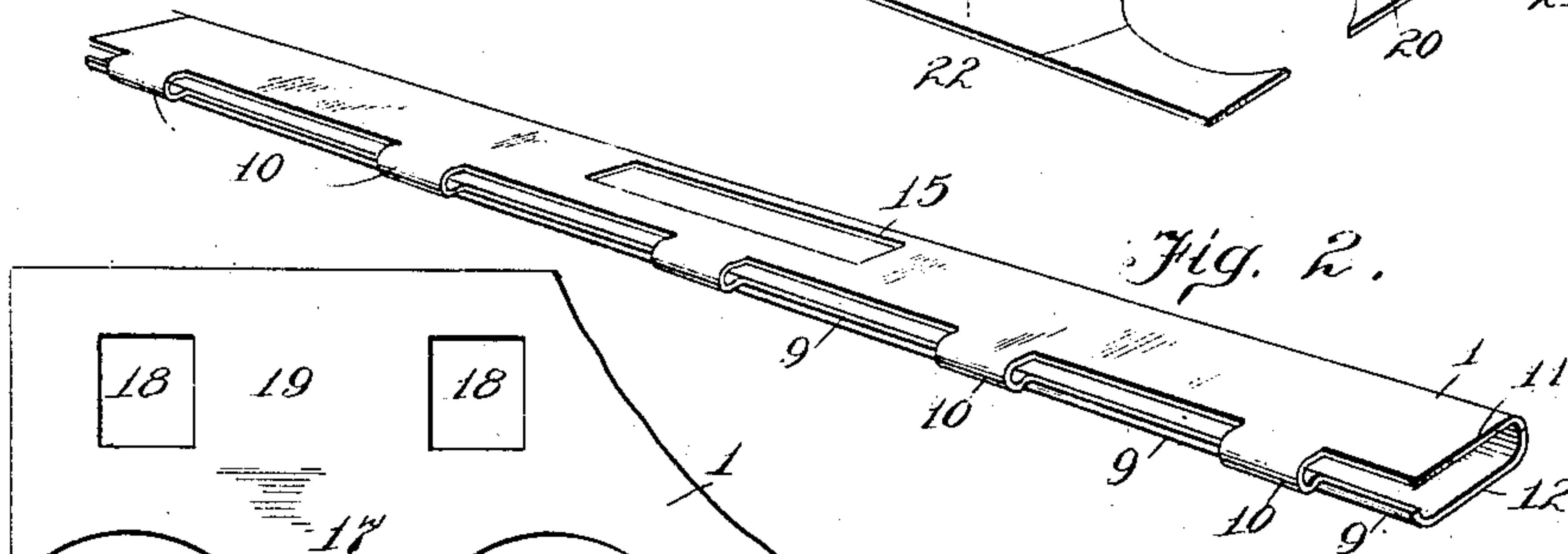
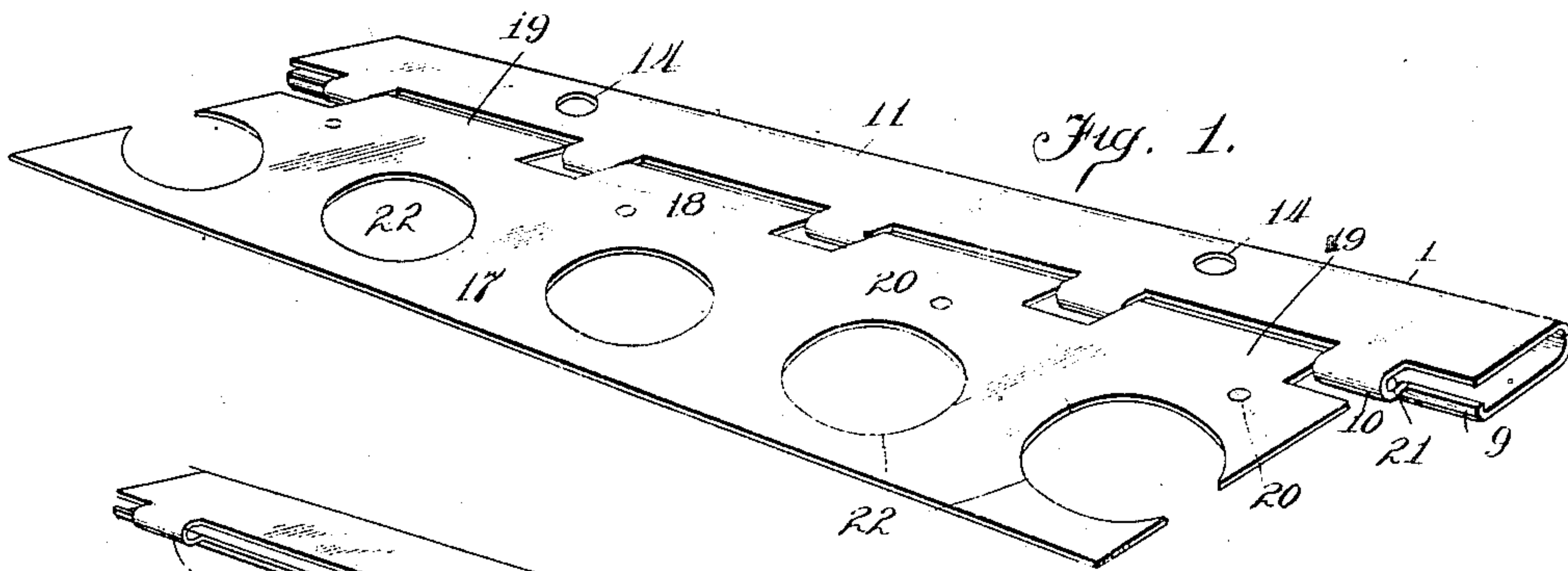


J. J. DIEHL.
 TEMPORARY BINDER.
 APPLICATION FILED FEB. 24, 1908.

915,163.

Patented Mar. 16, 1909.



Witnesses
 Milton Lenoir
 Frank L. Delaney

Inventor,
 John J. Diehl
 By Albert N. Graves
 Attorney

UNITED STATES PATENT OFFICE.

JOHN J. DIEHL, OF CHICAGO, ILLINOIS.

TEMPORARY BINDER.

No. 915,163.

Specification of Letters Patent.

Patented March 16, 1909.

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To all whom it may concern:

Be it known that I, JOHN J. DIEHL, 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 Temporary Binders, of which the following is a specification.

My invention relates to temporary binders used for holding loose leaves in book form; and has to do more specifically with the structure of the frame members and means whereby the covers of the binders are united with said frame members.

Among the chief objects of the invention are, to provide main frame members of such construction that they may be economically blanked out of sheet-metal and folded up in such manner as to form, by the same operation, tubular body members and integral pin-
the supports or hinge members; to provide a novel form of combined leaf hinge and metallic insert which serves to unite the cover member with the main frame member; to provide a construction which, while presenting an almost perfectly flat exterior, enables the cover members to be turned back or opened to a sufficiently wide angle to bring the uplifted or open covering into self-sustaining position; to provide a main back frame member which may be punched to form a locked receptacle or recess at the same time the member proper is blanked out in case it be used in one type of binder, and which may be with equal facility adapted to receive a screw-actuated locking rod in case it be used as a part of another type of binder, and in general, to provide an improved mechanism of the character referred to.

To the above ends the invention consists in the matters hereinafter described and more particularly pointed out in the appended claims.

In the drawings—Figure 1 is a perspective view of one of the tubular main frame members and the combined hinge leaf and insert member connected therewith; Fig. 2 is a perspective view of one of the main frame members of a slightly modified construction, and provided with a lock receiving recess; Fig. 3 is a transverse section of one of the frame members and a fragmentary portion of an attached cover. Fig. 4 is a view of the blank from which the main frame member shown in either Fig. 1 or 2 is formed; Fig. 5 is a longitudinal vertical sectional view of the back portion of a completed binder. Fig. 6 is a

view of the blank from which the hinge member for the cover is formed.

In loose leaf binders of the type to which the present invention pertains, a pair of main frame strips as 1 and 2, respectively, serve to support the covers as 3 and 4 hinged thereto; the upper and lower ends of the binder being united by suitable posts, as 5, or other sheet holding or impaling devices. The construction of the main frame strips is such that various forms of locking mechanism may be used. Inasmuch as these locking mechanisms are well-known it is not thought necessary to show them.

The binder frame members of the present invention are equally well adapted for use in binders of either type above described.

Referring to the drawings, 6 designates a blank in the form of a strip of sheet-metal provided with a centrally exposed, longitudinally-extending series of oblong, rectangular openings 7 separated by hinge strips 8. In practice I make this blank in lengths of indefinite extent and cut it into sections of desired lengths for the different sizes of binders. The blank thus formed is folded upon itself along the central line of the openings 7 and the cross strip portions 8 formed into hinged knuckles or binder supports which extend only with that surface of the frame member which is to become the outer surface of the binder. The lateral edges of the openings 7 are rounded in as well as the under portions of the cross strip members 8 as indicated at 9 and 10, respectively, in Figs. 3 and 5, and similarly, the lateral edges of the blank 11 and 12 are curved toward each other so as to meet at the back edge of the frame member as clearly indicated in Figs. 3 and 5, thus forming a hollow tubular structure with integral hinge knuckles. Suitably spaced blocks or fillers 13 will be inserted in the tubular frame members thus formed and rigidly fixed in position by means of through rivets.

In case the frame member is to be used as a post binder like that shown in Fig. 5, openings 14 may be punched in the blank at the same time that the blank itself is struck out, which openings 14 are subsequently brought into suitable register with each other to receive the posts when the blank is formed up. On the other hand, in case the frame member is to be used with that type of binder requiring a lock to be set in at the center, the blank may be punched with rectangular

openings, indicated at 15, and with suitable post openings, as indicated in dotted lines at 16 and 16'. In other words, the blank may be punched with all of the apertures required, while it is still in the form of a flat blank, and, if preferred, by the same operation which forms the blank itself.

The other feature of the invention resides in a construction of a peculiar hinge and insert member 17. This member consists of a piece of thin sheet metal which is blanked out in substantially the form shown in Fig. 6 and subsequently folded upon itself along the line extending through the centers of the rectangular openings 18 to form the hinge knuckles 19 (see Fig. 1). The folded back portion is riveted to the main body at suitable intervals, as indicated at 20, and this member is joined to the main frame member by a suitable pintle rod 21 extending there-through. A special advantage is secured by punching out the relatively large openings 22 of the flap, or that portion of the insert which extends into the cover members (see sectional Fig. 5). That is to say, by reason of the fact that these openings are very large and the metal insert relatively thin, the two layers of cardboard 23 and 24 which comprise the flap and form the cover may be glued or pasted together so as to adhere to each other through these openings, and this, of course, insures a convenient means of preliminarily uniting the cover boards to the hinge member in readiness for the subsequent binding or incasing in cloth or leather 17', as the case may be. Moreover, such a union adds to the final strength of the binder.

It will be noted by referring to the sectional detail Fig. 5, that the hinge knuckles of the insert are offset outwardly relative to the plane of the insert itself. This permits the outer half of the cover to be brought down so that its exterior is practically flush with the outer surface of the main frame member as 1 and 2. Furthermore, this peculiar

configuration of parts permits the opening of the cover member at a somewhat wide angle before it encounters the ends of the posts 5, as shown in dotted lines in Fig. 5.

It will be obvious that the details of construction may be modified to some extent without departing from the invention.

I claim as my invention:

1. A temporary binder frame comprising a flattened tubular shell, said shell being formed of a single piece of flat sheet metal provided with a row of longitudinally extending slots, and laterally projecting hinge loops, formed by binding said strip along the median line of said slots.

2. A temporary binder frame comprising a flattened tubular shell formed of a single piece of sheet metal and bent longitudinally upon itself, said shell being provided with integral projecting hinge loops formed on the bended portion of said frame member.

3. In combination, a temporary binder frame member consisting of a sheet metal strip provided with longitudinally extending slots, said strip being doubled longitudinally upon itself approximately along the median line of said slots so as to form integral laterally projecting hinge loops, and a sheet metal insert having similarly formed hinge loops disposed to alternate with the first named hinge loops and a pintle passing through said hinge loops.

4. In a temporary binder, the combination of a hollow sheet metal frame member provided with integral, projecting hinge-loops, a cover consisting of a pair of boards laid face to face, and a sheet metal plate hinged upon said hinge-loops inserted between said boards, and provided with one or more relatively large openings, said boards being glued together within said opening.

JOHN J. DIEHL.

Witnesses:

F. L. BELKNAP,
EMILIE ROSE.