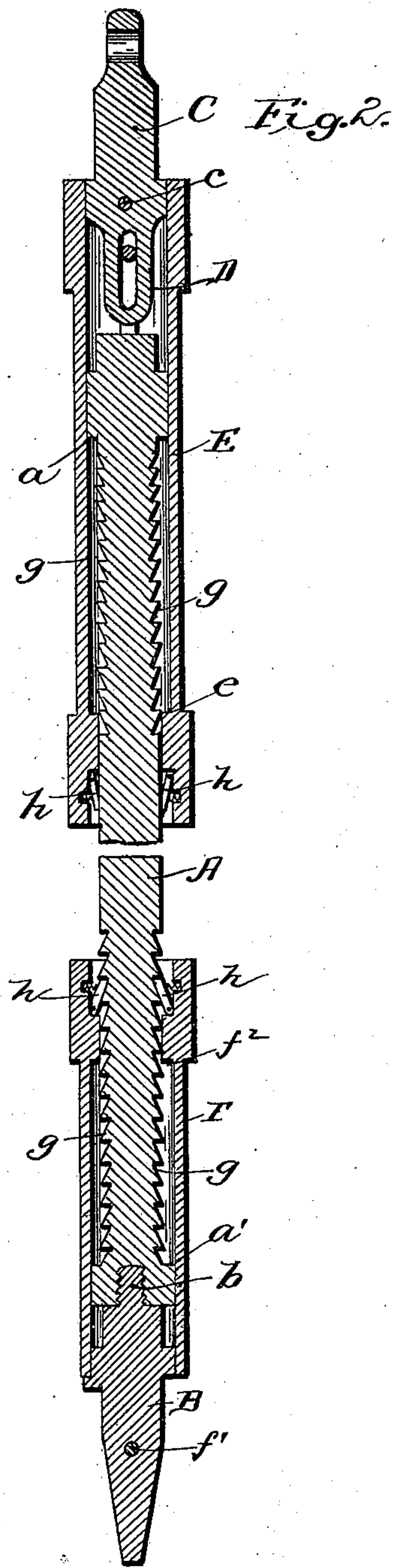
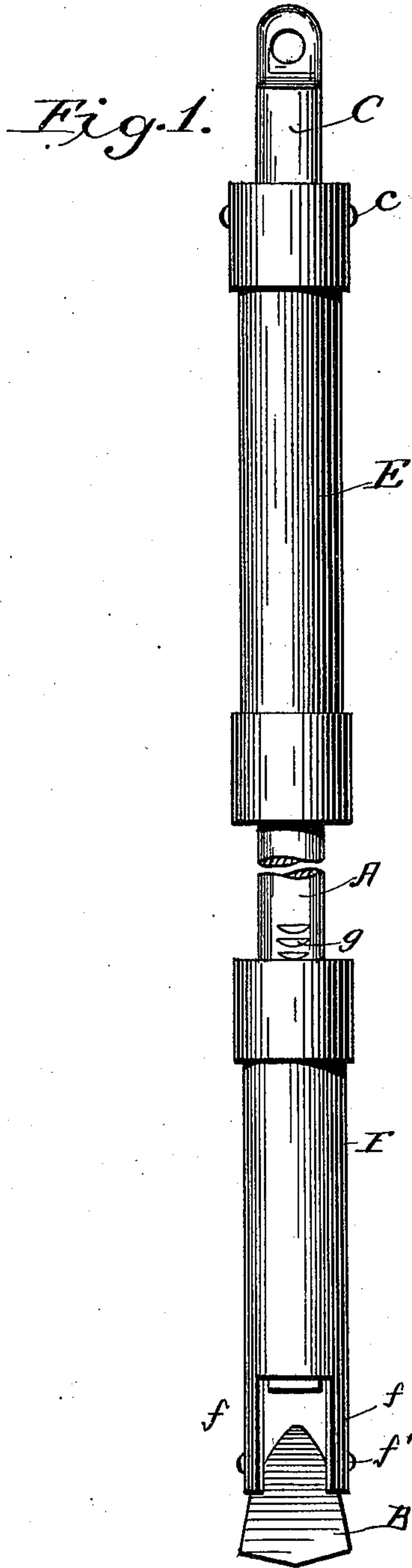


(Model.)

M. BLUMENTHAL & H. KINTZ.  
OIL WELL TOOL.

No. 574,705.

Patented Jan. 5, 1897.



WITNESSES

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*Herbert Kintz*  
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*by Edwin Case,*  
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# UNITED STATES PATENT OFFICE.

MAX BLUMENTHAL AND HERBERT KINTZ, OF SHARPSBURG, PENNSYLVANIA.

## OIL-WELL TOOL.

SPECIFICATION forming part of Letters Patent No. 574,705, dated January 5, 1897.

Application filed February 15, 1896. Serial No. 579,451. (Model.)

*To all whom it may concern:*

Be it known that we, MAX BLUMENTHAL and HERBERT KINTZ, citizens of the United States, residing at Sharpsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Oil-Well Tools; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The object of our invention is to provide an attachment to oil-well drills whereby in the event of breakage all the parts of the tool may be withdrawn from the well.

In the accompanying drawings, Figure 1 is a side elevation of an oil-well drill embodying our invention, and Fig. 2 is a longitudinal section of the same.

Similar letters of reference indicate similar parts in the respective figures.

A represents the stem; B, the bit; C, the rope-socket, and D the jars. The bit is screwed into the lower end of the stem, as indicated at b.

In practice it has been found that breaks usually occur at the jars or at the joint between the stem and the bit. In drills of the ordinary construction that part of the tool below the break will fall to the bottom of the well, and great difficulty is often experienced in withdrawing it from the well. To avoid this difficulty, we provide the tool with two casings E and F, one inclosing the jars D and the other the joint between the bit and the stem. The casing E is secured at its upper end to the rope-socket C and is free to have a reciprocating movement on the stem A at least equal to the play of the jars D. As shown in the drawings, the casing E is shown connected to the rope-socket C by means of a pin c passing through them, but they may be connected by any other suitable means. The casing E is provided with an interior shoulder e near its lower end and the stem A with an exterior shoulder a a short distance below the jars D. As the casing E can slide upwardly on the stem A it is obvious that should the jars D break the casing E would

be drawn upwardly with the rope-socket C and slide over the stem A until the shoulders a and e lock, when the stem A would move with them.

The casing F is provided at its lower end with downwardly-extending ears ff, which are connected to the bit by a pin f'. The stem A is provided with an exterior shoulder a' just above the joint with the bit B, and the casing F is provided with an interior shoulder f<sup>2</sup> near its upper end. It is obvious that should a break occur at the joint between the bit and the stem the latter will be free to slide upwardly within the casing F until the shoulders a' and f<sup>2</sup> lock, when the stem, casing, and bit will move upwardly together.

In order that the operator may be quickly warned of a break in the tool, and to prevent further damage, we provide the stem A within the casings E and F with a series of teeth g, and the casings are provided with pawls h, adapted to engage the teeth g. These teeth and pawls are arranged, as shown in the drawings, to permit the casing E to move upwardly on the stem A, but not downwardly, and the stem A to move upwardly in the casing F, but not downwardly.

From the foregoing description it is evident that should a break occur at the joint between the stem and either of its members (the rope-socket or the bit) the entire tool can still be withdrawn from the well by means of the casings which are connected to the members and the locking devices on the casings and the stem; also, that in the event of a break at either joint the operator would be quickly made aware of the fact, for the reason that the parts above the break, while free to move upwardly, can have no downward movement.

Having described our invention, we claim—

1. In an oil-well drill, the combination with the stem and a member connected thereto, said stem having an exterior shoulder near the joint with the member, of a casing inclosing said joint and secured at one end to the member and provided with an interior shoulder near its free end to engage the shoulder on the stem in the event of a break at the joint, substantially as and for the purpose specified.

2. In an oil-well drill, the combination with the stem and a member connected thereto,

said stem being provided with teeth, of a casing connected to the member and extending over the joint between the member and stem, devices on the stem and casing to lock  
5 them together in the event of a break at said joint, and a pawl on the casing to engage the teeth on the stem, substantially as and for the purpose specified.

3. In an oil-well drill, the combination with  
10 the stem, the rope-socket and the jars, of a casing connected to the rope-socket and extending over the stem below the jars, said casing being free to have a reciprocating movement on the stem equal to the play of  
15 the jars, and devices on the casing and stem to lock them together in the event of a break at said jars, substantially as and for the purpose specified.

4. In an oil-well drill, the combination with  
20 the stem, the rope-socket and the jars, said

stem having teeth below the jars, of a casing connected to the rope-socket and extending over the stem below the jars, said casing being free to have a reciprocating movement on the stem equal to the play of the jars, de- 25  
vices on the stem and casing to lock them together in the event of a break at said jars, and a pawl on the casing to engage the teeth on the stem when the jars break and permit upward but prevent downward movement of 30  
the casing on the stem, substantially as and for the purpose specified.

In testimony whereof we affix our signatures in presence of two witnesses.

MAX BLUMENTHAL.  
HERBERT KINTZ.

Witnesses:

WM. EVANS,  
R. S. DOUNZEKER.