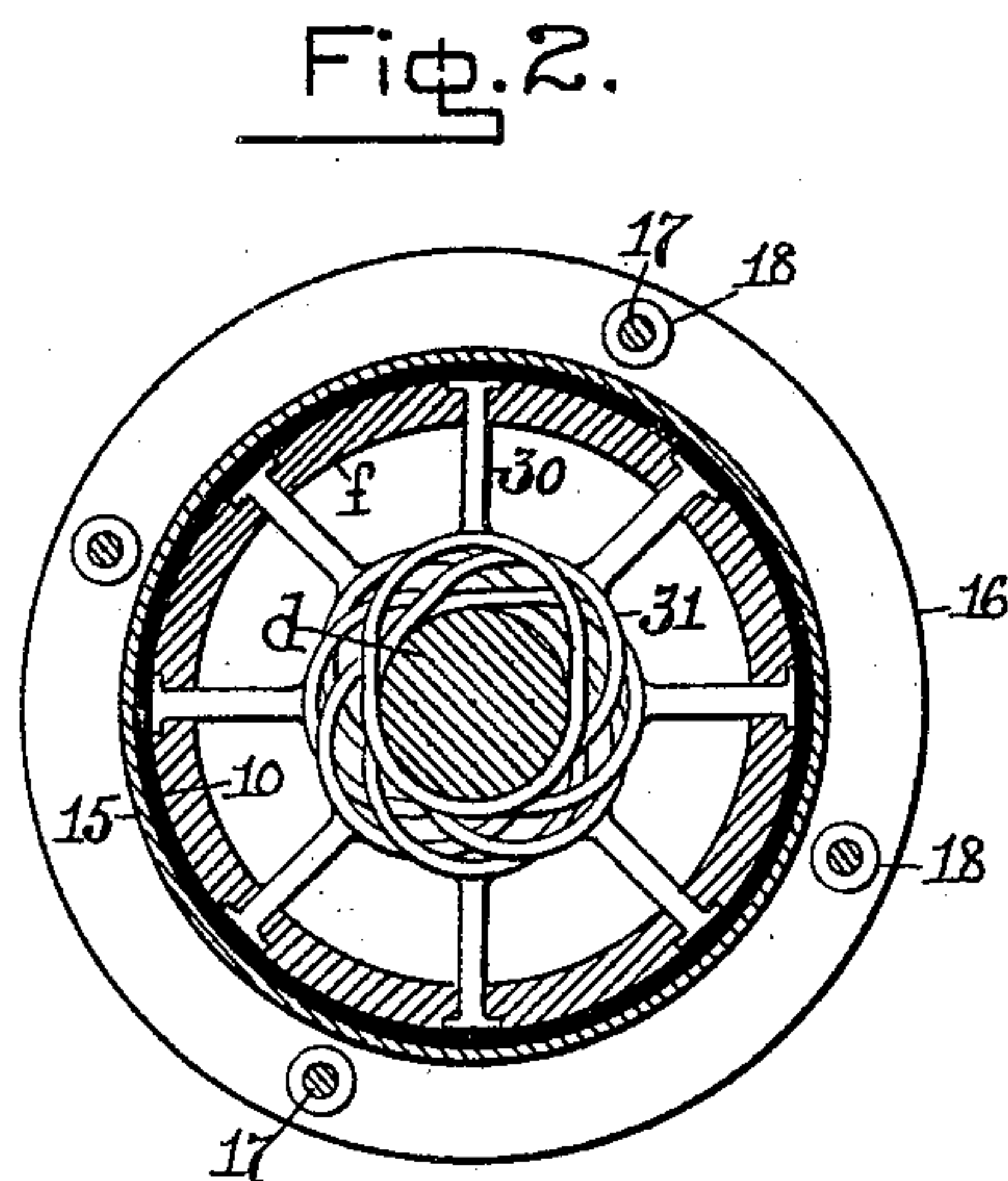
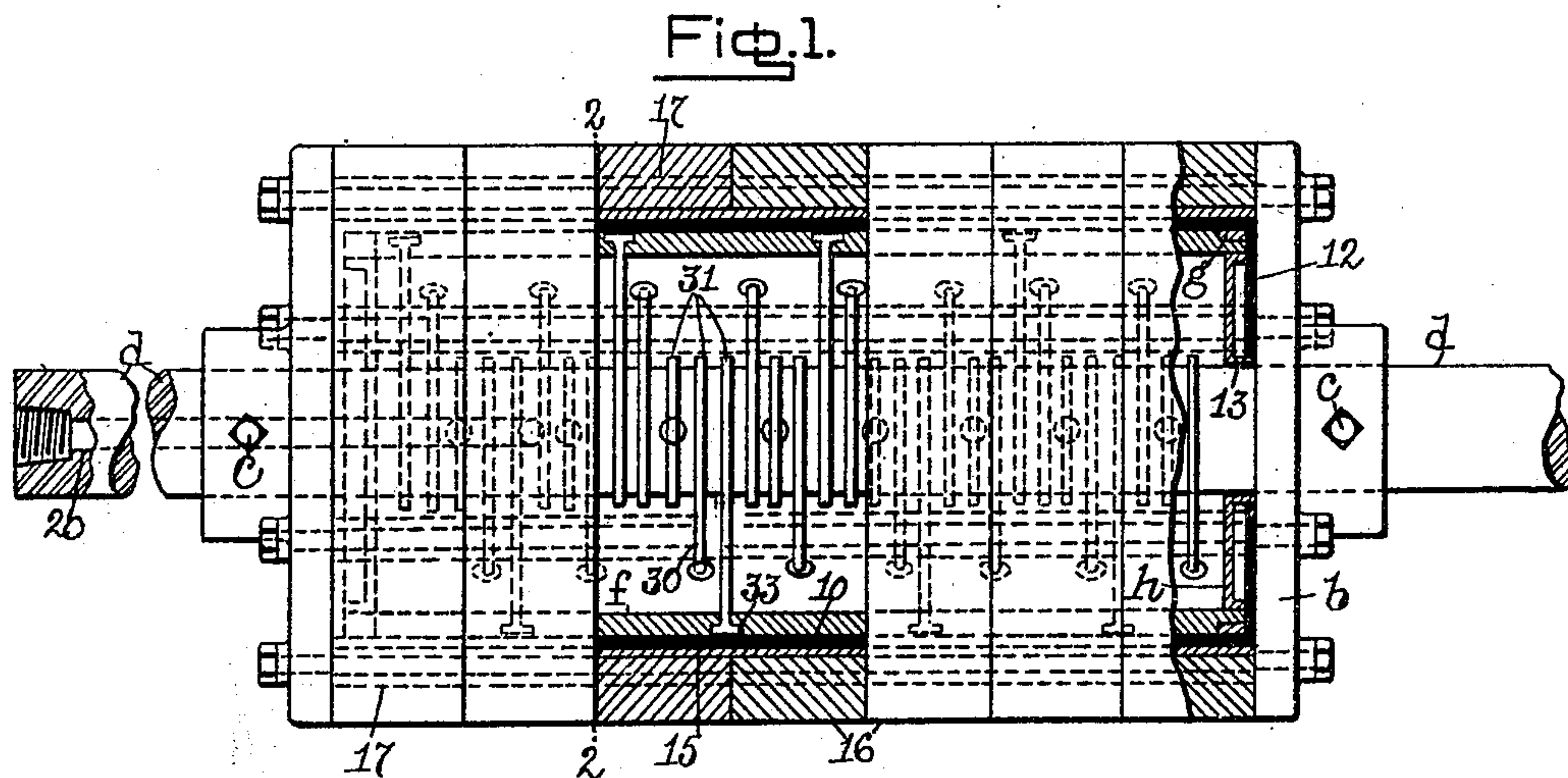


W. F. LUCKE.
HOLLOW WORK SUPPORT FOR LEATHER WORKING MACHINES.
APPLICATION FILED SEPT. 8, 1909.

993,387..

Patented May 30, 1911.



Witnesses:
M. E. Crozier
J. Murphy

Inventor,
William F. Lucke
by Jas. H. Churchill
Atty.

UNITED STATES PATENT OFFICE.

WILLIAM F. LUCKE, OF PEABODY, MASSACHUSETTS, ASSIGNOR TO HOLDER-PERKINS COMPANY, OF WOBURN, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

HOLLOW WORK-SUPPORT FOR LEATHER-WORKING MACHINES.

993,387.

Specification of Letters Patent.

Patented May 30, 1911.

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To all whom it may concern:

Be it known that I, WILLIAM F. LUCKE, a subject of the Empire of Germany, but now residing in Peabody, county of Essex, and State of Massachusetts, have invented an Improvement in Hollow Work-Supports for Leather-Working Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention relates to a hollow work support for leather working machines, and has for its object to provide a work support of the character specified, with which the work, such as a hide or skin, may be supported and presented to the operating tool, such as a bladed cylinder, so as to be most efficiently and economically treated. To this end, the hollow work support having a yielding portion upon which the hide or skin is supported, is provided within it with means for limiting the outward movement of the yielding portion under the influence of an increased internal pressure.

In the present instance, the invention is shown as embodied in a cylinder or bed roll employed in machines for fleshing and un-hairing hides or skins and to which the invention is particularly applicable.

These and other features of this invention will be pointed out in the claims at the end of this specification.

Figure 1 is an elevation and section of a bed roll embodying this invention, and Fig. 2, a cross section on the line 2—2, Fig. 1.

In the present instance, the invention is shown as embodied in a bed roll comprising end disks *a*, *b*, secured as by bolts or screws *c* on a shaft *d*, and an intermediate cylindrical body portion capable of yielding under external pressure. The yielding body portion may be made as herein shown and is provided with a cylinder *f* of leather or other suitable material, which is secured at its ends by clamping rings *g* to disks *h* of metal, mounted on the shaft *d* between the disks *a*, *b*. The cylinder *f* is enveloped by a sleeve or cylinder 10 of rubber having end flanges or portions 12 through which the shaft *d* extends.

A ring 13 of rubber may be interposed between the end disks *h* and the shaft *d*, which coöperates with the rubber sleeve 10 and its end flanges 12 to render the hollow

bed roll air-tight about the shaft *d*. The rubber sleeve 10 is enveloped in a cylinder or covering 15 of leather or other suitable material, and the yielding body portion of the bed roll thus formed may be provided with a wearing surface in the form of metal rings 16, which are retained in place between the end disks *a*, *b* by the bolts or rods 17, and which are capable of bodily movement by means of the holes 18 of larger diameter than the bolts 17 through which the latter are extended, (see Fig. 2).

The bed roll may be filled with air or other fluid under pressure and in the present instance, the shaft *d* is shown as provided with a passage 20 through which the air or other fluid may be admitted into the hollow bed roll. The passage 20 may be closed after the fluid forced therein has reached a predetermined pressure or it may be left open and connected with a suitable pressure supply tank or vessel not shown.

The present invention has for its primary object to provide a hollow bed roll with means within it, whereby an increase of internal pressure, due to a thicker portion of the hide or skin being interposed between the bed roll and the operating tool, such as the blade cylinder or roll now commonly used in machines of this class, does not project other portions of the bed roll outwardly beyond the normal position of the same, thereby obtaining a uniform action of the operating tool or bladed cylinder upon the thick and thin portions of the work. In the present instance, one arrangement of devices or means is shown for accomplishing this result, which consists of a plurality of devices, secured at their outer end to the yielding body portion and having provision at their inner ends for engaging the shaft *d*, so as to arrest and limit the outward movement of said yielding body portion under the influence of an increase in internal pressure. The devices referred to are herein shown as substantially radial arms 30 provided at their inner ends with elongated loop portions through which the shaft *d* extends, and having their outer ends extended through the inner cylinder *f* and provided with buttons or heads 33, which serve to secure the said arms to the yielding body portion of the bed roll.

The arresting devices are distributed about the roll, so as to insure the yielding

bed being properly held in its normal position.

In operation with the bed roll herein shown, the bladed cylinder and the bed roll 5 are arranged and adjusted with relation to each other, so as to treat the thin portions of the hide or skin in the proper manner, and when in the operation in which they are used, a thicker portion of the hide or 10 skin is interposed between the tool and bed roll, the portion of the latter in contact with the thicker portion of the hide or skin, yields more than the other portions of the bed roll, and creates an increase of fluid 15 pressure within the bed roll. This increased internal pressure exerts an outward pressure on those portions of the bed roll, which support the thinner portions of the hide or skin, and also upon other portions 20 of the bed roll, which are uncovered by the hide or skin, with the result that in the absence of the present invention, the thinner portions of the hide are pressed outwardly toward the operating tool, which in the case 25 of a fleshing machine removes too much of the flesh at the thin portions of the hide and in the case of an unhairing machine scrapes and injures the grain of the hide or skin, while those portions of the bed roll 30 which are uncovered by the hide or skin, are liable to be cut by the bladed cylinder. By means of the present invention, these objectionable features are overcome and both the thick and thin portions of the hide 35 or skin are subjected to the same or substantially the same pressure.

In the present instance, I have illustrated the hollow work support in the form of a 40 roll, but it is not desired to limit the invention in this respect. So also, it is not desired to limit the invention to the particular form of means within the hollow work sup-

port for arresting the outward movement of the yielding portion thereof.

Claims.

1. The combination with a hollow fluid-tight work support containing an elastic fluid under pressure and having a yielding portion, of means located within said support and attached thereto and cooperating 45 with said yielding portion to limit the outward movement of the latter under the influence of fluid pressure within the same, substantially as described. 50

2. The combination with a hollow work supporting roll having a yielding body portion, and means located within said roll and cooperating with said yielding body portion to limit the outward movement of the latter under the influence of fluid pressure 55 within the roll, substantially as described. 60

3. The combination with a shaft, a bed roll mounted thereon and provided with a yielding body portion, and devices within said roll cooperating with the said yielding 65 body portion and with said shaft to limit the outward movement of the said body portion under the influence of fluid pressure within the roll, substantially as described.

4. The combination with a shaft, a bed 70 roll mounted thereon and provided with a yielding body portion, and arms connected with said yielding body portion and provided with looped portions encircling said shaft, substantially as and for the purpose 75 specified.

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

WILLIAM F. LUCKE.

Witnesses:

BENJAMIN G. HALL,
FRANKLIN J. PERKINS.