

No. 686,219.

Patented Nov. 5, 1901.

G. H. FURBUSH.

CLEANER AND DRIER FOR LEATHER WORKING MACHINES.

(Application filed Nov. 21, 1900.)

(No Model.)

Fig. 1.

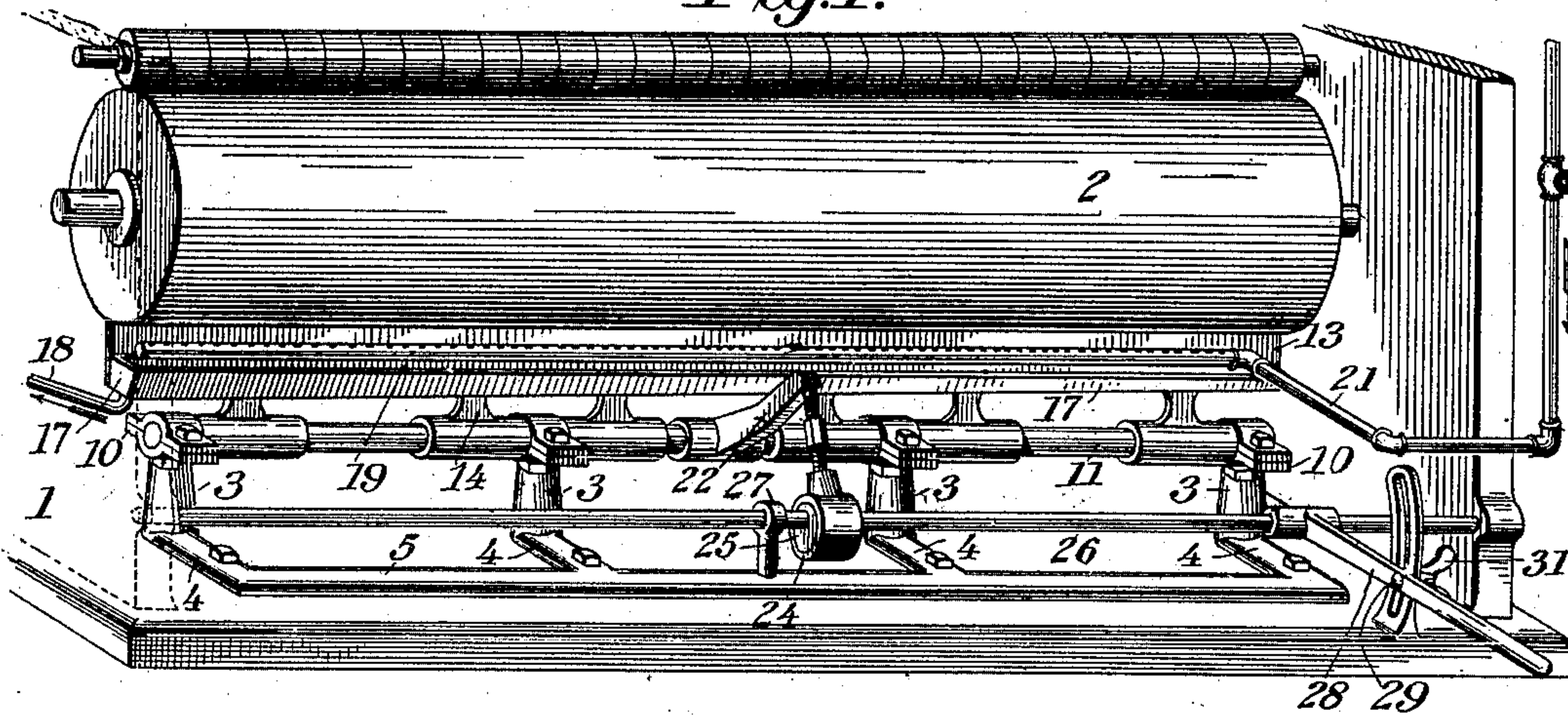


Fig. 2.

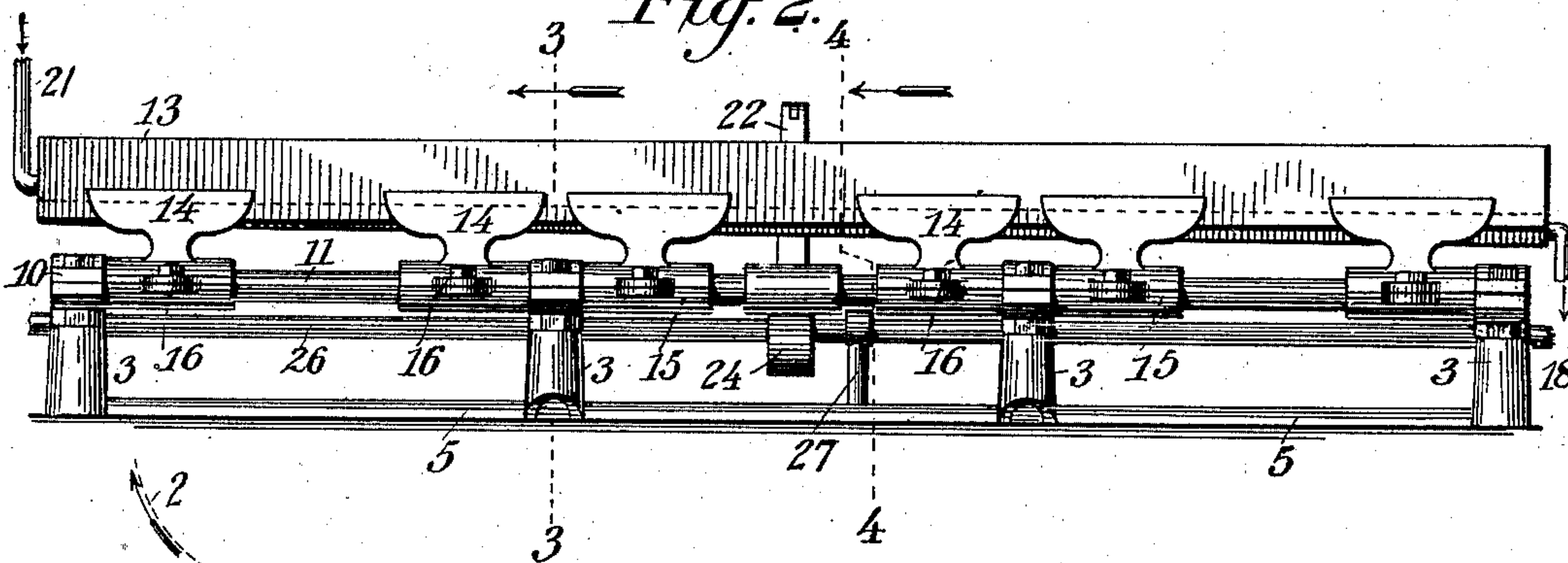


Fig. 3.

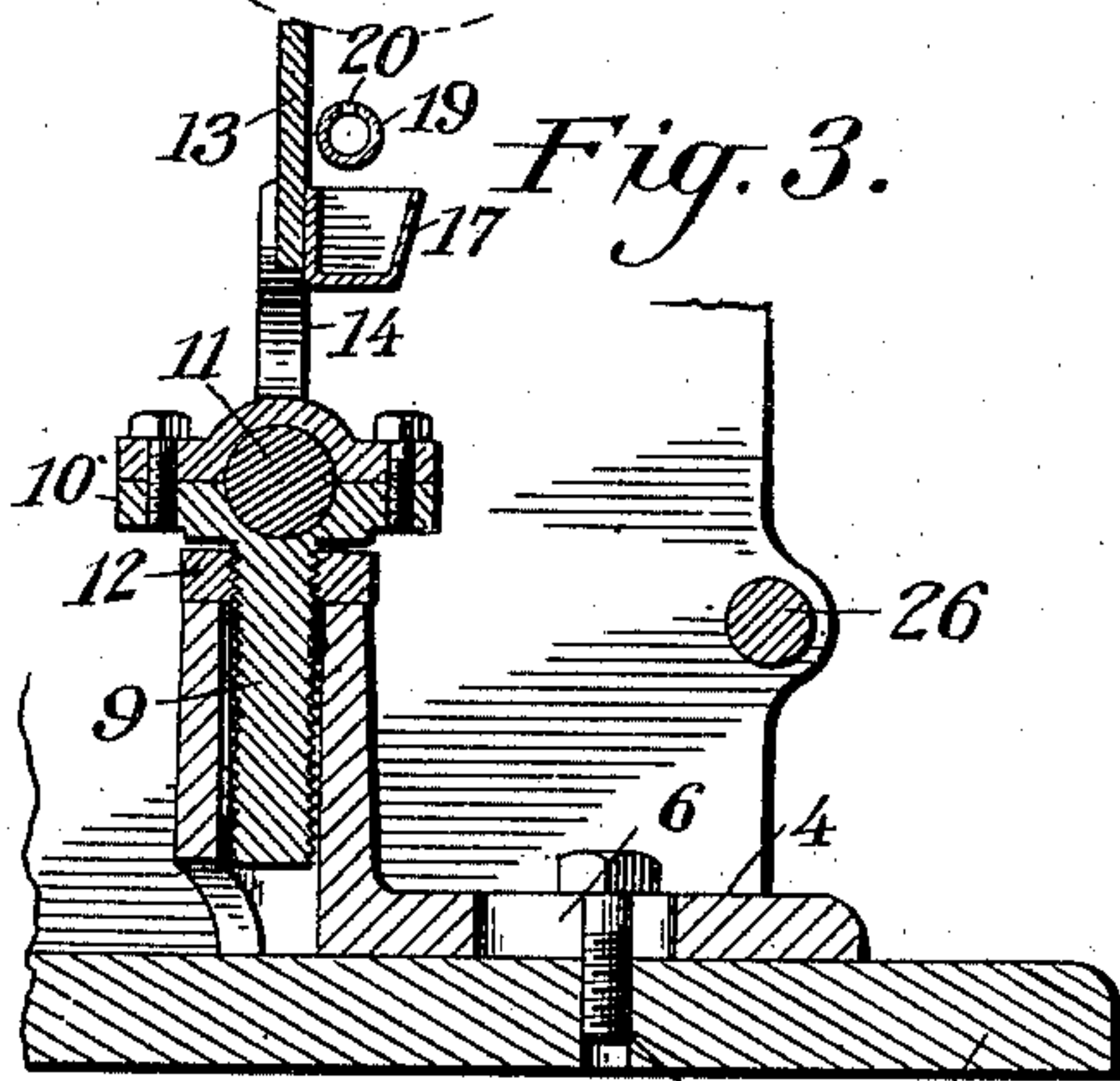
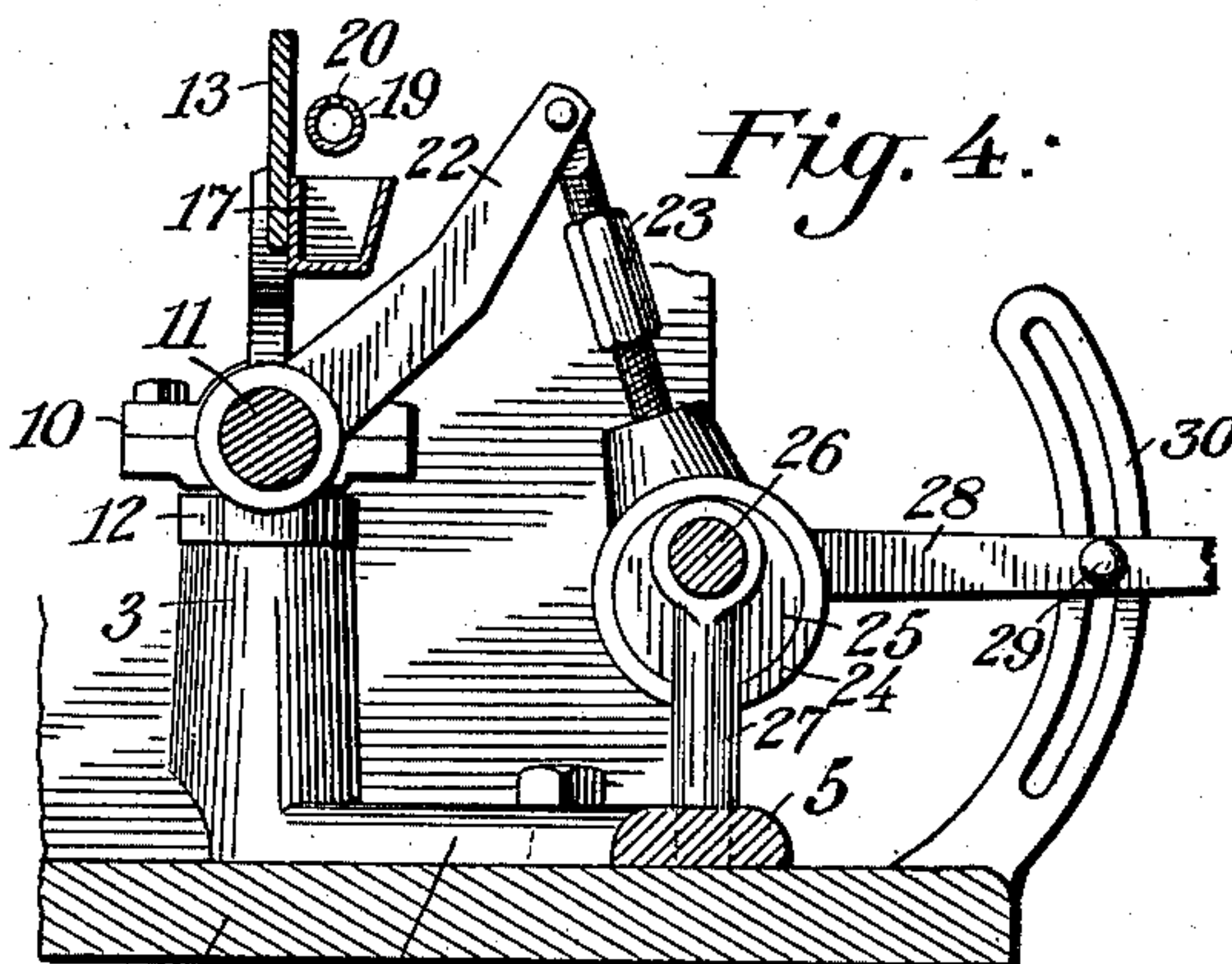


Fig. 4.



Witnesses;

L. E. Libbets.  
V.D. Stockbridge

Inventor;

G.H. Furbush,

By: *Rexford M. Smith*  
Atty.



# UNITED STATES PATENT OFFICE.

GUY H. FURBUSH, OF DUBOIS, PENNSYLVANIA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO MERTON A. HOLMES, OF SOUTH BOSTON, MASSACHUSETTS.

## CLEANER AND DRIER FOR LEATHER-WORKING MACHINES.

SPECIFICATION forming part of Letters Patent No. 686,219, dated November 5, 1901.

Application filed November 21, 1900. Serial No. 37,272. (No model.)

*To all whom it may concern:*

Be it known that I, GUY H. FURBUSH, a citizen of the United States, residing at Dubois, in the county of Clearfield and State of Pennsylvania, have invented a certain new and useful Cleaner and Drier, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to cleaners and driers, the object in view being to provide means whereby the rubber roll of a leather-working machine may be effectively cleaned and dried in an expeditious manner.

The leather-working machine to which my invention is especially adapted employs a rubber roll to actuate by friction the feed-roll which is used in conjunction with a pressure-roll in feeding the leather to the action of the splitting-knife. This rubber roll in such machines becomes wet and slimy from contact with the feeding-roll and is thereby rendered incapable of exerting the degree of friction upon the feed-roll necessary in providing it with a uniform feeding rotation in feeding the leather to the splitting-knife. It therefore becomes necessary at frequent intervals to clean and dry the said rubber driving-roll and remove therefrom any moisture or slime which has accumulated thereon. The present invention is in the nature of an attachment which may be readily applied to the ordinary leather-working machine, and by means of the construction involved the rubber driving-roll may be quickly cleaned and dried and the cleaning device may be adjusted accurately so as to bear the proper relation to the rubber driving-roll.

An important advantage arising from the use of my invention is obtained because it becomes possible to work or split the leather in a moister or wetter condition than was possible by the old means. With the old type of machine great care was necessary in preparing the leather for the machine. If relatively hard, it would feed better, because it would not so quickly impart a slippery condition to the rubber surface of the driving-roll, but it would not split as well or as speedily as when made soft by more soaking

and would sooner dull the edge of the splitting-knife. If, on the other hand, it was soaked too much or made too wet, it would split better and not dull the knife so quickly, but would impart to the power-roll so much moisture and grease that the feeding of the leather was relatively slow. Consequently much time was given to the preparation of the leather for splitting.

I have found by my present invention that I can split the leather when in its damp, moist, or wet condition; that the care before used is not now necessary in preparing it; that the splitting-knife will keep its edge longer, and that the feed of the leather is rapid and continuous and the production of the machine per day not only very much increased in quantity, but improved in quality as well, and that this is due to the fact that the feed-roll when it comes into contact with the leather is clean and dry and always performs its normal function of feeding the leather without slipping upon it. It is obvious, of course, that the capacity of the machine is limited to the rate of rotation of the feed-roller and the degree of its friction upon the leather, and that if the rotation be maintained at the speed of the driving-roll and the friction be maintained the machine will then be working at its best capacity.

The invention consists in certain novel features and details of construction and arrangement of parts, as hereinafter fully described, illustrated in the drawings, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a front perspective view of a portion of a leather-splitting machine, showing the rubber driving-roll, the cleaner, and adjusting devices. Fig. 2 is an enlarged rear elevation of the cleaner, &c. Fig. 3 is a vertical cross-section through the cleaner, showing the manner of mounting the same on the machine-frame, said view being taken on the line 3 3 of Fig. 2. Fig. 4 is a similar section taken on the line 4 4 of Fig. 2.

Similar numerals of reference designate corresponding parts in all the figures of the drawings.



I have not deemed it necessary to represent in the drawings the feed-roll of the machine, which is frictionally operated by contact of the rubber roll therewith, nor the pressure-roll nor the splitting-knife, and I would not be understood as limiting the invention to a leather-working machine of this organization, but may employ it wherever it is desired for cleansing and drying the surface of a rubber driving or other roll.

Referring to the drawings, 1 designates the frame of a leather-splitting machine, and 2 the rubber roll, which drives the feed-roll by contact with the periphery thereof and which receives from said feed-roll, because of said contact, grease and moisture, which decreases its frictional properties, and therefore its power, and the removal of which grease and moisture it is desirable to provide for in order that the rubber surface of the driving-roll may be always maintained in a sensitive and the best frictional condition, and the means for which removal constitutes the improvement to be described.

In carrying out the present invention I employ a frame consisting of a series of chairs 3, arranged in line with each other and each provided with an angular foot extension 4, all of which are connected by a frame-bar 5, as clearly shown in Fig. 1. The foot portions 4 of the chairs are provided with slots 6 for the reception of bolts or screws 7, by means of which the attachment as a whole is secured to the bed-plate 8 of the machine. The chairs 3 are of tubular or hollow form in order to receive adjustably the shanks 9 of a series of bearings 10, in which is journaled a rock-shaft 11, to which the cleaner is attached, as hereinafter described. Each of the shanks 9 is screw-threaded and is encircled by an adjustable nut 12, which seats itself upon the top of the shanks 9, so that by turning the nut 12 the bearings 10 may be raised or lowered. In this manner all of the bearings 10 may be brought into horizontal alinement with each other for truing up the shaft 11 and bringing the latter into exact parallel relation to the rubber driving-roll 2.

13 designates the cleaner-blade, which is designed to bear continuously throughout its upper edge on the roll 2 for the purpose of scraping and removing grease and moisture from the roll. The blade 13 is provided with a series of lugs 14, having sleeves 15, through which the shaft 11 passes, the blade being fixed with relation to the shaft 11 by means of cap-screws 16, passing through ears on the sleeves 15, and clamp the latter around the shaft 11. Extending along one side of the blade is a drain-gutter or trough 17, the bottom of which is arranged on an incline, so that the contents of the trough will drain toward one end thereof, at which point is arranged a drain pipe or spout 18, leading to a suitable receptacle. Extending longitudinally of the gutter or trough 17, and preferably arranged slightly above the same, is a spray-pipe 19,

provided with a large number of small perforations 20 for the escape of water admitted to the pipe 19 by means of a water-supply pipe 21. The water is taken from a higher level or forced with any desired pressure into the spray-pipe 19, thereby causing a large number of small jets of water to be thrown upward against the surface of the rubber roll 2, so as to loosen the fleshing grease and other matter on the roll and facilitate the scraping of the same from the roll and its passage into the gutter or trough 17, from which it escapes and is carried off by the outlet pipe or spout 18.

In order to adjust the cleaning-blade 13, the rock-shaft 11 is provided with a lever or crank-arm 22, connected to the outer end of which is a longitudinally-extensible link 23 in the form of a turnbuckle, said link carrying at its opposite end an eccentric-strap 24, encircling an eccentric 25 on a counter-shaft 26, journaled in suitable bearings 27 and provided with an operating-lever 28. Extending laterally from the operating-lever is a threaded stud 29, which works in a slotted segment 30 on the machine-frame and is provided with a thumb-nut 31, so that the adjustment of the lever 28 may be fixed by tightening said thumb-nut. By the means just described it will be seen that by vibrating the lever 28 the cleaning-blade 13 may be moved toward or away from the rubber roll and brought to bear with the required pressure against the roll, so as to effectively remove the fleshing grease, moisture, and other impurities.

The device hereinabove described may be manufactured in connection with the machine or may consist of an attachment applicable to machines already in use. The cleaning-blade when properly adjusted with respect to the rubber driving-roll will thoroughly clean the surface of the roll and leave the same in a sensitive frictional condition, adapting it to obtain the required frictional hold on the feed-roll for feeding the leather to the splitting-knife.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. In a leather-working machine, the combination with a feed-roll, and a frictional driving-roll therefor, of means for supplying fluid to the driving-roll along a line removed from its line of driving contact with the feed-roll and mechanism for cleaning and scraping the surface of the roll between the line of application of the fluid and the said line of driving contact.

2. The combination with the feed-roll of a leather-working machine, and the frictional driving-roll which actuates the feed-roll, of a cleaning device for said driving-roll consisting of a scraper bearing against the driving-roll, a rock-shaft by which the scraper is carried, and means for rocking said shaft and holding it rigid, substantially as described.

3. In a cleaner and drier for the frictional



driving-roll which actuates the feed-roll of a leather-working machine, the combination with the feed-roll and driving-roll, of a rock-shaft, a cleaning device consisting of a scraper  
5 rigidly connected thereto and extending parallel therewith, an operating-lever connected to the shaft, a segmental arm, and fastening means for securing the lever fixedly to the arm and holding the scraper in fixed relation  
10 to the driving-roll, substantially as described.

4. In a cleaner and drier for the frictional driving-roll which actuates the feed-roll of a leather-working machine, the combination with the feed-roll and driving-roll, of a rock-  
15 shaft, a cleaning device for the driving-roll consisting of a scraper mounted on said shaft and adapted to be held rigidly against the driving-roll, an operating-lever, connections between the lever and shaft, a slotted seg-  
20 mental arm or plate, a threaded pin or stud on the lever working in the slot in said arm, and a thumb-nut on said pin or stud, substantially as and for the purpose set forth.

5. In a cleaner and drier for the purpose

specified, in combination, a rock-shaft, a clean- 25  
ing-blade carried thereby, a counter-shaft, an operating-lever thereon, a lever or crank-arm on the rock-shaft, an eccentric on the counter-shaft, a link interposed between said eccentric and lever-arm, and means for fixing 30  
the adjustment of the operating-lever, substantially as described.

6. In a cleaner and drier for the purpose specified, a frame comprising a plurality of chairs, a rock-shaft carrying a cleaning-blade, 35  
means for operating said shaft, a series of bearings for said shaft having threaded shanks movable up and down within the chairs, and adjusting-nuts encircling said shanks and resting upon the chairs, substan- 40  
tially as and for the purpose specified.

In testimony whereof I affix my signature in presence of two witnesses.

GUY H. FURBUSH.

Witnesses:

S. E. HARMAN,  
L. S. HAY.