

# R. Shailer, Preparing Hides.

Patented June 19, 1837.

N<sup>o</sup> 239.

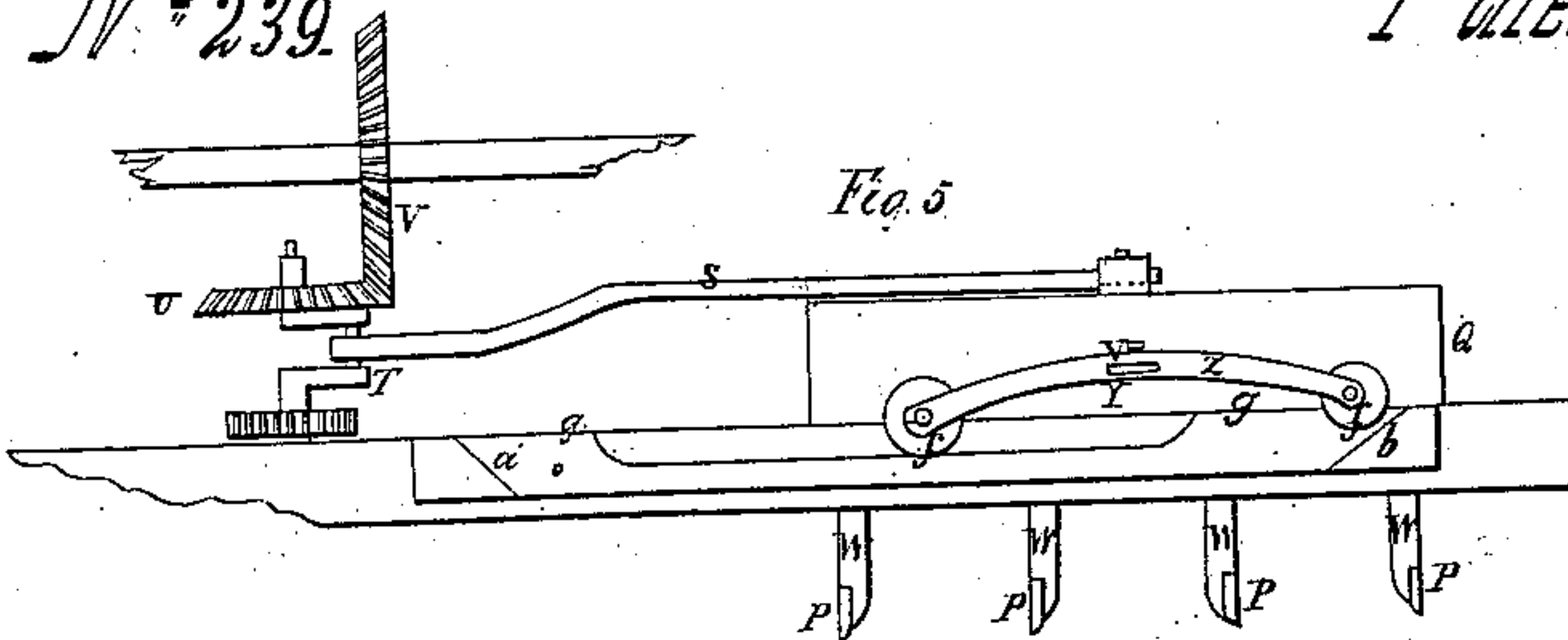


Fig. 6.

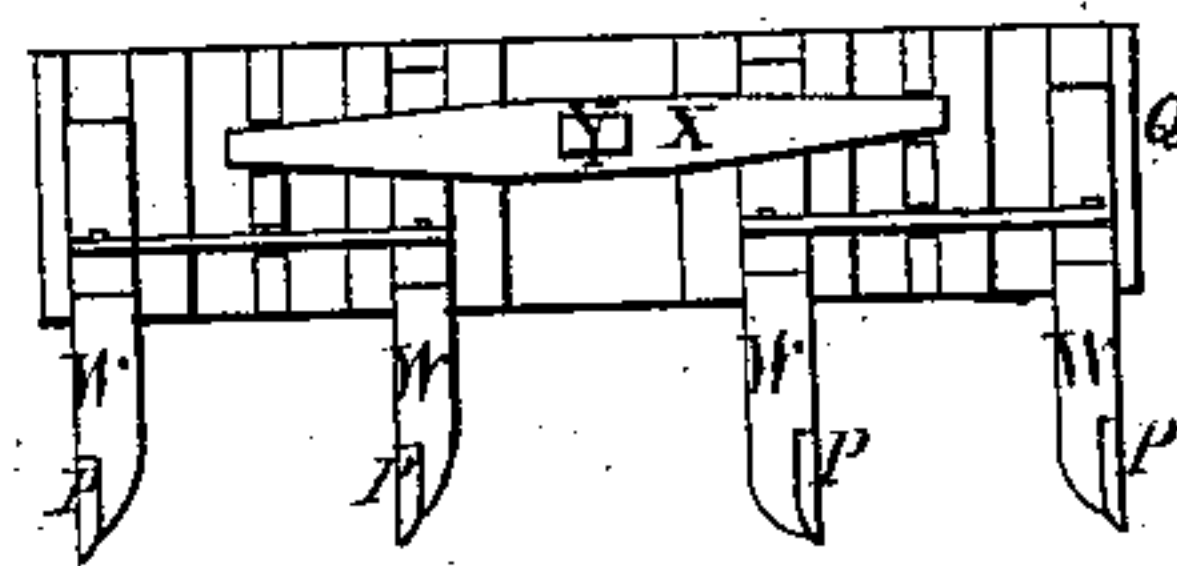


Fig. 2.

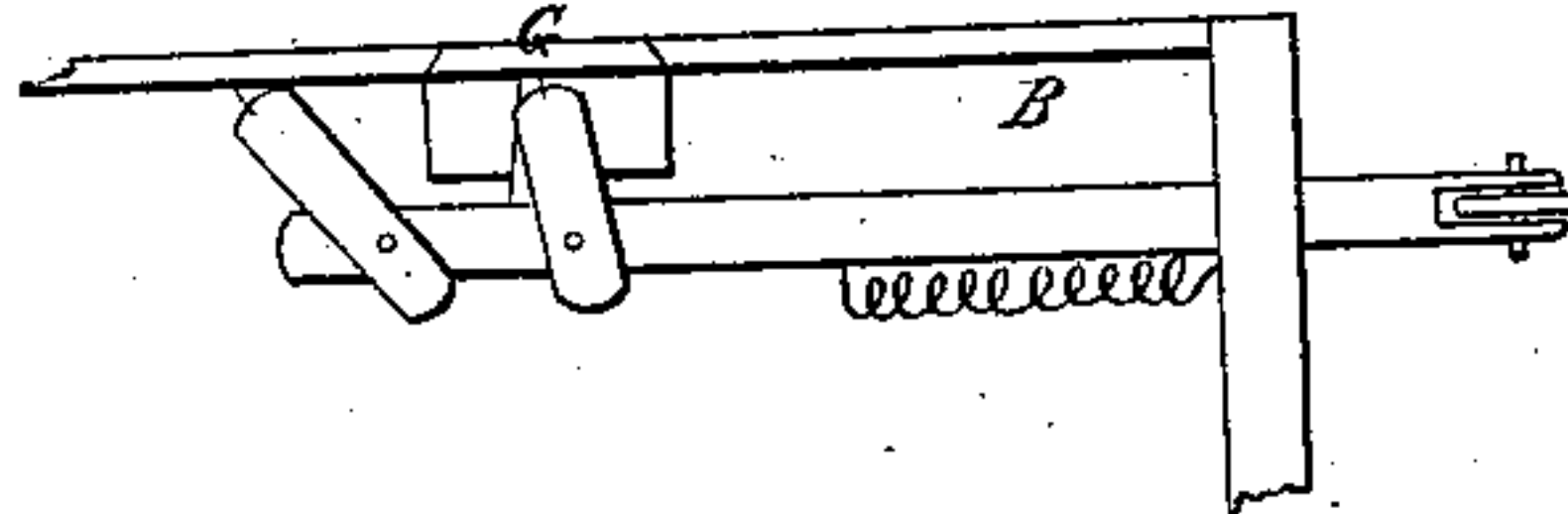


Fig. 1.

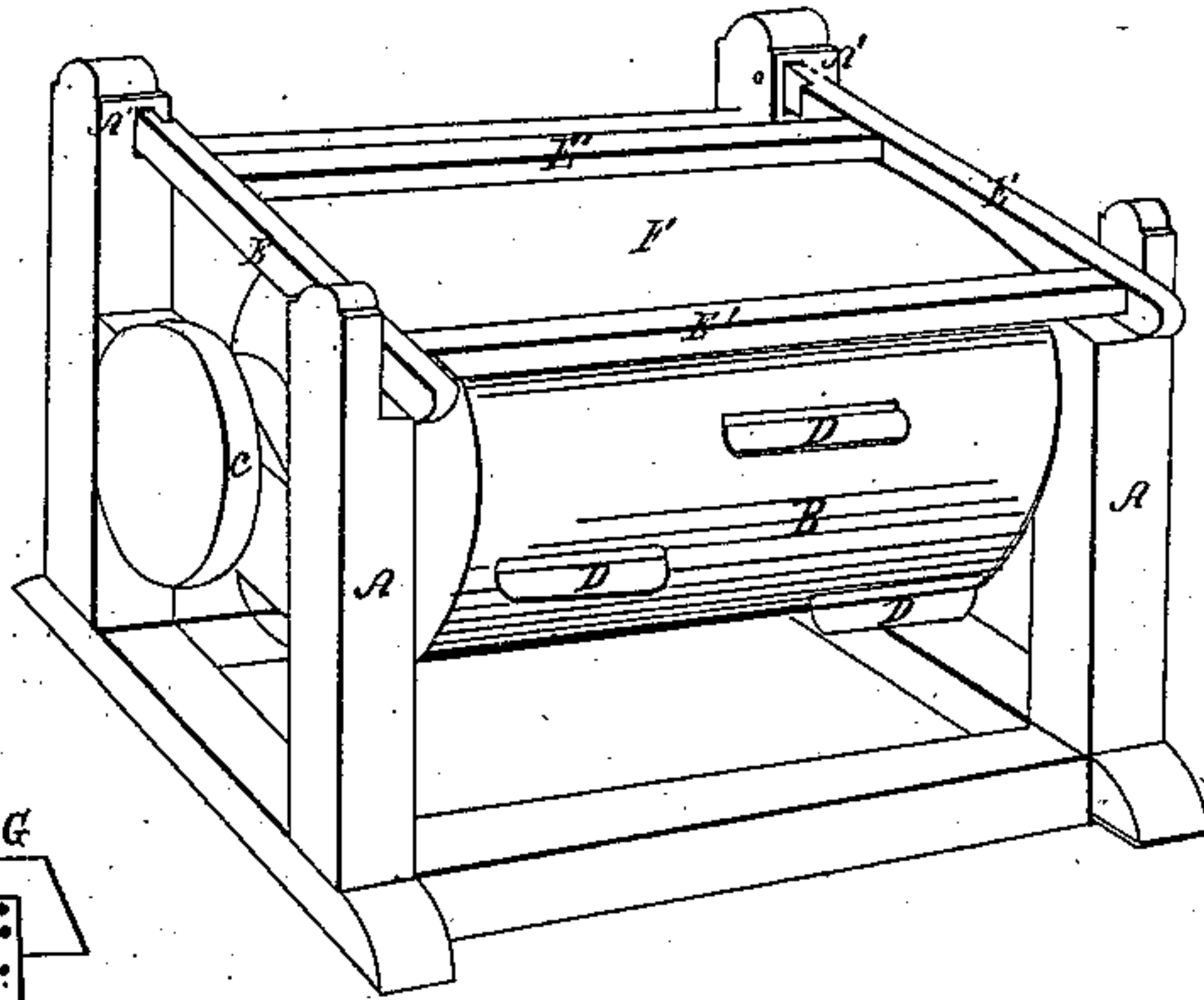
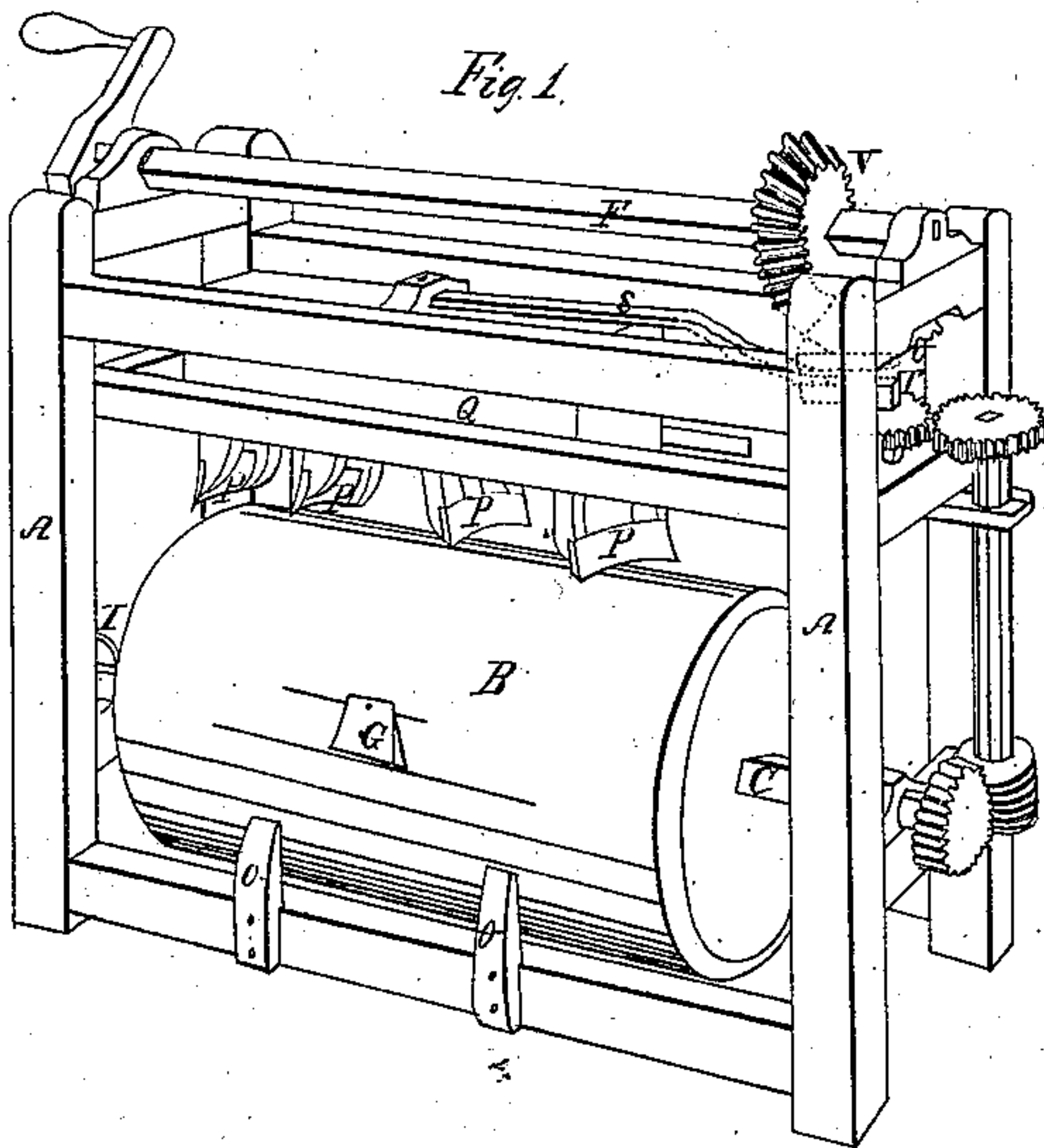


Fig. 3.

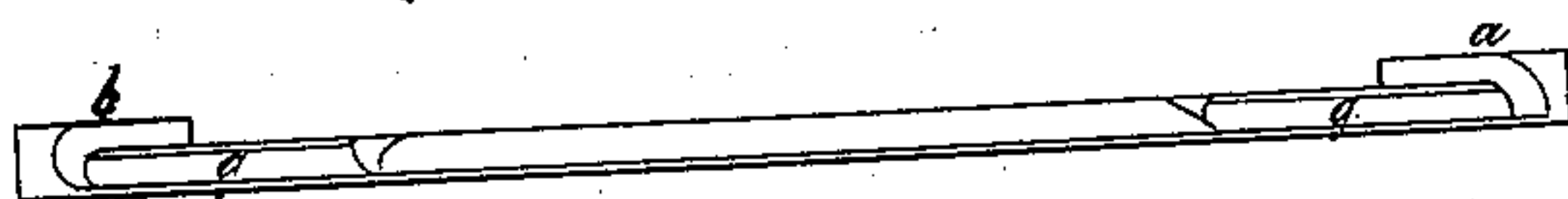
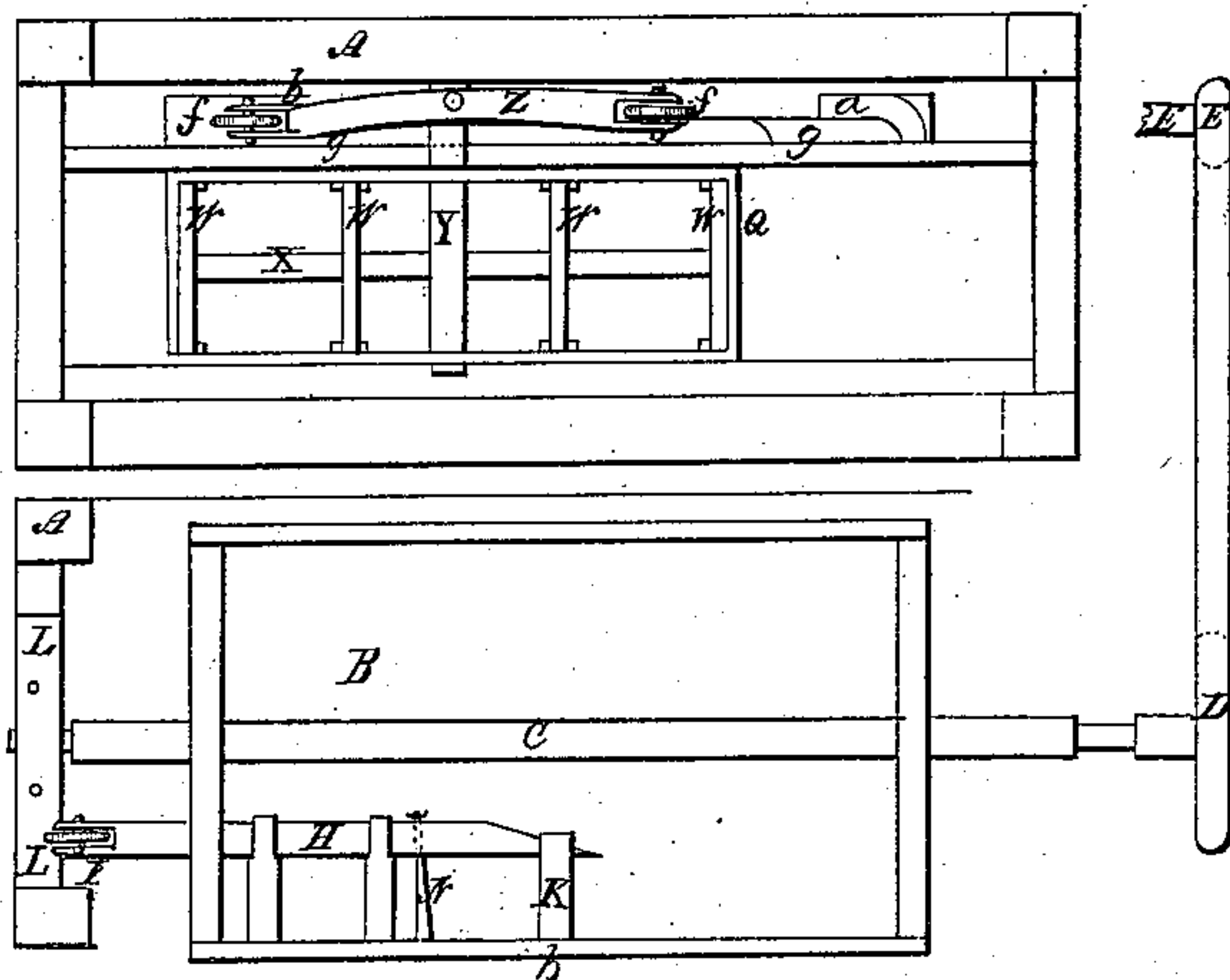


Fig. 4.





# UNITED STATES PATENT OFFICE.

REUBEN SHAILER, OF HADDAM, CONNECTICUT.

## MACHINE FOR SCRAPING HIDES.

Specification of Letters Patent No. 239, dated June 19, 1837.

*To all whom it may concern:*

Be it known that I, REUBEN SHAILER, of the town of Haddam, in the county of Middlesex and State of Connecticut, have invented an improvement in the useful arts, being a machine for scraping skins or hides, for unhairing, fleshing, scouring, and setting the same, in the process of tanning leather, called "Shailer's revolving and vibrating hide-scraper," which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

In the present mode of scraping or beaming hides by hand on an inclined beam with a common beaming knife the operation is found to be very laborious. I have, therefore, devoted the energies of my mind to the invention of a machine which shall relieve the tanner of this laborious part of his business and believe that I have produced one that will effectually scrape and remove all hair, flesh, lime, &c., from hides; and which may be operated by the power of steam, water, horse, or manual power; the construction and operation of which being as follows.

A suitable frame A is constructed of four posts connected together by side and end pieces mortised and tenoned into the same. In this frame turns a large cylinder B on an axle C, in boxes supported on two of the lower end pieces of the frame—one end of said axle projecting beyond the end of the frame to receive a pulley D with a band *d* passing around it to another pulley E on the end of the main axle F to which the driving power is applied, lying across the top of the frame, turning in boxes fastened thereon. This cylinder is for carrying the hide to be scraped or worked which is placed on its circumference and secured by passing the parts through an oblong or square aperture in the side of the cylinder and crowding a swinging wedge shaped door or trap G into said aperture by a spring which forms its hinge and which thus holds the hide fast. When the hide is to be discharged this door is opened by means of a bar H shaped like a wedge at one end and having a wheel I at its other end—the bar passing through an opening in one of the heads of the cylinder and likewise through staples or guides fastened on the inside of the cylinder—the wheel end being on the outside and the tapered or wedge shaped end inside

the latter passing into a square opening in a projection or cleat K on the inner side of the door; so that as the cylinder revolves the wheel comes in contact with an inclined plane L formed on one of the lower end pieces of the frame and thus forces the bar back into the aperture in the cleat—its wedge shape causing the door to open;—it remains thus open during half a revolution of the cylinder, allowing sufficient time for the skin to be discharged and another to be put in. As soon as the wheel has passed the inclined plane the bar is thrown out again by a spring N, and the door closes upon this hide by the action of its spring hinge as before. Two elastic bars O O are let into the lower side piece of the frame—their upper ends bearing against the circumference of the cylinder and passing under the hides and throwing them off from the cylinder as it revolves. The scraping is performed by several scrapers P which have a quick vibratory movement at right angles to the rotary movement of the cylinder—the latter being made to revolve slowly so that the hides may be scraped effectually in every part. The scrapers are placed in a rectangular carriage Q moving backward and forward on ways or in grooves *e* above the cylinder, extending from one end piece of the frame to the other—the carriage being attached by a pitman rod S to a crank shaft T, turned by a bevel wheel U fastened on the same and gearing into another bevel wheel V on the main or driving shaft before described. The scrapers are fastened to the lower edges of slides W moving vertically in grooves in the sides of the carriage by means of a vibrating bar or spring X fastened to the slides—supported at its center by an axle Y which is vibrated by a lever Z fastened on the end thereof, a wheel *f* being let into each end of said lever which passes over an inclined plane *a* constructed on the side of one of the ways—the other wheel passing over another inclined plane *b* nearly on a line with the one just described—for alternately raising or depressing the scrapers in passing over the hides. The lever Z is fastened on the end of the axle Y in such a manner as to admit of a side or swing motion so that the wheels *f* are made to pass in the channels on the top of the ways by means of the curves on the inclined planes *a b* in the following manner: When the



wheel *f* is raised by the inclined plane *b* it is made to pass by means of the curve into the groove or channel *g* on the top of the way and returns in said channel, consequently the wheel in the other end of the swing lever *Z* passes from the groove or channel on the top of the ways to the side, at which time it is depressed the same distance the knives are raised, by means of the inclined plane *b*—returning on the side of the way until it reaches the inclined plane *a* where it performs the same operation as the wheel above described—therefore as the carriage passes backward and forward, one wheel runs in the groove or channel on the top of the way, while the other is on the side, changing from the top to the side at every vibratory motion of the carriage.

The power is applied to the main axle as before described which operates the cylinder and scrapers simultaneously—the former having a slow rotary movement, while the latter vibrates rapidly over the hide, produced by an arrangement of gearing common to all mill work; and which may be so varied as to produce any degree of speed required. It may also be effected by cog wheels and worm wheel as represented

in Fig. 1, or by pulleys and band as described above and as represented in Fig. 4.

The invention claimed by me, the said REUBEN SHAILER, and which I desire to secure by Letters Patent; consists in—

The combination and arrangement of the several parts of the before described machine for scraping hides as herein set forth, by which the scraping is performed by placing the hides on the surface of a revolving cylinder and causing a frame containing several knives or scrapers to move, by common band or cog gearing, backward and forward, over the hides at right angles to the movement of the cylinder by which they are thoroughly scraped in every part; the knives or scrapers also having an alternate vertical movement caused by a vibrating lever or beam with a wheel in each end passing over inclined planes near each end of the frame; whether constructed in the manner above described, or in any other substantially the same and operating on the like principle.

REUBEN SHAILER.

Witnesses:

THOMAS SHAILER,  
IRA N. SHAIR.