

A. H. Beschermann,

Preparing Hides,

Patented Nov. 14, 1846.

No. 4,851,

Fig. 4.



Fig. 5.

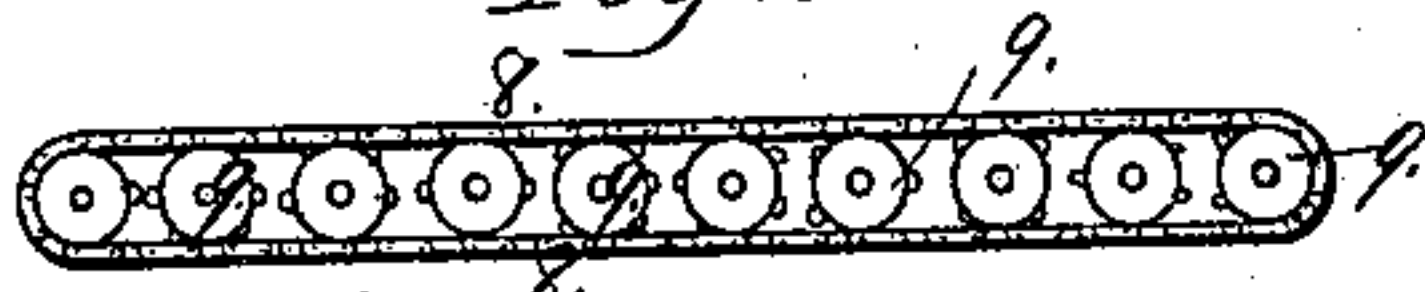


Fig. 1.

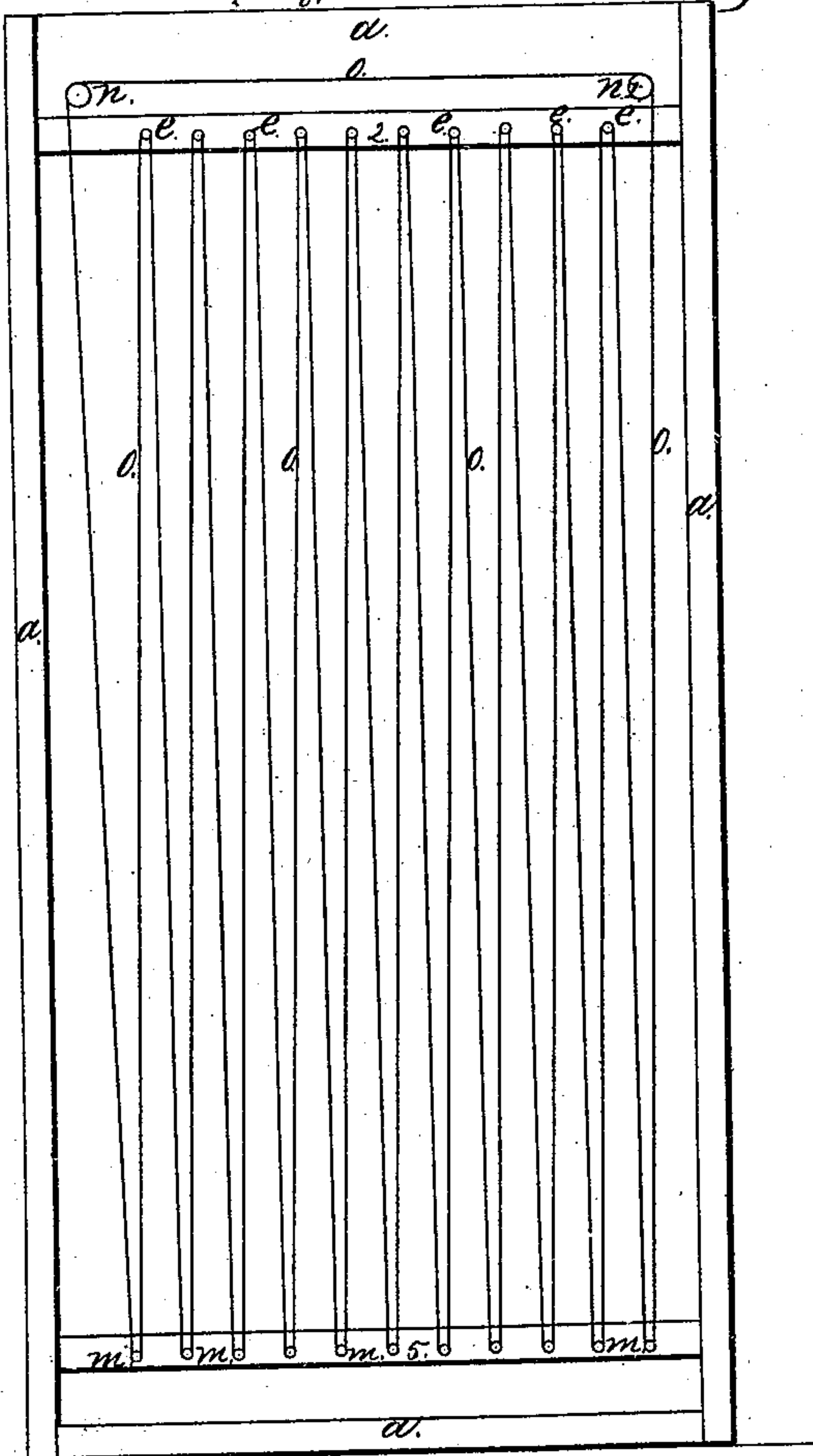


Fig. 6.

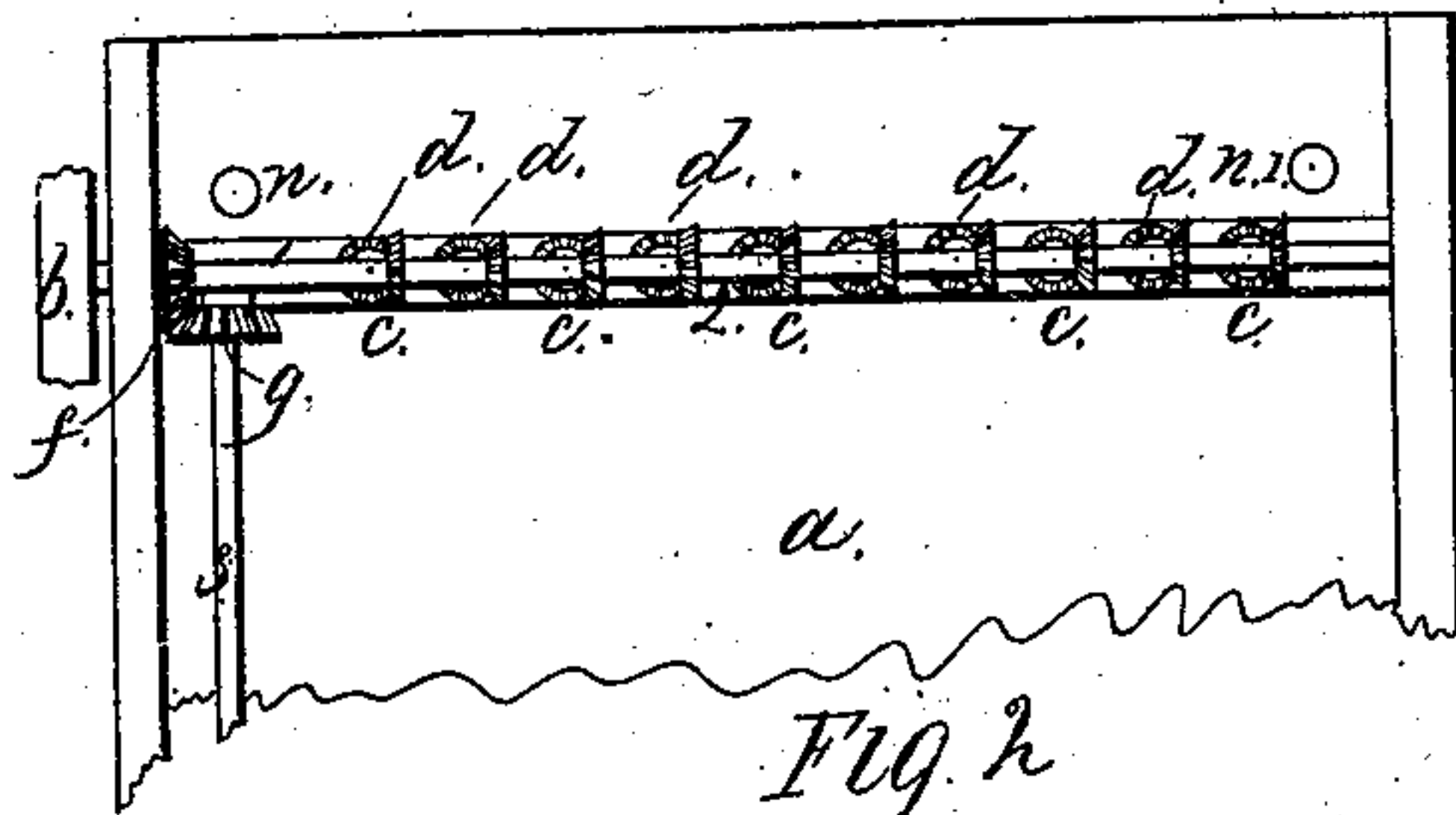


Fig. 2.

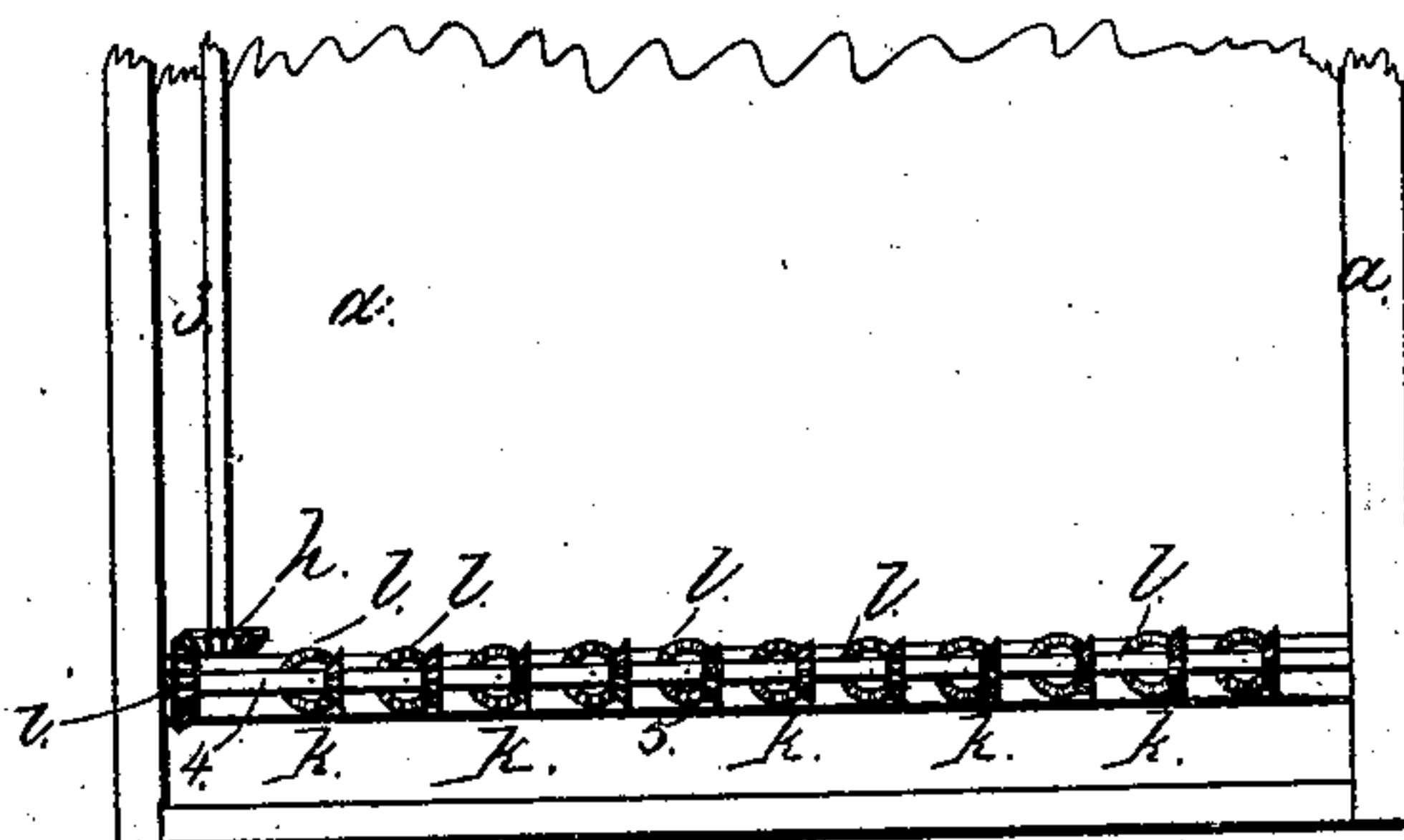
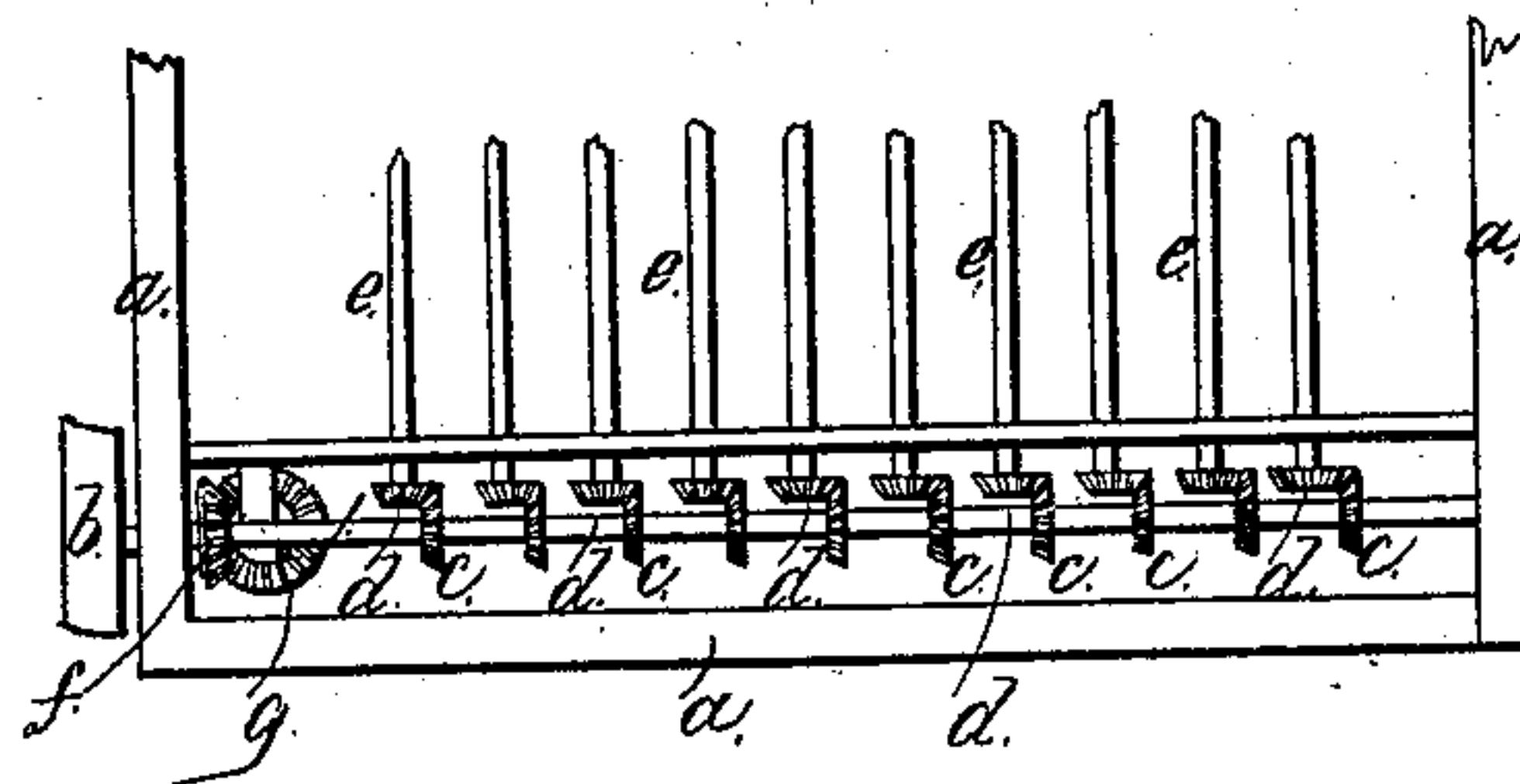


Fig. 3.



Witnesses,

W. L. Serrell
Samuel W. Serrell

Inventor,

A. H. Beschermann

UNITED STATES PATENT OFFICE.

AUGS. H. BESCHERMANN, OF NEW YORK, N. Y.

HANDLING HIDES.

Specification of Letters Patent No. 4,851, dated November 14, 1846.

To all whom it may concern:

Be it known that I, AUGUSTUS HENRY BESCHERMANN, a native of Prussia, resident more than one year previous to the date hereof in the United States and having duly declared my intention to become a citizen thereof, and now of the city, county, and State of New York, tanner and leather manufacturer, have invented and made and applied to use certain new and useful improvements in the arrangement of well-known mechanical means by which labor will be saved in the handling of hides and skins during the successive processes of washing, liming, bating, and tanning thereof to convert the same into leather, which said improvements are also applicable to stuffing or dubbing hides and skins to finish them after the tanning process is completed, such improvements consisting in the application of rollers placed near the top and near the bottom of the vats, prepared for these purposes, the rollers carrying an endless apron or web onto which the hides or skins are secured. The rollers, with the webs and skins, are then rotated by any competent power acting through inter or bevel gear wheels or direct and intermediate wheels and pinions or by chain bands and stud wheels or by cranks, and when fitted in any of these modes the rollers carry the web, with the raw or prepared hides or skins, successively down into and upward in the washing, liming, bating, or tanning liquor in the vat, to be operated on in a considerable number during each operation, thereby saving labor and time, and for which improvements I seek Letters Patent of the United States; and that the said improvements are constructively set forth in the following description and shown in the drawing annexed to and making a part of this specification wherein—

Figure 1., is a sectional elevation, showing the position of the rollers and band, or web. Fig. 2., is an interrupted elevation, with one side or end of the vat removed, to show the gearing. Fig. 3 is a partial plan of the operative parts in place. The other figures are separately noticed, and the same letters and numbers, as marks of reference, apply to the like parts, in all the several figures.

a, a, are parts of the vat, *b,* is a pulley, to communicate with any competent power, this is mounted on a shaft 1., which is sup-

ported by bearings in the sides of the vat, in any manner, that will prevent leakage through the journals and bearings; *c, c,* are miter wheels, set at equal distances on the shaft 1., and gearing into similar miter wheels *d. d.,* on the ends of the upper tier of rollers *e. e.,* these are supported in cross bars 2, 2, lying across the vat; *f,* is a larger miter wheel, on the shaft 1., gearing into a large wheel *g.,* on the top of a vertical shaft 3., this, at the lower end, has a like wheel *h,* gearing into a corresponding wheel *i.,* on a shaft 4., this stands parallel to the shaft 1., and carries a set of miter wheels *k. k.,* gearing into a set of similar wheels *l. l.,* mounted on the ends of the lower tier of rollers *m m,* these are supported in cross bearers 5. 5., corresponding with the upper bearers 2. 2.

n. n., are two rollers, lying near the surface of the liquor in the vat, and serving to tighten the endless apron *o. o.,* and, at the same time, extend the upper portion of the apron, so that it becomes a platform, on which the hides, or skins, may be hooked or skewered, or sewed at the corners, or secured, in any convenient manner, that will enable the band to carry them successively over each upper roller, *n. n.,* and *e. e.,* and under the lower rollers *m m.,* through the liquor then in use, when power is applied to turn the pulley *b,* and shaft 1. The effects of this process are, that the skins are alternately crooked, in different or opposite directions, on the rollers, and straightened out, on the apron, which tends to loosen, detach, and wash off, all the excrescent matter, on both surfaces of the hides, or skins, in the three first operations, and prepare them, quicker, and better, for receiving and absorbing the tannin matter, when immersed, in the same successive manner, in the ooze vat, which last vat may be made of such a depth, that the pressure of the vertical column of ooze, in the lower part, when used to tan heavy hides shall be equal to, or exceed that of the atmosphere outside the vat. To facilitate any of these operations but particularly the bating of the hides the rollers may either be rifled on the surface, or made irregular or unequal in any other manner in the several parts of their diameters but so arranged that a projection in any one roller, when in motion shall present itself opposite to an indentation in the next roller. In some cases it may be proper to

use pressing rollers above the rollers and web, but my practice and the experiments I have made, leads me not to recommend their general use. The same means may be used
5 to pass tanned hides through oil for the purpose of stuffing them or for the purpose of presenting the tanned skins successively to the workman to receive the tallow or other substance used in dubbing.

10 The mechanical means described as employed herein differ with all others known in the following points: In no other known machine is the endless band described as an
15 integral part of the machine. The band in other machines is usually made of the hides to be tanned, which must be trimmed to form and sewed or laced together and is liable to disruption by its own weight and the same face of the hide always passes next
20 both the upper and lower rollers and personal attendance is generally needed to keep them in place. By using the band as a part of the machine and acting in combination with a multiplication of small rollers, hides
25 or skins of any size, thickness or form may be secured to it and the upper or outward faces on the top rollers are subjected to a nip in the bights passing over the rollers by which they are distended and the pores
30 opened to imbibe the fresh ooze while the water is compressed out of the faces next the rollers and these are again ready for fresh ooze the faces which have been distended on the top rollers are compressed on the lower
35 rollers and the others distended in the bight upon the rollers by reverse nips to those which have taken place on the top rollers by thus alternately distending and compressing the faces of the hides the mechanical op-
40 eration of the combined bands and rollers assists the chemical combination of the gelatin and tannin without so much liability to disruption and not requiring personal attendance after the skins or hides are prop-
45 erly secured on the apron in a different manner and with greater effect than by any other known machine.

No other known arrangement and combination of mechanical means can be used in

all the various processes of washing liming 50
bating tanning and stuffing or dubbing hides, and no similarity exists in the materials operated on or the object obtained when
small and multiplied rollers are used with an endless band for the purpose of dyeing 55
and washing woven materials of any kind as the differences of substance preclude any benefit by alternate compression and distention of the fabric or material operated on.

The Fig. 4, shows a mode of fitting the 60
rollers with plain small gear wheels on the ends near the power and having a small leading or intermediate pinion between each pair of wheels, the Fig. 5, shows the rollers carrying stud wheels fitted with a band 65
chain and Fig. 6, shows the rollers fitted with cranks the pins of which are jointed to one driving bar. In either of these modifications of the means for enabling the
power to turn the rollers all in one direction 70
the connection with the power may be in any usual mode therefore need not be detailed here; and as all the several parts used are well known, no claim can lie for them irre-
75 spective of the manner in which they are constructed and the purposes for which they are employed.

Therefore my claim for that which is new and of my own invention and what I desire to secure by Letters Patent is limited to— 80

The application of rollers in combination with an apron or endless web, and constructed to operate within competent vats or inclosures when such application, combination and construction is employed for the 85
separate or several and successive purposes of washing, liming, bating, tanning, stuffing, or dubbing hides, substantially as described and shown.

In witness whereof I have hereunto set my 90
hand in the city of New York this twenty second day of May one thousand eight hundred and forty six.

A. H. BESCHERMANN. [L. s.]

Witnesses:

W. SERRELL,
LEMUEL W. SERRELL.