2 Sheets--Sheet 1.

S. R. KROM.

Leather-Rolling Machines.

No. 151,989. Patented June 16, 1874.

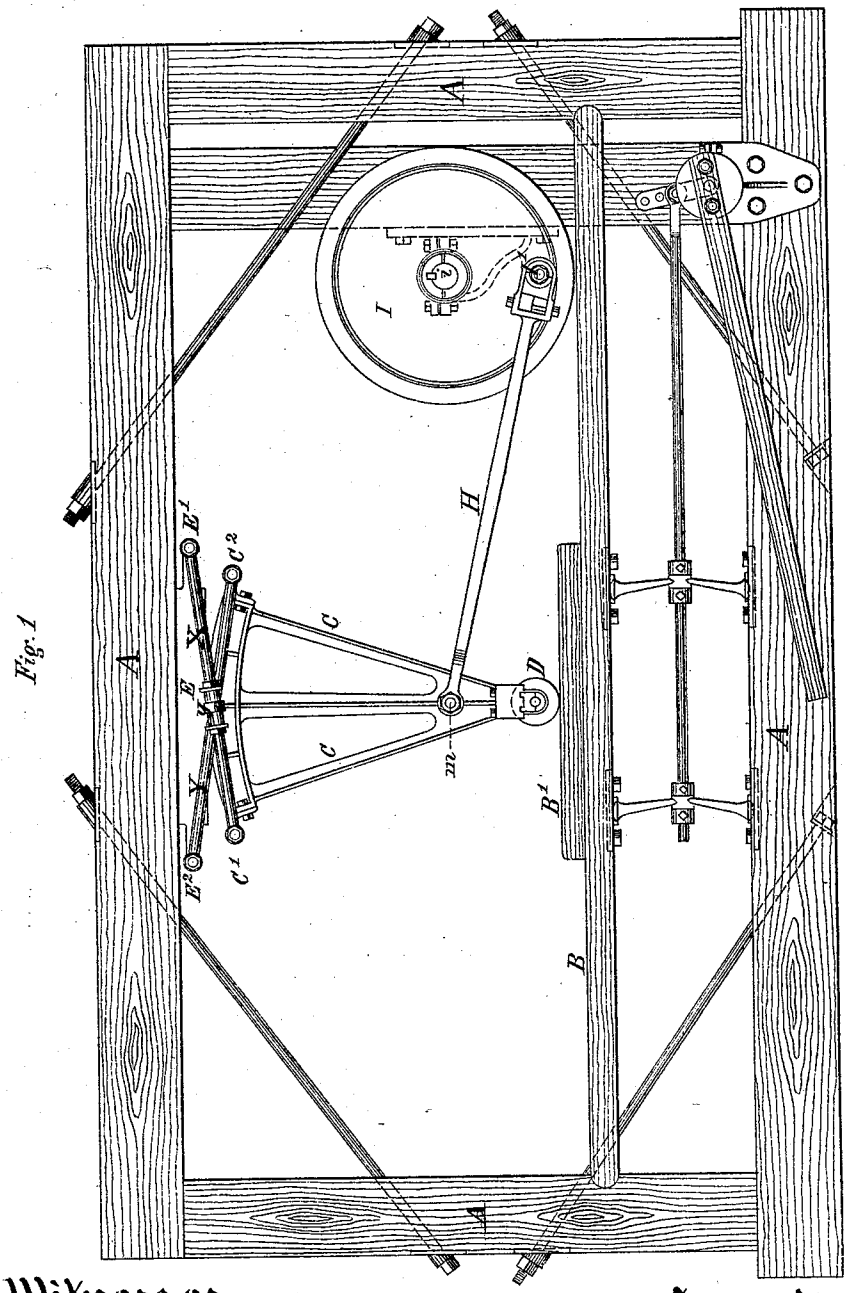

Fig. 1

Witnesses:

Arnold Hovmann.

Wm. C. Dey.

Inventor:

S. R. Krom

AM. PHOTO-LITHOGRAPHIC Co. N. Y. (OSBORNE'S PROCESS.)

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S. R. KROM.

Leather-Rolling Machines.

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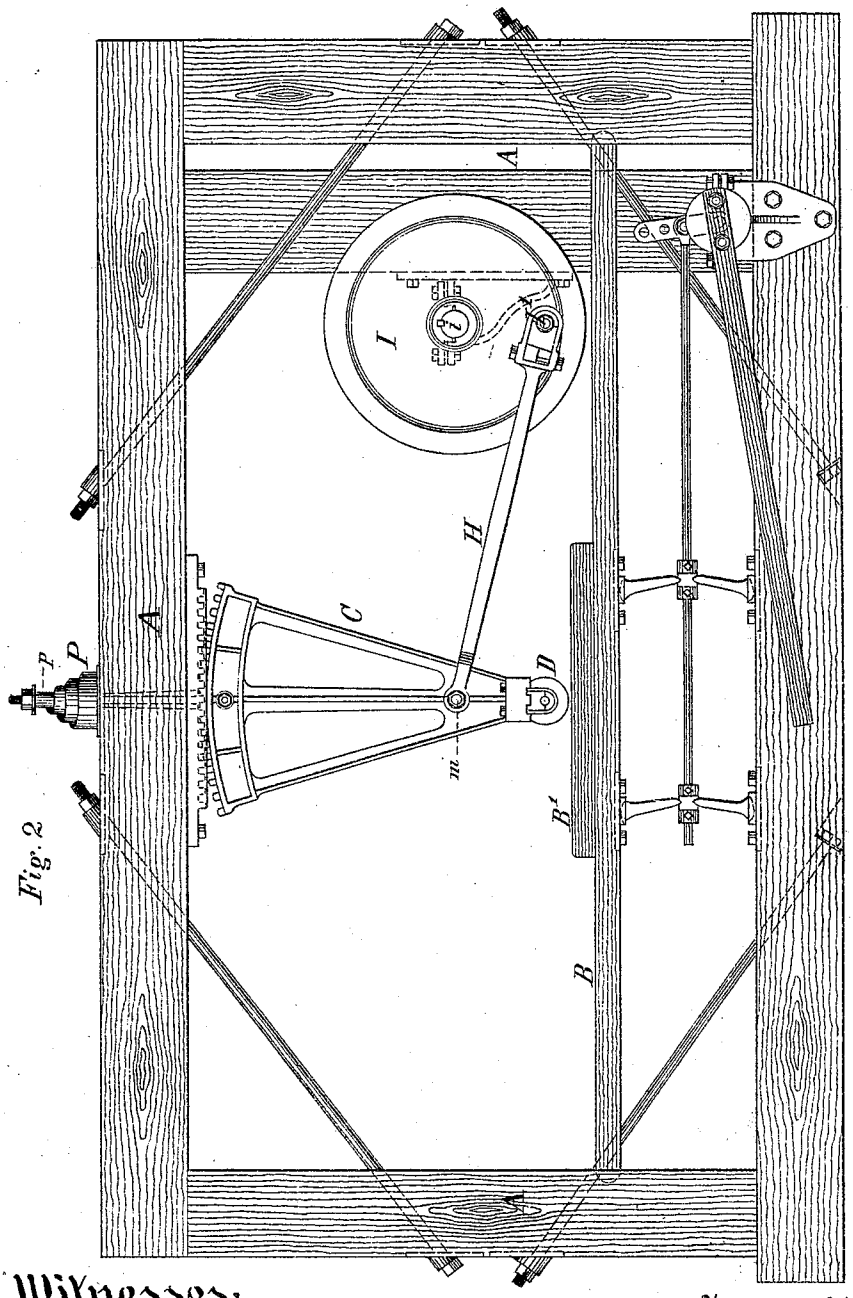

Fig. 2

Witnesses:

Arnold Hovenaar.

Wm. C. Daly

Inventor;

S. R. Krom

AM. PHOTO-LITHOGRAPHIC Co. N. Y. (OSBORNE'S PROCESS.)

UNITED STATES PATENT OFFICE.

STEPHEN R. KROM, OF NEW YORK, N. Y.

IMPROVEMENT IN LEATHER-ROLLING MACHINES.

Specification forming part of Letters Patent No. **151,989**, dated June 16, 1874; application filed September 16, 1873.

To all whom it may concern:

Be it known that I, STEPHEN R. KROM, of New York city, in the State of New York, have invented a certain Improvement relating to Leather-Rolling Machines, of which the following is a specification:

My improved machine avoids the necessity for cutting through the floors of buildings in order to introduce an efficient carrier for the roller. My machine acts as forcibly and efficiently on the leather as the best of the previously-known machines. I mount the acting roller on a sector of a wheel, of such size as may operate between the table and the overhead timbers in a room of ordinary height. I cause this sector to roll on a plane surface fixed on the strong cross-timbers above, holding up the whole efficiently, so that the lowering of the table at intervals by acting on or releasing a treadle, as usual, will increase or relax the force of the contact of the acting roller upon the leather.

The following is a description of what I consider the best means of carrying out the invention.

The accompanying drawings form a part of this specification.

Figure 1 is a side elevation, representing one form in which the invention may be developed. Fig. 2 is a corresponding view of another modification.

Similar letters of reference indicate corresponding parts where they occur.

A is a rigid frame-work of timber; B, a spring-table, and B′ a bearing block mounted thereon, on which the leather is placed and shifted in position from time to time under the action of the roller. There is an ordinary provision, as represented, by means of a treadle and toggle-levers for raising and lowering the table B B′ to a small extent at will. The framing A should be braced so as to give it as much rigidity as possible. The acting roller is marked D, and may be of the ordinary form and proportions. Its axis is mounted in the center of a stout sector, C, which may be of cast-iron, and be finished with a perfectly-cylindrical surface above, adapted to roll smoothly on a plane surface formed on the lower face of the upper bearing-piece E, which latter is bolted to the overhead timbers, as represented. Motion is communicated to the sector C, and thus to the wheel D, by means of the connecting-rod H, which extends from a pin, *m*, on the sector C, to a crank-pin, I′, on the fly-wheel I, which latter is turned by a driving-shaft, *i*, through a belt from a steam-engine, or by other suitable means. The pivot *m*, by which the connecting-rod H takes hold of the sector C, should be in or near the center of gyration of the mass, so that the rapid revolution of the wheel I, and the consequent rapid reciprocating traverse of the roller D, will induce no serious tendency to disturb the position of the parts at the top.

However accurately the location of the point *m* may be determined, it is important to provide means both for maintaining the rolling-surface of the sector C in its proper position under the flat bearing-piece E, and for holding up the sector C and its connections when the table B B′ is lowered, to introduce or remove or change the position of the leather in the course of the treatment. The means provided for this purpose in the two figures are different.

In the form shown in Fig. 1, I connect two sets of rods to centers properly located on the moving and fixed parts, so that, as the sector C rolls on the flat surface E, the rods vibrate in vertical planes. The rod X connects between a center, E^1, on the fixed part E, and a center, C′, on the rolling sector C. There are two of these rods, one on the farther side of the machine, which cannot be represented in this figure. Just outside of this pair, on the front and back side of the machine, is another rod, Y, connecting between the center E^2 and the center C^2. Each rod Y is made in two pieces, connected firmly and adjustably together by the long nut *y*. The centers of the bolts or pivots C^1 C^2 lie exactly in the cylindrical surface of the sector C. The axes of the bolts or pivots E^1 E^2 are carried on stout arms extending outward beyond the ends proper of the bearing-piece E, and are fixed at a considerable height above the extended plane of the lower face thereof. This arrangement and proportioning of the parts compels the axes described by the ends of the rods X and Y to coincide so nearly with the cycloidal motion of the pivots C^1 C^2 as to allow the machine to work smoothly and

easily, while the lengths of the rods are so accurately adjusted that when the table B B′ is lowered and the leather is removed, the upper surface of the sector C will not sink much away from contact with the bearing-piece E. I prefer in adjusting the machine to tighten the rods Y until the sector C, when unsupported, sinks away about a thirty-second of an inch from its track or bearing-block E. The nuts *y* should be sufficiently long to take hold very firmly of the respective parts of the rod Y. They may be provided with right and left threads, or the two nuts may each have right-hand threads with different pitches. The latter allows a more delicate adjustment.

It will be observed that the centers C^1 C^2 are nearer than the centers E^1 E^2. In practice I have given those parts the following proportions:

In the modification shown in Fig. 2 there is a toothed segment mounted on one side of the sector C, and a corresponding rack is formed on the corresponding side of the bearing-block E. The teeth playing into each other keep the sector C in position laterally, while a spring, P, mounted above and connected by a link, *p*, sustains the weight of the parts when the table is lowered.

I claim as my invention—

1. In combination with the adjustable table B B′, the sector C rocking on the stationary track E, so as to operate the leather roller D, as herein specified.

2. The rods Y with adjusting means *y*, and the rods X arranged relatively to each other and to the sector C and its operating means, and to the roller D and the table below, as and for the purposes herein set forth.

In testimony whereof I have hereunto set my hand this 16th day of November, 1872, in the presence of two subscribing witnesses.

S. R. KROM.

Witnesses:

ARNOLD HÖRMANN,

WM. C. DEY.