

(No Model.)

2 Sheets—Sheet 1.

E. C. ALLISON.

MACHINE FOR PEBBLING LEATHER.

No. 246,278.

Patented Aug. 30, 1881.

Fig. 1.

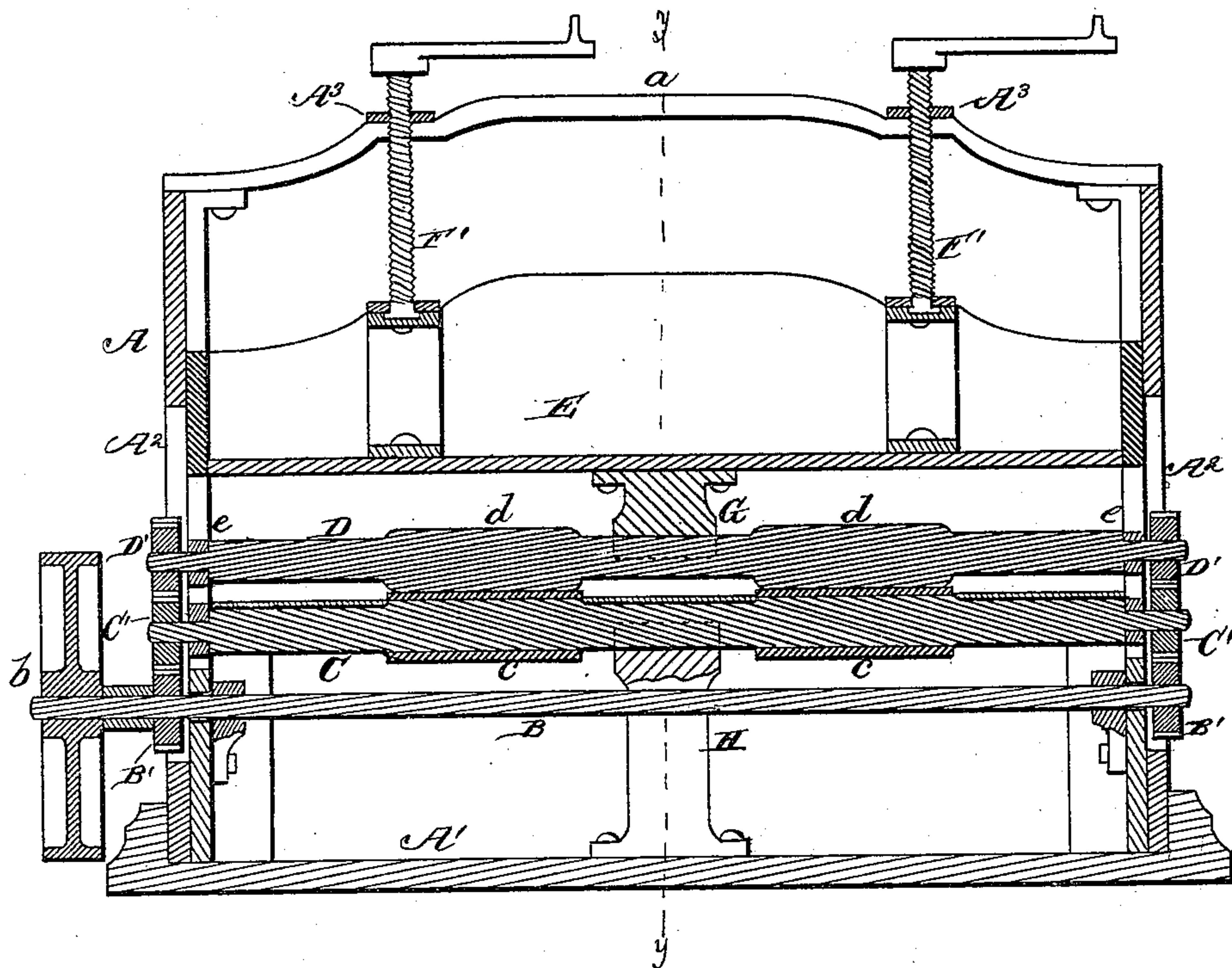
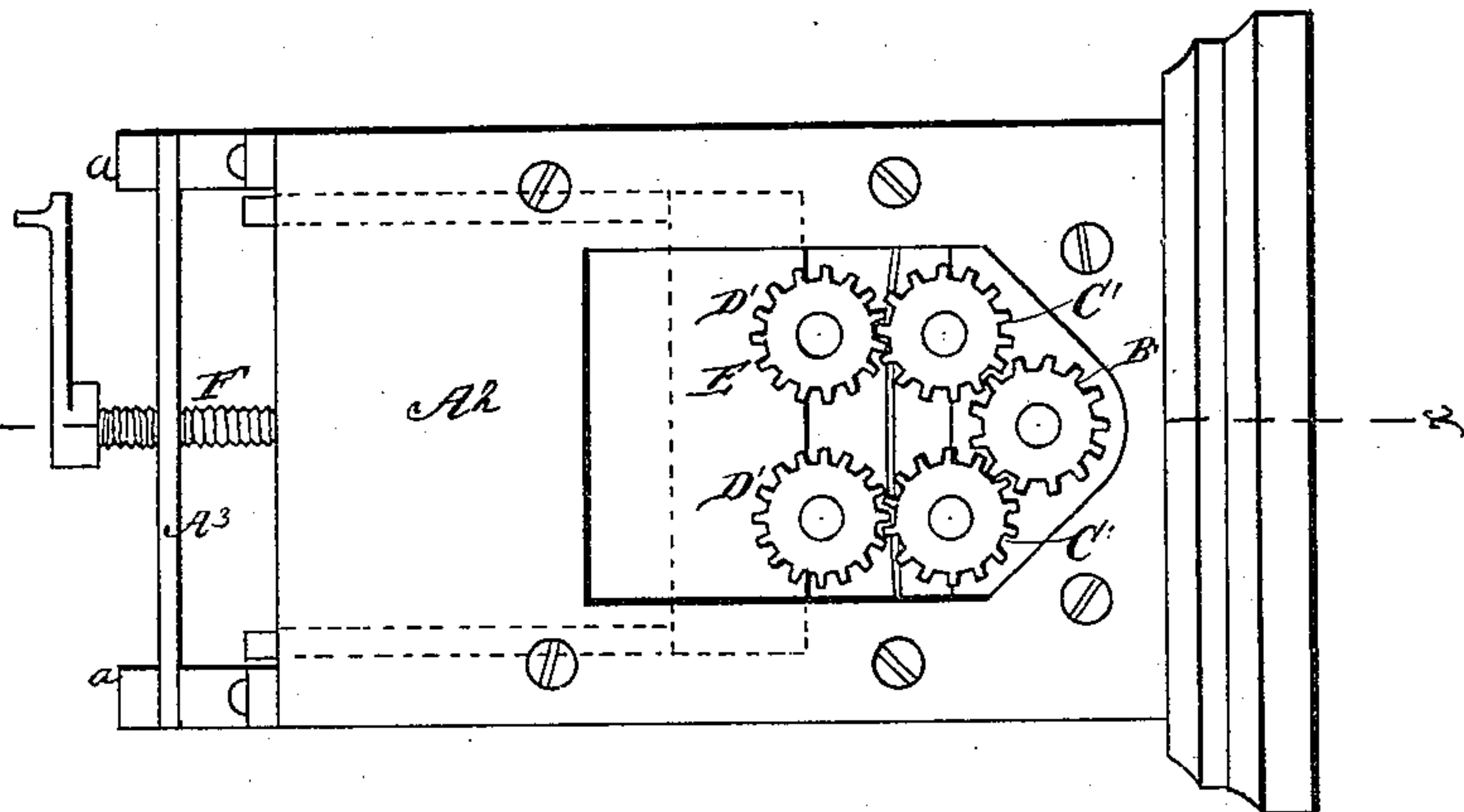


Fig. 2.



Witnesses,
N. W. Stearns
Robert Everett

Inventor,
Emerson C. Allison
by *Wm. H. Babcock*
Atty.

E. C. ALLISON.

MACHINE FOR PEBBLING LEATHER.

No. 246,278.

Patented Aug. 30, 1881.

Fig. 3.

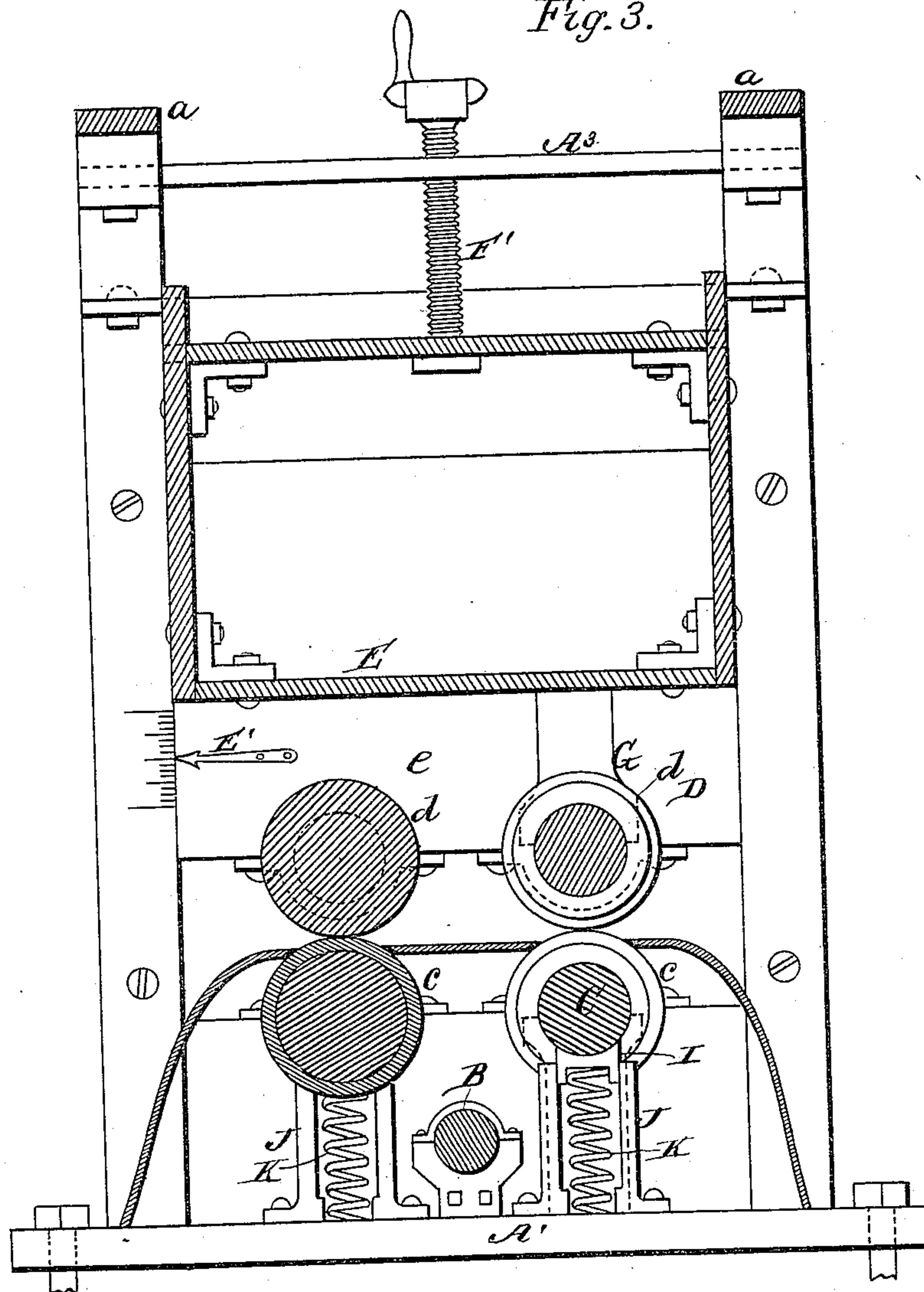
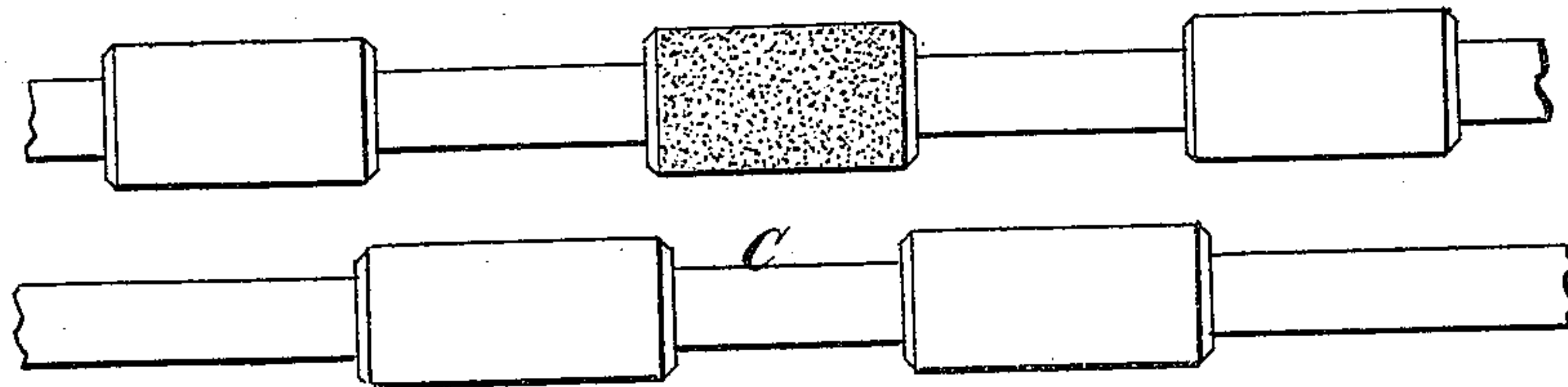


Fig. 4.



Witnesses,
N. W. Stearns
Robert Corbett

Inventor,
Emerson C. Allison
by Wm. H. Babcock
Atty.

UNITED STATES PATENT OFFICE.

EMERSON C. ALLISON, OF MELROSE, MASSACHUSETTS.

MACHINE FOR PEBBLING LEATHER.

SPECIFICATION forming part of Letters Patent No. 246,278, dated August 30, 1881.

Application filed March 22, 1881. (No model.)

To all whom it may concern:

Be it known that I, EMERSON C. ALLISON, a citizen of the United States, residing at Melrose, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Machines for Pebbling Leather; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use, the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to machines for marking leather with what is known as a "pebbled surface."

The nature of said invention consists, partly, in the peculiar construction of the pebbling-rolls, whereby I am enabled to avoid folding and creasing the leather; partly in peculiar devices for adjusting the pressure of said rolls; partly in contrivances for allowing them to yield under excessive pressure; partly in certain means for preventing the middle of the upper roll or roll-shaft from bending upward, and the middle of lower roll-shaft from bending downward; and, finally, in the combination and construction of the various parts of the machine, all substantially as hereinafter set forth and claimed.

In the accompanying drawings, Figure 1 represents a longitudinal vertical section of a machine embodying my invention, on the line $x x$ of Fig. 2. Fig. 2 represents an end view, in elevation, of said machine on the right-hand side of Fig. 1. Fig. 3 represents a vertical transverse section of said machine on the line $y y$ of Fig. 1, and Fig. 4 represents a detail plan view of the pebbling-rolls.

A designates the frame of the machine, which rests upon a base-plate, A' , and consists of end walls, $A^2 A^2$, longitudinal top bars, $a a$, connecting said end plates, and transverse top bars, $A^3 A^3$, extending from one of said bars $a a$ to the other. In the lower part of this frame is mounted a longitudinal driving-shaft, B, which receives motion from any suitable motor by means of a belt-wheel, b , and transmits it by means of two pinions, B' , to the pinions $C' C'$, which are on the two ends of the lower roll-shafts, C. These pinions $C' C'$ are in like

manner geared to the pinions $D' D'$ on the ends of the upper roll-shafts, D. Thus the rotation of the driving-shaft causes the upper roll-shafts and the lower roll-shafts to rotate simultaneously in opposite directions. When only a single pair of roll-shafts is used the three gear wheels or pinions at each end of the machine may be in a vertical line. When two pairs are used (and this is the construction and arrangement that I prefer) the driving-pinion at each end is ordinarily in an obliquely lower and intermediate position, as shown in Fig. 2, so as to mesh simultaneously with the pinions of both the lower rolls.

Hitherto continuous rolls have generally been used for pebbling; but the leather in passing through them is often folded and creased or rumpled. To obviate this serious objection I provide my shafts with series of short rolls $c c$ and $d d$, having open spaces between them. The rolls of each pair of shafts, of course, register, and the intervening spaces leave abundant room for the leather to expand laterally without creasing. As shown in Fig. 4, the rolls are arranged alternately, so that each pair of rolls is opposite to an open space on the other roll-shafts. This insures the proper pressure on every part of the leather. Without such arrangement some parts of the leather obviously would not be pebbled at all. The upper rolls are of hard material, and have the design of the pebbling formed upon or in their surfaces. The lower rolls are all constructed of or incased in elastic material.

It is very desirable to regulate the pressure of the rolls at will. For this purpose I journal the upper roll-shafts in movable plates $e e$, which are attached to a strong rectangular frame, E, that is guided by the walls of frame A, and suspended by screw-threaded vertical adjusting-shafts $F' F'$, that pass up through corresponding holes in transverse bars $A^2 A^2$. These screws are provided with handles at their upper ends. When turned in one direction they lift the upper rolls. When turned in the other they force said rolls downward. Each plate e carries a pointer, E' , which passes over a fixed scale on the frame A, as shown in Fig. 3, so as to automatically indicate the degree of pressure thus applied. As these screws are applied so as to bring the pressure on the upper roll-shafts near their ends, the middle por-

tions of said roll-shafts will, of course, tend to separate or bend away from one another. To obviate all risk of such bending I employ braces G for the upper shafts and H for the lower shafts. The former are attached to the lower side or bottom of the rectangular adjusting-frame above described. The latter are raised upon and fixed to the base-plate. In each case they bear against and brace the middle part of the roll-shaft. To allow the lower roll-shafts and rolls to yield when a very thick piece of leather is introduced between the rolls, these lower shafts are mounted in yielding bearings I, Fig. 3, which move in vertical guideways J and rest upon springs K. Each bearing has preferably one spring; but more than one spring may be thus used. In any case the spring-pressure should be sufficient to prevent yielding, except under the circumstances above referred to or when some obstacle is encountered.

Of course, all necessary braces, connections, and the like are employed to give necessary strength to the frames A and F, and the end plates or end pieces of the former are suitably slotted or recessed to allow the vertical movements of the roll-shafts, as above described.

The rolls of each shaft may be cast therewith or made separately and splined thereon. Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a leather-pebbling machine, two pairs

of roll-shafts having their rolls arranged in series with spaces between the pairs of rolls, the rolls of one pair of shafts being opposite the spaces on the other pair of shafts. 35

2. In combination with an upper roll-shaft and a set of pebbling-rolls carried thereby, a lower roll-shaft and rolls mounted on movable bearings, and springs on which said bearings rest, substantially as set forth. 40

3. In combination with an upper set of pebbling-rolls and a lower set of pebbling-rolls, a pair of movable bearings for the latter, and vertically slotted or channeled supports for guiding said bearings. 45

4. In combination with the lower feed-rolls, the supplementary frame E and the upper set of rolls journaled therein. 50

5. In combination with a driving-shaft and sets of upper and lower pebbling-rolls, adjusting devices for said upper rolls, and indexes moving with said rolls to indicate the degree of pressure. 55

6. In combination with a driving-shaft and upper and lower pebbling-rolls, braces bearing against the middle parts of the roll-shafts, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses. 60

EMERSON C. ALLISON.

Witnesses:

H. E. LODGE,
MERRILL W. NOURSE.