(No Model.) 4 Sheets—Sheet 1.

J. HALL.

LEATHER DRESSING MACHINE.

No. 583,995. Patented June 8, 1897.

FIG. 1.

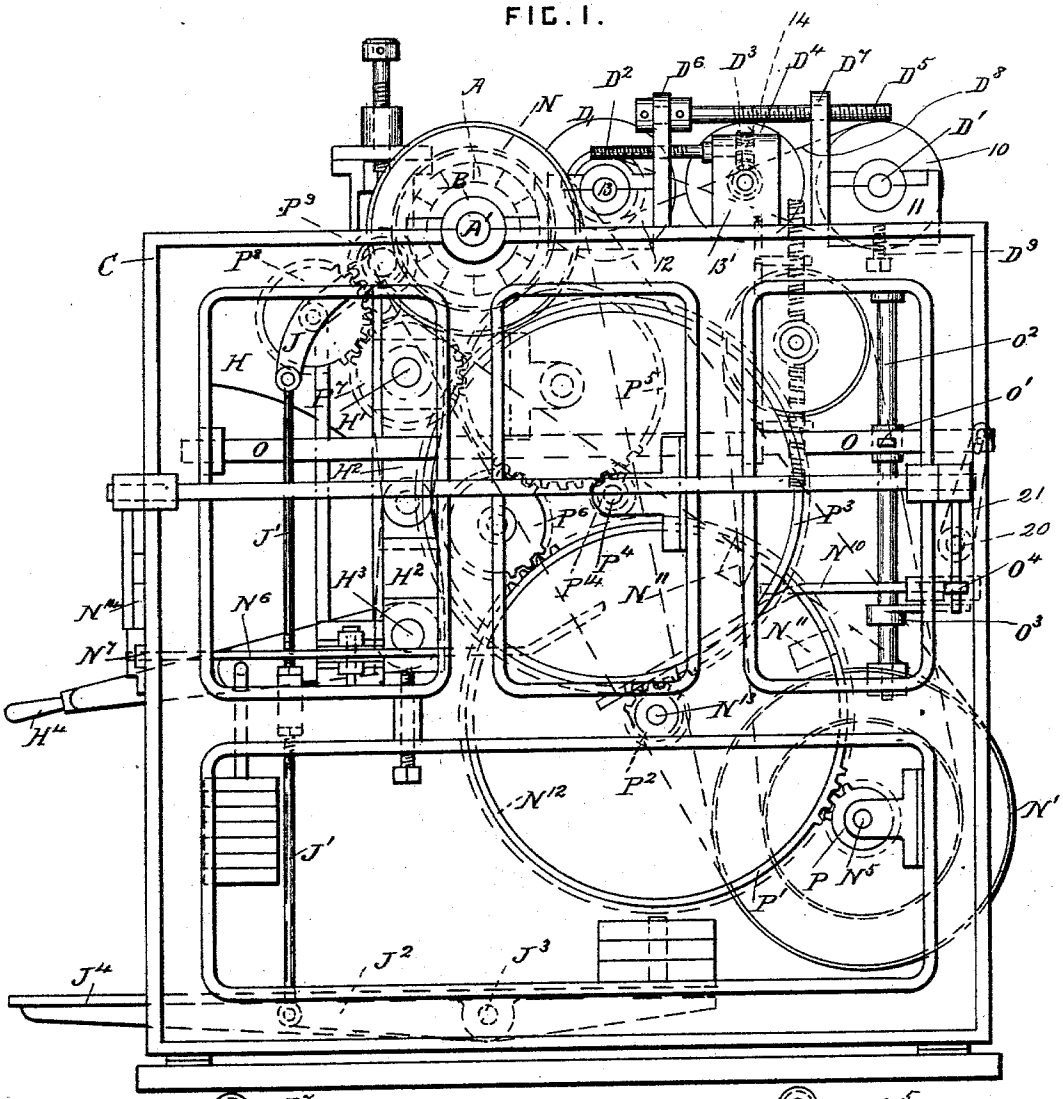
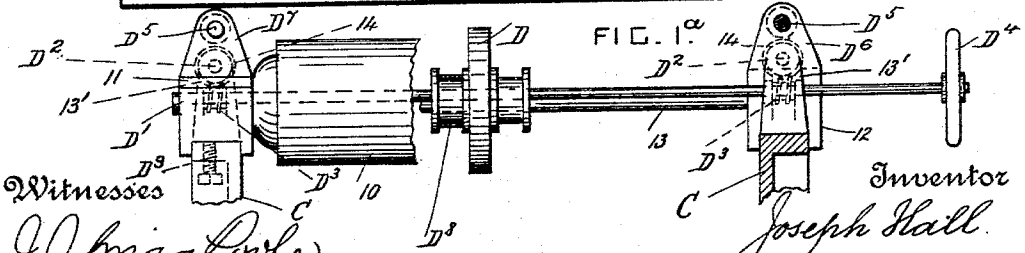


FIG. 1a.



Witnesses
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(No Model.)

4 Sheets—Sheet 2.

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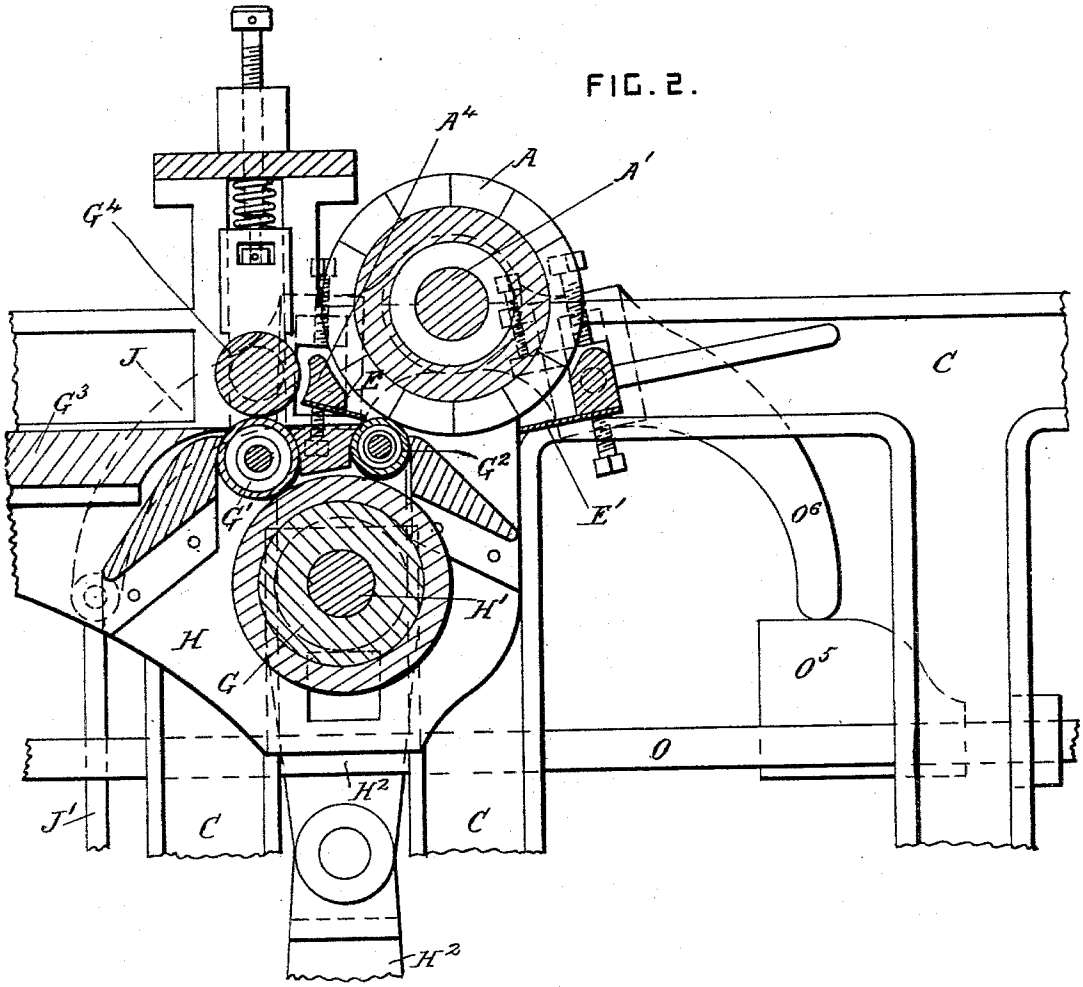
FIG. 2.



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(No Model.) 4 Sheets—Sheet 3.

J. HALL.

LEATHER DRESSING MACHINE.

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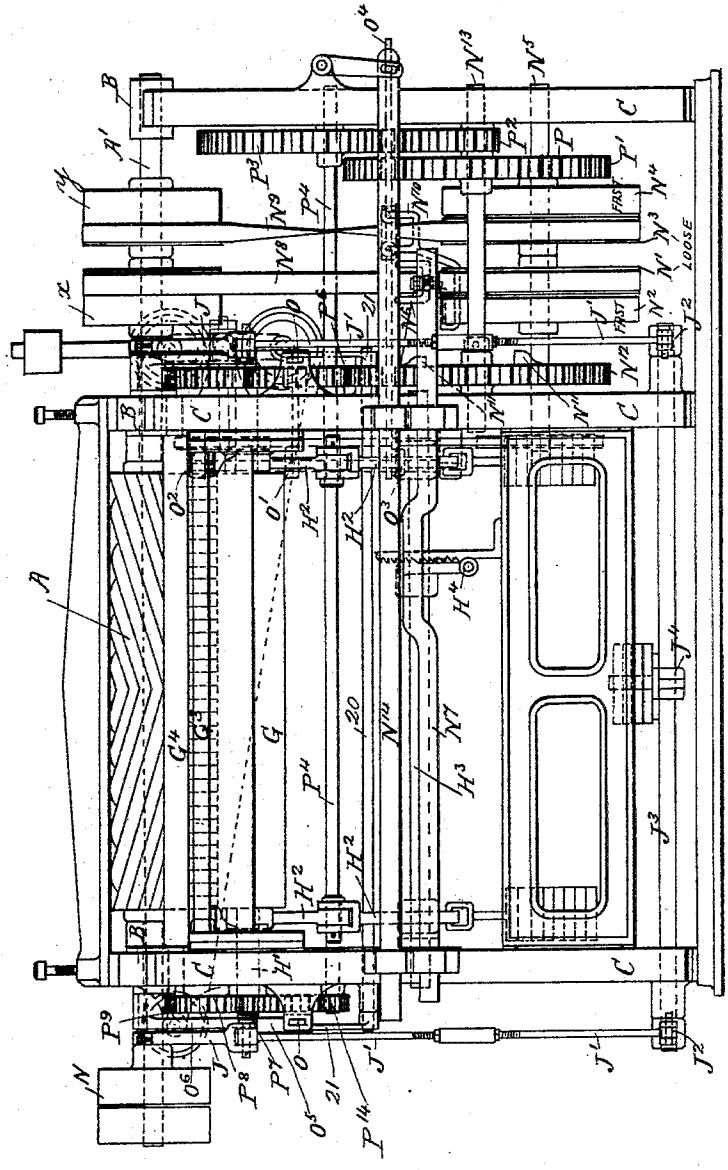

FIG. 3.

Witnesses:
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(No Model.) 4 Sheets—Sheet 4.

J. HALL.

LEATHER DRESSING MACHINE.

No. 583,995. Patented June 8, 1897.

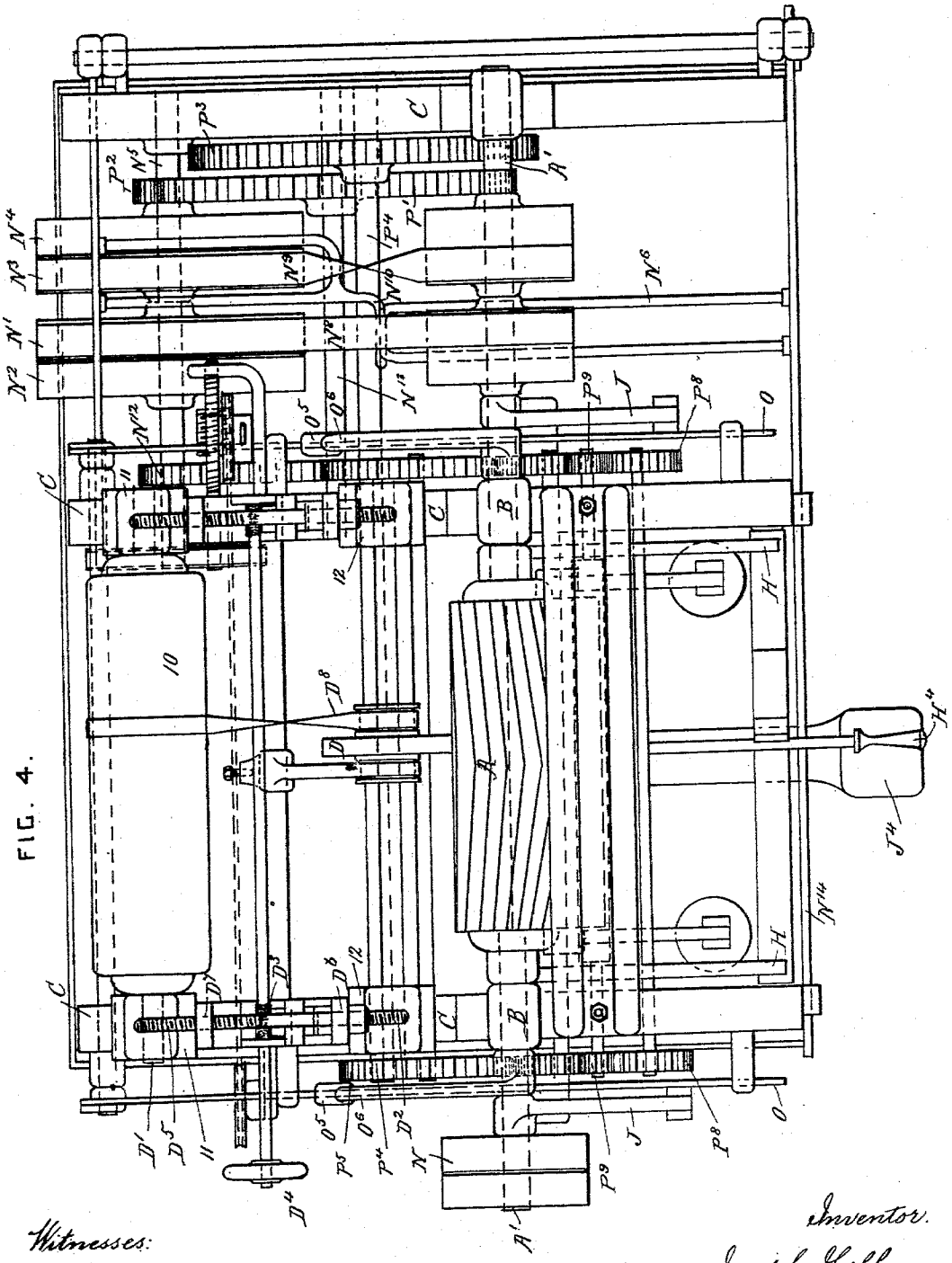

FIG. 4.

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UNITED STATES PATENT OFFICE.

JOSEPH HALL, OF LEEDS, ENGLAND.

LEATHER-DRESSING MACHINE.

SPECIFICATION forming part of Letters Patent No. 583,995, dated June 8, 1897.

Application filed July 26, 1895. Serial No. 557,266. (No model.) Patented in England December 6, 1894, No. 23,720.

To all whom it may concern:

Be it known that I, JOSEPH HALL, a subject of the Queen of Great Britain, residing at Leeds, in the county of York, England, have invented new and useful Improvements in Leather-Dressing Machines, (for which I have obtained a patent in Great Britain, No. 23,720, dated December 6, 1894,) of which the following is a specification.

My invention consists in machinery for shaving, slicking, whitening, buffing, scouring, setting, flatting, slating, fleshing, and scudding skins, leather, and analogous substances.

The object of my invention is to provide improved machinery for the purposes aforesaid, which can be carried out by simply changing the cutters or cylinders and which is specially applicable for shaving and leveling skins, by which a skin can be shaved and leveled at one continuous operation, or half of the skin can be so treated and the skin and machine then reversed, so as to shave and level the other half, an important feature of my said invention being that the action of the machine can be reversed automatically or by hand.

In the drawings, Figure 1 is a side elevation of machine according to my invention. Fig. 1ª is an end view of portions of the devices which actuate the driving-roll, portions of one of the side frames and of the belt-pulley 10 being shown broken away. Fig. 2 is an enlarged detail view of feeding arrangement. Fig. 3 is a front elevation of Fig. 1. Fig. 4 is a plan view.

A′ is the driving-shaft of the machine, journaled in bearings B on the side frames C and provided with a driving-pulley N.

A is a rotary cutter, of approved construction, secured on the shaft A′ between the inner side frames.

D is an emery grinding-roll for keeping the cutter sharp. The grinding-roll D is revolved in contact with the cutter by means of a belt D^8, driven from a belt-pulley 10. The pulley 10 is secured on a shaft D′ and is driven from any approved source of power. The shaft D′ is journaled in two similar vertically and longitudinally slidable bearings 11, carried by the side frames C.

D^9 are two similar screws operating to adjust the bearings 11 vertically, and D^5 are two similar screws operating to adjust the bearings 11 longitudinally. The screws D^5 are journaled in brackets D^6 and engage with the lugs D^7 on the bearings 11. The brackets D^6 project from longitudinally-slidable bearings 12, in which the grinding-roll shaft 13 is journaled. The bearings 11 and 12 have flanges which straddle the tops of the inner side frames C. The screws D^9 engage with the flanges at the tops of the frames and raise the bearings 11 when screwed upward. The bearings 12 are not adjustable vertically. Similar bearings and means for adjusting them are provided on each side of the machine.

The position of the grinding-roll is adjusted by means of two similar screws D^2, journaled in blocks 13′, secured to the side frames and engaging with the brackets D^6. A worm-wheel 14 is secured on each screw D^2 and is revolved by means of a hand-wheel D^4 and a worm D^3 of approved construction. This arrangement of parts not only permits the grinding-roll to be adjusted to the cutter and simultaneously slides along the bearings 11, so that the belt is kept at a uniform tension, but it permits the tension of the belt to be adjusted separately by the screws D^5 without affecting the adjustment of the grinding-roll.

G is a driving-roller covered with india-rubber and mounted on the shaft H′.

H are two similar cheeks pivoted on the shaft H′.

H^2 are links pivoted together and connected with the cheeks H and to a rock-shaft H^3, journaled in the side frames.

H^4 is a hand-lever secured on the rock-shaft H^3 and operating to rock the said cheeks.

G′ and G^2 are the two lower guide-rolls, journaled in the cheeks H. The roll G^2 is arranged under the cutter A, and the roll G′ is arranged at a little distance in front thereof.

G^3 is the feed-board in front of the roll G′.

G^4 is a feed-roll arranged over the roll G′. The roll G^4 runs in the side frames and is provided with any approved means for adjusting it vertically, so that it may bear with more or less pressure on the hide.

The hide is passed from the feed-board between the rolls G′ and G^4 and between the roll G^2 and the cutter A. When the motion

of the feed-rolls is reversed, the hide is carried back again.

E is a guide-plate carried by a bar A^4, which projects through holes in the side frames and is supported by two similar arms J, pivoted on the cutter-shaft A'. The rear edge of the plate E can be depressed to press the hide on the roll G^2. A second guide-plate E' can be arranged behind the cutter, if desired.

The guide-plate E is raised and lowered by means of rods J', which are connected to a counterbalanced foot-lever J^4 by a shaft J^3, journaled in the side frames.

The feed-rollers are revolved first in one direction and then in the other by means of two belt-pulleys x and y, secured on the shaft A'.

N^5 is a shaft journaled in the lower parts of the side frames.

N' and N^3 are loose pulleys journaled on the shaft N^5, and N^2 and N^4 are fast pulleys secured on the shaft N^5.

N^8 is an open belt passing over the pulleys x and N' N^2, and N^9 is a crossed belt passing over the pulleys y and N^4 N^3.

N^6 is a belt-shifter of approved construction for operating the belt N^8, and N^{10} is a similar belt-shifter for operating the belt N^9.

P is a toothed pinion secured on the shaft N^5 and gearing into a toothed wheel P', secured on a shaft N^{13}, journaled in the side frames.

P^2 is a toothed pinion secured on the shaft N^{13} and gearing into a toothed wheel P^3, which is secured on a shaft P^4, journaled in the side frames and extending across to the other side of the machine.

P^7 is a toothed wheel secured on the shaft H' of the roller G and operating to revolve it. The wheel P^7 gears into a pinion P^{14}, secured on the end of the shaft P^4 on the other side of the machine from the belt-shifters.

P^8 is a toothed wheel journaled on a pin projecting from the adjacent side frame and gearing into the wheel P^7.

P^9 is a toothed wheel secured on the shaft of the feed-roll G^4 and gearing into the wheel P^8, so that the said roll is revolved.

The feed-rolls G' and G^2 are revolved by frictional contact with the roller G.

P^6 is a toothed wheel gearing into the toothed wheel P^5 and journaled on a pin projecting from the adjacent side frame.

N^{12} is a toothed wheel gearing into the wheel P^6 and journaled on the shaft N^{13}. The wheel N^{12} is provided with projections N^{11} for operating the belt-shifters in any approved manner, so that the direction of motion of the feed-rolls and of the roller G can be changed automatically. The belt-shifters may, however, be operated by hand. The belt-shifter N^6 is connected to a slidable bar N^7, extending across the machine, and the belt-shifter N^{10} is connected with a slidable bar N^{14} in a similar manner. A bar O^4 is also operatively connected with the belt-shifter bar N^{14} and operates a lever O^3, secured on a vertical shaft O^2, which is journaled in suitable bearings. A lever O' is secured on the shaft O^2 and engages with a slidable bar O, which extends across the machine and is provided with a tappet O^5, as shown in Fig. 2. This tappet engages with a projection O^6 on one of the cheeks H and raises the guide-plate when the hide is to be fed in. The other side of the machine is provided with a similar bar O for operating a similar projection on the other cheek, and the two bars O are operatively coupled together by a cross-shaft 20 and levers 21.

What I claim is—

1. In a leather-working machine, the combination, with a revoluble cutter, of a grinding-roll mounted in slidable bearings provided with brackets D^6, stationary blocks 13', screws D^2 journaled in the said blocks and engaging with the brackets D^6, means for revolving the said screws, a belt-pulley 10, slidable bearings 11 supporting said pulley and provided with lugs D^7, a belt passing over the pulley 10 and driving the grinding-roll, and revoluble screws D^5 journaled in the brackets D^6 and engaging with the lugs D^7, whereby the belt-pulley can be adjusted simultaneously with the grinding-roll or separately, substantially as set forth.

2. In a leather-working machine, the combination, with a revoluble cutter, and a roller G; of two feed-rolls G' G^2 driven by friction from the roller G, said roll G^2 being under the cutter, a feed-roll G^4 over the roll G', a feed-board G^3, cheeks pivoted concentric with the roller G and supporting the rolls G' G^2 and the board G^3, means for oscillating the said cheeks, arms J pivoted concentric with the cutter and provided with means for oscillating them, a bar A^4 carried by the said arms, a guide-plate E carried by the said bar and arranged over the roll G^2, driving mechanism for revolving the cutter continuously in one direction, and driving mechanism operating to revolve the roller G and feed-roll G^4 first in one direction and then in the opposite direction, substantially as set forth.

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Witnesses:
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