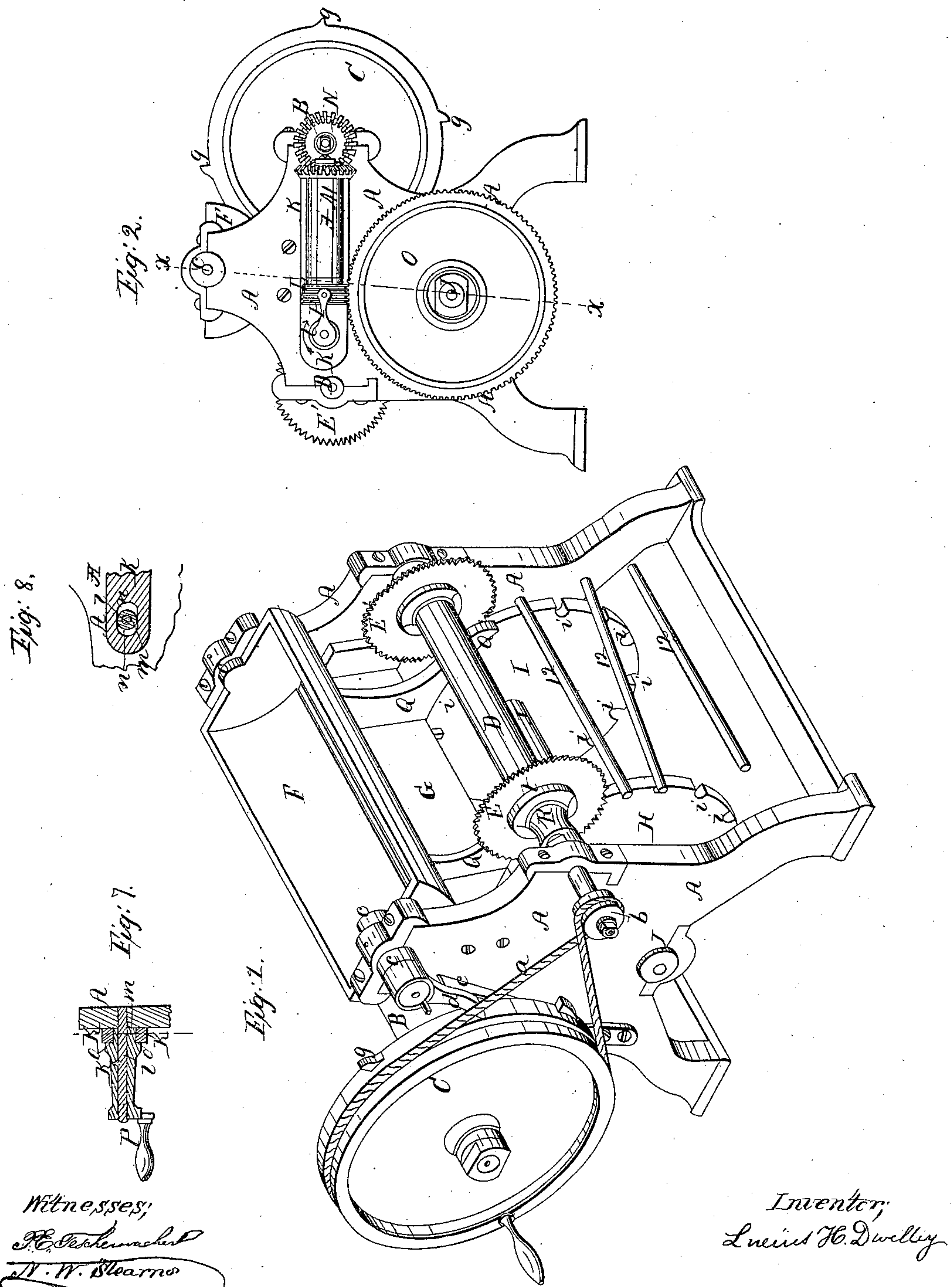


L. H. DWELLEY.

MACHINE FOR CUTTING THE ROLLS OF WINDOW BLINDS.

No. 62,829.

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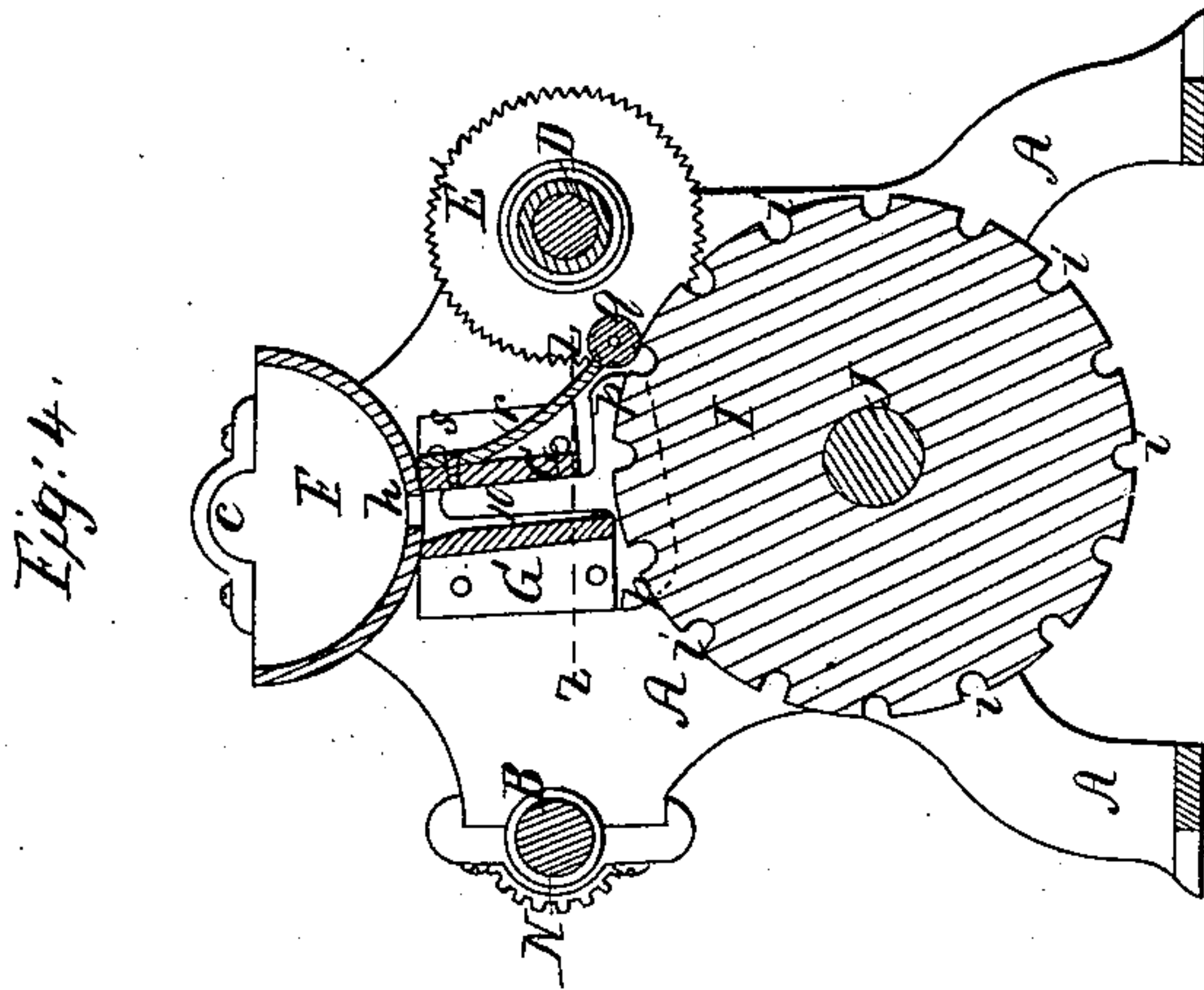


Fig. 5.

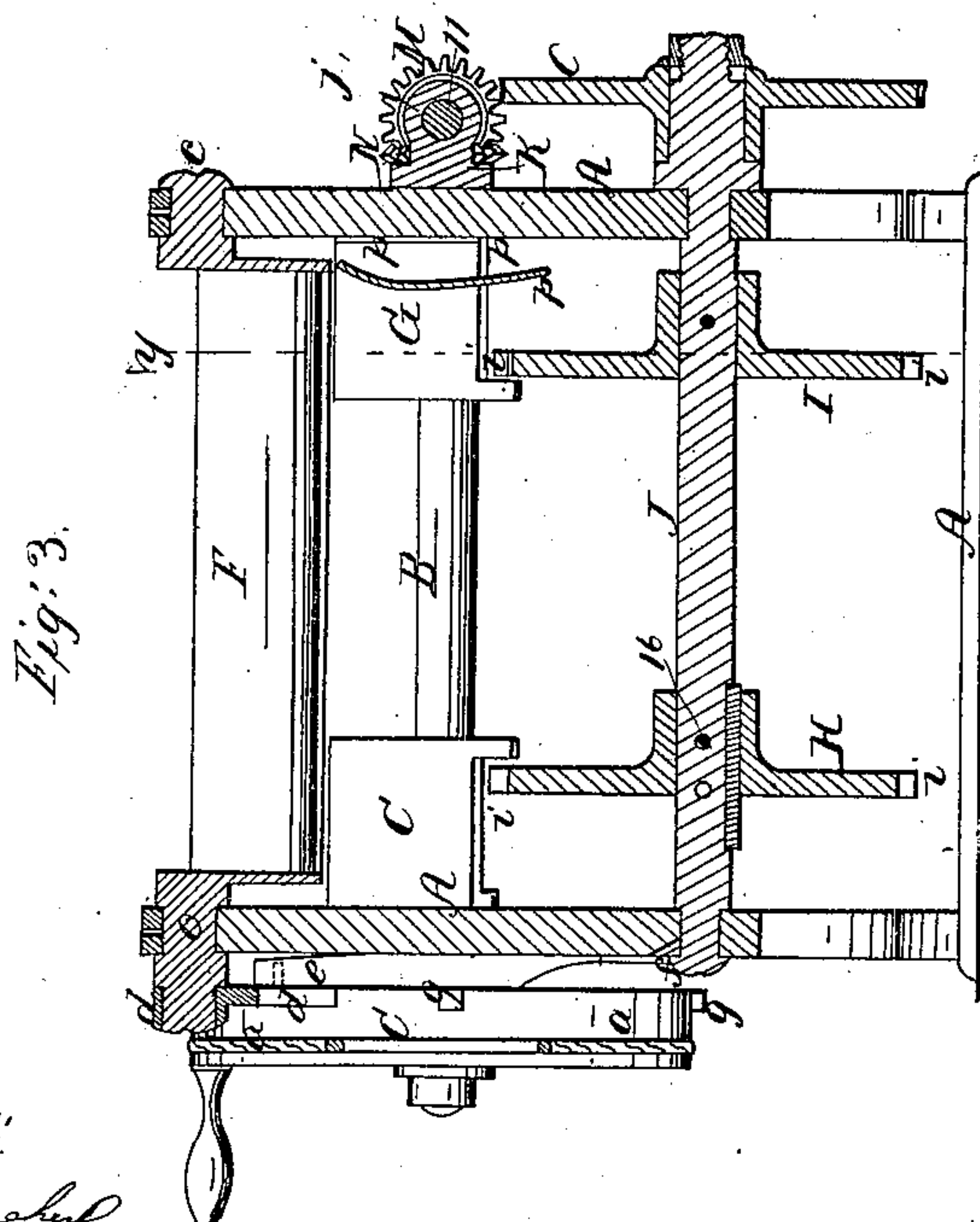
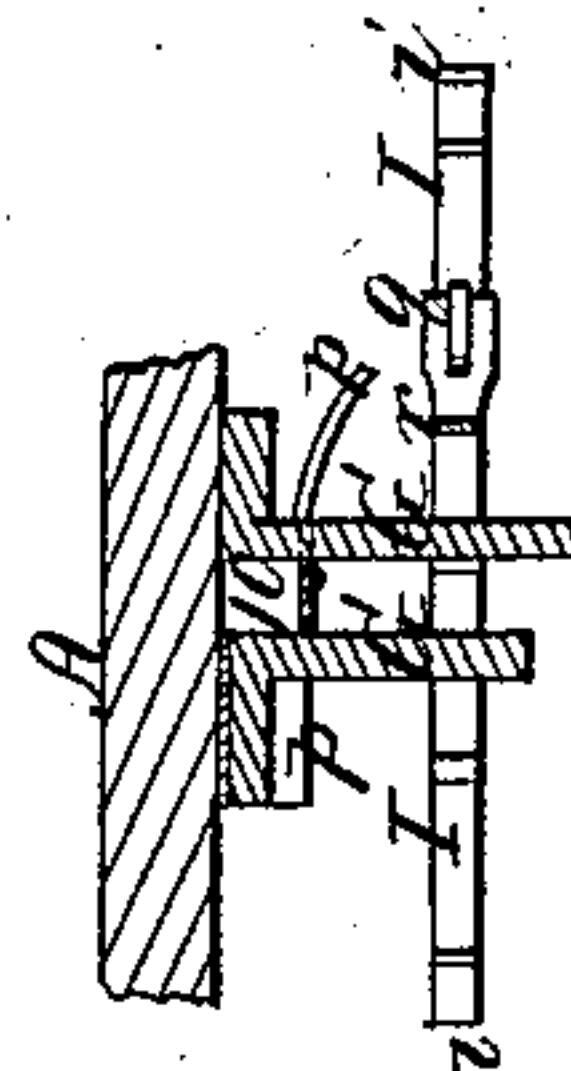
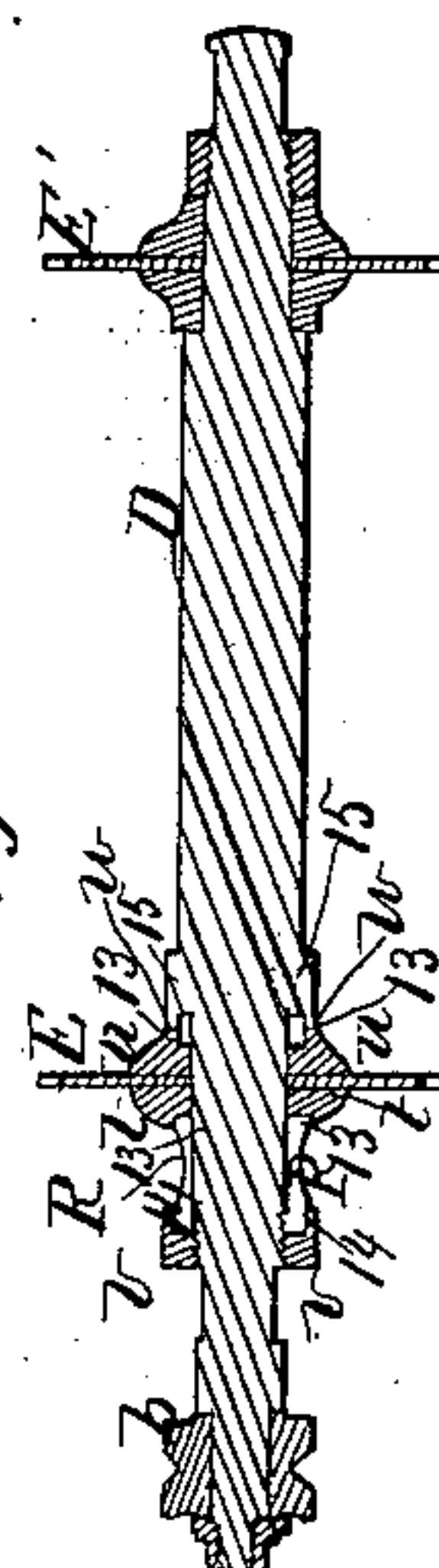


Fig. 6.



Witnesses:
P. B. Stearns
N. W. Stearns

Inventor:
Lucius H. Dwelley

United States Patent Office.

LUCIUS H. DWELLEY, OF DORCHESTER, MASSACHUSETTS.

Letters Patent No. 62,829, dated March 12, 1867.

IMPROVEMENT IN MACHINES FOR CUTTING THE ROLLS OF WINDOW BLINDS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, LUCIUS H. DWELLEY, of Dorchester, in the county of Norfolk, and State of Massachusetts, have invented a new Machine for Separating and Feeding Forward Rolls or Long Sticks, to be afterwards cut to definite lengths, or otherwise operated upon by machinery, of which the following is a full, clear and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of my new machine.

Figure 2 is an end elevation of the same.

Figure 3 is a longitudinal section through the same on the line $x x$ of fig. 2.

Figure 4 is a vertical transverse section through the machine, on the line $y y$ of fig. 3.

Figure 5 is a section of a portion of the machine, on the line $z z$ of fig. 4.

Figure 6 is a section through the saw-arbor and saws.

Figures 7 and 8, details to be referred to.

My invention has for its object to produce a machine for separating and feeding forward rolls, long sticks, etc., to be afterwards cut to definite lengths, or otherwise operated upon by machinery; and my invention consists in a vibrating hopper, at the bottom of which is a long slot or opening through which the sticks pass to a guide-trough or magazine beneath, whence they are delivered one by one to notched disks, or other equivalent device, by which they are successively carried to the mechanism which afterwards operates upon them.

To enable others skilled in the art to understand and use my invention, I will proceed to describe the manner in which I have carried it out.

In the said drawings, which represent a machine for cutting curtain rolls and other articles to a definite length, A is the framework, in suitable bearings, in which runs the driving-shaft B, which carries at one end the grooved pulley C, from which motion is communicated, by means of a belt, a , to the small pulley b on the end of the shaft or arbor D, which carries the cutting-off saws E E'. F is a hopper, of the form seen in fig. 1, the journals c of which rest in bearings at the top of the framework. To the outer end of one of these journals c is secured an arm, d , the lower end of which is pressed against the periphery of the pulley C, by means of a spring, e , secured to the framework at f ; and this arm d is vibrated against the resistance of the spring e by cams or projections, g , on the pulley C, so as to give the required motions to the hopper. In the bottom of the hopper F is cut a long slot or opening, h , through which the wooden rolls or sticks pass one by one successively to a guide-trough or magazine, G, which is attached to the framework immediately beneath the hopper. A portion of one side of this trough G is cut away so as to afford access to it in case it should become obstructed or clogged; and at one end is placed an inclined strip, 10, figs. 3, 4, and 5, which serves as a guide to bring the ends of the sticks into the required position on arriving at the bottom of the magazine. Directly underneath the magazine G are two disks or carriers, H I, secured to a horizontal shaft, J, having its bearings in the framework A; and in the periphery of these disks, opposite to each other, are cut a series of notches, i , at short distances apart, into which the sticks fall from the magazine as the disks are revolved.

I will now proceed to describe the manner in which these disks are revolved, for the purpose of feeding forward the sticks to the saws E E'. K is an arm which is pivoted to the end of the driving-shaft B, and carries a bearing, j , in which revolves a short shaft, 11, which carries at one end a worm-wheel, L, and at the opposite end a bevel-wheel, M, which engages with a bevel-wheel, N, on the end of the driving-shaft B. The worm-wheel L engages with a toothed wheel, O, and thus, through the connections explained, the disks H I are revolved slowly as required. P is a crank, the portion k of which is made hollow and fits over a stud or pin, l , projecting from the framework A. At the inner end of this portion k is formed an eccentric, m , figs. 7 and 8, which fits into a slot, n , in the end of the arm K, and thus, as the crank is turned, the arm K is lowered or raised to throw the worm-wheel L in or out of gear with the wheel O, to start or stop the feeding-disks H I, as may be desired. On the end of the stud l is cut a screw-thread, which fits into a corresponding screw-thread on the inside of the portion k , and thus as the crank is turned in the direction of the arrow, fig. 2, to lower the arm and throw the worm-wheel L into gear with the wheel O, the shoulder o , fig. 7, of the portion k is caused at the same time to press the arm K against the framework A and clamp it tightly in place. Instead

of the portion *k* of the crank being made hollow and turning on a stud, as shown, a screw-thread may be cut on the end of the portion *k*, which may be screwed into the framework, the eccentric being formed just in front of the screw-thread, when the operation will be similar to that above described. *Q* are curved arms projecting out from the magazine *G* over the disks *H I* for the purpose of preventing the sticks from being thrown out of the notches *i* before reaching the saws *E E'*, the radius of the curvature of the under side of these arms being a little greater than that of the disks, and the arms being placed a sufficient distance above the disks to allow the sticks in the notches *i* to pass freely beneath. *p* is a strip or plate of sheet metal which is attached to the magazine *G*, and is bent so as to form an incline, as seen in fig. 5, against which the ends of the sticks strike as they are fed forward by the disks *H I*, thus moving the sticks longitudinally into such a position as to insure both ends being cut off by the saws *E E'*. The sticks are held firmly in the notches *i* in the disks *H I*, and prevented from turning while being operated upon by the saws by means of a spring, *r*, which is secured to the framework at *s*, and carries at its outer end a roll, *q*, which is so placed that each of the sticks, *12*, will pass underneath it just before commencing to be operated upon by the saws *E E'*. If preferred, the roll *q* may be dispensed with, and the spring only be employed to hold the sticks. After the sticks are cut to a definite length by the saws, they are carried round by the disks until they pass out from under the curved arms *Q*, when they fall out of the notches *i*.

I will now describe the manner in which the distance between the saws *E E'* is varied so as to cut sticks of different lengths without removing the shaft *D* from its bearings. *t u* are collars, which are placed one on each side of the saw *E*, and are recessed out at 13, fig. 6. *R* is a short sleeve or collar, which is made in two halves, and fits over the shaft *D*, one end entering the recess 13 in the collar *t*, whilst the opposite end fits into a recess, 14, in a screw-nut, *v*, which works on a screw-thread cut on the shaft *D*, and by turning the nut *v* the saw *E* is held firmly in place on the shaft. When it is desired to cut sticks of a greater length, the nut *v* is unscrewed until the two halves of the sleeve *R* are free to be removed, when the saw *E*, with its collars *t u*, may be moved longitudinally until there is sufficient room to place the sleeve *R* between the collar *u* and the shoulder *w* on the shaft *D*, one end fitting into a recess, 15, in the shoulder *w*, while the opposite end enters the recess 13 in the collar *u*; the screw-nut *v* is then tightened up, and the whole secured tightly in place; and it will thus be seen that the distance between the saws may be readily varied as required, without removing the nut *v* from the shaft *D* or the shaft from its bearings. By the employment of one sleeve *R* only, as above described, the saw *E* may be secured in two different positions on the shaft *D*; but by using a number of similar sleeves of different lengths, the distance between the saws may be varied as desired. The disk *H* slides on the shaft *J* with a spline, and is made adjustable longitudinally on the shaft *J*, so as to correspond to the position of the saw *E*, by means of a pin, 16, which fits into holes made to receive it in the shaft *J*, as it is desirable that the stick be supported at a point near where it is to be cut off. It is evident that the sticks, after passing out of the magazine *G*, may be bored out at their ends, or otherwise operated upon by machinery, instead of being cut to definite lengths by saws, as above described, and that other articles besides wooden sticks may be in a similar manner separated and fed forward, to be afterwards operated upon by machinery, without departing from the spirit of my invention; and instead of the carrying disks *H I* some other mechanical device may be employed, if preferred, to receive the sticks after they leave the magazine.

Operation.

The parts being in the position represented in fig. 1, the operator fills the hopper *F* with the wooden rolls or sticks, which are to be cut to definite lengths for curtain rollers or other purposes, and the machine being set in operation, the vibrations of the hopper cause the sticks to pass one by one successively through the slot *h* into the guide-trough or magazine *G*, from which they fall on to the revolving disks *H I*, entering the notches *i* as they arrive beneath the magazine, the sticks being guided and brought into their proper position on arriving at the bottom of the magazine by means of the incline 10. The sticks are now carried round by the disks under the curved arms *Q*, the ends of the sticks striking against the inclined guide *p*, which moves the sticks longitudinally in the notches *i*, and brings them into a position to insure both ends being cut off by the saws *E E'*. Just before each stick is brought into contact with the saws it passes under the roll *q* on the end of the spring *r*, which holds it firmly in the notches *i*, and prevents it from turning while the ends are being cut off, after which it is carried around by the revolution of the disks *H I* until it passes out from under the arms *Q*, and arrives into a position to fall by its own weight out of the notches *i*. Suitable cutters may, if preferred, be substituted for the saws *E E'*. By placing the trough or magazine *G* between the hopper and the notched disks or carriers, instead of allowing the sticks to fall directly from the hopper into the notches *i*, a continuous supply of sticks is insured, as in the event of the slot *h* becoming temporarily clogged or obstructed it will be cleared by the vibrations of the hopper, so as to allow the sticks to pass into the magazine before it becomes empty, thus avoiding any loss of time.

Claim.

What I claim as my invention, and desire to secure by Letters Patent, is—

The arrangement of the vibrating hopper *F*, which receives the sticks in mass, with magazine *G*, which arranges them in a single column so that they may be delivered one at a time to a carrier or holder that conveys them to the tool or tools that are to afterwards operate upon them, substantially as described.

I also claim arranging within the magazine *G* a guide, 10, at one of its ends only, which guide arranges the sticks in a line at that end of the magazine, and allows all the inequalities in their lengths to project at the opposite end, substantially as described.

I also claim the spring *r*, with its roll *q*, in combination with the carrying disks *H I*, substantially as and for the purpose described.

I also claim the crank P, with its eccentric *m*, in combination with a slotted arm, K, and so arranged with a screw that, when turned in a direction to throw the worm-wheel L into gear with the wheel O, it will clamp the arm K firmly in place, substantially as described.

I also claim making the saw E adjustable on its arbor D by means of the split collar or sleeve R, screw-nut *v*, with its recess 14, and recessed collars *t u*, substantially as set forth.

LUCIUS H. DWELLEY.

Witnesses:

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