

W. W. HUSE,
Preparing Chewing Tobacco.

No. 36,955.

Patented Nov. 18, 1862.

Fig. 3.

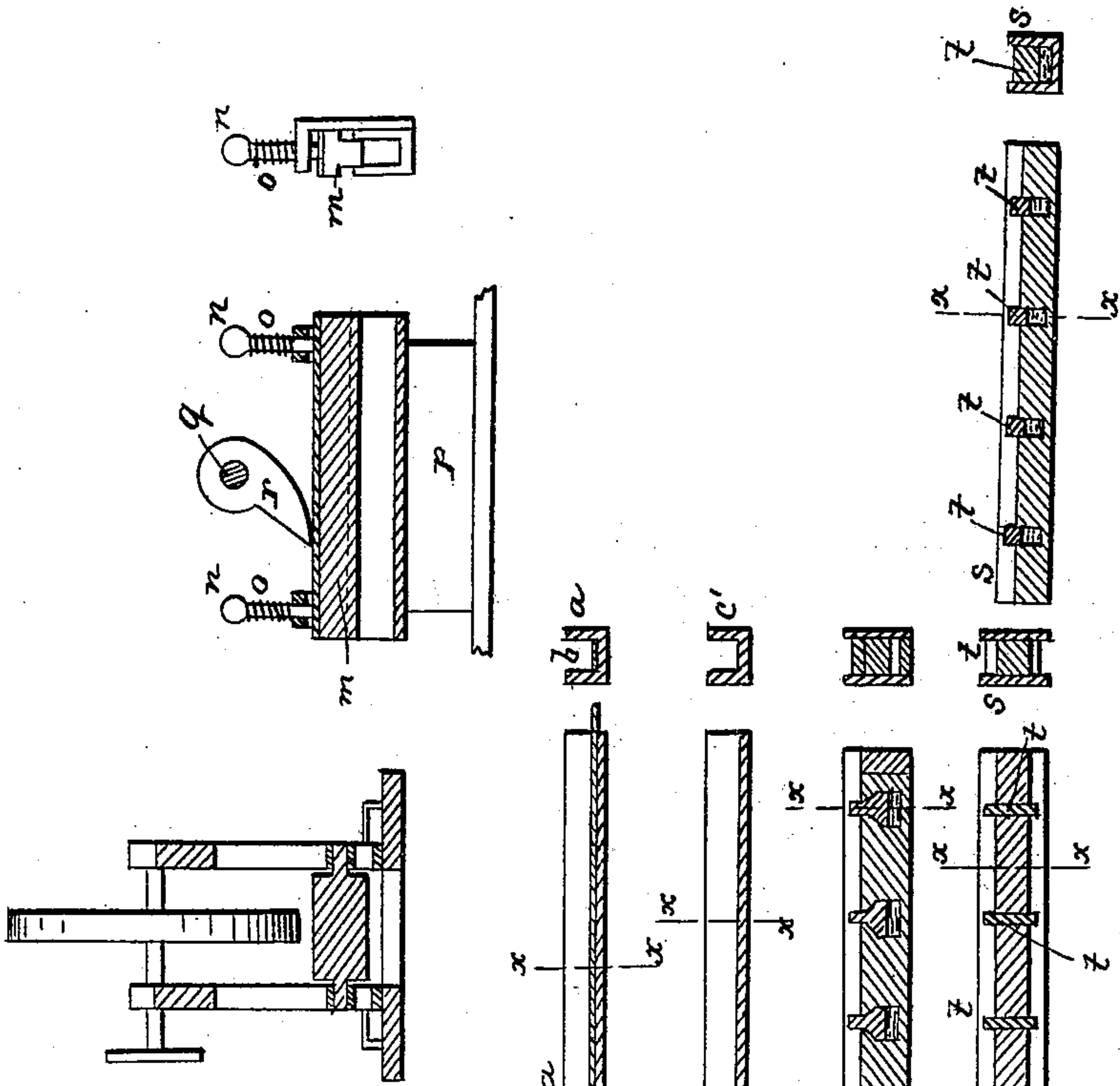


Fig. 1.A.a.

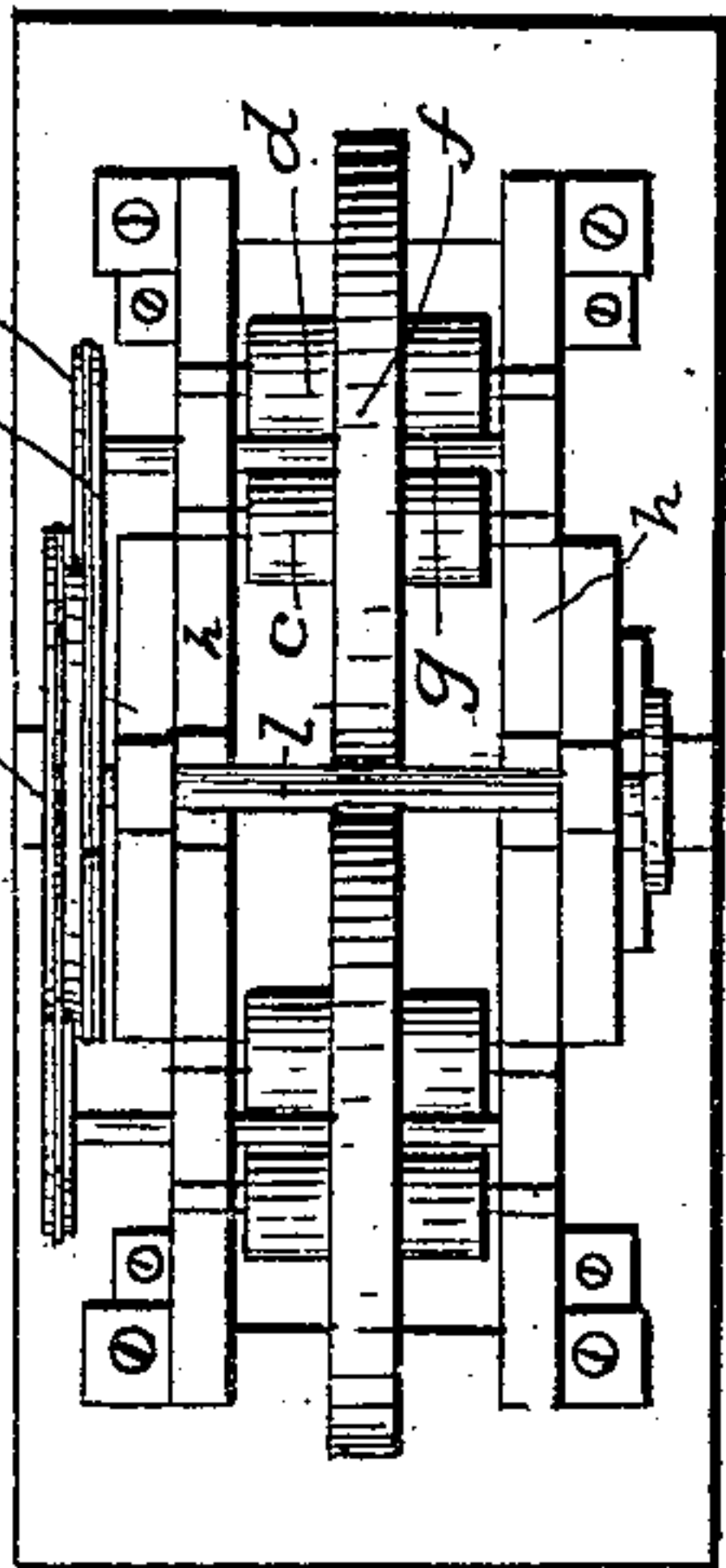
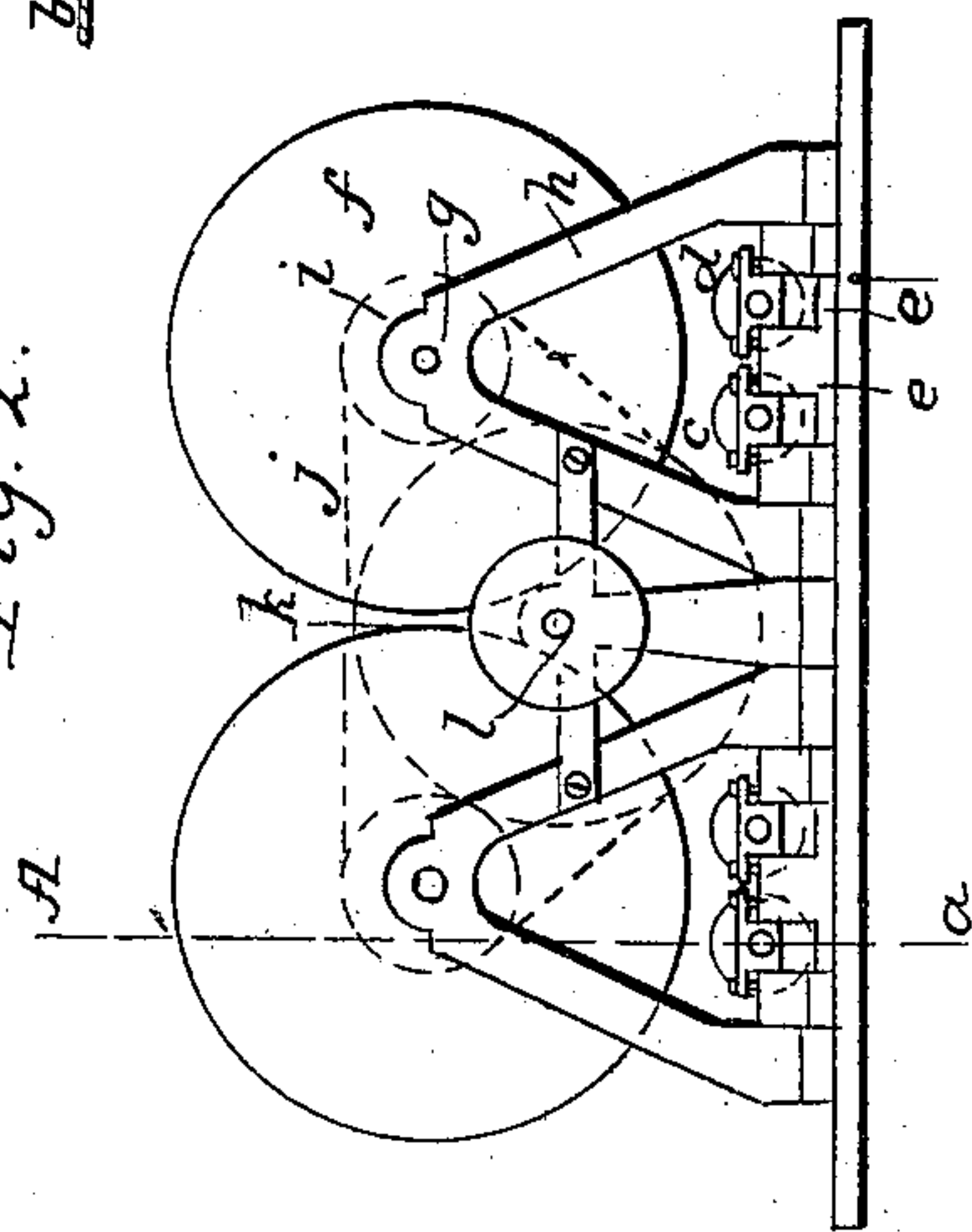


Fig. 2.



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WILLIAM W. HUSE, OF BROOKLYN, NEW YORK.

IMPROVED METHOD OF PREPARING CHEWING-TOBACCO.

Specification forming part of Letters Patent No. 36,955, dated November 18, 1862.

To all whom it may concern:

Be it known that I, WILLIAM W. HUSE, of Brooklyn, Kings county, and State of New York, have invented certain new and useful Improvements in the Method of Preparing Chewing-Tobacco; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a plan of my improved machinery; Fig. 2, a front elevation, and Fig. 3 a cross vertical section taken at the line A *a* of Fig. 2.

The same letters indicate like parts in all the figures.

The mode of procedure heretofore practiced in preparing plugs of tobacco in the manufacture of chewing-tobacco is to take the tobacco after it has been properly moistened and flavored and form it, by hand, into bunches of a rude cylindrical form, and in diameter and length about equal to the width and length of a plug when completed; and the bunches so formed are then rolled up in wrappers, for which large leaves are required. The wrapper after being rolled on and folded over one end must be tucked in at the other end of the roll to secure it. The rolls thus formed are then put into the "cells" of what is termed a "frame"—one roll in each cell—and then pressed in such cells to produce flat plugs by the follower of the press being formed with a series of projections fitting the series of cells. This mode of procedure is objectionable, mainly for the following reasons: First, it requires skilled and experienced operatives to form the rolls properly; second, it requires large leaves for the wrappers and consumes too large a proportion of such leaves, which are much more costly than the tobacco used for the filling; third, it requires too much power in pressing to bring the rolls to the flat form required for plugs, the sides and ends are rarely, if ever, produced of a proper square shape, and the tobacco is always much more compressed in the middle than at the sides.

The object of my said invention is to avoid the defects of the said old method.

In practicing the improved method which I have invented I use a series of long narrow

troughs, like the one represented at *a*, made on the inside of the usual width of a plug of chewing-tobacco, and of a depth more than sufficient to receive the required quantity of tobacco, and of about six feet in length, more or less. I prefer to make these troughs of wood, that they may be easily handled and carried. To this trough is fitted a long thin slat, *b*, which is placed loosely on the bottom.

The long leaf wrapper is laid on the slat *b*, and on this the filling is laid to the required thickness to produce, when completed, the required thickness of plug, and it is then covered with another layer of leaf-wrapper. After being thus prepared the trough is carried to the pressing-machine, to be presently described, and rolled down with a moderate pressure, so as to compact the mass so as to give it sufficient consistency to hold together when taken out of the trough, which is done by lifting the thin slat *b*. The long strip of tobacco so compacted is then laid in another trough, *c'*, of the same form as the one *a*, but made of metal and capable of sustaining a heavy pressure. The pressure is applied to further compress the tobacco by placing one end of the trough on a bed composed of two parallel rollers, *c d*, whose journals are mounted in sliding boxes resting on india-rubber or other springs, *e*. Above the bed there is a large wheel, *f*, on a shaft, *g*, mounted in suitable bearings in the frame *h*, and provided with a wheel, *i*, to receive a belt, *j*, from a wheel, *k*, on the driving-shaft *l*. The periphery of this wheel *f* is cylindrical, and of a thickness to fit the width of the inside of the trough. The wheel being in motion, one end of the trough containing the tobacco is placed on the bed-rollers *c d*, and pushed against the periphery of the wheel which takes a bite on it and carries the whole through, the wheel rolling over the whole length of the contained tobacco and compressing it down to a uniform thickness. Back of this there is a second wheel and bed of rollers just like the first, and operated in like manner, but with the periphery of the wheel a little nearer to the bed-rollers, and the trough containing the tobacco passes from the first to the second wheel by which the tobacco is pressed still more, as I have found in practice that the operation is

more perfectly performed by successive pressings than by one. The trough is delivered on the other side, and the tobacco so compressed is then taken out of the trough and cut into proper lengths, ready to be put into cells to receive the final pressure. The pressing in the first trough *a* is done in the same machine, or in one like it, with a single pressing-wheel, and I prefer the latter, to avoid the necessity of adjustment.

The object of using a series of wooden troughs for first compacting the tobacco, and then strong metal ones for the second compression is to facilitate the filling of the troughs. The light wooden ones can be carried readily, and they are strong enough to resist the slight pressure required to compact the tobacco, so that it will hold together to be transferred to the metal trough in which it is subjected to a heavy pressure. In this way a large number of hands can be employed in filling the wooden troughs which can be carried to the machine and back, the metal ones being too heavy to admit of this without too much labor. As it requires a much longer time to fill a trough than it does to pass it through the pressing-machines, a large number of hands will be required to do the filling for one machine.

I have contemplated the use of a series of metal troughs for the second compression, hinged together at their ends by rule-joints, to make an endless chain of troughs, passing around rollers at each end of the bed of the machine to avoid the labor of moving the troughs by hand. The slabs of tobacco taken from the wooden troughs are to be placed in this chain of troughs as they move, taking care to lap the ends, which will be pressed together in passing under the pressing wheel or wheels, thus producing a continuous slab of tobacco, which will be delivered on the other side to be cut into plugs, to be pressed afterward in cells.

Instead of applying the pressure to the surface of the tobacco in the trough by means of a wheel or wheels, I have contemplated the substitution of a flat follower as an equivalent. Such a follower is represented at *m*, and it is provided at top, near each end, with guide-rods *n n*, passing through fixed guides, the said guide-rods being provided with springs *o o*, which tend to lift the said follower to enable an attendant to introduce the troughs after they have been charged with tobacco. The trough is placed on a bed, *p*, and under the said follower. On a shaft, *q*, above, there is a cam, *r*, which in its revolution acts on the top of the follower to force it down into the trough and onto the tobacco to compress it to the desired extent. After the slabs of tobacco have been cut into plugs of the required length they are put into another long trough, *s*, formed with sides and cross-partitions *t*, so that such a trough is composed of a series of cells each of the width and length of a plug of tobacco when completed, but of greater

depth. The partitions are fitted to slide vertically in mortises in the bottom of the trough. When the tobacco is put into the cells, the upper edges of the several partitions are so far above the bottom of the trough as to make the cells at least as deep as the plugs before they are finally compressed. When all the cells of a trough have been filled with tobacco, it is put on the bed-rollers *c d* of the machine and passed under the cylindrical pressure-wheel, or, what is preferable, successively under the first and then under the second wheel, by which the plugs are finally compressed to the required degree for packing, the sliding partitions being forced down in their mortises in passing under the pressure wheel or wheels to the same extent as the tobacco is compressed.

The troughs *s*, I prefer to make double—that is, on opposite sides—as represented, so that the same sliding partitions *t* shall answer for both sets of cells, the two being alternately charged. In this way, as the partitions are forced down by the wheel in pressing the tobacco in the cells on one side, they are made to protrude on the other side, to make the cells on that side of the required depth to receive the plugs of tobacco for the next operation.

I have contemplated making the troughs of cells with springs under the sliding partitions, to force them up again after they have been depressed in passing under the pressure-wheels; but if the partitions be provided with springs, there will be no object in making the troughs double.

It will be obvious that the last compression in the trough of cells may be given by the press with a straight follower, instead of the cylindrical wheel, the sliding partitions yielding to the follower in such case, as they would in passing under the pressure wheel or wheels. When taken out of the cells, the plugs will be found more perfectly shaped, particularly at the ends and sides, than those prepared by the old method.

My improved method presents many advantages over the method heretofore practiced. It is less expensive, and does not require skilled or experienced operatives. The filling is laid straight in the trough, and the pressure to which it is subjected has no tendency, as in making rolls, to twist it. It requires less wrapper, for the reason that the wrapper is simply applied to the bottom and top surfaces, while in the old method a sufficient quantity must be used to wrap around a cylindrical bunch and over the ends before it is compressed; and, as the tobacco is piled on the bottom of the trough and of about equal thickness, less pressure will be required, and the plugs produced will be of about equal density throughout, instead of being much more dense in the middle than at the sides; and by reason of finally pressing the plugs in a trough provided with sliding partitions be-

tween the cells, I save much labor and time and cost of machinery heretofore required for this final operation.

What I claim as my invention, and desire to secure by Letters Patent in the manufacture of plug chewing-tobacco, is—

1. Arranging the filling-tobacco between two layers of filling in long troughs of the width of the intended plugs, and in that condition compacting and pressing it into a long strip of uniform thickness, substantially in the manner described.

2. Compressing the plugs in the cells of a long trough provided with sliding partitions separating the several cells, so that the partitions shall yield to the pressure as the plugs are compressed, substantially as described.

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Witnesses:

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WM. H. BISHOP.