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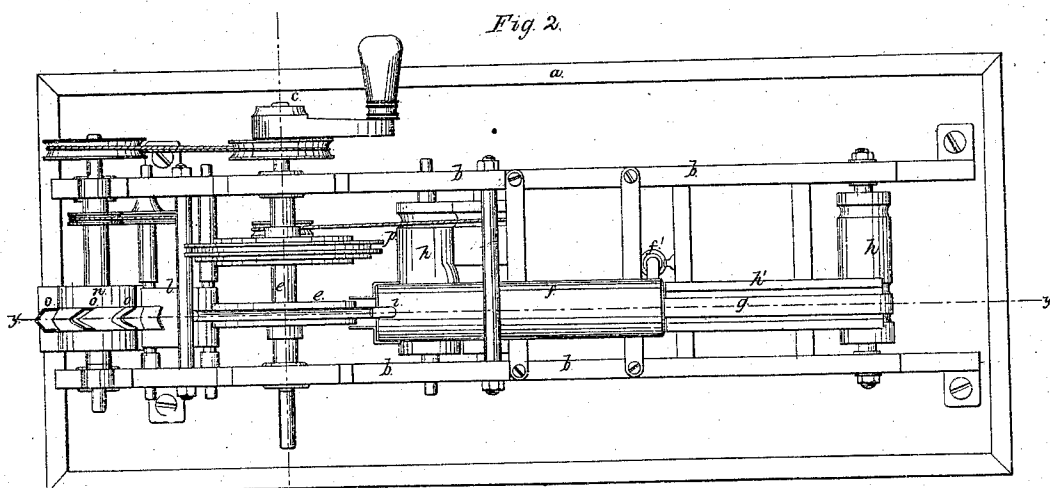
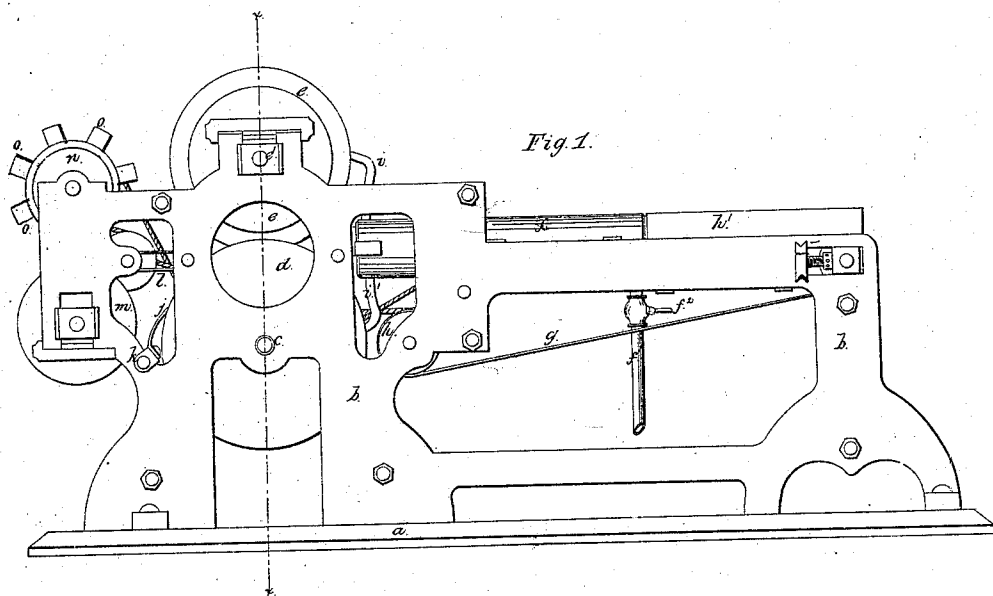
2 Sheets—Sheet 1.

W. W. HUSE.

MACHINE FOR PRESSING AND CUTTING THE FILLINGS FOR CIGARS.

No. 66,845.

Patented July 16, 1867.



Witnesses.

H. W. Hunt  
A. H. Hunt

Inventor.

W. W. Huse

(No Model.)

2 Sheets—Sheet 2.

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Fig. 3.

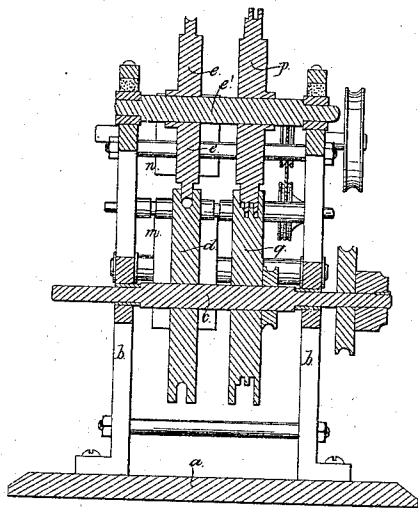
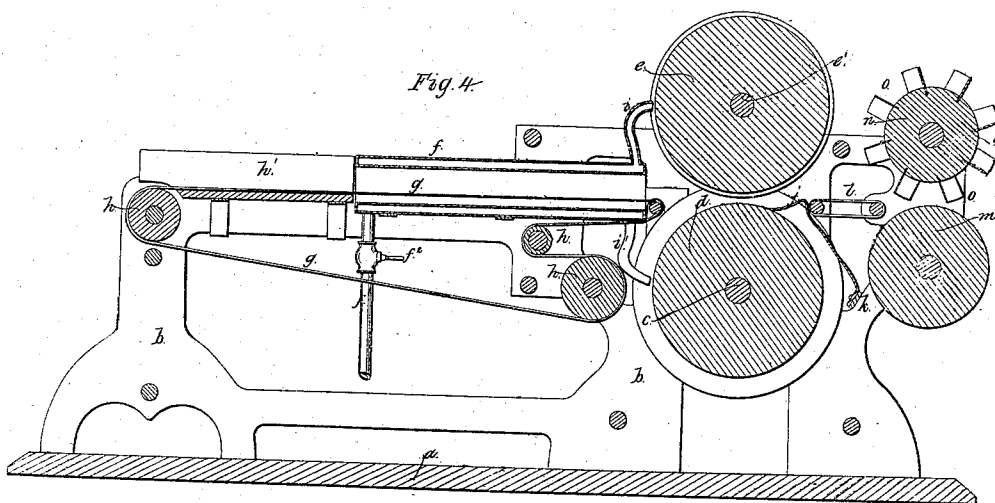


Fig. 4.



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# United States Patent Office.

W. W. HUSE, OF BROOKLYN, NEW YORK.

Letters Patent No. 66,845, dated July 16, 1867.

## IMPROVEMENT IN MACHINE FOR COMPRESSING AND CUTTING THE FILLING FOR CIGARS.

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 W. W. HUSE, of Brooklyn, in the county of Kings, and State of New York, have invented certain new and useful improvements in Machines for Compressing and Cutting into Proper Length and Shape the Filling for Cigars and for Plug-Tobacco; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, and to the figures and letters marked thereon. Of these drawings—

Figure 1 is a side elevation of a machine containing my improvements.

Figure 2 a plan view.

Figure 3 a cross vertical section at the line *x x* of fig. 1; and

Figure 4 a longitudinal vertical section at the line *y y* of fig. 2.

One of my improvements relates to a method of treating the filling for cigars and for plug-tobacco previous to its being compressed and cut into the proper length and shape, and consists in passing the tobacco-filling through a steam-jacket or an endless apron before it passes to the compressing and cutting-wheels. By this means the filling is properly softened and compacted before the compressing and cutting operation, and rendered more pliable for such action.

Another of my improvements consists in the means employed for the compressing and cutting of the tobacco-filling into proper length and shape for cigars and plug-tobacco after it has been softened by being passed through the steam-jacket.

To enable others to make and use my improvements, I will proceed to describe them, and will first describe them as applied to the compressing and cutting the filling of the tobacco into proper length and shape for cigars.

In the annexed drawings, *a* is the bed-plate of the machine, having erected thereon proper standards, *b b*, drilled at proper distances, so as to form bearings for the journals of the several shafts. *c* is the main driving-shaft, mounted in fixed bearings, and which may be operated by any suitable motor. On this shaft is arranged a compressing-wheel, *d*, which has its periphery constructed with a semicircular groove, and with flanges, as shown in fig. 3, so that another compressing-wheel, *e*, of about the same diameter, and with its periphery likewise formed with a semicircular groove, (but without flanges,) and mounted on another shaft *e'*, placed directly above the driving-shaft *c*, will set in between the flanges of the lower compressing-wheel *d*, as a tongue in a groove. The peripheries of these wheels, where the semicircular grooves in them come together, form a circular opening, so that the tobacco-filling in passing through between them will be compressed into a circular form. It will be seen that the flanges on the lower compressing-wheel *d* embrace the sides of the upper compressing-wheel *e*, and serve as guides to the filling as it is being fed in to be compressed. The shaft of the upper compressing-wheel *e* is mounted in boxes adapted to slide in the standards *b b*, and above these boxes blocks of India rubber or other suitable springs are placed to yield to any undue thickness of filling. Forward of these compressing-wheels, and in line with the circular opening formed by their peripheries, is placed a steam-jacket, *f*, with an endless apron, *g*, passing through it and around the rollers *h h h*, so that the sliver of filling can be passed through this jacket and then between the compressing-wheels *d* and *e*, from which it can pass, compressed, to the cutters (to be presently described) for cutting it into the proper length and shape for the after operation of wrapping. The filling is fed to the steam-jacket *f* through a box or trough, *h'*, along the bottom of which passes the endless apron which carries it through said jacket. The steam-jacket is constructed in the usual form, with an inner and outer casing, as shown in the drawings, and between these the steam is permitted to circulate. It is provided, as usual, with an induction pipe, *f'*, for the admission of steam from any suitable generator, and this pipe is provided with a cock, *f''*, to shut off the steam when required. The endless apron *g* with the filling upon it passes through inside of the inner casing, and, in passing through, the filling is subjected to the action of the steam in the surrounding jacket, and is thereby made softer and put in better condition for the after operation of compressing.

I have found, by frequent experiments, that by thus passing the roll of filling through a jacket in which steam is allowed to circulate before being passed through the compressing-wheels, the filling is rendered softer and much more pliable to the action of the compressing-wheels, and it can be compressed into any required shape without adding moisture, thus preserving its original color, and when compressed the roll remains compact and perfect in form.

At the rear end of this steam-jacket there are connected two steam-jets, *i i'*, which are so arranged (see fig. 4) that the peripheries of the compressing-wheels may be lubricated with steam, and thus enable the compressing operation to be more thoroughly effected. Just back of the lower compressing-wheel *d* I place a stripper, *j*, attached to a cross-bar, *k*. This stripper impinges upon the periphery of the said wheel, and not only prevents any portion of the roll of filling from passing down it, but guides the roll on to an endless apron, *l*, which carries it to the periphery of a drum, *m*, where it is cut by the revolving-cutters into the proper length for a cigar, and at the same time the proper taper for the tip given to one end of each piece thus cut off. Just above this drum *m* there is another drum, *n*, carrying the cutting-knives *o*. These knives are V-shaped, and of sufficient depth to pass entirely through the roll of filling. They may be secured to the periphery of the drum by screws passing through flanges on each side at their base, or in any convenient and suitable manner, and they should be located at such distance apart as to correspond with the length of the cigar it is desired to have cut. As the tobacco or roll of filling is fed in under these cutters it is cut by the extended part of the blades first, and each knife at one operation cuts off a piece of the long strip of filling the proper length for a cigar, and at the same time gives to the piece thus cut off the proper taper to form the tip of the cigar when wrapped.

It will be evident that the filling can be cut into the proper lengths for cigars without forming one end with a taper, by means of straight cutters arranged across the periphery of the drum at suitable distances apart, and the finish or tip given afterwards, by a suitable cutter in the hands of an attendant, or operated by machinery, but this mode of procedure would involve not only a great waste of the stock, but the expense would be much greater, and the work neither so rapidly nor so well done.

The shaft carrying the drum containing the knives, as well as those operating the endless apron, are operated by belts and pulleys, and deriving motion from the main shaft, as seen in the drawings, or they may be operated in any other convenient way.

I will now describe my improvements as applied to the compressing and cutting the filling into the proper length and shape for plug-tobacco. In the drawings, the wheels *p q* for this compressing and cutting are represented on the same shafts with the compressing-wheels *d e*, which have already been described in the operation for compressing the filling for cigars, but in practice there may either be a separate machine constructed for each operation, or the compressing-wheels *d e* can be removed from the shafts *e e'*, and the two cutting and compressing-wheels *p q* mounted on these shafts in their place. These cutting and compressing-wheels *p q* are formed at their peripheries with several square grooves and tongues or flanges, as shown in the cross-section, fig. 3, and the width of each groove in the two wheels should be equal to the width of the plug of tobacco to be formed. The filling, after it has been passed through the steam-jacket, as herein described for forming cigars, is passed between these cutting and compressing-wheels *p q*, the tongues formed on the periphery of one wheel fitting snugly into the grooves of the other wheel, and *vice versa*, thus forming sharp cutting edges, which will divide the sheet of filling into as many strips as there are grooves in the two wheels. These tongues do not set in the entire depth of their corresponding grooves, enough space being left for the compression of the strips of filling.

The result of this form of construction of the cutting and compressing-wheels *p q* will be that the filling will be cut and compressed into several long strips, and each strip will be of the proper width and thickness for plug-tobacco. These long strips are then, all at the same time, carried, by the means already described, and presented to the action of cutters to cut them into the proper lengths for plugs, but the cutters for this purpose should not be V-shaped, as that would entail a serious loss of stock, but they should be straight cutters, and arranged across the periphery of the drum at suitable distances apart, corresponding with the length of plug to be cut.

These last-mentioned wheels *p q* may be mounted on the same shafts which carry those formed with semi-circular grooves for compressing the filling for cigars, and the machine provided with an additional steam-jacket, endless apron, and drum having straight cutters secured across its periphery.

Having described my improvements in compressing and cutting into proper length and shape the filling for cigars and plug-tobacco, what I claim as new, and desire to secure by Letters Patent, is—

1. The treatment of the filling for cigars and plug-tobacco, by passing it through a steam-jacket on its way to be compressed and cut, substantially as described and for the purpose set forth.
2. The combination of the steam-jacket and endless apron with the compressing-wheels and V-shaped cutters, substantially as described.
3. The combination of the steam-jacket and endless apron with the cutting and compressing-wheels and straight cutters, substantially as described and for the purpose set forth.
4. The combination of the steam-jet with the cutting and compressing-wheels, as and for the purpose described.
5. Cutting the compressed filling into the proper lengths for cigars, and giving to one end of each length so cut the proper taper to form the "tip," when wrapped, by means of the revolving V-shaped cutters, arranged substantially as herein described.

W. W. HUSE,

Witnesses:

H. W. HUNT,

A. THIELEBERG.