No. 719,279. PATENTED JAN. 27, 1903.

O. TYBERG.

PNEUMATIC TRANSFERRING MECHANISM FOR CIGAR MACHINES.

APPLICATION FILED AUG. 1, 1901.

NO MODEL.

Fig. 1,

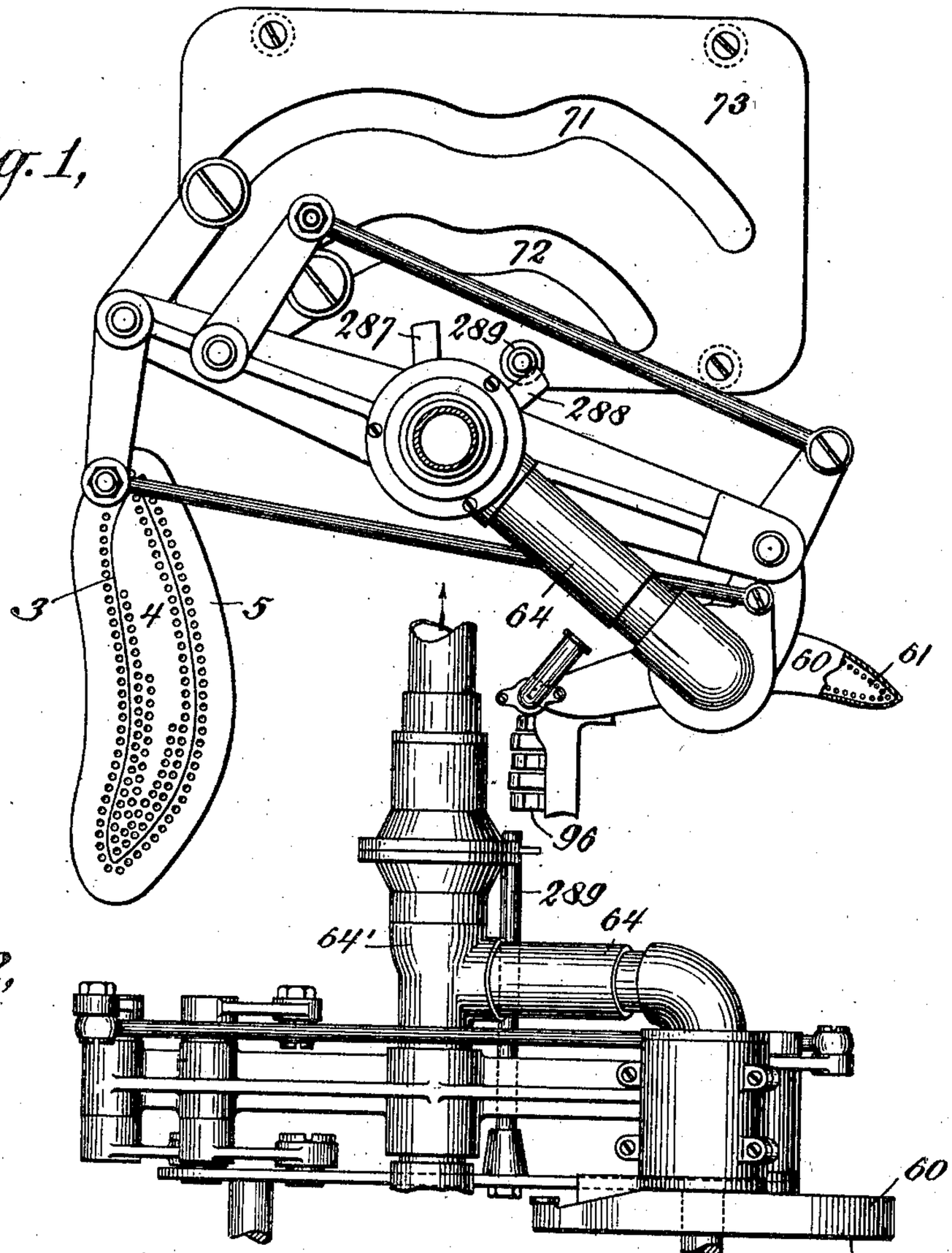


Fig. 2,

Fig. 3,

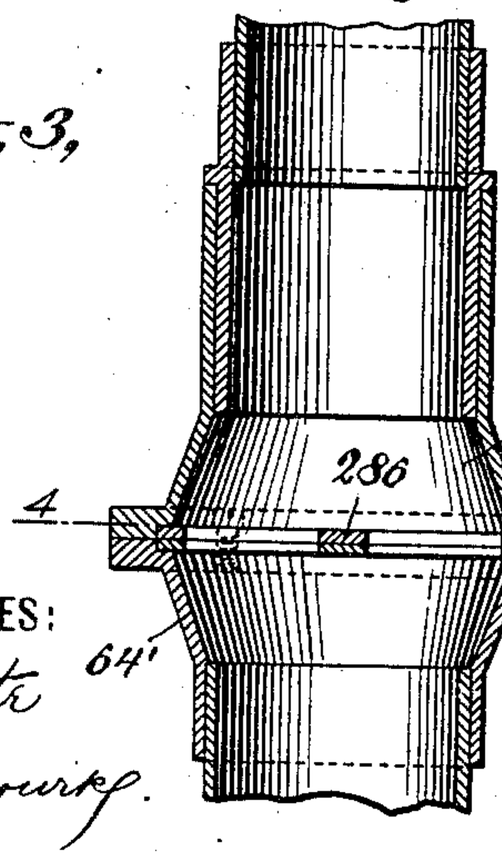
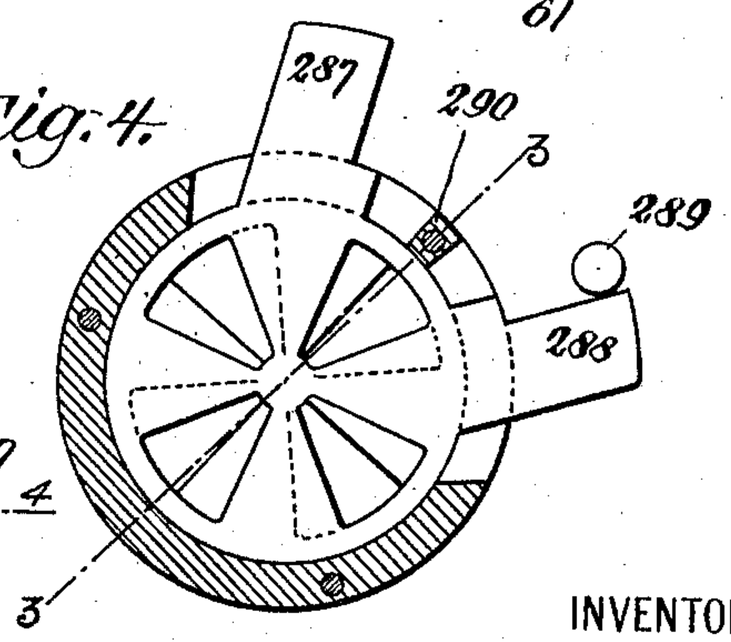


Fig. 4.



WITNESSES:

A. White

E. F. V. Bourke.

INVENTOR

Otto Tyberg

by Philipp, Sampson, Rice & Kennedy

ATTORNEYS

UNITED STATES PATENT OFFICE.

OLUF TYBERG, OF NEW YORK, N. Y., ASSIGNOR TO RUFUS L. PATTERSON AND GEORGE ARENTS, JR., OF NEW YORK, N. Y.

PNEUMATIC TRANSFERRING MECHANISM FOR CIGAR-MACHINES.

SPECIFICATION forming part of Letters Patent No. 719,279, dated January 27, 1903.

Application filed August 1, 1901. Serial No. 70,467. (No model.)

To all whom it may concern:

Be it known that I, OLUF TYBERG, a citizen of the United States, residing at New York, county of Kings, and State of New York, have invented certain new and useful Improvements in Pneumatic Transferring Mechanism for Cigar-Machines, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention relates to certain improvements in suction transferring devices. In the patent granted to R. L. Patterson and George Arents, Jr., as the assignees of Oluf Tyberg, No. 654,203, dated July 24, 1900, there is disclosed a suction wrapper-support which takes a wrapper from a suction cutting-bed and delivers it to a wrapping mechanism. In this machine the suction is constantly acting in the wrapper-support, so that the wrapper is taken from the cutting-bed by the suction of the support and is thereafter drawn from the support by the action of the wrapping mechanism against the force of the suction. In such machines it is desirable that the suction be acting strongly at the time when the wrapper is being delivered to the wrapping mechanism, so that the wrapper may be stretched as much as possible as it is wrapped about the bunch. It has been found in practical operation, however, that suction of force sufficient to properly stretch the wrapper should not be maintained when the wrapper is being transferred from the presenting means nor while the support is carrying the wrapper from the presenting means to the wrapper-applying means.

The object of this invention is to produce a mechanism in which a wrapper may be transferred from a wrapper-presenting means to a wrapping mechanism by a suction-support in which the suction shall be so controlled as to be greater at the time when the wrapper is delivered to the wrapping mechanism than when it is taken from the presenting means.

With this and other objects in view the invention consists in certain constructions and in certain parts, improvements, and combinations, as will be hereinafter fully described and then specifically pointed out in the claims hereunto appended.

In the accompanying drawings, in which like characters of reference indicate the same parts, Figure 1 is a plan view of so much of a cigar-machine as is necessary to an understanding of the invention. Fig. 2 is a side view of a part of the construction shown in Fig. 1, and Figs. 3 and 4 are detail sectional views.

Referring to the drawings which illustrate one embodiment of the invention, the suction wrapper-support is shown as comprising a chamber 60, closed by a perforated plate 61. As shown, this suction wrapper-support is the same as that disclosed in the patent above referred to, although it may be of any suitable form and construction. Suction is established in the support by means of a pipe 64, said pipe being connected to an upright section 64′, which is in communication with a suction mechanism, such as a fan. (Not shown.) The wrapping mechanism may be of any suitable form, but preferably will consist of pairs of intermeshing jaws 96, said jaws being mounted and operated substantially as shown in the United States reissue patent to J. Reuse, No. 11,695, granted September 20, 1898. Reference is made to said patent for a full description of the construction of this wrapping mechanism, and a description of it in this application is therefore unnecessary.

During the delivery of the wrapper to the wrapping mechanism by the wrapper-support a relative movement is preferably maintained between the two, and in the present instance, as in the Patent No. 654,203 above referred to, this movement is produced by moving the support. To this end the vertical section 64′ of the pipe 64 is given an oscillating movement, preferably by means similar to that shown in said patent, although any other means may be employed for this purpose. In addition to the movement imparted to the support by oscillating the section 64′ it preferably has other movements, said movements being produced by cam-grooves 71 and 72 in a cam-plate 73, said grooves operating through suitable cam-levers and connections, so that the support during the time when it is feeding the wrapper to the wrapping mechanism receives a movement which is the combination of an approaching, a traversing, and an

angular movement. The purpose of this movement is fully set forth in said Patent No. 654,203, and the mechanism for producing it shown in this application is the same as that shown in said patent. Inasmuch as this particular movement has no relation to the invention of this application a detailed description is unnecessary, reference being made to said patent for such description.

The means for presenting the wrapper to the wrapper-support may be of any suitable character. In the construction shown, however, the wrapper is presented to the support by a suction cutting-bed consisting of perforated plates 4 5, between which is located a knife 3. This cutting-bed, the mechanism for operating it, and its coöperating cutting mechanism are or may be similar to that disclosed in said Patent No. 654,203, and a full description thereof in the present case is accordingly unnecessary.

The wrapper is taken from the wrapper-presenting means by the suction-support and the suction is continuously operating in the support, so that the wrapping mechanism during the wrapping operation draws the wrapper from the support against the retaining force exerted by the suction, whereby the wrapper is stretched and tightly wound upon the bunch in the wrapping mechanism. It has been found, however, while a strong suction is desirable during the wrapping operation in order to exert as much tension on the wrapper as is possible by this means it is undesirable to have a strong suction acting on the support at the time when the support picks up the wrapper, for one reason, among others, that it tends to reduce the moisture in the wrapper, thereby decreasing its flexibility and to a certain extent preventing it from being wound smoothly upon the bunch. Accordingly means are provided for varying the strength of the suction in the suction-support. These means may be of any suitable construction. They will preferably, however, be thrown in and out of operation by the movement of the support. As shown, the upright section 64′ of the pipe 64 is provided with a valve-chamber 285, in which is mounted a suitable valve 286, which operates to control the opening through the pipe, and consequently the force of the suction in the suction-support. The valve shown is of the oscillating-disk order, although any suitable valve may be used. As shown, the valve is so operated that the opening in the pipe will be partially closed at the time when the suction-support is taking the wrapper from the presenting means, so that the suction at this time is acting in the support with limited force. Before the support, however, begins to deliver the wrapper to the wrapping mechanism the valve is opened, so as to permit the suction to act in the suction-support with increased force.

The means for operating the valve may be of any suitable description. As shown, however, the valve is provided with two projections 287 288. A post or upright 289 is provided, which may be conveniently located on the cam-plate 73, before referred to, and this post is so positioned that after the wrapper-support has delivered its wrapper to the wrapping mechanism and before it reaches the wrapper-presenting means one of the projections will strike the post and partially close the valve. After the wrapper has been transferred to the wrapper-support and prior to the time when it is delivered to the wrapping mechanism the movement of the support and its connected parts causes the other projection to strike the post and open the valve, so as to allow the full force of the suction to act on the wrapper on the suction-support when it is delivering the wrapper to the wrapping mechanism. An intermediate stop 290 is or may be provided to limit the movement of the valve.

While this invention has been described in connection with a cigar-machine and is particularly designed for use in connection therewith, it is to be understood that it might be used in other relations. While, furthermore, the mechanism which has been described is a convenient way of carrying the invention into effect, it is to be understood that other mechanisms may be used for this purpose, and the invention is not, therefore, to be confined to the specific details of construction which have been described.

What is claimed is—

1. The combination with a suction-support, of means for presenting a wrapper to said support so that it may be taken thereby, and means for varying the strength of the suction while the wrapper is held on the support, substantially as described.

2. The combination with a suction-support, of a continuously-acting suction mechanism, means for presenting a wrapper to the support so that it may be taken thereby, and means for controlling the suction so that it will be less at the time the wrapper is taken than when it is delivered, substantially as described.

3. The combination with a suction-support, of a suction-pipe leading thereto, a valve in the pipe arranged to vary the size of the opening in the pipe through which the suction operates and thereby vary the suction in the suction-support, means for presenting a wrapper to the support, and means for actuating the valve, substantially as described.

4. The combination with a suction-support, of a pipe leading thereto, a valve in the pipe arranged to control the opening therethrough, means for operating the valve so that the suction will act with limited force at the time the suction-support takes the wrapper, and means for thereafter operating the valve to increase the force of the suction, substantially as described.

5. The combination with a suction-support, of means for presenting a wrapper thereto so

that it will be taken thereby, a wrapping mechanism, and means for increasing the strength of the suction in the support between the taking of the wrapper from the presenting means and its delivery to the wrapping mechanism, substantially as described.

6. The combination with a suction-support, of a suction-pipe leading thereto, means for presenting a wrapper to the support so that it will be taken thereby, a valve in the pipe arranged to control the opening therethrough, means for operating the valve so that the opening in the pipe will be partially closed when the wrapper is taken by the support, and means for opening the valve after the wrapper has been taken, substantially as described.

7. The combination with a suction-support, of means for presenting a wrapper to the support, a wrapping mechanism to which the support delivers the wrapper, and means for controlling the suction in the support so that it will act with greater force when the wrapper is delivered than when it is taken from the presenting means, substantially as described.

8. The combination with wrapper-presenting means, of a wrapping mechanism, a suction wrapper-support moving between the two and operating to take a wrapper from the presenting means and deliver it to the wrapping mechanism, and means brought into operation by the movement of the support for controlling the suction so that it will act with greater force when it delivers the wrapper to the wrapping mechanism than when it takes the wrapper from the presenting means, substantially as described.

9. The combination with a suction-support, of a suction-bed for presenting a wrapper to the support, a wrapping mechanism to which the support delivers the wrapper, and means for controlling the suction in the support so that it will act with greater force when the wrapper is delivered than when it is taken from the suction-bed, substantially as described.

10. The combination with a suction-support, of a suction-bed for presenting a wrapper to the support, a wrapping mechanism, the suction-support moving between the suction-bed and the wrapping mechanism and operating to take a wrapper from the suction-bed and deliver it to the wrapping mechanism, and means brought into operation by the movement of the support for controlling the suction so that it will act with greater force when it delivers the wrapper to the wrapping mechanism than when it takes the wrapper from the bed, substantially as described.

11. The combination with wrapper-presenting means, of a wrapping mechanism, a suction wrapper-support moving between the two and operating to take a wrapper from the presenting means and deliver it to the wrapping mechanism, a pipe, said pipe including an oscillating section, a valve in said section, and means brought into operation by the movement of the support to operate the valve so as to cause the suction to act with greater force when the wrapper is delivered to the wrapping mechanism than when it is taken from the presenting means, substantially as described.

12. The combination with a suction-support, of a suction-bed for presenting a wrapper to the support, a wrapping mechanism, the suction-support moving between the suction-bed and the wrapping mechanism and operating to take a wrapper from the suction-bed and deliver it to the wrapping mechanism, a pipe, said pipe including an oscillating section, a valve in said section, and means brought into operation by the movement of the support to operate the valve so as to cause the suction to act with greater force when the wrapper is delivered to the wrapping mechanism than when it is taken from the suction-bed, substantially as described.

13. The combination with wrapper-presenting means, of a wrapping mechanism, a suction wrapper-support moving between the two and operating to take a wrapper from the presenting means and deliver it to the wrapping mechanism, a swinging pipe by which the support is carried, a valve in said pipe, projections on the valve, and a stop with which the projections contact, said stop being so arranged that the valve is partially closed as the support moves toward the wrapper-presenting means and is opened before the support delivers the wrapper to the wrapping mechanism, substantially as described.

14. The combination with a suction wrapper-support, of a suction-bed for presenting a wrapper to the support, a wrapping mechanism, the suction-support moving between the suction-bed and the wrapping mechanism and operating to take a wrapper from the suction-bed and deliver it to the wrapping mechanism, a swinging pipe by which the support is carried, a valve in said pipe, projections on the valve, and a stop with which the projections contact, said stop being so arranged that the valve is partially closed as the support moves toward the suction-bed and is opened before the support delivers the wrapper to the wrapping mechanism, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

OLUF TYBERG.

Witnesses:
SYDNEY I. PRESCOTT,
A. A. V. BOURKE.