

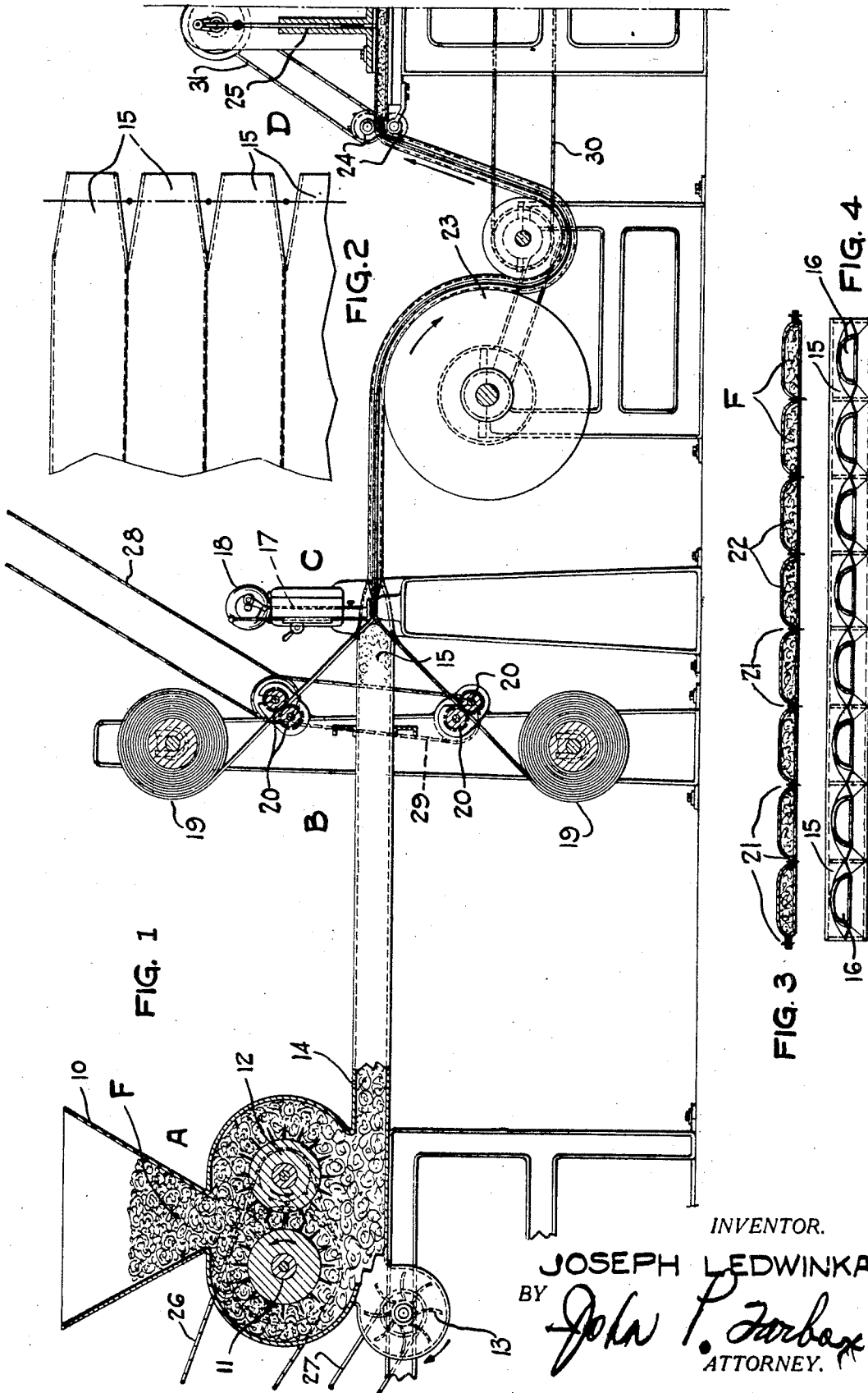
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METHOD AND APPARATUS FOR FILLING UPHOLSTERY

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METHOD AND APPARATUS FOR FILLING UPHOLSTERY

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The present invention comprises a method and apparatus for filling upholstery.

An object of the invention is to provide a method whereby upholstery can be produced continuously in widths suitable for its intended use.

Another object is the provision of a machine whereby the method of the invention can be carried out.

A third object is the provision of a method whereby much manual labor is obviated and many of the present steps now performed manually are made automatic.

Another object of the invention is the provision of a machine wherein the filling material is handled in a sanitary and efficient manner.

The invention is described in connection with a preferred form of machine illustrated in the accompanying drawings which are of a diagrammatic nature. These drawings comprise;

Fig. 1 an elevational view of the working parts of the machine.

Fig. 2, a plan view of a portion of the nozzles which conduct the filling material into the upholstery.

Fig. 3 a section of the completed upholstery, and

Fig. 4, an end view of the nozzles shown in Fig. 2.

The machine whereby the method of the invention is carried out comprises essentially a device A, for comminuting the filling material and forcing it into the upholstery; a second device B, for feeding the upholstery; a third device C, for continuous joiner of the upholstery material to form tubes longitudinally thereof, and a device D, and coating feeding mechanism for cutting the upholstery into the desired lengths for use.

More particularly the machine shown in Fig. 1 comprises a shredding or comminuting machine A into which the raw filler material F, is conveyed by means of the hopper 10 and in which toothed cylinders 11, 12, revolving at dissimilar rates of speed shred the filling material into fine particles. Associated with this machine is a blower 13, or some similar device for producing a powerful cur-

rent of air and which drives the finely divided material into a series of tubes or nozzles 15, through a common passage way 14. These tubes taper down to orifices 16 of the form shown in Figure 4.

Adjacent these orifices 16, and standing substantially parallel to the plane of their mouths is a row of sewing machines 17, (indicated by a dot and dash line in Fig. 2) which are operated from a common source 18. A plurality of rolls 19 which may contain for example, upholstery material, backing material, or other strengthening fabrics, are placed adjacent these sewing machines and the materials from these rolls are fed to the sewing machines by means of a plurality of small feed rolls 20. The material passing through the sewing machines and on each side of the nozzles mentioned above, is continuously stitched together as at 21, into a group of parallel tubes 22, as shown in Figure 3, which are kept extended by means of the nozzles 15. The current of air from the blower carrying with it the finally divided stuffing material carries this material F forcibly into the tubes 22 formed of the upholstery fabric and its backing material and compacts it therein. The density with which the filling material is packed into the tubes is, of course, regulated by the air pressure, the amount of filling material used, and the rate of travel of the upholstery through the machine.

The said rate of travel is regulated by the speed of the rolls 20 which feed the various fabrics to the sewing machines; by the speed of the sewing machines 17 and by the speed of other sets of rolls 23, 24 which pass the material from the sewing machines C to the cutting machine D.

This latter machine D, shown at the extreme right of Figure 1, is so synchronized with respect to the other operations of the machine as to cut the finished material into the desired predetermined length for use. It is shown diagrammatically as a vertically reciprocable knife 25, suitably driven.

The mechanisms A, B, C, D, which cooperate to form the machine to carry out the method of the invention, are driven by various chains or belts 26, 27, 28, 29, 30 and 31

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from different sources of power of conventional types, not shown. However, it is within the province of the invention to arrange these mechanisms to be driven from a common source.

By means of this machine, the materials can be handled much more efficiently and in a much more sanitary manner than they have heretofore been handled. The raw filling material, which may be cotton waste, clippings or almost any substance of a suitable nature, can be handled in bales and be kept entirely within the enclosure of the machine thus reducing the dust hazards.

The materials used to produce the product may be procured in rolls and fed to the machine direct from the rolls without other handling.

If a number of sewing machines are stopped, or the spacing of the machines across the work, and the number and shape of the nozzles be made variable, the machine can be adjusted for different products.

These, and other changes fall within the scope of the invention, which is defined in the appended claims.

I claim:

1. A machine of the character described comprising a blower for supplying comminuted filling material, means for supplying upholstery material, means for fashioning said upholstery material prior to filling into continuous tubes and for compacting said filling material therein, and means for cutting said tubes into predetermined lengths.

2. The method of making upholstery comprising the joining of opposed fabrics, about a plurality of nozzles rearwardly of their outlets to shape the tubes so formed about the nozzles and filling the tubes so formed by and through said nozzles.

3. The method of making upholstery comprising the joining of opposed fabrics surrounding a plurality of nozzles behind their outlets, thereby giving predetermined shape to the pockets so formed and filling the same with material introduced by air pressure through said nozzles.

4. A machine of the character described, comprised of a plurality of spaced stitching mechanisms adapted to join opposed fabrics, a plurality of spaced apart nozzles, the orifices of said nozzles lying forwardly of the plane of the stitching mechanism in the spaces between said stitching mechanisms, and means for introducing filling material through said nozzles.

5. A machine of the character described comprising a plurality of spaced stitching mechanisms adapted to join opposed fabrics, a plurality of spaced apart nozzles situated between said stitching mechanisms, the orifices of said nozzles extending beyond the plane of the stitching mechanisms, and

means for introducing filling material through said nozzles by air pressure.

6. A machine of the character described comprising a plurality of spaced stitching mechanisms in lateral alignment adapted to stitch opposed enveloping material, a plurality of spaced apart nozzles in the spaces between said stitching mechanisms, the outlet of said nozzles extending beyond the alignment of the stitching mechanisms, whereby the enveloping material is conformed by the nozzles and means for introducing filling material through said nozzles.

In testimony whereof he hereunto affixes his signature.

JOSEPH LEDWINKA.

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