(No Model.)

A. J. SANFORD.

GLASS SHAPING MACHINE.

No. 566,803. Patented Sept. 1, 1896.

FIG. 2.

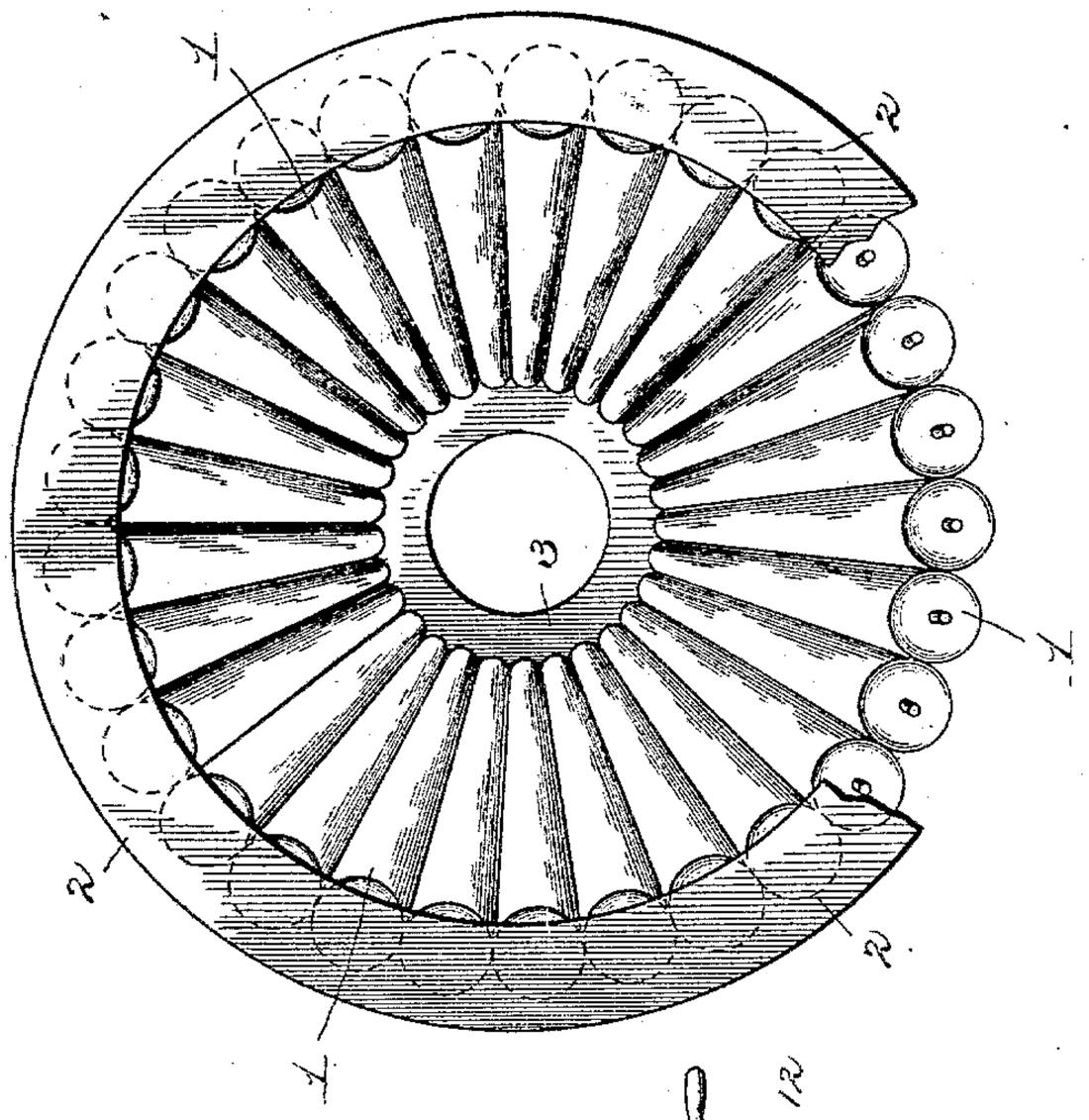
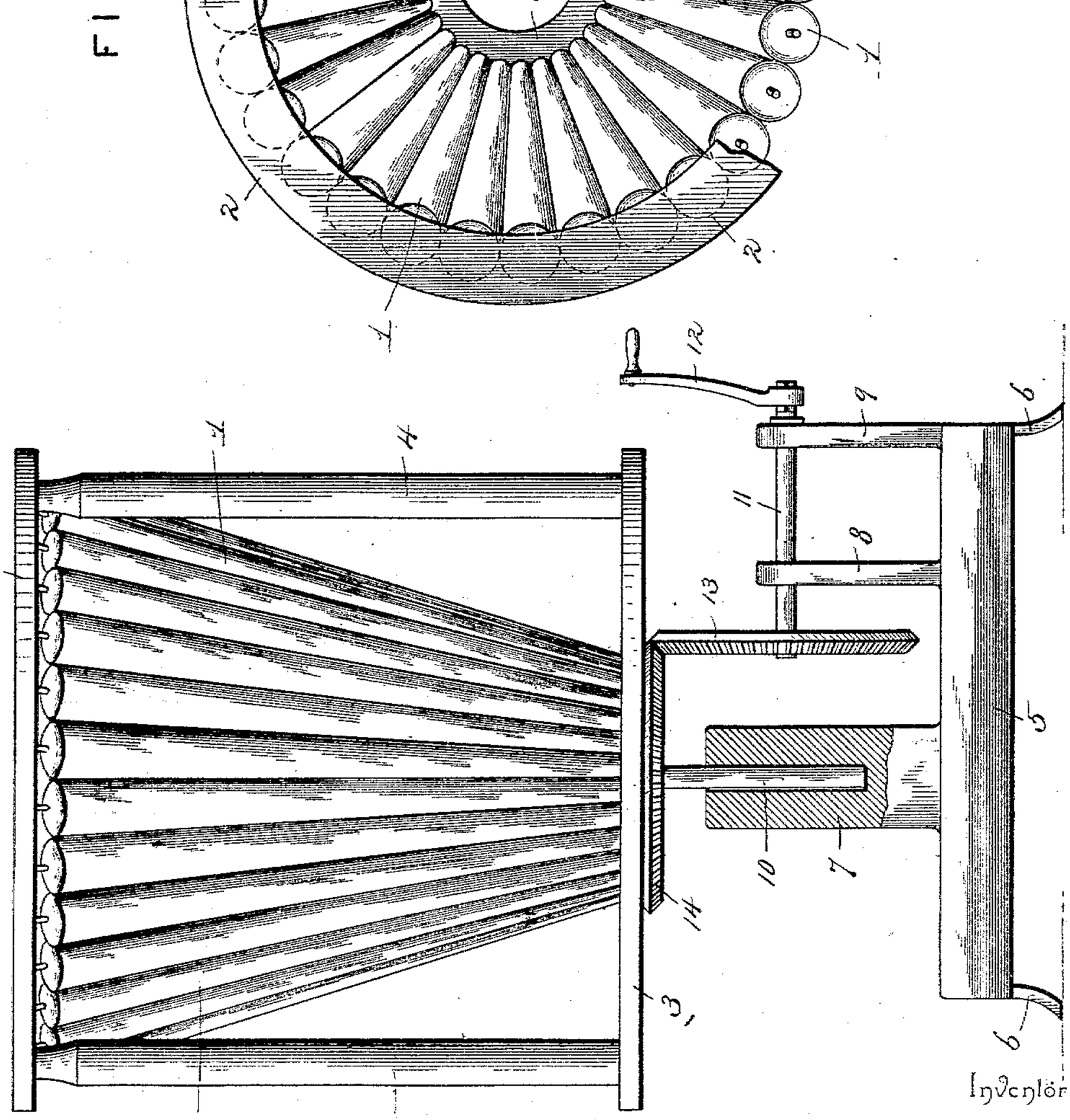


FIG. 1.



Witnesses
Harry L. Amer.
V. B. Hillyard.

Inventor
Andrew J. Sanford.
By his Attorneys.
C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

ANDREW J. SANFORD, OF ZANESVILLE, OHIO.

GLASS-SHAPING MACHINE.

SPECIFICATION forming part of Letters Patent No. 566,803, dated September 1, 1896.

Application filed April 17, 1895. Serial No. 546,060. (No model.)

To all whom it may concern:

Be it known that I, ANDREW J. SANFORD, a citizen of the United States, residing at Zanesville, in the county of Muskingum and State of Ohio, have invented a new and useful Glass-Shaping Machine, of which the following is a specification.

This invention relates to machines for shaping and figuring glassware, and aims to increase the output of a workman and produce a clearer and better quality of glassware and in less time than is possible by machines of usual construction for finishing glass articles.

The improvement consists of the novel features and peculiar construction and combination of the parts which hereinafter will be more fully set forth and claimed, and which are illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a machine embodying the essence of the invention. Fig. 2 is a top plan view of the shaper, having a portion of the cap-ring broken away.

The shaper proper comprises a series of shaping-rollers 1, grouped in a circle about a vertical line and flaring outwardly at their upper ends, said shaping-rollers being preferably tapering in form and placed with the smaller ends downward, and having their longitudinal edges touching or brought in close relation, whereby the inclosing space is practically continuous. The shaping-rollers 1 are journaled at their upper ends in a cap-ring 2 and at their lower ends to a base 3, and may be smooth or provided with figured surfaces, according to the nature of the work to be performed. The cap-ring and base are connected by vertical posts 4, which hold them in fixed relation, so that there can be no possible binding of these parts on the ends of the shaping-rollers. The space inclosed by the shaping-rollers flares upwardly from its lower end to adapt the shaper to different-sized articles in the shaping and finishing process. In the operation of the machine the article to be finished can be rotated within the shaper in the usual way, in which case the shaper will be stationary, or the shaper can be rotated and the article held relatively fixed. The latter construction is preferable, as it is not feasible at all times to rotate the article, and for this purpose the mechanism illustrated in the drawings has been devised.

The support 5 is mounted upon legs 6, or can be placed upon a bench or like structure, and has standards 7, 8, and 9 rising vertically therefrom. The standard 7 has a vertical recess, in which is journaled a spindle 10, pendent from the shaper, and a shaft 11 is journaled in the standards 8 and 9 and can be rotated by hand or power, and is shown provided at its outer end with a crank 12 for the purpose of operating it by manual power. A gear-wheel 13, keyed upon the shaft 11, meshes with a corresponding gear-wheel 14, made fast to the lower side of the shaper, so that on the rotation of the shaft 11 the shaper will be caused to rotate about a vertical line, as will be readily understood.

The article to be finished or shaped, after being pressed or blown, is caught by a snap in the usual manner and softened and held within the shaper, the latter being rotated, and the shaping-rollers, engaging with the sides of the said article, shape and finish the latter in the required manner. In the event of it being required to provide a fluted or ribbed surface the article is forced gently within the shaper until the sides of the shaping-rollers are sufficiently embedded therein to provide the required depth of flutes. It will be understood that in this use of the invention the shaper will remain stationary, and that the article will be simply pressed therein and removed without having any rotary movement imparted thereto.

The shaper herein set forth is simple and performs the required work in a satisfactory manner, and the work of finishing glassware is greatly facilitated by its use. Other objects than those set forth are apparent, and it will be understood that changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed as new is—

A glass-finishing machine having a conico-cylindrical form and adapted to receive articles of different size within its flaring end, the same comprising a base, a ring connected

with the base, a series of tapering rollers having straight sides and comparatively long and of small diameter, similarly placed and having their longitudinal edges nearly touching to form in effect a continuous unbroken surface, and journaled at their ends to the ring and base, and means for rotating the base to impart to the shaper a circular motion, the individual rollers being caused to turn upon their axes by engaging with the article being finished, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ANDREW J. SANFORD.

Witnesses:

A. CLYDE REASONER,

WM. M. GRAFTON.