A. DREXLER.

SCULPTURING APPARATUS.

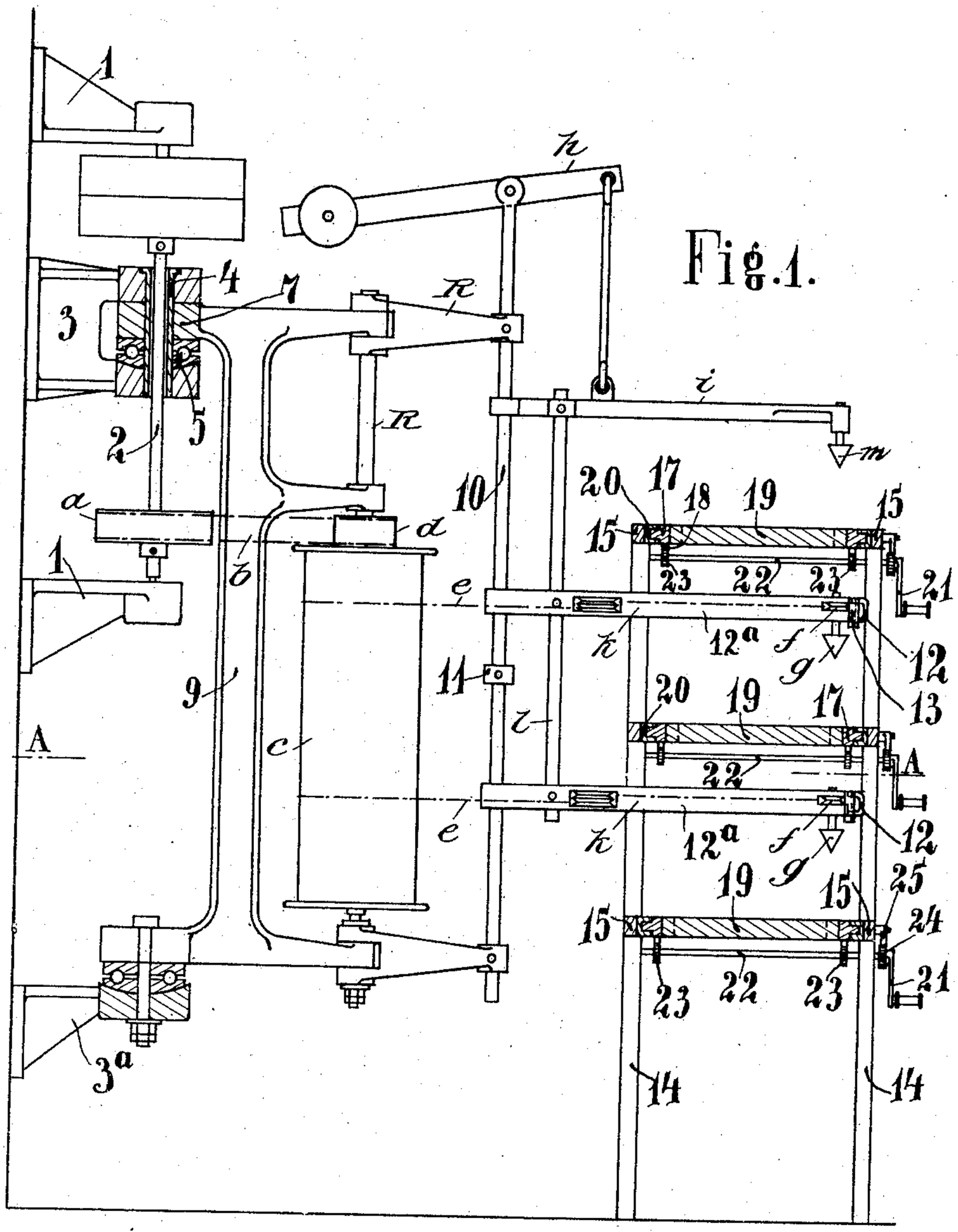
APPLICATION FILED JULY 25, 1907.

905,669.

Patented Dec. 1, 1908.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses

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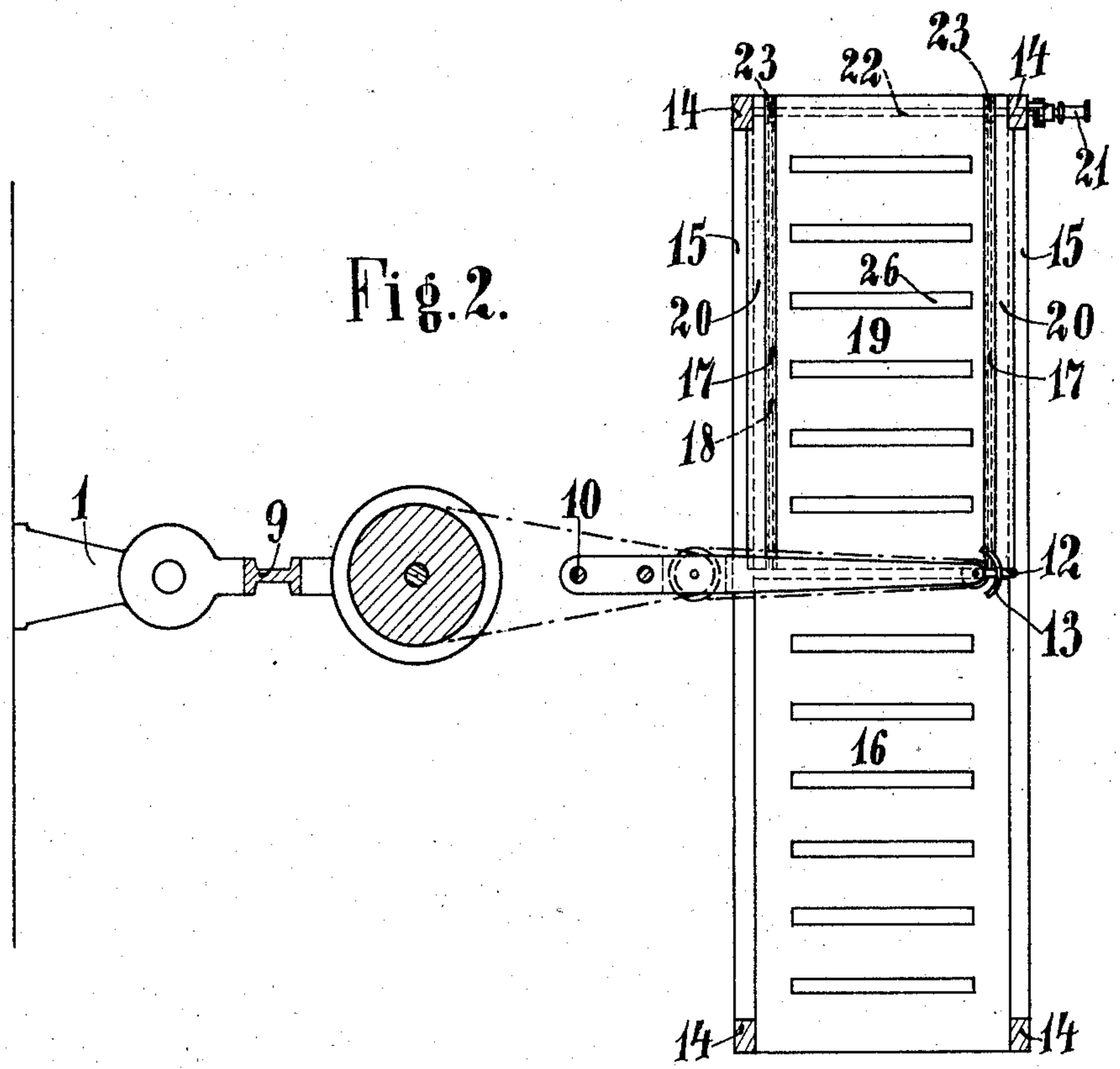
2 SHEETS—SHEET 2.

Fig. 2.



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UNITED STATES PATENT OFFICE.

ALBIN DREXLER, OF LUCERNE, SWITZERLAND.

SCULPTURING APPARATUS.

No. 905,669. Specification of Letters Patent. Patented Dec. 1, 1908.

Application filed July 25, 1907. Serial No. 385,583.

To all whom it may concern:

Be it known that I, ALBIN DREXLER, a citizen of the Swiss Federation, residing at Winkelriedstrasse 35, Lucerne, Switzerland, have invented certain new and useful Improvements in Sculpturing Apparatus, of which the following is a specification.

This invention relates to improvements in sculpturing machines, the object of which is to make such machines more useful in practical application.

The accompanying drawings show, Figure 1 in side elevation and Fig. 2 in plan, a form of the improved machine.

2 is a driving shaft mounted in the two bearings 1 and carrying a pulley *a*, from which a belt *b* passes to the pulley *d* connected with a drum *c*, the latter driving, by means of cords *e*, the pulleys *f* of the cutters *g*. The driving shaft 2 is carried freely through a bush 4 extending through the two heads of the bearing 3. Around the bush 4 is the head 7 of the swing frame 9 turning freely on the ball bearing 5. The frame 9 carries the parts *c*, *d*, *e*, *f*, and *g* with the second swinging frame R, the counterweight arrangement *h*, guide arm *i*, working arms *k* and connecting rods *l*. By this arrangement frictional movements of the driving shaft are not transferred to the other mechanism, and consequently the cutting tools rotate free of vibration, an important feature of the invention.

On the sliding rod 10 a collar 11 is fitted, for the purpose of enabling the vertical movement and consequently the depth of the cut to be exactly adjusted. A handle fitted on the front of the cutter arm is indicated at 12, and a protecting plate in front thereof at 13, which permit the work to be carried out without danger, even by means of the cutter arm, so that the machine can not only be used for copying but also directly for the production of originals.

14 are vertical corner posts which form two frames with the horizontal carriers 15, between which frames on one side are fixed the tables 16 arranged in stages one over the other, while the other tables 19, provided at their sides with runner rails 17 and 18 are fitted in runners 20. The movement of each of these tables 19 is effected by a crank 21, on the spindle 22 of which is fixed two toothed wheels 23 engaging in the racks 18.

24 is a ratchet wheel on the crank spindle 22 with which engages a catch 25.

The tables are formed with slots 26 which are arranged exactly vertically over one another in the fixed tables 16.

This construction as described enables several pieces of work to be clamped by means of suitable apparatus exactly vertically one over the other, or to be adjusted.

The functions of the arrangement described are, in so far as the action of the separate parts has not already been explained, as follows: After the pieces of work have been fastened on the tables 16 and 19, the driving shaft 2 is set in rotation and turns the cutting tools *g* through the transmission gear *a*—*f*. The cutting takes place on pressing down the guide arm *i* for the purpose of resting the tracer *m* on the pattern and the cutters *g* are thereby lowered to the same extent in the vertical direction against the work, since the connecting rod *l* carries with it the working arms *k*, while the horizontal movements of the guide arm *i* over the pattern are also transmitted to the cutters by the connecting rods *l* and the working arm *k*, the swing frames 9 and R allowing the necessary movements.

The movement of the work and of the pattern to come within the reach of the cutting tools *g* and tracer *m* is effected by moving the tables 19 by means of the cranks 21.

The movable half tables 19 can slide outwardly so as to extend for the greater part of their length beyond the frame, greatly increasing the length of the complete table, or they may collapse inwards to meet the inner end of the fixed tables, as shown in Fig. 2, in which position the table is as short as possible. When pieces of considerable length are to be worked the movable tables 19 are extended and the pieces are fixed both to these and to the fixed tables. When a portion of the work is completed the pieces are released from the fixed tables and the movable ones are then slid inwardly to the required extent, when the pieces are again fixed to the tables 16. When the tables are fully collapsed fresh adjustment of the pieces to be worked is obtained by releasing them from the movable tables 19, which are then again extended and the pieces refixed at the required points.

What I claim as my invention and desire to secure by Letters Patent is:—

1. In machines for the mechanical production of sculpture a driving shaft, a bearing for the driving shaft independent of the body

of the apparatus, a carrier for the sculpturing appliance, bearings for the carrier concentric with the shaft and a box within one of the carrier bearings through which the driving shaft passes without contact.

2. In sculpturing machines, means for supporting and securing the work in position, consisting of a frame, a series of superposed half tables fixed on the frame at one side, corresponding sliding half tables at the other side, guides for the sliding tables, rack and pinion mechanism and operating handles, substantially as herein described.

3. In sculpturing machines, means for supporting and securing the work in position consisting of a frame formed from corner posts 14 and longitudinal bars 15, fixed half tables 16 secured one above the other in one side of the frame, corresponding sliding half tables 19 at the other side, guides 20 in the frame, slide bars 17 and racks 18 on the sliding tables, and operating handles and gearing controlling the sliding tables, substantially as herein described.

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

ALBIN DREXLER

Witnesses:

OTTO SPROLL,

JOS. LINIGER.