

(No Model.)

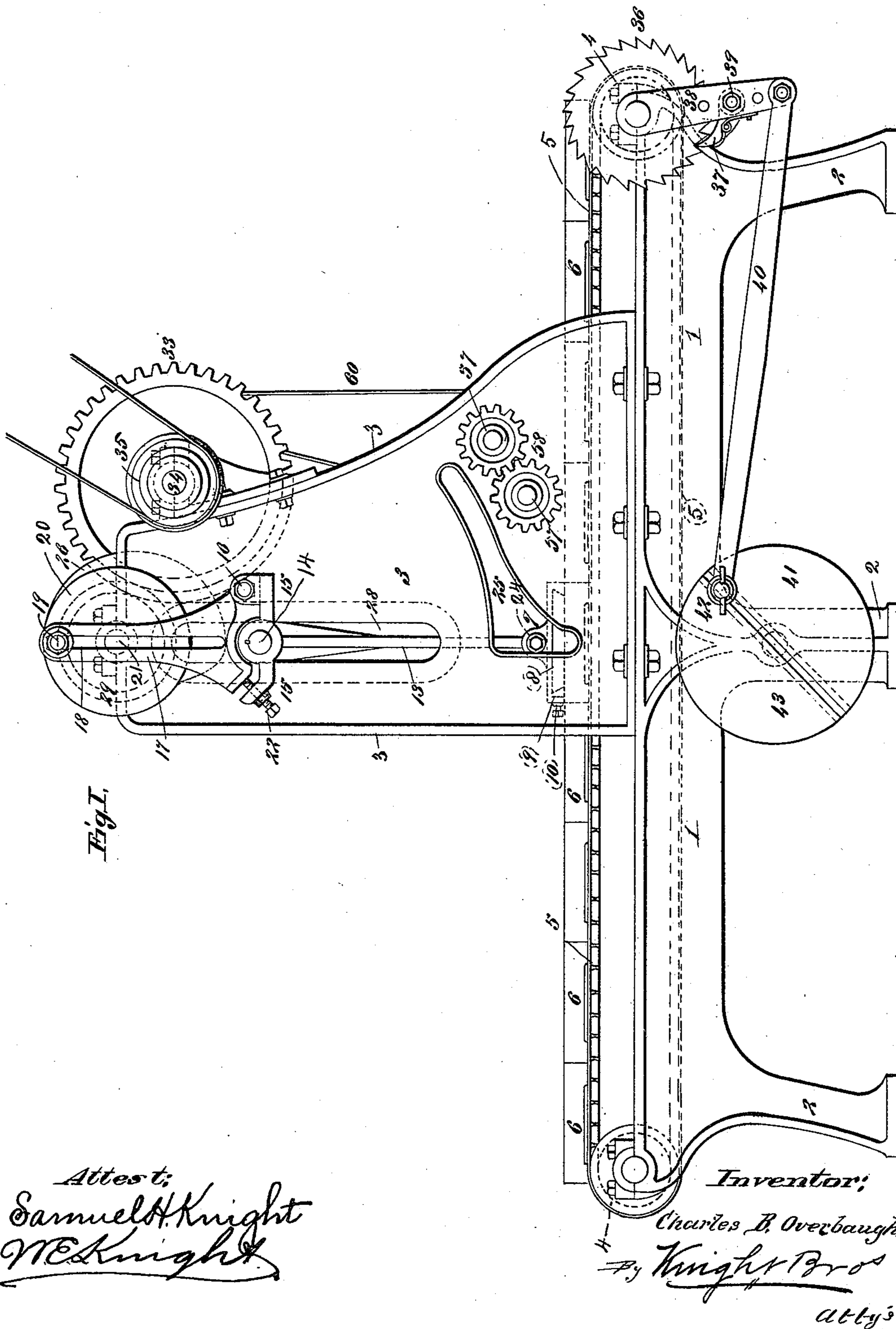
3 Sheets—Sheet 1.

C. B. OVERBAUGH.

MACHINE FOR MAKING CONFECTION MOLDS.

No. 428,513.

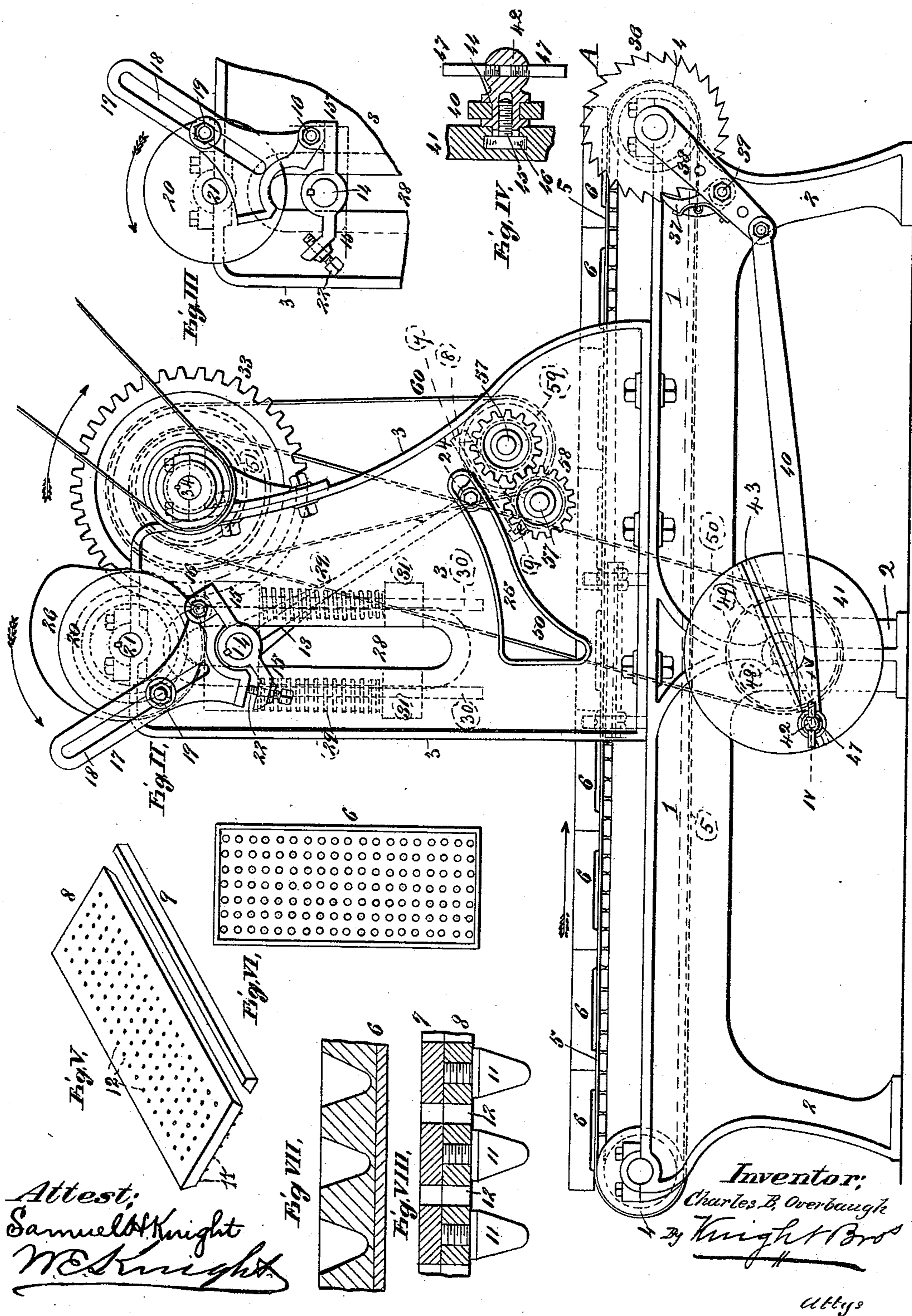
Patented May 20, 1890.



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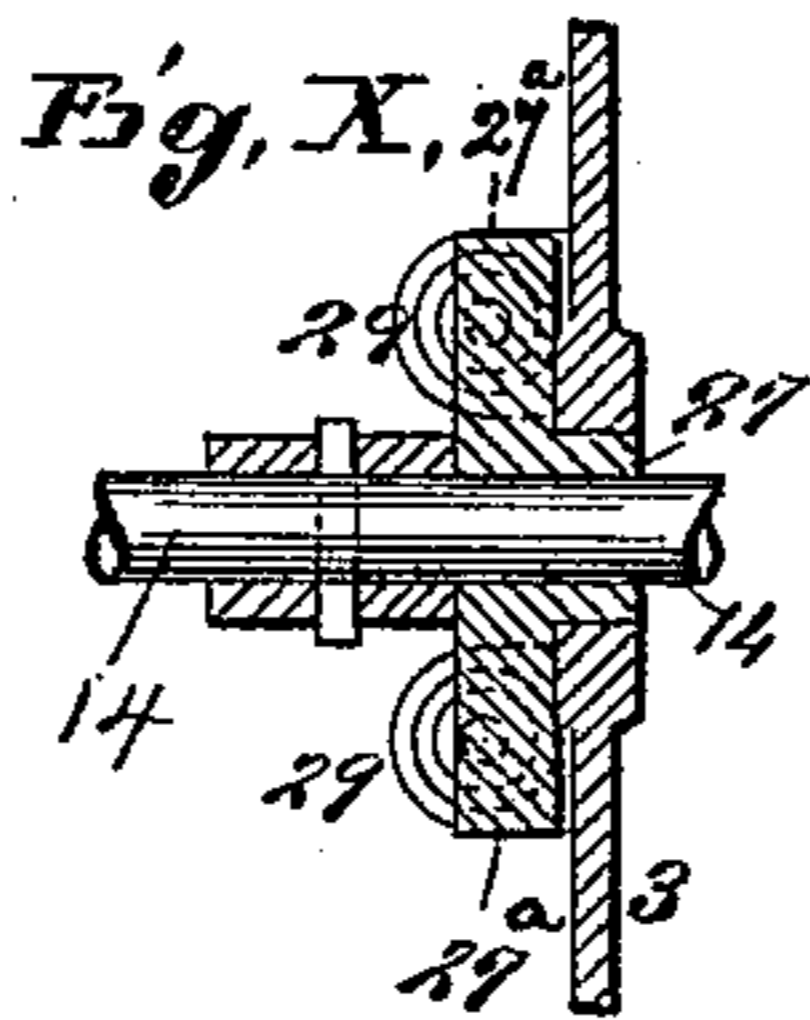
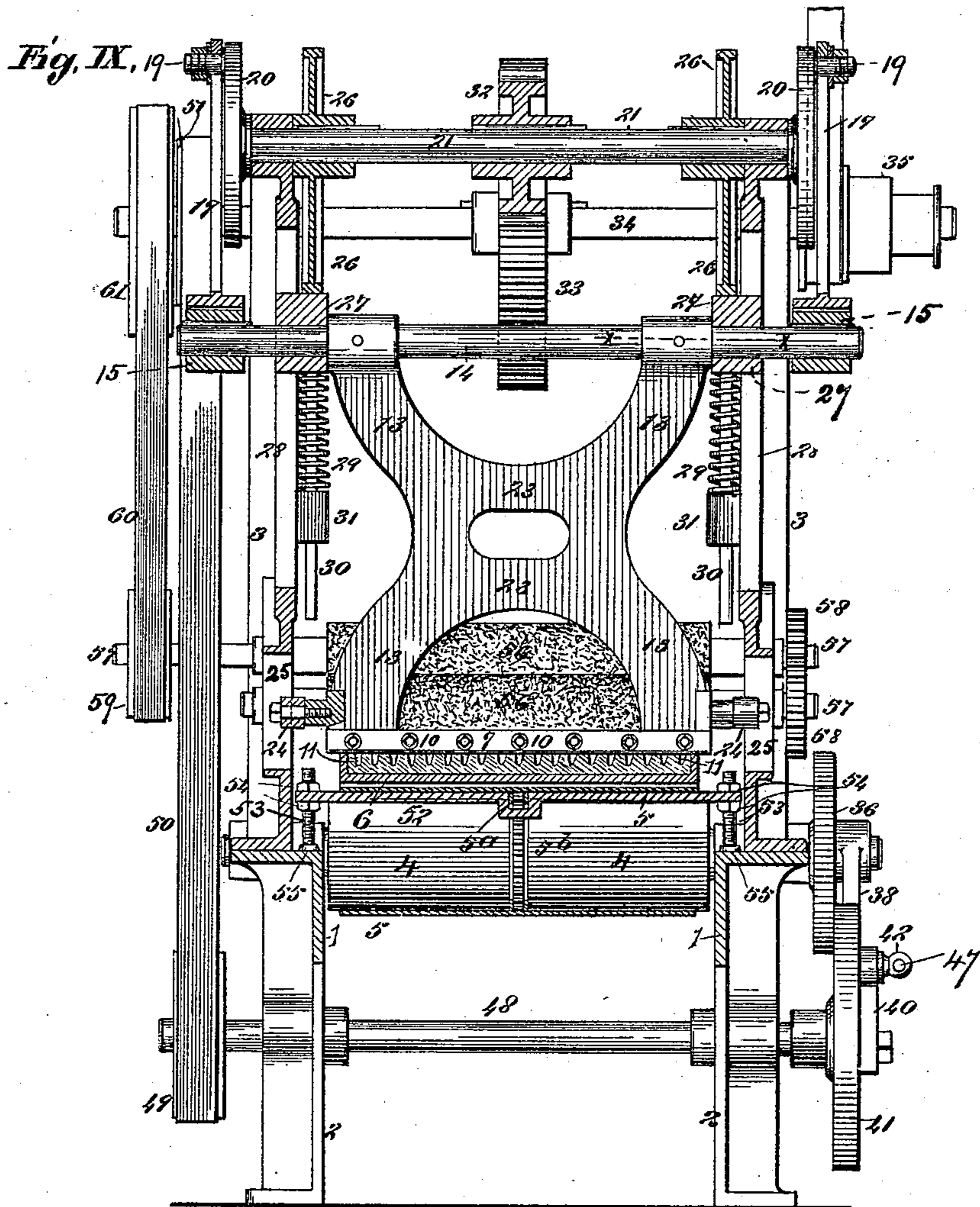
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# UNITED STATES PATENT OFFICE.

CHARLES B. OVERBAUGH, OF ST. LOUIS, MISSOURI.

## MACHINE FOR MAKING CONFECTION-MOLDS.

SPECIFICATION forming part of Letters Patent No. 428,513, dated May 20, 1890.

Application filed April 29, 1889. Serial No. 308,955. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES B. OVERBAUGH, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Machines for Making Confection-Molds, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, and in which—

Figure I is a side elevation of my improved machine. Fig. II is a like view showing the parts in different positions to that shown in Fig. I. Fig. III is an enlarged detail view showing the reverse position of the parts represented to that shown in Fig. II. Fig. IV is an enlarged section taken on line IV IV, Fig. II. Fig. V is a perspective view of the die-plate of the plunger, showing also the key for locking it in place. Fig. VI is a top view of one of the trays. Fig. VII is a section of one of the trays, showing the plastic material after it has been operated upon by the plunger. Fig. VIII is an enlarged detail section of the die-plate of the plunger. Fig. IX is a vertical transverse section of the machine; and Fig. X is an enlarged detail horizontal section taken on line X X, Fig. IX.

My invention relates to certain improvements in machines for making confection-molds; and it consists in features of novelty hereinafter fully described, and pointed out in the claims.

Referring to the drawings, 1 represents the table or bed-plate of the machine, provided with supporting-legs 2 and standards or side pieces 3. At each end of the bed-plate or table is a drum or roller 4, around which passes an endless apron or belt 5, upon which the trays 6 are placed, and by which the trays are carried beneath the plunger. As the trays reach the delivery end of the machine, (see Fig. II,) they are removed or lifted from the apron. They are placed on at the other end. In practice these trays are filled with starch or some other suitable plastic material, in which impressions may be made of the shape or design desired for the candies—as, for instance, the design shown in Fig. VII. As the trays pass beneath the plunger, it descends,

forming these depressions in the contents of the tray, and the goods being cast in the molds thus formed receive their shape.

7 represents the plunger, having a removable face or die plate 8, which is dovetailed to fit the plunger and held in place by a key 9 and set-screws 10. (See Figs. I and V.) On the lower face of the plate 8 the dies 11 for forming the impressions in the contents of the trays are secured. As shown in Fig. VIII, these dies preferably have threaded necks, which are screwed into the plate 8, so that they can be removed and substituted by others of different designs, in order that any form of impression desired may be made.

The plate 8 and also the plunger 7 are provided with perforations 12, to permit the escape of air as the plunger descends onto the plastic contents of the trays. The plunger is suspended by means of arms 13 on a rock-shaft 14, suitably supported in the side pieces 3. Each end of the shaft 14 has a head 15, to the inner end of which is pivoted at 16 an arm or extension 17, provided with a slot 18, to receive an eccentric-pin 19 on a disk 20, secured to an operating-shaft 21. The outer end of each head 15 is provided with a set-screw 22, against which its extension 17 bears. The arms 13 (there is one at each side of the machine) are preferably connected, as shown in Fig. IX, by a web 23, and each is provided with a friction-roller 24, which fits in a slot 25 in the side piece 3. It will thus be seen that as the shaft 21 is revolved or turned the plunger will be thrown from the position shown in Fig. I to the position shown in Fig. II, (to permit inspection of the tray and to be wiped,) and the parts are so disposed that this action takes place while the belt 5 is moving another tray along to be acted on by the plunger. Then when the plunger swings back into a vertical position, or back from the position shown in Fig. II to the position shown in Fig. I, the shaft 14 (from which the arms 13 are suspended) is engaged by cams 26, secured to the shaft 21, and thus the plunger is forced downward to form the impression. The cams bear against sliding boxes 27, through which the shaft 14 loosely passes, and which fit and slide in slots 28 of the side pieces 3, and are

provided with friction-rollers 27<sup>a</sup>. (See Fig. X.) The cams are best shown in Figs. II and IX and are shown in dotted lines in Fig. I. As soon as the cams leave the sliding boxes 27 the plunger is raised again by means of springs 29, surrounding rods 30, that extend outward from the boxes 27 and pass through guide-lugs 31 on the side pieces 3. The springs 29 are located between the lugs 31 and the boxes 27. The shaft 21 is turned by means of a pinion 32, engaged by a cog-wheel 33 on a main power-shaft 34, provided with a driving-pulley 35. As the pins 19 (fitting in the slots 18 of the extensions 17) move from their lower position in an upward direction the extensions turn on their hinges 16, as shown in Fig. III, and the arm 13 and the plunger will then swing back to their vertical position, and then as the pins move from their upper position in a downward direction the arms and plunger are moved again, the plunger in the meantime having been operated by the cams 26. The apron or belt 5 is moved automatically and intermittingly to bring the trays beneath the plunger by means of a ratchet-wheel 36 on one of the rollers or drums 4, this wheel being engaged by a spring pawl or dog 37, pivoted to a lever or arm 38 at 39. This arm is loosely mounted on the journals of the drum or some other suitable pivot, and to its free end is connected one end of a pitman 40. The other end of the pitman is made fast to a disk 41 by means of a clamping device secured to a groove 43 of the disk.

The manner of making the connection is illustrated in Fig. IV, the clamping device being provided with a nut 42, having circumferential groove 44 to receive the pitman, and being held to the groove of the disk by means of a screw 45, having a head 46, fitting in the groove. The outer end of the nut is provided with projections 47, by which it may be turned to tighten it on the screw and to clamp it to the disk, so as to hold it to any adjustment in the groove. By adjusting it to or from the center of the disk the throw of the arm 38 and its pawl may be regulated to give the desired amount of movement to the apron or belt. This will be plainly understood by referring to Figs. I and II without further description. To insure a positive movement of the apron, I provide it with a chain belt 5<sup>a</sup>, which is engaged by cogs 5<sup>b</sup> on one of the drums 4. The disk 41 (see Fig. IX) is mounted on a shaft 48, and this shaft is provided with a pulley 49, connected by means of a belt 50 to a pulley 51 on the main shaft 34. The disk is thus turned continuously to give the intermittent movement (through means of the ratchet-wheel 36, arm 38, spring-pawl 37, and pitman 40) to the apron.

For the purpose of providing a resistance to the pressure of the plunger I locate a plate

52 under the belt and vertically beneath the plunger. This plate I suspend on vertical rods 53, provided with nuts 54 above and beneath the plate, so that by adjusting these nuts the height of the plate may be regulated. (See Fig. IX.) The lower ends of the rods rest on the bed-plate at 55.

For the purpose of cleaning the dies after each time they are used I employ a wiper, over which the dies are brought each time the plunger moves to the position shown by dotted lines in Fig. II. This wiper is preferably composed of two rollers 56, the journals 57 of which are provided with pinions 58 at one side of the machine, these pinions meshing into each other, so that the rollers are connected so as to be turned in opposite directions. At the other side of the machine one of the journals 57 is extended, and is provided with a pulley 59, connected by means of a belt 60 to a pulley 61 on the main shaft 34. Thus the rotary movement of the wiper is provided. Each time the plunger swings into the position shown in Fig. II this wiper (the rollers are covered with some suitable material) cleans its face and removes any particles of the starch that may be adhering to the die.

By constructing a machine in this manner it is entirely automatic, so that all that is necessary to be done is to place the trays containing the plastic material on the belt or apron 5 at one end of the machine and to remove them at the other end.

I claim as my invention—

1. In combination with a tray-support, a plunger provided with a face for forming impressions in the contents of the tray and means for imparting movement to the plunger, consisting, essentially, of pivoted arms for giving to the plunger a swinging movement, sliding boxes, spring-rods, and cams for imparting to the plunger a vertical downward movement, substantially as and for the purpose set forth.

2. The combination of a suitable tray-support, a plunger provided with a suitable face for forming impressions in the contents of the tray, and means for operating the plunger, consisting, essentially, of pivoted arms provided with slotted extensions, disks eccentrically connected to the extensions, and spring-rods operated by suitable cams, substantially as and for the purpose set forth.

3. The combination of a suitable tray-support, a plunger provided with a suitable face for forming impressions in the contents of the tray, means for imparting to the plunger a vertical movement, and means for imparting to the plunger a swinging movement, said means for imparting the swinging movement consisting, essentially, of pivoted arms, slotted extensions on the arms, and disks eccentrically connected to the extensions, substantially as and for the purpose set forth.

4. The combination of a suitable tray-sup-  
port, a vibrating plunger provided with a  
suitable face for forming impressions in the  
contents of the tray and having slot and  
5 roller connection with the main frame of the  
machine, means for imparting a vertical  
movement to the plunger, and means for

imparting a swinging movement to the plun-  
ger, substantially as and for the purpose set  
forth.

CHARLES B. OVERBAUGH.

In presence of—

EDW. S. KNIGHT,  
THOS. KNIGHT.