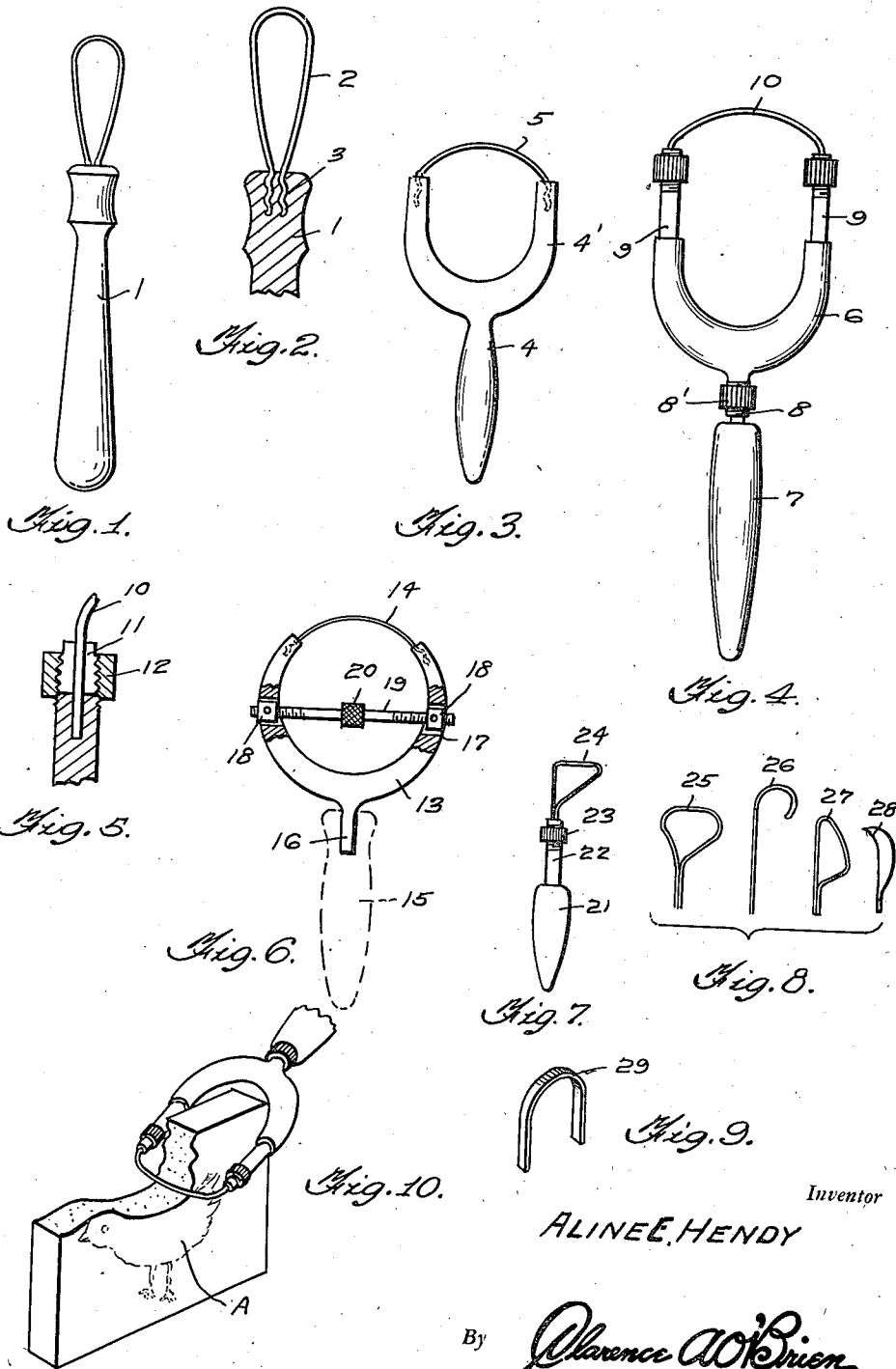


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A. E. HENDY
MODELING INSTRUMENT
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MODELING INSTRUMENT

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3 Claims. (Cl. 30-116)

This invention relates to a modeling instrument, the general object of the invention being to provide an instrument for use in making three dimension models from wax, clay, soap and other plastic material.

Another object of the invention is to so form the device that it can be readily used by children as well as adults without danger of the user cutting himself as there would be, particularly with children, if the device was made with a sharp edge.

A further object is to provide means whereby different kinds of cutting parts can be used with the same handle.

A further object is to provide a device which can be used for cutting large pieces from a block of material to easily and quickly form a design, object or the like from the block and then to use another cutting part for finishing the design, object or the like.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts to be hereinafter fully described, illustrated in the accompanying drawing and specifically pointed out in the appended claims.

In describing the invention in detail, reference will be had to the accompanying drawing wherein like characters denote like or corresponding parts throughout the several views, and in which:

Figure 1 is an elevational view of one form of the device.

Figure 2 is a detail sectional view showing how the cutting part of this device is attached to the handle part.

Figure 3 is an elevational view of another form of the device.

Figure 4 is a similar view of still another form of the device.

Figure 5 is a detail sectional view showing how the cutting member of the device shown in Figure 4 is removably held in the handle part.

Figure 6 is an elevational view with parts in section showing still another form of the device, this device shown in Figure 6 having its arms or prongs adjustable toward and away from each other to regulate the tension on the cutting member.

Figure 7 is a view of another form of the device in which the cutting member is removable.

Figure 8 shows a number of cutting members of different shapes that can be used with the handle part shown in Figure 7.

Figure 9 is a view of a cutting member formed

of a metal band which can be used with the device as shown in Figures 3, 4 and 6.

Figure 10 is a view showing how a member, such as shown in either Figures 3, 4 and 6 is used for cutting the object from a block of material to roughly secure the outline of an object or design to be formed, the smaller devices being used for finishing the design or object.

In Figures 1 and 2 the handle 1 is of elongated form and preferably formed of plastic and the cutting member 2 is in the form of a wire bent into loop shape with its ends corrugated as at 3 with these ends embedded in the inner end of the handle, the corrugations firmly securing the wire in the handle.

The handle 4 of the device shown in Figure 3 has a U-shaped part 4' the arms or prongs of which have the ends of the wire 5 secured therein in the same manner as shown in Figure 2, this wire being of bowed shape and extending outwardly from the handle as clearly shown in Figure 3.

In that form of the device shown in Figures 4 and 5 the handle part includes the U-shaped part 6 and a hand engaging part 7 which is detachably connected to the stem 8 of the part 6 such as by having the parts threaded together, a knurled enlarged part 8' being formed on the stem to facilitate turning the same in detaching the part 6 from the handle 7 or in attaching the handle to the part 6. Parallel shanks 9 extend from the ends of the U-shaped part 6 and the end portions of these shanks have bores for receiving the ends of the bowed wire 10 and the extremities of the shanks are split and threaded as shown at 11 in Figure 5, nuts 12 being threaded on such extremities to cause the split portions to firmly grip the ends of the wire to firmly hold the same in place.

In the modification shown in Figure 6, the U-shaped part 13 has each arm of substantially semi-circular shape with the wire 14 embedded in the extremities of the arm with the ends of the wire corrugated or the ends of the wire can be otherwise held in the ends of the arms such as by the chuck arrangement shown in Figure 5. The handle part 15 of the device shown in Figure 6 is detachably connected with the part 13 such as being threaded to a stem 16 of the part 13 or in any other suitable manner. Holes 17 are formed in intermediate portions of the arms of the part 13 and nuts 18 are pivoted in the holes and these nuts receive the reversely threaded parts of a screw shaft 19 which has a knurled enlarged central portion 20 so that by turning the

shaft the arms can be moved toward or away from each other, it being understood that the arms are flexible enough to permit this adjustment and this adjustment, of course, regulates the tension of the wire 14.

Figure 7 shows a handle part 21 having a shank 22 which is formed as shown in Figure 5, the nut being shown at 23 for holding a cutting member 24 removable in the extremity of the shank. Various kinds of cutting members can be used with this handle, such as the member 24 shown in Figure 4 or the members 25, 26, 27 and 28, shown in Figure 8. The members 24, 25, 26 and 27 are formed of wire and each member is formed with a shank for removably fitting in the shank 22 of the handle part 21 and the members are bent in the desired shapes and form the cutting action. The member 28 is formed of half spoon shape and while its edge is sharp enough to cut plastic materials it is not sharp enough to cut or injure the user. Thus in this arrangement a plurality of cutting members are provided which are interchangeable so that any desired member can be used with the handle 21.

Figure 9 shows a cutting member 29 formed of a strip of flat metal, such as that used in a clock spring and this member is used with the handle member having a U-shaped part, such as that shown in either Figures 3, 4 or 6.

Figure 10 shows how a member shown in either Figures 3, 4 and 6 can be used for quickly and easily cutting a block of plastic material to roughly produce a three dimensions object such as the bird shown at A which is preferably outlined on one face of the block. After the design or object is thus roughly cut from the block the outline of the object can be more finely shaped by using one of the small tools such as shown in Figures 7 and 8 and the half spoon-shaped member 28 can be used for forming recesses or the like in the object.

Thus I have produced a simple form of tool or instrument which will easily and quickly form

objects or designs in a block of plastic material and without danger of the user cutting himself and the device is well adapted for use by children.

That form of the device as made in Figures 3, 4 and 6 allows large portions of the plastic material to be cut and the portions will fall from the block so that the modeling operation can be quickly performed. Then the object or design is finally finished by the use of the smaller tool. It will also be seen that various kinds of cutting parts can be used with the handle of the smaller tool and it is not necessary to provide a plurality of handle parts.

It is thought from the foregoing description that the advantages and novel features of the invention will be readily apparent.

It is to be understood that changes may be made in the construction and in the combination and arrangement of the several parts provided that such changes fall within the scope of the appended claims.

Having described the invention, what is claimed as new is:

1. In a modeling instrument, a cutting member of loop shape, a handle, prongs extending from one end of the handle and means for clamping the ends of the cutting member to the ends of the prongs.

2. In a modeling instrument, a cutting member of loop shape, a handle, prongs extending from one end of the handle and means for clamping the ends of the cutting member to the ends of the prongs, and means for adjusting the prongs toward and away from each other.

3. In a modeling instrument, a handle, a U-shaped member, means for detachably connecting the handle to the U-shaped member, a cutting member of bowed shape and means for connecting the ends of the cutting member to the extremities of the prongs of the U-shaped member.

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