

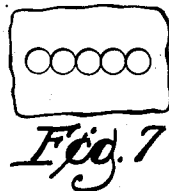
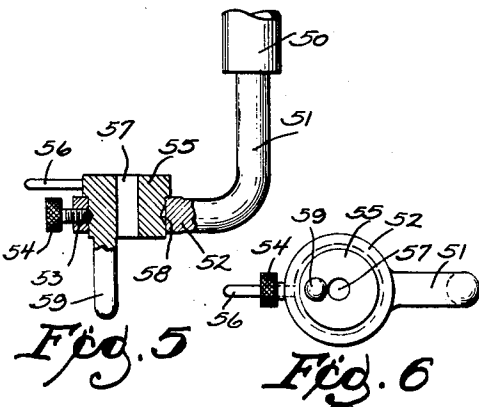
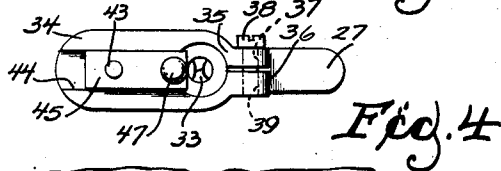
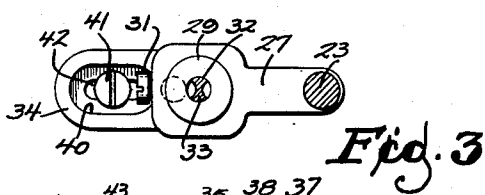
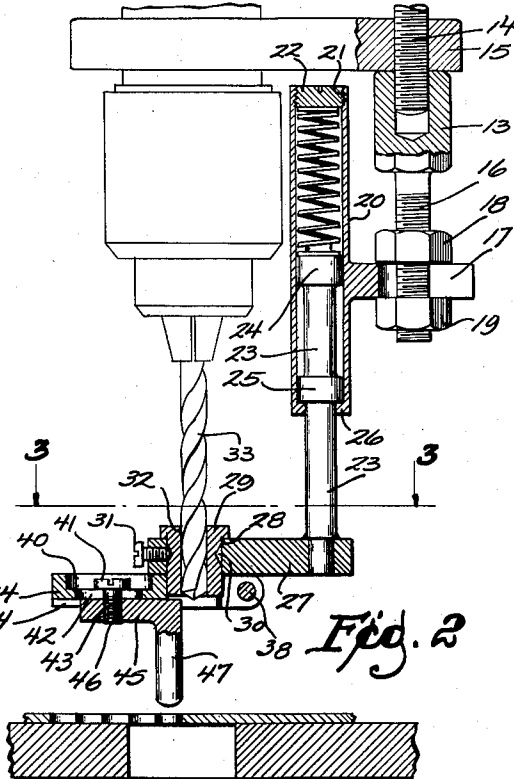
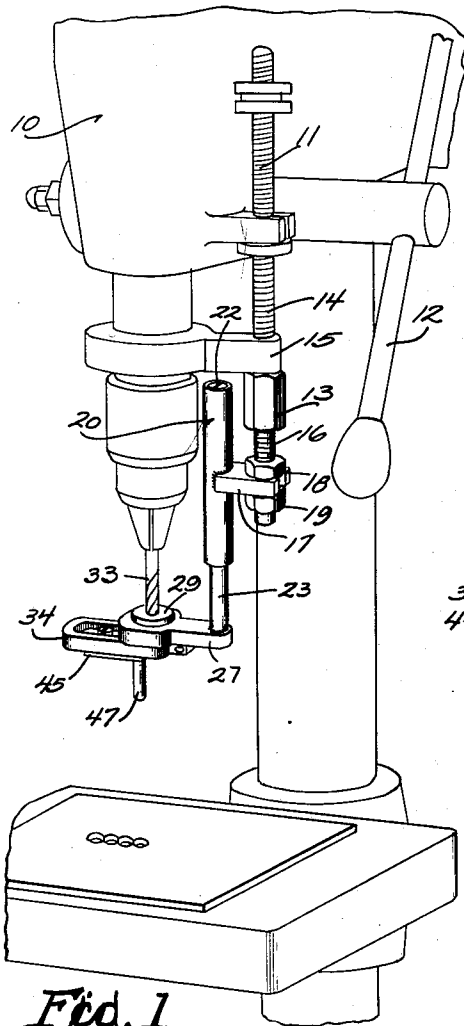
April 13, 1954

H. TIMPNER

2,674,906

HOLE SPACING ATTACHMENT FOR DRILL PRESSES

Filed Aug. 31, 1950



INVENTOR.
HENRY TIMPNER
BY
Gerald P. Welch
ATTORNEY

UNITED STATES PATENT OFFICE

2,674,906

HOLE SPACING ATTACHMENT FOR
DRILL PRESSESHenry Timpner, Milwaukee, Wis., assignor of one-
half to Robert F. Krainz, Milwaukee, Wis.

Application August 31, 1950, Serial No. 182,443

2 Claims. (Cl. 77-55)

1

This invention relates to improvements in hole spacing attachments for drilling machines, and more particularly to a novel attachment which may be coupled with a conventional drill press for relative spacing of holes to be drilled.

An object of the invention is to provide a device of the type which may quickly be attached to a drill press and which includes an adjustable device for spacing of holes to be drilled consecutively.

Another object of the invention is to provide a device of the type which will maintain equal spacing of holes as they are drilled and which may be turned to change the directional order of the holes in the work.

Other and further objects of the invention will appear as the description proceeds, reference being had to the accompanying drawing, in which:

Fig. 1 is a view in perspective of a drill press equipped with a hole spacing attachment embodying the invention.

Fig. 2 is a side view partly in elevation and partly in section of the same.

Fig. 3 is a view on line 3-3 of Fig. 2.

Fig. 4 is an inverted plan view of the attachment.

Fig. 5 is a side view partly in elevation and partly in section of a modified form of the invention.

Fig. 6 is an inverted plan view of the same.

Fig. 7 is a fragmentary plan view of a plate having bore holes in close proximity.

Fig. 8 is a fragmentary plan view of a plate showing a series of spaced holes.

Referring more particularly to the drawing, the numeral 10 represents a conventional drill press head casting having the usual depth gauge 11 and feed lever 12. The invention herein includes an elongated nut 13 which is threadingly engaged with the lower end of the depth gauge shaft 14 just beneath the spindle arm 15 and has depending therefrom the threaded portion 16. A bifurcated element 17 is held on the shaft 16 by means of the vertically adjustable nuts 18 and 19. A vertical sleeve 20 is integrally formed with the bifurcated element 17 and is threaded at its upper end at 21 to receive the spring retaining plug 22. A shaft 23 is mounted for limited vertical movement within the sleeve 20 and has a spring retaining collar at 24 thereof and a stop collar 25 spaced therefrom limited in its downward movement by the reduced portion 26 of the sleeve 20. The lower end of the shaft 23 is affixed to a horizontal arm 27 which is circularly

2

apertured at 28 to accommodate a rotatable head 29, which latter has a circular horizontal groove at 30 adapted to receive a set screw 31 disposed in said arm 27 to prevent vertical movement of the head 29. The head 29 is centrally apertured at 32 to freely pass a twist drill 33. An arm 34 has the arcuate bifurcated portions 35 and 36 embracing the lower end of the head 29 and horizontally bored as at 37 to accommodate the set screw 38. Portion 36 is horizontally bored and threaded as at 39 to cooperate with the set screw 38 in maintaining a gripping tension about the lower end of the head 29. The arm 34 is longitudinally slotted as at 40 to accommodate the set screw head 41 and has an adjoining slot at 42 to accommodate the threaded portion 43 of the set screw. The arm 34 has a third adjoining slot rectangular in cross section at 44 to accommodate the spacer arm 45 which latter is tapped at 46 to threadingly engage with the set screw 43. Integrally formed with the spacer arm 45 is a downwardly disposed spacer finger 47.

In Fig. 5 a modified form of the invention is shown, in which a spring housing sleeve 50 has depending therefrom the angular rod member 51 provided in its lower and horizontal portion with a circular socket element 52, horizontally bored and tapped at 53 to receive the set screw 54. A rotatable head 55 is mounted in the socket portion 52 and has the horizontally extending handle member 56. The head 55 is vertically bored at 57 to permit passage therethrough of a twist drill. The head 55 also has a horizontal circular groove at 58 to cooperate with the set screw 54 in preventing vertical movement of the head. A downwardly disposed finger 59 is made integral with the head 55 and is formed immediately adjacent to the bore 57.

In use, the first hole is drilled by means of the twist drill 33, after which the finger 47 is inserted in said hole. The spacer arm 45 is then adjusted for relative distance of the holes to be bored by loosening and tightening the set screw 41. The arm 34 may be turned to provide for the direction the series of holes is to take, or the work may be moved about a vertical axis to secure this result. The finger 47 is then placed in the first hole drilled and the drill 33 is lowered whereupon it will drill a hole in the proper spaced relation to the first hole. This operation is repeated by merely placing the finger 47 in consecutive holes as they are drilled.

In the modified form of the invention shown in Fig. 5 the holes will always be drilled immedi-

3

ately adjacent to each other so that if a continuous circular or rectangular pattern of holes is formed, the central portion of the work may easily be knocked out by a blow. The handle 56 may be used to determine direction of the holes or the work may be turned as desired.

It will be understood that the device is capable of many modifications in structure and design, without departing from the spirit of the invention, within the scope of the appended claims.

Having thus described the invention, what is claimed and desired to be secured by Letters Patent of the United States, is:

1. In a device of the character described including a horizontal arm having a drill guide aperture therein, a shouldered bushing held in said aperture, threaded means in said arm for fixing said bushing against rotation, a member embracing the lower end of said bushing beneath said arm extending unilaterally from said bushing and having a slot radially disposed in the lower face thereof, a block slidable in said slot, a pilot finger extending downwardly from said block, and threaded means for fixing the position of said block in said slot to set the spacing of said pilot from said bushing.

4

2. In combination with a device of the character described including a horizontal arm having a drill guide aperture therein, a shouldered bushing having a vertical bore therein and a peripheral groove thereon, a knurled head screw in said arm normally protruding into said peripheral groove to retain said bushing against vertical movement, a pilot finger projecting downwardly from said bushing, adjoining the vertical axis thereof, and a horizontal laterally extending finger on said bushing for manual rotative adjustment thereof.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
773,584	O'Brien	Nov. 1, 1904
1,831,813	Levedahl	Nov. 17, 1931
2,110,537	Tautz	Mar. 8, 1938
2,466,023	Griffin	Apr. 5, 1949

FOREIGN PATENTS

Number	Country	Date
356,942	Great Britain	Sept. 17, 1931