June 26, 1928. 1,675,277

A. B. ROE

CLUTCH FOR BINDERS

Filed June 12, 1924

Fig. 1

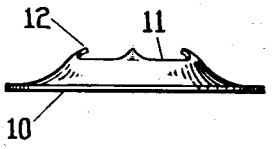


Fig. 2

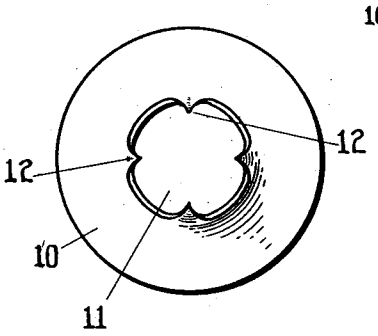


Fig. 3

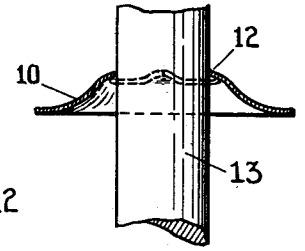


Fig. 4



Fig. 5

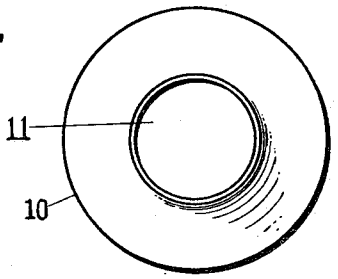
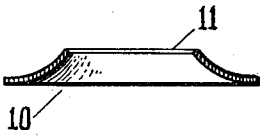


Fig. 6



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By Attorneys, Dodson & Roe

Patented June 26, 1928. 1,675,277

UNITED STATES PATENT OFFICE.

ALEXANDER B. ROE, OF ATHENS, OHIO, ASSIGNOR TO THE McBEE BINDER COMPANY, OF ATHENS, OHIO.

CLUTCH FOR BINDERS.

Application filed June 12, 1924. Serial No. 719,654.

My invention relates to the binding art, particularly to that class wherein it is desired to bind a multiplicity of sheets into a volume, and it has for its object to construct a device that may be forced down over a binding nail, or the like, and frictionally seat itself thereon firmly in such manner that pressure will tend to lock it more rigidly than to loosen it.

My invention consists of certain details of construction hereinafter set forth, pointed out in my claim and illustrated in the accompanying drawings in which;

Fig. 1 shows a side elevation view of my improved clutch;

Fig. 2 shows a plan view of the same;

Fig. 3 shows a sectional view of the clutch being seated on a binding nail (a portion of which, only, is shown);

Fig. 4 shows a side elevation view of a modified form of my clutch;

Fig. 5 shows a plan view of the modified form;

Fig. 6 shows a sectional view of the same.

Referring to the accompanying drawings, the reference numeral 10 is used to indicate the body of the clutch which is formed somewhat like an ordinary washer with a central opening 11 formed therein, the body being tapered from its outer periphery to the inner opening so as to assume the appearance of a cone, as shown. Projecting inwardly from the wall of the central opening 11 are a plurality of projections 12. Preferably the orifice is formed in an irregular manner so as to provide these projections in the stamping.

In practical operation the binding nail 13 is passed through the orifices in the sheets to be bound (not shown) and the clutch 10 is then placed over the end of the nail the apex of the cone uppermost. A clamping tool, of any desired construction, is then used to force the clutch down on the nail until it engages and compresses the sheets to be bound. The orifice, or opening 11, is of substantially the same size as the diameter of the binding nail and obviously in forcing the clutch on the nail the projections must spread to admit the nail. The tapering construction of my clutch causes it to function somewhat as a spring so that in being forced down over the nail the projections 12 bind strongly, with a clamping action, against the side of the nail and, figuratively speaking, bite into it. Any pressure exerted on the clutch, which under ordinary circumstances would cause it to loosen from its seat, only tends to cause the projections to bite the harder into the nail, or against its side. The projections themselves in being forced outwardly from their bases in being forced down over the binding nails have a spring action tension of their own which is exerted against the side of the nail and insures the clutch being more securely seated.

In my modified form I do not use the projections, but depend entirely upon the spring action tension of the clutch itself to firmly seat it upon the nail. In this form, the opening 11 is slightly smaller than the diameter of the nail and by reason of the tapering formation the clutch spreads slightly when being forced down over the nail.

I have been using both of these clutch formations for some time in the conduct of our business and they not only have proven practical in operation but are very simple and easily and quickly constructed, as they are stamped by one operation of a press.

Having thus described my invention what I regard as new and desire to secure by Letters Patent of the United States is:

A clutch for binding purposes comprising a metal disk formed with a central orifice and projections extending inwardly from the wall of the orifice to frictionally engage a binding post surrounded by said disk, and by said frictional engagement lock the disk to the post, the disk in its locked position tapering gradually from its outer periphery to the wall of the orifice.

ALEXANDER B. ROE.