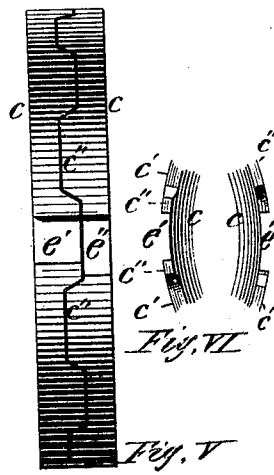
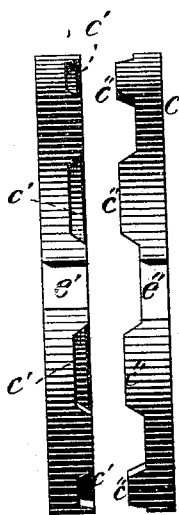
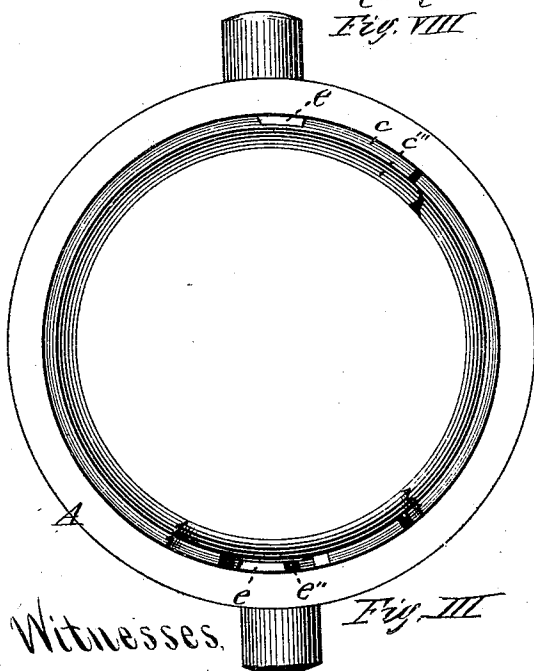
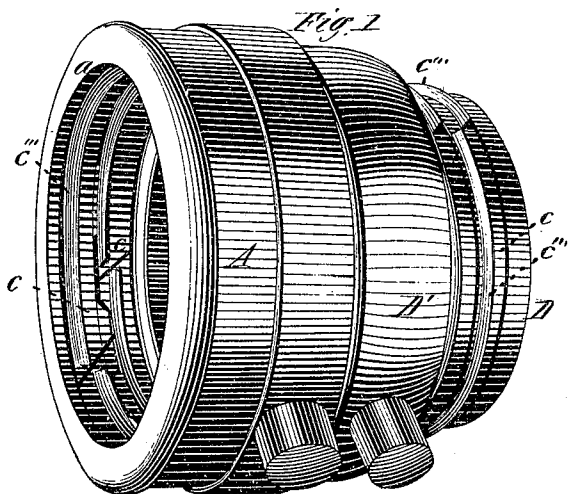
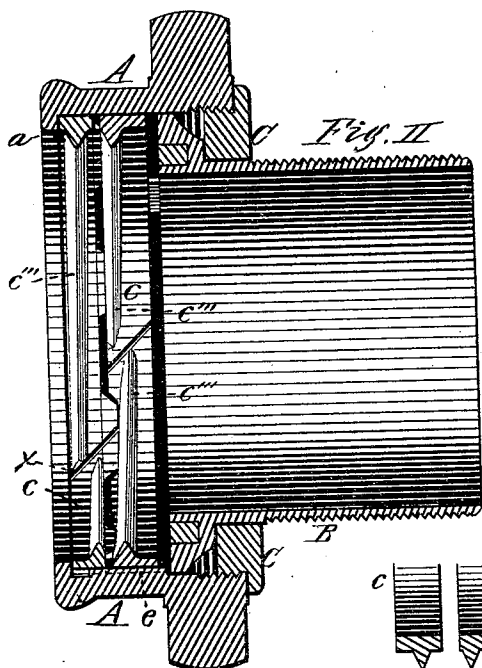


C. F. HOVEY.
SCREW-THREAD.

No. 175,562.

Patented April 4, 1876.



Witnesses.

C. F. Hovey.
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Inventor.

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UNITED STATES PATENT OFFICE.

CHARLES F. HOVEY, OF SPRINGFIELD, MASSACHUSETTS, ASSIGNOR TO
HIMSELF AND EDWARD P. FOOT.

IMPROVEMENT IN SCREW-THREADS.

Specification forming part of Letters Patent No. **175,562**, dated April 4, 1876; application filed
October 29, 1875.

To all whom it may concern:

Be it known that I, CHARLES F. HOVEY, of Springfield, in the State of Massachusetts, have invented a new and useful Adjustable Screw-Thread; and that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification and description, and to the letters of reference marked thereon.

The object of my invention is to provide an independent screw-thread, which will readily adjust itself to fit any thread, either permanent or independent, which may be connected with it; and to this end my invention consists of a series of rings—two being quite sufficient for all ordinary purposes—each having a spiral thread cast upon the exterior, or upon the interior, and extending but once around the ring, said rings being secured in any convenient manner, loosely, to the articles to be connected together, so that these threads will move nearer together or farther apart to adjust themselves to threads of different sizes with which they may be connected.

For the purpose of illustration I have shown in this application my invention as applied to a hose-coupling, made in the form of the ordinary screw-coupling, but having no permanent screw-thread cut therein; but instead thereof the thread-rings placed loosely therein, and secured by a flange on the front end, and the rings are prevented from rotating by lugs cast in the coupling, which project into slots made in the rings.

Figure I is a perspective view of a coupling-connection, showing my invention as applied at one end to a male or outside thread, and at the other end to a female or inside thread, said connection being arranged to be placed between and connected with two couplings, each having different threads to an inch. Fig. II is a central longitudinal section of one side or female portion of a hose-coupling, as commonly attached to the hose, showing my invention applied thereto. Fig. III is a rear end view of the same with the shank, and the ring which secures the shank to the coupling, removed. Fig. IV is a side view of the thread-rings, showing them separated. Fig. V is a

side view of the rings placed together. Fig. VI is an edge view of a part of the rings, showing the slots into which the lugs project to hold the rings in place. Fig. VII is an edge view of a part of the rings, showing the beveled projections and recesses; and Fig. VIII is a section of two rings having a male or outside thread.

In the drawings, A represents the female part of a hose-coupling, of the same general form of the ordinary screw-coupling; but instead of a screw-thread being cut therein in the usual manner, the outer or front end is provided with a flange, *a*, projecting inward; and behind this flange the inner surface is made plane, or of a general smooth character, with the exception of one or more lugs, *e*, cast thereon. The rings *c*, of which there are two, are plane upon their peripheries, and made to fit loosely the inside of the part A, and the *e* rings are each provided with a slot, the one nearest the flange *a* with a slot, *e''*, somewhat wider than the lug *e*, cast inside the coupling, so that the ring may have a slight rotary play, the other ring having a similar slot, *e'*, but of such width as just to slide over the lug *e* when the ring is placed in position, and to prevent any rotary play. One of the rings is also provided with any desired number of projections, *e''*, which may be beveled at each end, and the other ring is provided with the same number of correspondingly-shaped recesses *e'*, as shown clearly in Figs. IV and V. Upon the inside of each ring *c* is cast an ordinary spiral thread, *e'''*, as shown clearly in the section in Fig. II, this thread only extending once around the ring. These rings being placed inside the piece A, and against the flange *a*, the ordinary shank B, having the usual packing *b*, is inserted into the piece A, its inner end abutting against the end of the lug *e*, and is secured therein by the usual ring C turned into the threaded end of the piece A.

When thus arranged there is sufficient space between the inner end of the shank B and the flange *a* to permit the two rings *c* to be moved apart a very little, but not so far apart as to move the projections *e''* entirely out of their recesses in the other ring.

One difficulty which is overcome by my in-

vention is this: It often occurs that different cities, towns, or engine-companies use hose all having the ordinary screw-coupling, but having threads of different sizes, or of different numbers to the inch; for example, one town or fire-department may have couplings having six threads to an inch, another may have those of seven threads to an inch, and still another eight threads to an inch. Of course, if these are brought together, either at a fire or for experimental purposes, one will not fit the other. A connecting-coupling may be used, but, as these have permanent threads, confusion arises from trying connections having the wrong number of threads to an inch; but if lengths of hose be supplied at one end with the device shown in Fig. II all this trouble is obviated, because another length of hose having a male part of the coupling with six threads to an inch may be screwed into the part A, as well as one having seven or eight or even more threads to an inch, the rings *c* readily adjusting themselves to the permanent thread, the operation being as follows: If a male coupling having, say, eight threads to an inch be turned into the rings *c*, the threads of the latter adjust themselves readily to the permanent threads of the male coupling, which are somewhat close, and the rings are drawn closely together, as shown in Fig. V; but if the male threads are coarser or more open—say, of six or seven threads to an inch—the rings *c* are forced a very little distance apart, and the ring, having the wide slot *e'*, will rotate a very little until the threads of the rings are adjusted to the threads turned into them, when the ends of the projections *e''* will impinge against the ends of the corresponding recesses *e'* in the other ring, and both threads of the rings *c* will thus have a bearing against the threads turned into them. The coarser or more open the male thread, the farther apart will the rings be forced, until the inner ring abuts against the inner end of the shank B; and when the male thread of a coup-

ling is turned into the threaded rings in this manner, it may be turned firmly up against the packing *b* and form a water-tight joint.

Fig. I shows a hose-coupling connection which is designed to be placed between the male and female parts of couplings having different threads to an inch, in which the shank D is supplied with exterior rings having an outside thread, *e''*, extending around once in a spiral manner, precisely like the inside rings *c*, so that female threads of different sizes may be turned thereon in precisely the same manner as just above described, the outside rings being partially shown in section, with the threads, in Fig. VIII.

The rings *c* may be cut between the ends of the threads at *x*, if desired, but it is not found in practice that any advantage is gained thereby, as the rings are perfectly operative when made solid and uncut.

It is evident that these rings *c*, provided with an exterior or an interior screw-thread, as may be deemed most desirable, may be arranged upon the coupling part of ordinary hydrants, so that a hose-coupling of any number of threads to an inch may be quickly connected thereto. It is also evident that this adjustable screw-thread may be attached to many other articles with equal advantage, and without departing in the least from the principle of construction or application to use.

Having thus described my invention, what I claim as new is—

An independent adjustable screw thread, made separate from the article to which it is to be applied, and in which the threads are arranged to be moved either nearer together or farther apart, to adjust themselves to threads of different sizes or numbers with which they may be connected, substantially as described.

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Witnesses:

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