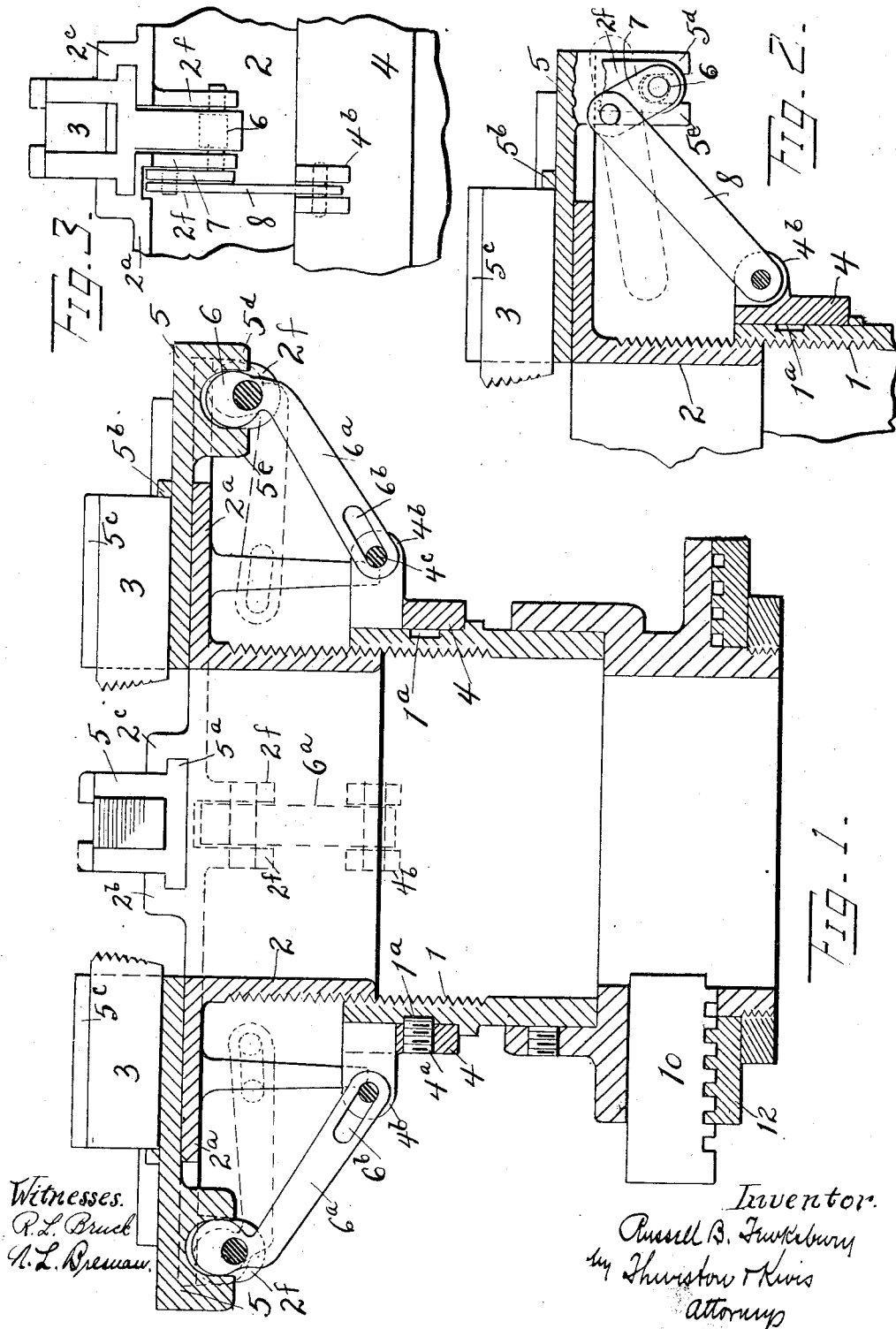


R. B. TEWKSBURY.
DIE STOCK.

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1,049,007.

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UNITED STATES PATENT OFFICE.

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DIE-STOCK.

1,049,007.

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To all whom it may concern:

Be it known that I, RUSSELL B. TEWKSBURY, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Die-Stocks, of which the following is a full, clear, and exact description.

This invention is an improvement in receding die stocks, and the novel features of the invention are to be found in the means substantially as shown for causing or regulating, or both, such a receding movement of the dies as will cause them to cut a tapered thread on a piece of pipe or other cylindrical work.

In the drawing, Figure 1 is a central longitudinal sectional view of a die stock embodying the invention in its preferred form. Fig. 2 is a sectional view of a modified form of the mechanism for causing and controlling the receding movement of the dies; and Fig. 3 is a view of the mechanism shown in Fig. 2 as it appears from the right side of the Fig. 2.

The work holder 1 which is of familiar construction, being a built-up member of tubular form so that the pipe or other cylindrical piece of work to be threaded may be passed through it. It is provided with means, as, for example, radially movable clamping pins 10 and a rotatable cam plate 12 for operating them, by which said work holder may be clamped upon the work to be threaded.

The die holder 2 is likewise tubular; and it is capable of moving rotatably and longitudinally relative to the work holder. In the construction shown the die carrier has its rear end externally threaded so that it may be screwed into the internally threaded work holder; wherefore as the die carrier is turned relative to the work holder it will move longitudinally relative thereto at such rate as will be determined by the pitch of the engaging screw threads.

At the front end of the die carrier is an outwardly extended flange 2^a which is provided with a plurality of pairs of forwardly projecting ribs 2^b, 2^c, between which are radial guideways for the dies or chasers 3. Each of these dies in the construction shown is secured immovably in a die case 5 which slides against the front face of the flange 2^a, and has laterally projecting ribs 5^a which

enter grooves in the approximate faces of the two ribs 2^b, 2^c. Each die abuts at its outer end against a shoulder 5^b on the die case and it is held in the case by the overhanging gibs 5^c.

4 represents a ring which is rotatably mounted on the work holder, and is held against longitudinal movement thereon. In the specific construction shown there is an annular groove 1^a in the work holder, and into this project pins 4^a which screw through the ring 4.

Associated with each die case are ears 2^f which project rearwardly from the flange 2^a of the die carrier. A cam 6 is associated with each die case, and lies between and is pivoted to the associated ears 2^f. On each die case 5 are two rearwardly projecting fingers 5^d and 5^e; and the associated cam 6 lies between and engages with both of these fingers. It is evident that by turning this cam the associated die case 5 will be compelled to move radially inward or outward depending upon the direction in which the cam turns. If the outthrust of the dies, when the device is at work, is sufficient to cause the die cases to move outward, then, by the engagement of the finger 5^d with the associated cam, this outward movement will be controlled.

In the construction shown in Fig. 1 there is an arm 6^a rigidly fixed to each cam, and this arm extends at an inclination inward toward the axis of the tool, passing between a pair of ears 4^b on the ring 4. In this arm is a slot 6^b through which passes a pin 4^c fixed to the ears.

It is evident that as the die carrier is screwed into the work holder, and the pin 4^c is thereby brought nearer to the flange 2^a, the arm 6^a will be rocked, and in that direction which will cause such a movement of the cam as must be accompanied by a receding movement of the associated die case and the die therein.

In the construction shown in Figs. 2 and 3 an arm 7 is fixed to each cam; and a link 8 is pivotally connected at one end to each arm and at the other end to the ring 4 between ears 4^b. In this construction the advance of the die carrier into the work holder will cause the cams to turn in the direction which must be accompanied by a receding movement of the die cases and dies carried thereby.

Having described my invention, I claim:—

1. In a die stock, the combination of a tubular work holder, a tubular die carrier which is movable radially and longitudinally with respect to the work holder, a ring which is rotatably mounted upon the work holder but is held against longitudinal movement thereon, dies radially movable upon the die carrier, cams pivoted to the die carrier—one for each die, a shoulder rigidly fixed to each die and engaging the associated cam, and means connecting each cam and said ring whereby the cams will be rocked as the die carrier is moved endwise into the work holder.

2. In a die stock, the combination of a tubular work holder, a tubular die carrier which is movable radially and longitudi-

nally with respect to the work holder, a ring which is rotatably mounted upon the work holder but is held against longitudinal movement thereon, dies radially movable upon the die carrier, two separated fingers rigidly connected with and extending rearward from each die, a cam associated with each die and located between said fingers and pivoted to the die carrier, and an arm associated with each of said cams and connected thereto and to said ring.

In testimony whereof, I hereunto affix my signature in the presence of two witnesses.

RUSSELL B. TEWKSBURY.

Witnesses:

E. L. THURSTON,
A. J. HUDSON.