

A. O. Norton, Boston, Mass., U. S. A., and Costicook, P. Q., Canada.

## THE NORTON BALL-BEARING RATCHET AND SCREW JACKS.



THE NORTON BALL-BEARING RATCHET SCREW JACKS are constructed on an entirely different principle from any other jacks in the world; as will be seen by the cuts, they have a stationary standard and sliding sleeve fitting over the same. The standard has a removable nut (usually Phosphor Bronze) fitted within it and resting on a shoulder, in which the screw turns, (the standards are *hollow*, and can be *filled* with *oil*, thus keeping the screw constantly lubricated.) To the upper end of the screw is fastened a steel gear; a hardened tool steel plate encircles the *hub*, and rests on the body of said gear, on which are placed circular trains of hardened steel balls, held in place by rings between the rows (as shown in cut.) In the top or head of the sliding sleeve (which is bored to fit standard) is placed another hardened tool steel plate with a hole in the centre through which the end of the screw projects. . . . .



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