S. KING.

APPARATUS FOR DRESSING OR TRUING GRINDSTONES.

APPLICATION FILED JUNE 25, 1909.

957,689.

Patented May 10, 1910.

2 SHEETS—SHEET 1.

Fig:1

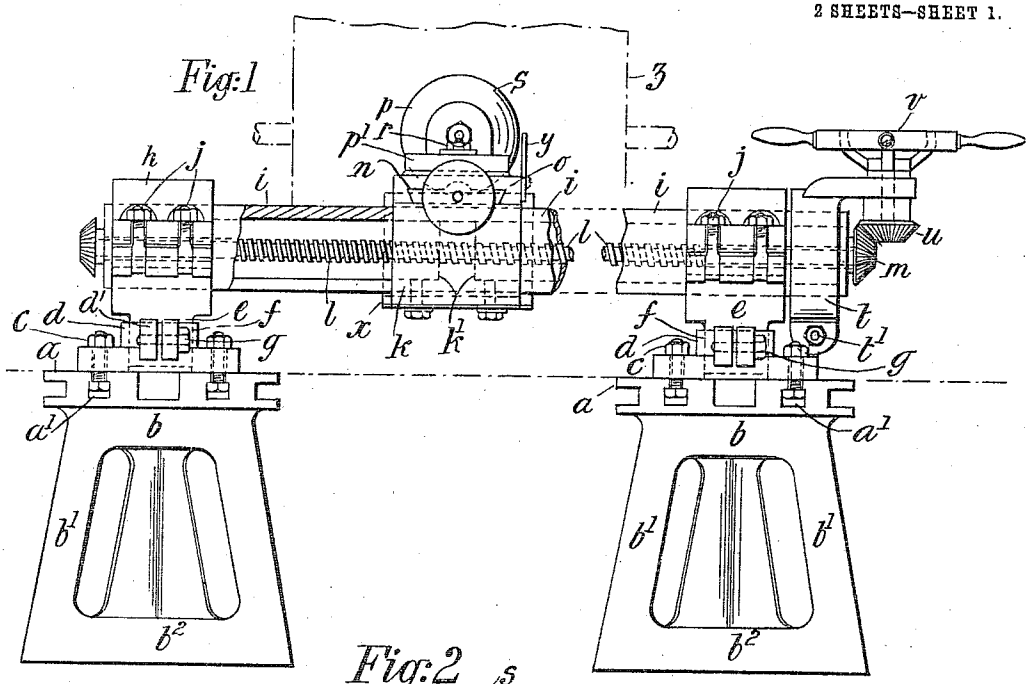


Fig:2

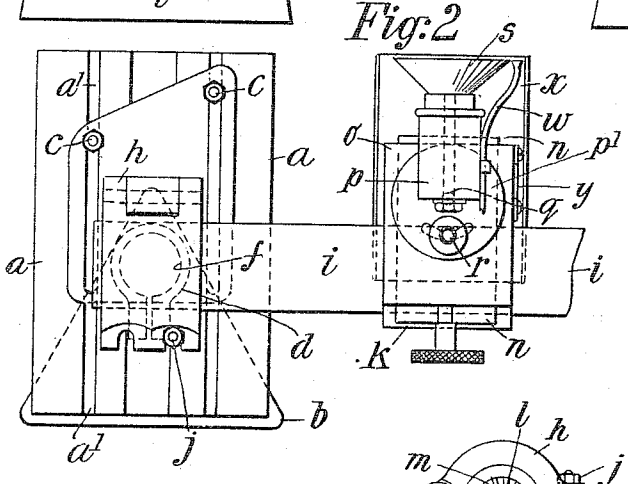


Fig:4

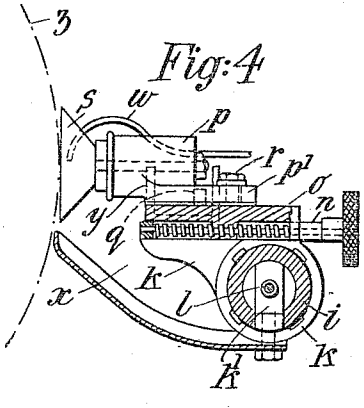
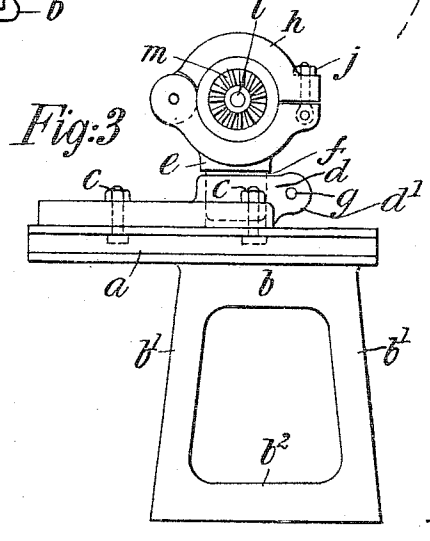


Fig:3



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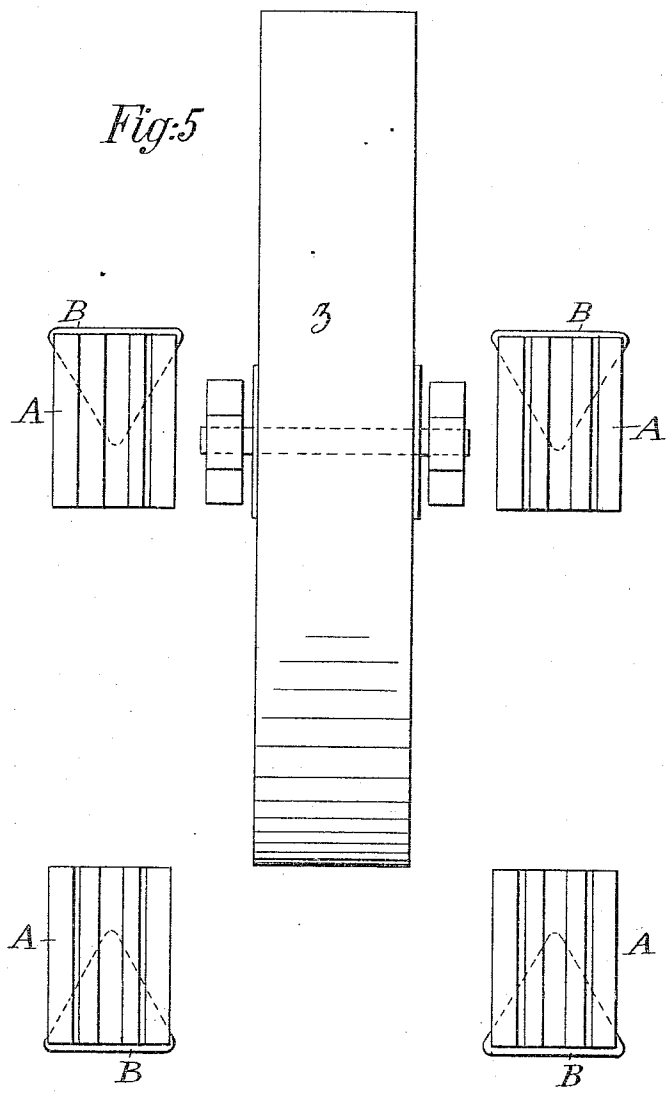
2 SHEETS—SHEET 2.

Fig:5



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UNITED STATES PATENT OFFICE.

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APPARATUS FOR DRESSING OR TRUING GRINDSTONES.

957,689. Specification of Letters Patent. Patented May 10, 1910.

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To all whom it may concern:

Be it known that I, SAMUEL KING, a subject of the King of Great Britain, residing at London, England, have invented new and useful Improvements in Apparatus for Dressing or Truing Grindstones, of which the following is a specification.

The invention is applicable more especially to large grindstones mounted in bearings fixed to sills or framework on the ground level or thereabout. In this class of grindstone the bearings of the spindles are located at a comparatively short distance above the ground level so that a portion of the diameter of the stone is running in a pit.

The object of the present invention is to provide means for dressing or truing the face and sides of this class of grindstone which may be effected over the face and side surfaces as far as the side cheeks or plates.

By this invention a large amount of time is saved as compared with hand truing and the clouds of sand particles which arise when truing by hand are to a very large extent obviated.

A dressing or truing apparatus for operating with complete stability on large grindstones mounted as above referred to, has been difficult to obtain in consequence of the grindstone being without a trough to which such apparatus could be fixed.

I will describe my invention by the aid of the accompanying drawings, in which—

Figure 1 is an elevation of my improved grindstone dressing or truing apparatus, Fig. 2, a plan of part thereof, Fig. 3, a left hand end view of Fig. 1, and Fig. 4, a vertical cross sectional view of parts showing the cutter adjusting and traversing mechanism. Fig. 5 is a diagrammatic plan of the whole apparatus.

According to my invention I employ two base or face plates *a* of known character, each of which is, according to the present invention, rigidly connected to or cast in one with a carrier *b*, preferably in the form of a tripod, the legs *b'* of which widen out at the bottom and are rigidly connected together by cross rails b^2. Such carriers or tripods *b* are, according to the present invention, sunk in the ground, the level of which is shown by the horizontal broken line in Fig. 1, and embedded in concrete or cement and are located so as to allow the dressing or truing apparatus to act on either side of the stone or across its face, according as it is mounted on one or the other carrier or tripod *b*, or on both.

The base or face plates *a* are each provided, as heretofore, with slots *a'*, and to each of these base or face plates *a*, I, according to my invention, connect, by suitable bolts *c*, a vertical hollow cylindrical split socket *d* within which is mounted a bracket *e*, which latter is formed with a solid cylindrical neck *f*, mounted in the vertical socket *d* and capable of being fixed in and released from said socket by a screw *g* in the lugs *d'* acting to tighten or loosen the split socket *d* around the neck *f*. Each bracket *e*, according to my invention, has also a split collar *h* for receiving and supporting the known long horizontal hollow cylindrical slide *i*. Each of the split collars *h* is provided with screws *j* to enable it to be tightened and loosened around the horizontal hollow slide *i*. By these means the slide *i* can be readily removed from its supports and turned to and fixed in the required direction for truing the face or side of the grindstone.

On the horizontal hollow slide *i* is mounted, as heretofore, a collar or slide *k* which has connected thereto a nut *k'* which is acted upon by a screw *l* in the interior of the horizontal hollow slide *i*, which screw has, according to my invention, a bevel wheel *m* attached to each end thereof.

The collar or slide *k* has a cross slide bed *n* cast thereon, and on this cross slide bed is mounted a cross slide *o* which is capable of being moved either forward or backward as may be required for adjusting to required depth of cut. On this cross slide *o* is mounted a carrier *p* which is provided with a slotted base plate or quadrant *p'* capable of being moved around a pin *q* and of being fixed at any desired angle by a bolt or screw *r*. This carrier *p* is provided with a bearing within which is mounted the spindle of an ordinary dressing or truing cutter *s* rotated by contact with the grindstone.

A block *t*, having a split sleeve by which it can be mounted and fixed by means of a bolt or screw *t'* on either end of the horizontal hollow slide *i*, is provided with a bevel wheel *u* which is capable of being placed in gear with the bevel wheel *m* on either end of the screw *l*, and the spindle of the bevel wheel *u* on the block *t* is provided with a hand wheel *v* by which it can be rotated when it is required to traverse the cutter *s* across the face or along the sides of the

grindstone. By the above construction the said hand wheel can also be placed at any convenient angle for rotating the same.

w is a pipe for delivering a jet of water near to point of action of the cutter *s* but not onto the stone, to assist in depositing the dust, and *x* is a tray or trough for carrying away the water.

y is the usual sight.

The broken lines *z* represent the grindstone being trued. It is mounted in suitable bearings and is rotated at the usual speed for grinding.

When the apparatus is used for truing the face of the grindstone, the hollow slide *i* is arranged across the face of the grindstone as shown in the drawings, in which position it is supported on the face plates *a* of the two carriers or tripods *b*. When, however, it is desired to true the sides of the grindstone, the hollow slide *i* is arranged at right angles to the position shown at Figs. 1, 2, 3, that is to say, is placed parallel with the sides of the grindstone as shown in Fig. 5. In this latter position one end of said hollow slide *i* is supported by the face plate *a* on one of the carriers or tripods *b*, while the other end is supported on a removable face plate A similar to the face plate *a* which is placed on one or other of a pair of suitable foundations or supports B placed one at each side of the grindstone. The cutter *s* is arranged at suitable angles to act on either side of the grindstone as may be required.

What I claim is:—

1. In apparatus for dressing and truing grindstones, the combination of a single horizontal slide, a single cutter longitudinally movable on said slide, brackets adapted to support the said horizontal slide in a position parallel with either side or across one end of the grindstone, a base plate carrying each of said brackets, means whereby such brackets can be readily and removably mounted on said base plates, and supports to each of which one of said base plates is fixed.

2. In apparatus for dressing and truing grindstones, the combination of a single horizontal slide, a single cutter longitudinally movable on said slide, brackets adapted to support the said horizontal slide in a position parallel with either side or across one end of the grindstones, means whereby said horizontal slide can be readily freed from either bracket when it is desired to change its position with relation to the stone, a base plate carrying each of said brackets, means whereby such brackets can be readily and removably mounted on said base plates, and supports to each of which one of said base plates is fixed.

3. In apparatus for dressing and truing grindstones, the combination of a horizontal cylindrical slide, a cutter mounted on said slide, carriers for each end of the slide, a base plate for each carrier, a vertical split socket carried by each base plate, a bracket having a cylindrical neck removably mounted in each of said split sockets, means for clamping said sockets around the necks of said brackets, a divided hinged bearing on each of said brackets to secure the horizontal cylindrical slide therein, and means for moving the cutter along the slide.

4. In apparatus for dressing and truing grindstones, the combination of a horizontal cylindrical slide, a cutter mounted on said slide, carriers for each end of the slide, a base plate for each carrier, a vertical split socket carried by each base plate, a bracket having a cylindrical neck movably mounted in each of said split sockets, means for clamping said sockets around the necks of said brackets, a divided hinged bearing on each of said brackets to secure the horizontal cylindrical slide therein, means for moving the cutter along the slide, a block removably fixed to either end of the horizontal cylindrical slide, a bevel wheel carried by said block a screw in the interior of the horizontal cylindrical slide, a bevel wheel at both ends of the screw, either of which can be arranged to gear with the first mentioned bevel wheel, and means carried by said block by which the bevel wheels and consequently the screw can be rotated to traverse the cutter.

In witness whereof I have hereunto set my hand in presence of two witnesses.

SAMUEL KING.

Witnesses:

H. D. JAMESON,

WM. GIRLING.