

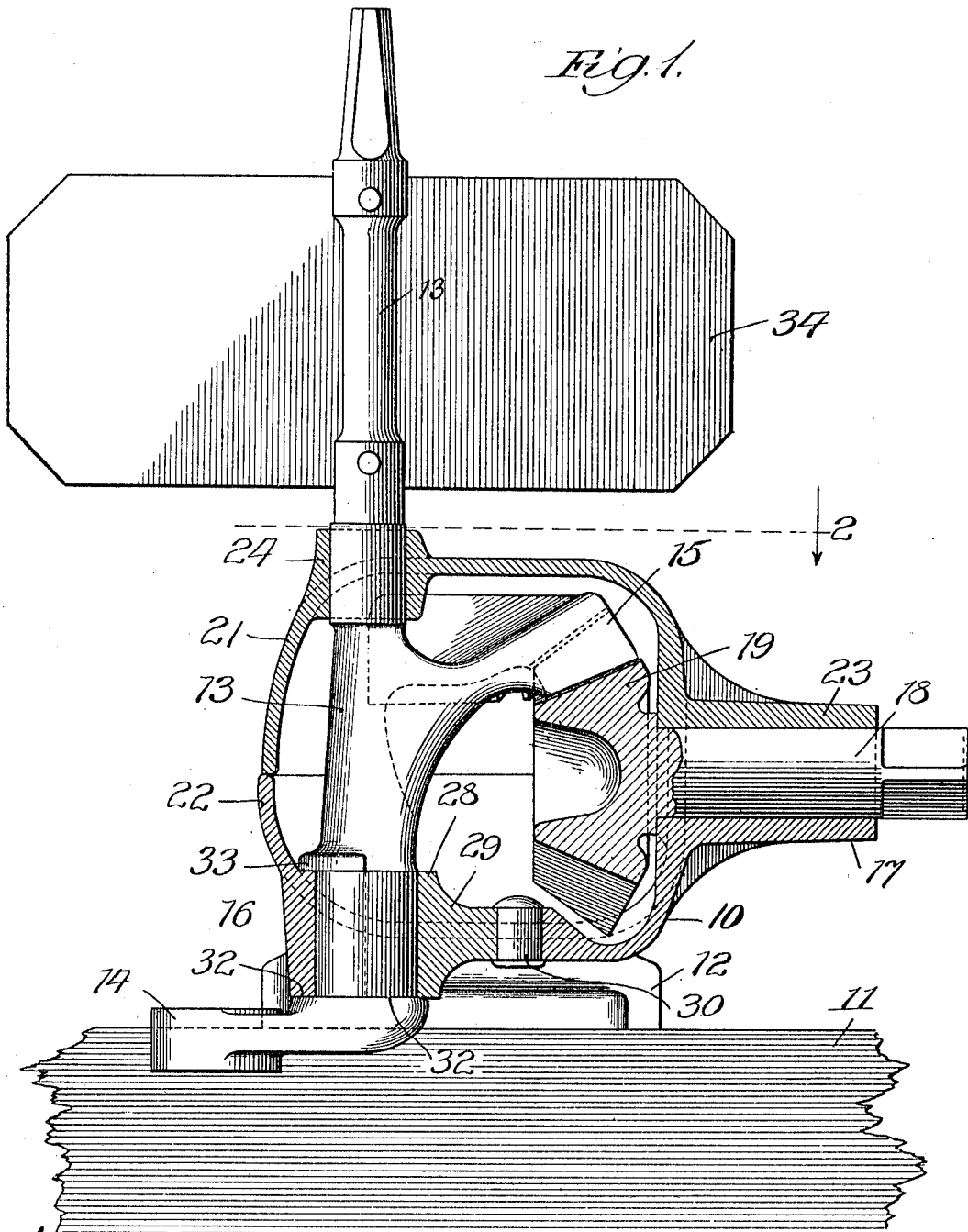
E. N. STROM.
SWITCH STAND.

APPLICATION FILED MAR. 18, 1910.

Patented May 3, 1910.

2 SHEETS—SHEET 1.

956,834.



Witnesses:
John Enders
G. F. Chase

Inventor:
Eugene N. Strom,
By *Dyrenforth, L., C. Britton & Wills,*
Attys.

E. N. STROM.

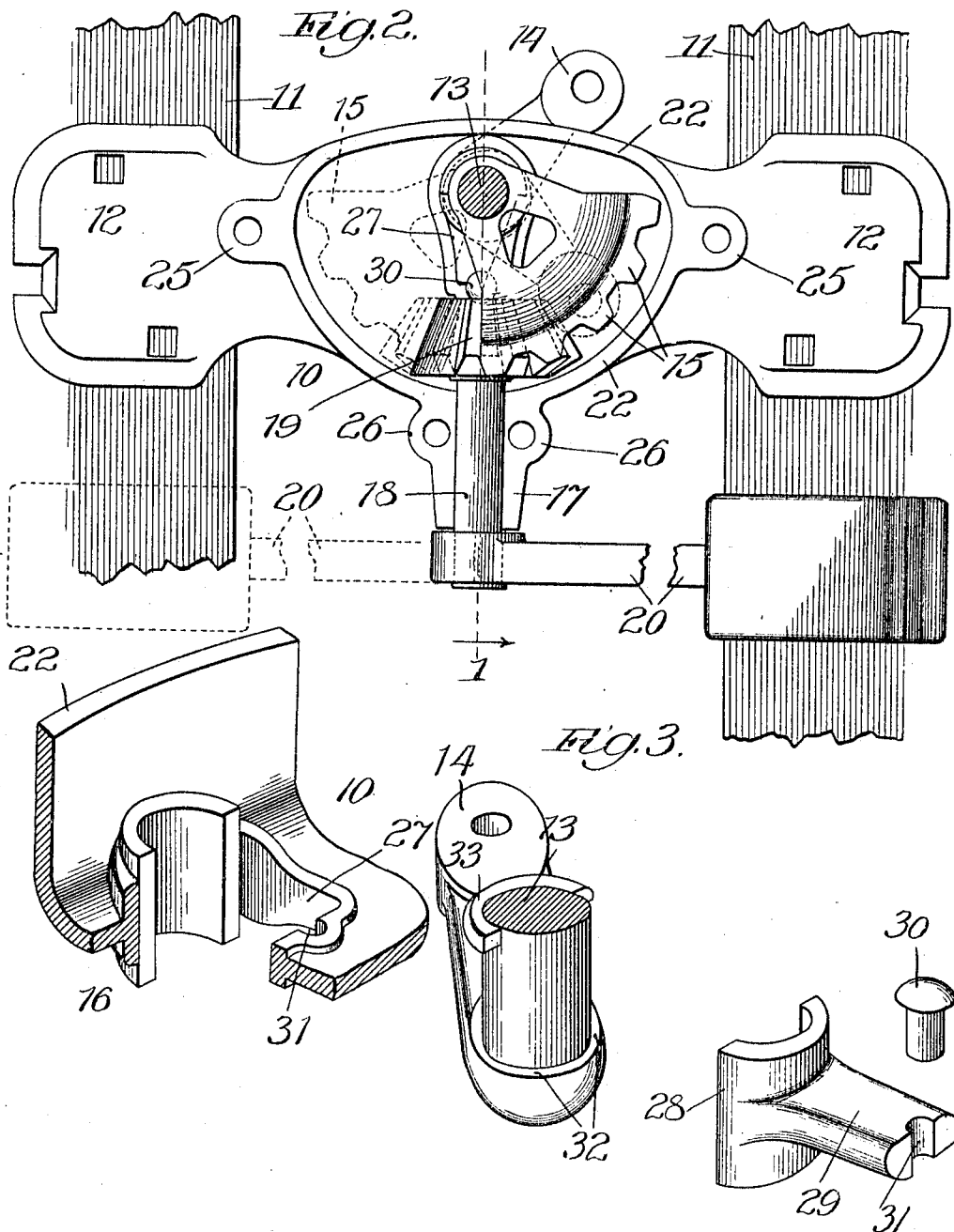
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Inventor:
 Eugene N. Strom,
 By *Byrden Smith, Lee, Christman & Wiles,*
 Attorneys.

UNITED STATES PATENT OFFICE.

EUGENE N. STROM, OF CHICAGO, ILLINOIS, ASSIGNOR TO PETTIBONE, MULLIKEN & COMPANY, A CORPORATION OF ILLINOIS.

SWITCH-STAND.

956,834.

Specification of Letters Patent.

Patented May 3, 1910.

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To all whom it may concern:

Be it known that I, EUGENE N. STROM, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Switch-Stands, of which the following is a specification.

My invention relates to an improvement in switch-stands and more especially to the type known as "yard-stands", involving a base having bearings respectively for a target-rod and a lever-operated stub-shaft, the rod and shaft being equipped with intermeshing gears, or segments, and the base having lateral wings for the attachment of the stand to the head-blocks. It is particularly desirable in a switch-stand of this type, to form the target-rod, crank and segmental gear as one integral whole, to assure greater strength and rigidity to the parts and for economy of manufacture. At the present time, however, the only known way of assembling such a member in a stand is by forming the base thereof of flanged sections and bolting the sections together at the meeting flanges. This construction is objectionable in that it adds to the weight of the stand, renders the cost of manufacture unduly large and produces a weak structure.

My invention contemplates a novel and improved construction of stand by which the desirable feature mentioned is incorporated therein, and the objections noted are overcome, and it is illustrated in its preferred form in the accompanying drawings, in which—

Figure 1 is a view in sectional elevation of a "yard-stand" embodying my improvement, the section being taken at line 1, Fig. 2; Fig. 2 is a broken plan sectional view at line 2, Fig. 1, with the casing-hood removed, and Fig. 3 is a perspective view showing in non-assembled condition a broken portion of the base, a broken portion of the target-rod with the crank extending from it, a journal-cap and a rivet used as the fastening medium for securing the parts together.

The base 10 formed entirely in one piece, spans the head-blocks 11 as shown in Fig. 2 and is spiked thereto at the wings 12. The target-rod 13 with which are integrally formed a crank-arm 14 and a segmental beveled-gear 15 is afforded a bearing in the base at 16, while a bearing 17 is provided thereon for a horizontally-disposed stub-

shaft 18. This shaft carries a beveled pinion 19 meshing with the segment 15, and to the outer squared end of the shaft is secured a weighted operating-lever 20 turning of which, from the position shown in full lines (Fig. 2) to that represented by dotted lines, or vice versa, swings the crank-arm in the usual way to throw the switch to either an open or closed position. A hood 21 forms, together with the flanged-portion 22 of the base, an inclosing casing for the intermeshing segments, as shown in Fig. 1. A journal-cap 23 extends from the hood to engage a bearing 17, and the target-rod 13 is afforded a bearing in its crown-portion in a boss 24. The hood and base are bolted together at the ears 25 adjacent to the wings 12, and at the ears 26 of the bearing 17, Fig. 2.

A flanged opening 27 is provided through the base-member 10 at one side of the bearing 16 of sufficient size to admit through it the crank and thereby facilitate introducing the target-rod into place in assembling the parts. This bearing is semi-cylindrical in form, as shown in Fig. 3, and a journal-cap of similar form is provided to cooperate therewith to complete the bearing and rotatably confine the rod therein. The cap has an arm 29 extending from it to abut at its end, when in place, against the flange of the opening 27, and it is rigidly secured in position by a rivet 30 which passes through a rivet-hole 31 formed by a recess in the flange and a registering recess in the abutting end of the arm. The target-rod is held against lengthwise movement in its bearings by a shoulder 32 on the rod below the bearing 16, formed by the crank-arm 14, and by a mutilated collar 33 above the bearing, preferably integral with the rod and extending throughout one-half its circumference.

In assembling the parts of the stand, the shaft 18 is first positioned in its bearing, after which the target-rod is turned at an angle to permit the crank to be passed through the opening 27. The rod is then entered in its bearing to assume its upright position, with the shoulder 32 and collar 33 at opposite sides thereof, and with the segmental gear 15 in mesh with the pinion 19. Upon rotation of the rod to bring the mutilated collar to the position shown in Fig. 1, the journal-cap 28 is slipped past the collar 33 and slid along the rod to seat upon the shoulder 32, after which the rivet is in-

serted in the hole 31 and its end upset to secure the parts together. The hood 21 is then slipped over the target-rod and bolted to the base 10 when a target 34 may be fastened to the rod as shown in Fig. 1.

While I have described the target-rod, crank and segmental-gear as being formed in one piece, I intend to include, as equally susceptible of embodying my improvement, providing these three parts in united condition to adapt them to be all placed at once in position in the stand, owing to the provision of the opening 27 and the fastening means shown and described.

What I claim as new and desire to secure by Letters Patent is—

1. In a switch-stand of the character described, the combination of a rod carrying a crank, a stand-base provided with an opening of dimensions adapting the rod with the crank thereon to be inserted through it into place, a partial bearing for said rod in the opening, a journal-cap in said opening coöperating with and completing the bearing to rotatably confine the rod, means for rigidly securing said cap and base together, and means for turning said rod to throw the switch.

2. In a switch-stand of the character described, the combination of a rod carrying a crank, a one-piece stand-base provided with an opening of dimensions adapting the rod with the crank thereon to be inserted through it into place, a partial bearing for said rod in the opening, a journal-cap in said opening coöperating with and completing the bearing to rotatably confine the rod, means for rigidly securing said cap and base together, and means for turning said rod to throw the switch.

3. In a switch-stand of the character described, the combination of a rod carrying a crank, a stand-base provided with an opening of dimensions adapting the rod with the crank thereon to be inserted through it into place, a partial bearing for said rod in the opening, a journal-cap in said opening coöperating with and completing the bearing to rotatably confine the rod, an arm on the cap, means for rigidly securing said arm and base together, and means for turning said rod to throw the switch.

4. In a switch-stand of the character described, the combination of a rod carrying a crank, a stand-base provided with an opening having a recess in its wall and of dimensions adapting the rod with the crank thereon to be inserted through it into place, a partial bearing for said rod in the opening, a journal-cap in said opening coöperating with and completing the bearing to rotatably confine the rod, an arm on the cap having a recess in its end registering with said first-named recess to form a rivet-hole, a

rivet in said hole rigidly securing said arm and base together, and means for rotating said rod to throw the switch.

5. In a switch-stand of the character described, the combination of a rod carrying a crank, a stand-base provided with an opening of dimensions adapting the rod with the crank thereon to be inserted through it into place, a partial bearing for said rod in the opening, a journal-cap in said opening coöperating with and completing the bearing to rotatably confine the rod, means for rigidly securing said cap and base together, a shoulder on the rod below said bearing, a mutilated collar on the rod above said bearing coöperating with the shoulder to prevent lengthwise movement of the rod in the bearing, and means for turning said rod to throw the switch.

6. In a switch-stand of the character described, the combination of a rod carrying an integral shoulder-forming crank, a stand-base provided with a flanged opening of dimensions adapting the rod with the crank thereon to be inserted through it into place, a partial bearing for said rod in the opening, a journal-cap in said opening coöperating with and completing the bearing to rotatably confine the rod, an arm on the cap extending therefrom to abut at its end against the wall about said opening, the thickness of said arm and the flange about said opening being equal, means for rigidly securing said arm and base together at the abutting end of the arm, a mutilated collar on the rod above said bearing to coöperate with said shoulder-forming crank to prevent lengthwise movement of the rod in the bearing, and means for turning said rod to throw the switch.

7. In a switch-stand of the character described, the combination of a rod provided with an integral crank-arm and an integral beveled segmental-gear, a one-piece flanged stand-base provided with an opening of dimensions adapting the rod with the crank thereon to be inserted through it into place, a partial bearing for said rod in the opening, a journal-cap in said opening coöperating with and completing the bearing to rotatably confine the rod, an arm on the cap, means for rigidly securing said arm and base together, a shaft rotatably confined on said base, a beveled segmental-pinion on one end of the shaft meshing with said gear, a hood secured to said flanged base to form therewith a casing for said gear and pinion and providing a bearing for said rod, and an operating-lever on said shaft to turn said rod to throw the switch.

EUGENE N. STROM.

In presence of—

CHAS. E. GAYLORD,
F. L. BROWNE.